Louisville and Jefferson County
Metropolitan Sewer District

COMPREHENSIVE ANNUAL FINANCIAL REPORT

Fiscal Years Ended June 30, 2018 and 2017

Safe, clean waterways

COMPREHENSIVE ANNUAL FINANCIAL REPORT

Louisville/Jefferson County Metropolitan Sewer District
Louisville, Kentucky

A Component Unit of Louisville/Jefferson County Metro Government
Commonwealth of Kentucky

msd
Safe, clean waterways

Fiscal Years Ended June 30, 2018 and 2017

Prepared by the Department of Finance, Louisville MSD
Chad Collier, CFO, Secretary/Treasurer

msd

Safe, clean waterways

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Construction continues on the Portland Combined Sewer Overflow Basin located in Lannan Memorial Park.

Safe, clean waterways

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October 31, 2018

Letter of Transmittal

To the customers and investors of Louisville and Jefferson County Metropolitan Sewer District,

As Controller of Louisville and Jefferson County Metropolitan Sewer District (MSD) it is my pleasure to present the Comprehensive Annual Financial Report (CAFR) for the fiscal year ended June 30, 2018.

Responsibility for the accuracy, completeness and fairness of the data presented herein, including all disclosures, rests with MSD. To provide a reasonable basis for making these representations, the management of MSD has established a comprehensive internal control framework that is designed to both protect its assets from loss, theft, or misuse and to compile sufficient reliable information for the preparation of MSD's financial statements in conformity with Generally Accepted Accounting Principles (GAAP).

MSD's comprehensive framework of internal controls has been designed to provide reasonable rather than absolute assurance that the financial statements will be free from material misstatement. To the best of MSD's knowledge and belief, the accompanying data is accurate in all material respects and is reported in a manner designed to present fairly the financial position and results of the operations of MSD. All disclosures necessary to enable the reader to understand MSD's financial activities have been included. GAAP requires that management provide a narrative to accompany the basic financial statements in the form of Management's Discussion and Analysis which is found beginning on page 3. This letter of transmittal is intended to be read in conjunction with that analysis.

MSD was created in 1946 as a public body corporate and subdivision of the Commonwealth of Kentucky. MSD has complete control, possession and supervision of the sewer and drainage systems within the majority of Louisville Metro, which now comprises all of Jefferson County, Kentucky. Chapter 76 of the Kentucky Revised Statutes authorizes MSD to construct additions, betterments, and extensions within its service area and to recover the cost of its services in accordance with rate schedules adopted by its Board.

MSD is considered a component unit of the Louisville/Jefferson County Metro Government. The Louisville Metro Mayor appoints, with the approval of the Louisville Metro Council, the members to MSD's governing Board, its Executive Director, Chief Engineer and Secretary/Treasurer. The Board, which has statutory authority to enter into contracts and agreements for the management, regulation and financing of MSD, manages its business and activities. The Board has full statutory responsibility for approving and revising MSD's annual budgets, for financing deficits and for disposition of surplus funds. MSD has no special financial relationship with the Louisville Metro Government; however, effective July 1, 2006, MSD began providing free sewer and drainage services to the Metro government. The value of these services in fiscal year 2018 was $6.5 million.

MSD is required by law and by its Revenue Bond Resolution to undergo an annual independent audit of its financial statements. The goal of the independent audit is to provide reasonable assurance that the financial statements of MSD for the fiscal years ended June 30, 2018 and 2017 are free of material misstatement. The independent audit involved examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements; assessing the accounting principles used and significant estimates made by management; and evaluating the overall financial statement presentation. The independent auditor's report can be found at the beginning of the financial section of this report.

During fiscal year 2018 one new individual joined MSD's Board of Directors. On November 27, 2017 the Board unanimously confirmed Louisville Metro Mayor Greg Fischer's appointment of Keith Jackson to the MSD Board. Jackson represents Senatorial District 14. Jackson replaced Joyce Horton Mott whose term expired August 31, 2017. His term expires August 31, 2020.

MSD implemented a new Strategic Business Plan in 2014. This Plan marked a transition point for MSD – from a single strategic focus during the past decade on our amended Consent Decree – to a broader focus designed to move us toward our new Vision, Mission, and Core Values as follows:

Our Vision:
Achieving Clean, Safe Waterways for a healthy and vibrant community.

Our Mission:
Providing exceptional wastewater, drainage and flood protection services for our community.

Our Core Values:
Employees: We will work in a safe and respectful manner that promotes collaboration, trust, diversity, quality of work and continuous learning.

Customer Service: We will achieve a premium level of customer satisfaction by serving our customer promptly in a responsive and respectful manner.

Public Education: We will enhance public knowledge of our Mission and responsibilities through open, honest communication with our customers and community stakeholders.

Accountability: We will maintain the highest levels of integrity to ensure the public trust through transparency, financial responsibility and stewardship.

Environment: We will continually improve the environmental quality of our waterways through collaboration with the community and by maintaining infrastructure.

Community: We will advocate on behalf of our community for public health, safety and protection in accordance with our Mission.

Customer Base:
MSD's revenue is derived from sewer and stormwater service charges collected from residential, commercial, and industrial customers. Sewer service charges are distributed to respective customer classes on the basis of actual costs incurred to collect and treat wastewater. For fiscal 2018, 55% of MSD's sewer service charge revenue came from residential customers, 33% came from commercial customers and 12% from industrial customers. MSD also bills for stormwater services using equivalent service units (ESUs). An ESU is defined by MSD as 2,500 square feet of impervious area. For fiscal 2018, 37% of MSD's stormwater service charge revenue came from residential customers, 57% came from commercial customers and 6% from industrial customers.

Louisville Area Employment (numbers in thousands)	**June 2018**	**12-Month % Change**
Mining, logging, and construction	28.9	-2.00%
Manufacturing	82.3	0.50%
Trade, transportation, and utilities	151.3	1.10%
Information	9.5	0.00%
Financial activities	45.8	-0.90%
Professional and business services	88.8	4.10%
Education and health services	91.7	-2.30%
Leisure and hospitality	74	0.70%
Other service	28.4	6.80%
Government	74.7	-0.50%
Total nonfarm	675.4	0.60%

Source: U.S. BLS, Current Employment Statistics.

Local Economy:
A study by the University of Louisville Urban Studies Institute (USI) projects Jefferson County will grow by 131,135 people, or 18%, between 2010 and 2040. USI predicts an increase in population within MSD's service area of nearly 12%. This translates to an approximate increase in wastewater flows of 7% during the next 20 years although growth is not expected to be uniform. Population growth outside the core market area (generally defined as the areas surrounding downtown that were not part of the original City of Louisville) is projected to continue at a faster pace than growth inside the core. Jefferson County is projected to gain 65,425 households, a 21% increase, between 2010 and 2040.

Trade and transportation are central to the Louisville economy. Louisville sits at the crossroads of three major Interstate highways, I-64, I-65, and I-71 and is home to the UPS Worldport air hub.

The United States Department of Labor's Bureau of Labor Statistics listed the unemployment rate for Jefferson County as 4.0% in June 2018 which was equal to the United States overall unemployment rate of 4.0% for the same time period. The latest published U.S. Census Bureau statistics lists median household income in Jefferson County as $54,546 (2016 dollars). Additional information on demographic and economic conditions for Louisville can be found in the Statistical Section of this report.

Major Initiatives:

- *Consent Decree work:* Twelve years ago MSD began a $979 million effort to eliminate sanitary sewer overflows and reduce combined sewer overflows by 98% in a typical rainfall year. Because much of Louisville's sewer system was installed nearly 100 years ago, rainwater can mix with wastewater and overwhelm the pipes. Rain can cause a combination of wastewater and stormwater to overflow into the Ohio River and our local streams. MSD's Consent Decree work addresses this issue and will be complete by the end of 2024.

  Underground storage basins and the Waterway Protection Tunnel are part of MSD's larger endeavor to prevent sewage from overflowing into Louisville's waterways. The basins and tunnel are designed to capture rainwater and sewage which would otherwise overwhelm the sewer system during rain events and flow untreated into our waterways. These underground storage areas retain the mixture of rainwater and sewage until the rain subsides and system capacity is available. Water is then conveyed to one of MSD's Water Quality Treatment Centers, treated, and returned to our local streams or the Ohio River.

- *Waterway Protection Tunnel Expansion:* MSD's project to build a tunnel 18 stories underground to keep millions of gallons of sewage out of the Ohio River and Beargrass Creek will be expanded to capture even more wastewater and stormwater overflow. The Waterway Protection Tunnel was initially planned to be 2.5 miles long. On July 23, 2018 the MSD Board of Directors approved a change order which will extend the tunnel to about 4 miles total. The total storage capacity of the tunnel will increase to 55 million gallons. The extension of the tunnel will replace the planned 8.5 million gallon storage basin at Lexington and Grinstead. When the tunnel project is complete the above-ground "leave behind" will include a new public green space to serve as a trailhead for the Beargrass Creek Trail, complete with parking, paths, trails, rain garden and a wetland preservation area.

- *Emergency Repair Work:* MSD maintains more than 3,300 miles of sewer lines and many date back 100 years or more. In the past 12 months MSD has responded to more than 1,100 cave-ins across the community. Following a cave-in of the Ohio River Interceptor (ORI) at Main and Hancock streets in 2016, MSD conducted extensive video and laser inspections of the ORI pipe. The ORI carries 40 percent of the city's daily wastewater flow to MSD's Morris Forman Water Quality Treatment Center. The inspection revealed significant portions of the concrete and rebar in the Fourth to Seventh street section had worn away due to corrosion by sewer gases, reducing the structural integrity of the pipe. As a result, a $20 million repair project was started in June 2018 to build a "pump-around" system to remove wastewater flow from the damaged section of the pipe so that workers can go underground and make repairs from within the 7-foot wide pipe. The interior of the pipe will be lined with corrosion-resistant PVC panels fit together by hand and sealed to the unique shape of the pipe itself eliminating the need to close and excavate Main Street.

  Concurrently to work on the ORI, a section of the sewer running under Broadway collapsed. This pipe has experienced similar failures in different locations as recently as 2015, 2014 and 2009. Large portions of the sewer under Broadway, in the heart of downtown, are made of brick dating back to 1866. The structure begins to unravel when just one or two bricks start to fail. Work is also underway to repair this broken section of pipe.

  MSD must address the safety and health hazards presented by the types of emergencies described above and strives to do so in a manner that minimizes disruption to the area. MSD has an annual fund to help cover emergency work but it is not enough for these 2 major projects. That means other non-essential projects are postponed. Despite the improvements underway, Louisville still has pressing needs for public health and safety. In 2017 MSD completed an extensive analysis of the wastewater, stormwater and flood protection systems that protect the community and identified the critical needs in these areas in our 20-year Critical Repair and Reinvestment Plan (CRRP). These solutions come with a big price tag - $4.3 billion over the next 20 years. Until the federal requirements for the Consent Decree projects are completed, MSD is unable to start the CRRP work without additional funding.

- *2018 Flooding Event*: On February 12, 2018, the Ohio River level started to climb. By February 23rd all 16 of MSD's flood pumping stations were in full service and 150 floodgates had been closed. On February 24th the Louisville area was inundated with heavy rains. River levels rose 2.3 feet over the span of 12 hours. The resulting flooding ranked among the 10 worst floods in Louisville's history. Forty billion gallons of rain fell across the city over a five day period. While all of MSD's flood pumping stations remained in operation during the flooding event, some pumps experienced damage due to their age and the extreme amount of stormwater. Other stations sustained damage due to flooding in their lower levels. Evaluation and repair of the flood protection system is ongoing and MSD is working both with its insurance provider and FEMA on claims for the damages.

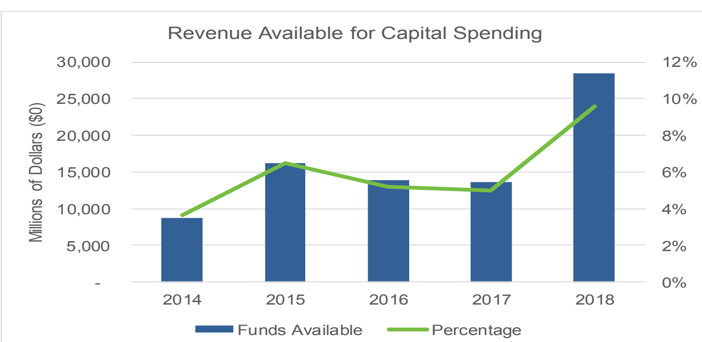
- *Rate Increase:* MSD's Board approved a 9.9% rate increase on May 29, 2018 to support the CRRP improvements for community health and safety. However, Louisville's Metro Council approval is required for any rate increase greater than 7%. MSD was unable to obtain a sponsor from Metro Council for this increase which marked the third year in a row MSD has pursued a rate increase larger than 7% and the third time Metro Council has not taken up the issue.

  On July 25, 2018 the MSD Board approved a rate increase of 6.9 percent for wastewater, drainage and EPA surcharges fees on all bills effective August 1, 2018. The average monthly residential wastewater bill (based on 5,000 gallons per month) increased by $3.23 from $46.87 to $50.10. Monthly stormwater drainage fees increased by $0.64 from $9.26 to $9.90. On the same date the Board approved MSD's capital budget for fiscal 2019 of $202 million. This budget is scaled to meet MSD's Consent Decree requirements and address other infrastructure needs within the financial constraints of the current rate increase.

- *One Water Initiative:* In 2015 the Board of MSD and the Board of Waterworks of the Louisville Water Company (LWC) entered into an inter-local agreement (ILA) which was approved by the Kentucky Attorney General. This ILA is known as One Water and its purpose is to capitalize on synergies between MSD and LWC. One Water's major initiatives center on cost reduction, revenue enhancement and service improvement. The ILA established a One Water Board of Directors comprised of two members of the Board of Waterworks, two members of the MSD Board of Directors, and one member of Louisville/Jefferson County Metro Government. In fiscal 2018, LWC and MSD shared services in the following departments: Information Technology, Fleet, Customer Service, Procurement, Communications, Education and Engineering. A strategic plan for the One Water effort was developed in the summer of 2018 to provide direction for the future of One Water. The strategic plan will be focused on people, innovation, revenue and efficiency.

Financial Planning:
MSD is focused on continuously strengthening its financial position through planning and analysis in order to meet its short-term and long-term operational and infrastructure plans.

MSD's short-term plan looks forward five years at a time. Formalized budgets are developed and approved annually by the Board for operating and capital spending. Budgets are developed with an eye toward maintaining operational efficiency and achieving incremental improvement of MSD's critical debt service coverage and debt to operating ratios.



Funding for the capital program consists of proceeds from issuance of debt along with funds available from operations (total revenue less operating expenses and debt service payments). MSD has focused for the last several years on increasing the amount of funds available from operations to increase capital spending. The chart to the right highlights the success of this effort and illustrates MSD's operational efficiency.

MSD's long term financial planning window is 20 years and is supported by the 20 year CRRP and a 20 year comprehensive financial model. The financial model enables MSD to analyze alternative scenarios in order to optimize resources in the face of competing priorities. Rate adjustments are carefully considered in conjunction with bond issues and other financing options with an eye toward maintaining affordability for the ratepayer. Key long term considerations are debt service coverage, maintaining level debt service payments, and maintaining adequate cash reserves.

Awards
The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to MSD for its comprehensive annual financial report (CAFR)

for the fiscal year ended June 30, 2017. This was the 28th consecutive year that MSD has achieved this prestigious award. In order to be awarded a Certificate of Achievement, MSD must publish an easily readable and efficiently organized CAFR. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe that our current CAFR continues to meet the Certificate of Achievement Program’s requirements and we will submit it to GFOA to determine its eligibility for another certificate.

Acknowledgements

The Finance department of Louisville MSD has worked hard to produce the 2018 CAFR and I would like to thank them for their individual contributions. I would also like to take this opportunity to thank the MSD Board of Directors and the Executive Leadership Team for their continued support.

Respectfully Submitted,

Brad Good
Controller

Government Finance Officers Association

Certificate of Achievement for Excellence in Financial Reporting

Presented to

Louisville and Jefferson County Metropolitan Sewer District Kentucky

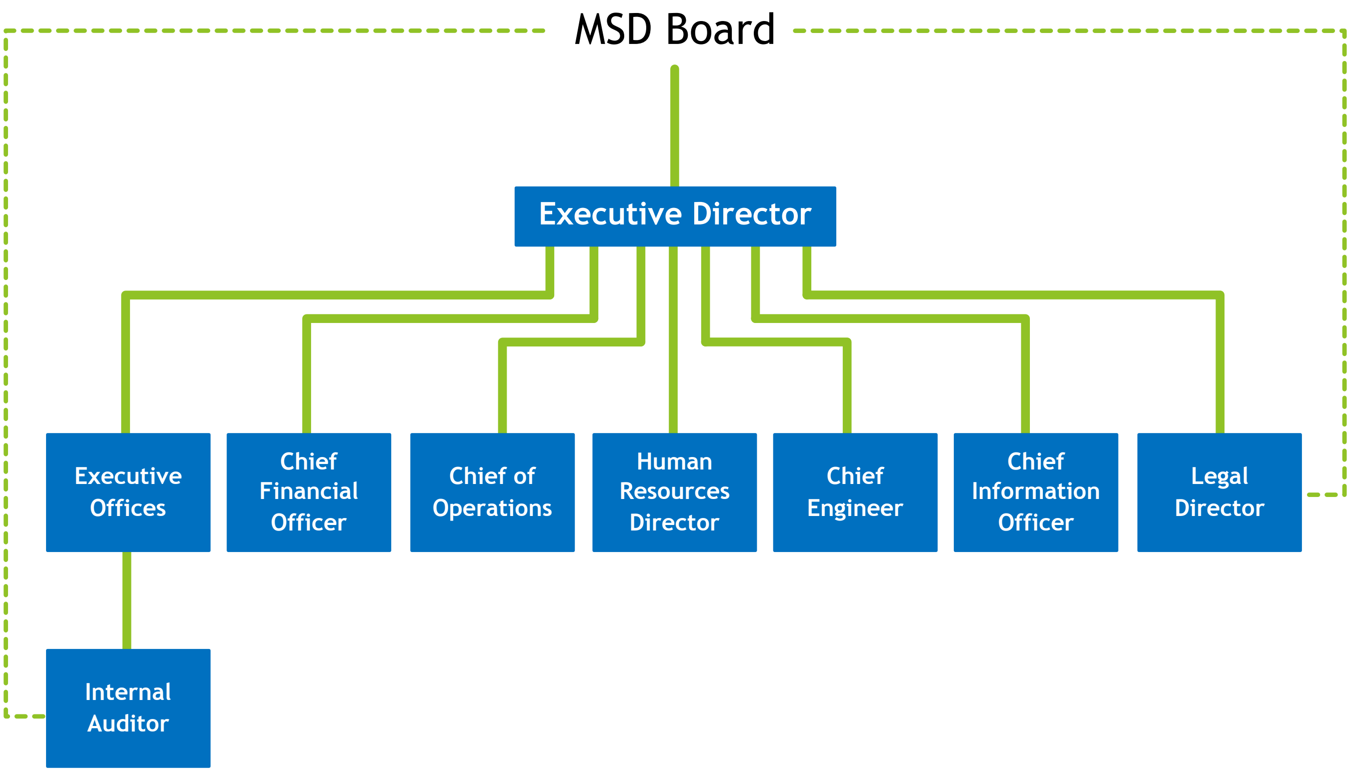
For its Comprehensive Annual Financial Report for the Fiscal Year Ended

June 30, 2017

Christopher P. Morrill

Executive Director/CEO

ORGANIZATIONAL CHART



BOARD OF DIRECTORS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W. Brian Bingham
Chief of Operations


J. Chad Collier
Chief Financial Officer and Secretary/Treasurer


Lynne A. Fleming
Human Resources Director


Mark Thomas Luckett
One Water Chief Information Officer


Paula Middleton Purifoy
General Counsel and Legal Director

The sun rises over MSD's Floyds Fork Water Quality Treatment Facility, which is located in Beckley Creek Park.

Financial Section

Crowe LLP
Independent Member Crowe Global

INDEPENDENT AUDITOR'S REPORT

Board of Directors
Louisville and Jefferson County Metropolitan Sewer District
Louisville, Kentucky

Report on Financial Statements

We have audited the accompanying financial statements of the Louisville and Jefferson County Metropolitan Sewer District, a component unit of the Louisville-Jefferson County Metro Government, as of and for the years ended June 30, 2018 and 2017, and the related notes to the financial statements, which collectively comprise the Louisville and Jefferson County Metropolitan Sewer District's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditor's Responsibility

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

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

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Louisville and Jefferson County Metropolitan Sewer District, as of June 30, 2018 and 2017, and the changes in financial position and cash flows thereof for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Emphasis of Matter

As discussed in Note 1 to the financial statements, during the year ended June 30, 2018, the Board adopted new accounting guidance, GASB Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits other than Pensions*, which resulted in a restatement of the Louisville and Jefferson County Metropolitan Sewer District's July 1, 2017 net position in the amount of ($23,201,301). Our opinion is not modified with respect to this matter.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis on pages 3 through 11, the Schedule of Proportionate Share of the Net Pension Liability on page 48, and the Schedule of Pension Contributions on page 49, the Schedule of Proportionate Share of the Net OPEB Liability on page 50, and the Schedule of OPEB Contributions on page 51 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplementary Information

Our audits were conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Louisville and Jefferson County Metropolitan Sewer District's basic financial statements. The introductory and statistical sections are presented for purposes of additional analysis and are not a required part of the basic financial statements. The introductory and statistical sections have not been subjected to the auditing procedures applied in the audits of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on them.

Other Reporting Required by Governmental Auditing Standards

In accordance with _Government Auditing Standards,_ we have also issued our report dated October 31, 2018 on our consideration of the Louisville and Jefferson County Metropolitan Sewer District's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with _Government Auditing Standards_ in considering the Louisville and Jefferson County Metropolitan Sewer District's internal control over financial reporting and compliance.

Crowe LLP

Crowe LLP

Louisville, Kentucky
October 31, 2018

The management of Louisville and Jefferson County Metropolitan Sewer District (MSD) present this Management's Discussion and Analysis (MD&A) for the fiscal year ended June 30, 2018 and 2017. This narrative provides the reader with condensed comparative financial data, an analysis of the results of our operations, a description of capital asset and long term debt activity, and a discussion of future economic factors that will impact our operations. This MD&A is intended to be read in conjunction with the financial statements immediately following this section.

FINANCIAL HIGHLIGHTS

- Total net position increased from fiscal 2017 to fiscal 2018 by $40.2 million, or 6.0%, including an increase in unrestricted net position of $32.9 million.
- Total assets and deferred outflows of resources increased $244.7 million, or 8.0%, from fiscal 2017 to fiscal 2018.
- Operating revenues increased in fiscal 2018 by $19.5 million, or 7.5% primarily due to a rate increase of 6.9% effective August 1, 2017.
- Service and Administrative expenses increased in fiscal 2018 by $6.1 million, or 7% excluding the impact of GASB Statement No. 68 and GASB Statement No. 75. This increase was driven by higher electric expenses and labor costs.
- MSD refunded $106.3 million in long-term debt in fiscal 2018 reducing future debt service payments by $18 million over the next 20 years.

OVERVIEW OF THE FINANCIAL STATEMENTS

MSD uses the accrual basis of accounting to prepare its financial statements wherein revenues are recorded when earned and expenses are recorded at the time a liability is incurred. MD&A serves as a narrative introduction to the financial statements which consist of the following parts:

Statement of Net Position: This statement includes all of MSD's assets, liabilities and deferred outflow and inflow of resources. It provides information about the nature and amounts of investments in assets and the obligations to creditors. In addition, it provides the basis for computing rate of return, evaluating the capital structure of MSD and assessing the liquidity and financial flexibility of the organization.

Statement of Revenues, Expenses and Changes in Net Position: This statement identifies the revenues generated and expenses incurred during the fiscal year and helps the user to assess the financial efficiency of MSD during the time period for which the statement relates.

Statement of Cash Flows: This statement provides information related to MSD's cash receipts and cash expenditures during the fiscal year. It reports cash receipts, cash payments, and net changes in cash resulting from operations, investing, and financing activities.

Notes to the Financial Statements: The notes contain descriptions of the policies underlying the amounts displayed in the financial statements along with other information that is essential to a full understanding of the data provided in the financial statements.

Required Supplementary Information: Information is presented related to MSD's pension and Other Post-Employment Benefits (OPEB) including annual contributions made to the plans and annual investment returns.

Other supplemental information is presented for comparative analysis and is not part of the basic financial statements:

Statistical Section: Ten years of financial statement information, operating indicators, and demographic information is presented for comparative analysis.

STATEMENT OF NET POSITION

MSD's net position increased $40.2 million, or 6.0%, in fiscal 2018 (see Figure 1). The largest portion of MSD's net position is its net investment in capital assets. Capital asset construction and acquisitions were funded by a $175 million 2017 bond issue[1], cash generated from operations, and Contributions in Aid of Construction from developers. Funds restricted for a specific purpose by bond covenants are classified as restricted net position. MSD is required to make monthly transfers to its Debt Service Accounts sufficient to meet the semi-annual debt service payments on outstanding bonds. MSD also maintains Debt Reserve Accounts equal to the maximum annual debt service requirements on its senior lien obligations. Restricted net position decreased $10.2 million from fiscal 2017 to fiscal 2018 due to an increase in liabilities associated with restricted debt service. The remaining balance of MSD's net position is unrestricted and may be used for any allowable purpose. Unrestricted net position increased $32.9 million from fiscal 2017 to fiscal 2018 primarily from funds provided by operations.

Total assets and deferred outflows of resources increased by $244.7 million in fiscal 2018. This overall increase can be attributed primarily to additions to plant, lines and other facilities which were financed by the issuance of $175 million in revenue bonds.

Total liabilities and deferred inflows of resources increased by $204.5 million due to the senior debt issued in fiscal 2018 and an increase in the net pension and OPEB liabilities.

FIGURE 1 - CONDENSED NET POSITION INFORMATION				2018-2017		2017-2016	
(amounts in thousands)	FY 2018	FY 2017	FY 2016	Increase (Decrease)	% Change	Increase (Decrease)	% Change
Unrestricted current assets	$ 109,940	$ 83,085	$ 103,529	$ 26,855	32.3%	$ (20,444)	(19.7%)
Restricted current assets	29,987	42,129	20,378	(12,142)	(28.8%)	21,751	106.7%
Capital assets	2,925,982	2,742,037	2,573,262	183,945	6.7%	168,775	6.6%
Restricted non-current assets	152,438	124,192	149,447	28,246	22.7%	(25,255)	(16.9%)
Other non-current assets	32,221	32,768	29,457	(547)	(1.7%)	3,311	11.2%
Total assets	3,250,568	3,024,211	2,876,073	226,357	7.5%	148,138	5.2%
Deferred outflows of resources	54,267	35,911	23,708	18,356	51.1%	12,203	51.5%
Total assets and deferred outflows	3,304,835	3,060,122	2,899,781	244,713	8.0%	160,341	5.5%
Current liabilities	16,342	16,550	17,420	(208)	(1.3%)	(870)	(5.0%)
Current liabilities from restricted assets	108,978	82,654	85,186	26,324	31.8%	(2,532)	(3.0%)
Non-current liabilities	2,401,015	2,208,378	2,087,962	192,637	8.7%	120,416	5.8%
Total liabilities	2,526,335	2,307,582	2,190,568	218,753	9.5%	117,014	5.3%
Deferred inflows of resources	69,826	84,052	108,633	(14,226)	(16.9%)	(24,581)	(22.6%)
Total liabilities and deferred outflows	2,596,161	2,391,634	2,299,201	204,527	8.6%	92,433	4.0%
Invested in capital assets, net	580,275	562,784	501,675	17,491	3.1%	61,109	12.2%
Restricted, net	73,447	83,667	84,639	(10,220)	(12.2%)	(972)	(1.1%)
Unrestricted	54,952	22,037	14,266	32,915	149.4%	7,771	54.5%
Total net position	708,674	668,488	600,580	40,186	6.0%	67,908	11.3%
Total liabilities , deferred inflows & net position	$ 3,304,835	$ 3,060,122	$ 2,899,781	$ 244,713	8.0%	$ 160,341	5.5%

2017 Compared to 2016:

The change in MSD's net position was $67.9 million, or 11.3%, in fiscal 2017. The largest portion of MSD's net position is its net investment in capital assets. Capital asset construction and acquisitions were funded by a $150 million 2016 bond issue[2], cash generated from operations, and Contributions in Aid of

[1] See Note 7 – Long-Term Debt
[2] See Note 7 – Long-Term Debt

Construction from developers. Restricted net position decreased $972 thousand from fiscal 2016 to fiscal 2017. Unrestricted net position increased $7.8 million from fiscal 2016 to fiscal 2017.

Total assets and deferred outflow of resources increased by $160.3 million in fiscal 2017. This overall increase can be attributed primarily to additions to plant, lines and other facilities.
Total liabilities and deferred inflow of resources increased by $92.4 million due to the senior debt issued in fiscal 2017[3] and an increase in the net pension and OPEB liabilities. This increase was partially offset as the negative value of the swaps in MSD's portfolio improved during fiscal 2017.

STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

Operating revenues as of June 30, 2018 were $279.1 million (see Figure 2). This represents an increase of $19.5 million, or 7.5%, in fiscal 2018. The increase in operating revenues was driven by a Board-approved rate increase of 6.9% effective August 1, 2017. Wastewater service charges totaled $210.6 million as of June 30, 2018. This represents an increase of $15.7 million, or 8.0%, from a year ago. The majority of MSD's wastewater customers are billed based on the volume of water used. Because substantially all of MSD's customers are also customers of the Louisville Water Company, all service charges are billed and collected by the Louisville Water Company on behalf of MSD. Stormwater service charges were $63.8 million as of June 30, 2018. This represents an increase of $4.8 million, or 8.3%, from the same period one year ago. Other operating income was $4.6 million in fiscal 2018, which is $1.0 million less than fiscal 2017.

Service and administrative costs[4] increased by $6.1 million in fiscal 2018 from their fiscal 2017 level. Labor cost was 49.0% of gross service and administrative costs in fiscal 2018 compared to 49.5% in fiscal 2017. MSD incurred approximately $500 thousand in additional overtime expenses responding to a February flooding event. Merit increases and reorganizations account for the balance of the labor increase from fiscal 2017 to fiscal 2018. All of MSD's pump stations were placed in service for the flooding event which increased electrical expenses $2 million year over year. Bad Debt expense totaled 1.43% of revenue for fiscal 2018 compared to 1.38% for fiscal 2017. The composition of gross service and administrative costs by major classification for the past three fiscal years is shown in Figure 3 below.

[3] See Note 7 – Long-Term Debt
[4] Excludes GASB 68 Pension Expense and GASB 75 OPEB Expense

FIGURE 2 - CONDENSED STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION INFORMATION

				2018-2017		2017-2016	
(amounts in thousands)	FY 2018	FY 2017	FY 2016	Increase (Decrease)	% Change	Increase (Decrease)	% Change
Service charges	$274,504	$253,943	$238,480	$ 20,561	8.1%	$ 15,463	6.5%
Other operating income	4,645	5,691	4,810	(1,046)	(18.4%)	881	18.3%
Total operating revenues	279,149	259,634	243,290	19,515	7.5%	16,344	6.7%
Investment income	16,529	14,273	17,891	2,256	15.8%	(3,618)	(20.2%)
Total revenues	295,678	273,907	261,181	21,771	7.9%	12,726	4.9%
Depreciation & amortization expense	77,954	77,156	62,820	798	1.0%	14,336	22.8%
Service and administrative costs	93,800	87,637	87,155	6,163	7.0%	482	0.6%
GASB 68/75 pension expense	10,852	2,512	4,003	8,340	332.0%	(1,491)	(37.2%)
Non-operating expenses	78,728	77,655	73,779	1,073	1.4%	3,876	5.3%
Change in fair value - swaps	(16,317)	(26,072)	22,951	9,755	(37.4%)	(49,023)	(213.6%)
Total expenses	245,017	218,888	250,708	26,129	11.9%	(31,820)	(12.7%)
Income before capital contributions	50,661	55,019	10,473	(4,358)	(7.9%)	44,546	425.3%
Capital contributions	12,726	12,889	5,037	(163)	(1.3%)	7,852	155.9%
Increase (decrease) in net position	63,387	67,908	15,510	(4,521)	(6.7%)	52,398	337.8%
Net position - begininng	668,488	600,580	585,070	67,908	11.3%	15,510	2.7%
Restatement for GASB 75 implementation	(23,201)	-	-	(23,201)	(100.0%)	-	0.0%
Net position - begininng of year, as restated	645,287	600,580	585,070	44,707	7.4%	15,510	2.7%
Net Position - ending	$708,674	$668,488	$600,580	$ 40,186	6.0%	$ 67,908	11.3%

2017 Compared to 2016:
Operating revenues as of June 30, 2017 were $259.6 million. This represents an increase of $16.3 million, or 6.7%, in fiscal 2017. The increase in operating revenues was driven by a Board-approved rate increase of 6.9% effective August 1, 2016. Wastewater service charges totaled $195.0 million as of June 30, 2017. This represents an increase of $11.3 million, or 7.3%, from a year ago. Stormwater service charges were $58.9 million as of June 30, 2017. This represents an increase of $4.0 million, or 7.4%, from the same period one year ago. Other operating income was $5.7 million in fiscal 2017, which is $881 thousand more than fiscal 2016.

Service and administrative costs[5] increased by $482 thousand in fiscal 2017 from their fiscal 2016 level. MSD's employee count, including vacant positions, increased from 607 in fiscal 2016 to 629 full-time equivalent positions in fiscal 2017. Labor cost was 49.5% of gross service and administrative costs in fiscal 2017 compared to 46.9% in fiscal 2016.

[5] Excludes GASB 68 Pension Expense and GASB 75 OPEB Expense

FIGURE - 3 SERVICE AND ADMINISTRATIVE COSTS INFORMATION			
(amounts in thousands)	**FY 2018**	**FY 2017**	**FY 2016**
Labor	$ 64,718	$ 59,183	$ 55,229
Utilities	16,640	14,427	18,256
Materials and supplies	8,647	7,976	4,183
Professional services	3,985	4,127	4,169
Maintenance and repairs	7,208	9,116	10,007
Billing and collections	5,755	5,467	4,853
Chemicals and fuel	5,706	6,375	5,697
Biosolids disposal	2,616	2,651	2,245
All other	17,665	11,142	13,960
Service & administrative costs	132,940	120,464	118,599
Capitalized overhead	(38,147)	(31,949)	(30,516)
Revenue Recoveries	(993)	(878)	(928)
Net service and administrative costs	$ 93,800	$ 87,637	$ 87,155

STATEMENT OF CASH FLOWS

Cash and cash equivalents were $81.7 million at the end of fiscal 2018 which is a decrease of $17.8 million from fiscal 2017 or 18.0% (see Figure 4). Cash flows from operating activities increased as revenue and customer receipts grew. Cash used by financing activities in fiscal 2018 increased primarily as a result of higher proceeds from the bond issue and related bond premiums compared to fiscal 2017. Cash provided by investing activities in fiscal 2018 decreased as investments in in money market funds were reinvested in U.S. agency and treasury securities.

FIGURE 4 - CONDENDSED STATEMENT OF CASH FLOWS INFORMATION				2018-2017		2017-2016	
(amounts in thousands)	**FY 2018**	**FY 2017**	**FY 2016**	**Increase (Decrease)**	**% Change**	**Increase (Decrease)**	**% Change**
Cash flows from:							
Operating activities	$181,561	$173,755	$155,000	$ 7,806	4.5%	$ 18,755	12.1%
Capital and related financing activites	(147,727)	(197,246)	(139,454)	$ 49,519	(25.1%)	$ (57,792)	41.4%
Investing activities	(51,717)	18,941	(9,421)	$ (70,658)	(373.0%)	$ 28,362	(301.1%)
Change in cash and cash equivalents	(17,883)	(4,550)	6,125	(13,333)	293.0%	(10,675)	(174.3%)
Cash and cash equivalents, Beginning of year	99,545	104,095	97,970	$ (4,550)	(4.4%)	$ 6,125	6.3%
Cash and cash equivalents, End of year	$ 81,662	$ 99,545	$104,095	$ (17,883)	(18.0%)	$ (4,550)	(4.4%)

2017 Compared to 2016:

Cash and cash equivalents were $99.5 million at the end of fiscal 2017 which is a decrease of $4.5 million from fiscal 2016 or 4.4%. Cash flows from operating activities increased as revenue and customer receipts grew. Cash used by financing activities in fiscal 2017 increased primarily as a result of debt service payments. Cash provided by investing activities is fiscal 2017 increased as investments in U.S. Agency discount notes were converted to money market funds.

CAPITAL ASSETS

MSD's total capital assets net of depreciation increased by $183.9 million in fiscal 2018 (see Figure 5). Construction in progress contained the biggest increase with $230.8 million of additions offset by $100.3 million of assets placed in service. For more detailed information, see Note 5, Capital Assets – Plant, Lines and Other Facilities, in the accompanying notes to the financial statements.

Depreciation expense was $77.9 million or $797 thousand more than fiscal 2017.

FIGURE 5 - CAPITAL ASSETS NET OF DEPRECIATION

(amounts in thousands)	FY 2018	FY 2017	Increase (Decrease) 2018-2017	FY 2016	Increase (Decrease) 2017-2016
Sewer lines	$ 1,159,110	$ 1,120,151	$ 38,959	$ 1,076,071	$ 44,080
Wastewater treatment facilities	229,950	244,482	(14,532)	262,369	(17,887)
Stormwater drainage facilities	410,390	401,729	8,661	385,410	16,319
Pumping and lift stations	111,902	103,085	8,817	83,979	19,106
Administrative facilities	11,827	13,411	(1,584)	13,652	(241)
Maintenance facilities	1,941	2,119	(178)	2,351	(232)
Machinery and equipment	10,015	7,580	2,435	2,674	4,906
Miscellaneous	2,357	4,150	(1,793)	6,422	(2,272)
Capitalized interest	276,835	264,108	12,727	252,660	11,448
Construction in progress	711,655	581,222	130,433	487,674	93,548
Total	$ 2,925,982	$ 2,742,037	$ 183,945	$ 2,573,262	$ 168,775

2017 Compared to 2016:

MSD's total capital assets net of depreciation increased by $168.8 million in fiscal 2017 (see Figure 5). Construction in progress contained the biggest increase with $215.8 million of additions offset by $122.3 million of assets placed in service. $61.2 million worth of sewer lines were placed into service offset by $17.1 million of additional depreciation.

Depreciation expense was $77.2 million or $14.3 million more than fiscal 2016. This increase was due to $377.9 million in total assets placed into service at the end of fiscal 2016.

DEBT ADMINISTRATION

On August 22, 2017, MSD issued $175 million of revenue bonds, series 2017A. The proceeds of the series 2017A bonds were used to: (i) pay the costs of issuing the series 2017A bonds; (ii) make a deposit to the reserve account; and (iii) make a deposit to the construction and acquisition fund to pay the costs of improvements to MSD's sewer and drainage system.

On August 22, 2017, MSD issued $35.7 million of revenue refunding bonds, series 2017B. The proceeds of the series 2017B bonds, together with certain amounts in the reserve account, were used to: (i) currently refund $42.9 million of outstanding principal amount on MSD's sewer and drainage system revenue bonds, series 2007A, maturing May 15, 2018 through May 15, 2025, the proceeds of which were used to finance the costs of improvements to MSD's sewer and drainage system, and (ii) pay the cost of issuance of the series 2017B bonds. The refunding reduced debt service payments over the next 8 years by $9.5 million and resulted in a net present value savings of $7.8 million.

On May 31, 2018, MSD issued $60.3 million of revenue refunding bonds, series 2018A. The proceeds of the series 2018A bonds, together with certain amounts in the reserve account, were used to: (i) currently refund $63.3 million of outstanding principal amount on MSD's sewer and drainage system revenue bonds, series 2007A, maturing May 15, 2037 through May 15, 2038, the proceeds of which were used to finance the costs of improvements to MSD's sewer and drainage system, and (ii) pay the cost of issuance of the series 2018A bonds. The refunding reduced debt service payments over the next 20 years by $8.4 million and resulted in a net present value savings of $4.5 million.

MSD ended fiscal 2018 with $2.2 billion in outstanding long-term debt compared to $2.1 billion in outstanding long-term debt at the end of fiscal 2017. Additional information on MSD's long-term debt can be found in Note 7 – Long-Term Debt.

Short term debt outstanding payable from restricted assets at the end of fiscal 2018 totaled $108.9 million compared to $82.6 million at the end of fiscal 2017.

Net interest expense totaled $78.7 million in fiscal 2018, an increase of $1.0 million from fiscal 2017.

FIGURE 6 - SCHEDULE OF BONDS AND OTHER FINANCING

(amounts in thousands)	FY 2018	FY 2017	Increase (Decrease) 2018-2017	FY 2016	Increase (Decrease) 2017-2016
Senior Revenue Bonds					
Series 2007A	$ -	$ 42,965	$ (42,965)	$ 44,425	$ (1,460)
Series 2008A	-	65,520	(65,520)	97,860	(32,340)
Series 2009A	6,640	13,040	(6,400)	41,485	(28,445)
Series 2009B	52,975	69,725	(16,750)	136,115	(66,390)
Series 2009C	180,000	180,000	-	180,000	-
Series 2010A	330,000	330,000	-	330,000	-
Series 2011A	250,565	252,610	(2,045)	254,590	(1,980)
Series 2013A	115,790	115,790	-	115,790	-
Series 2013B	115,550	116,940	(1,390)	118,255	(1,315)
Series 2013C	99,500	99,625	(125)	99,750	(125)
Series 2014A	79,850	79,900	(50)	79,950	(50)
Series 2015A	173,735	174,280	(545)	175,000	(720)
Series 2015B	76,685	79,085	(2,400)	81,350	(2,265)
Series 2016A	149,760	150,000	(240)	-	150,000
Series 2016B	28,095	28,095	-	-	28,095
Series 2016C	67,685	67,685	-	-	67,685
Series 2017A	175,000	-	175,000	-	-
Series 2017B	34,520	-	34,520	-	-
Series 2018A	60,380	-	60,380	-	-
Bond Anticipation Notes					
Series 2015A	-	-	-	226,340	(226,340)
Series 2016A	-	226,340	(226,340)	-	226,340
Series 2017A	226,340	-	226,340	-	-
KIA Loan	1,871	1,973	(102)	2,071	(98)
	$ 2,224,941	$2,093,573	$ 131,368	$1,982,981	$ 110,592

Excludes bond premiums/discounts

2017 Compared to 2016:

On August 30, 2016, MSD issued $150 million of revenue bonds (series 2016A). The proceeds of the series 2016A bonds, net of issuance cost, were used to pay the costs of improvements to MSD's sewer and drainage system.

On August 30, 2016, MSD issued $28.3 million of revenue refunding bonds (series 2016B). The proceeds of the series 2016B bonds net of issuance costs and together with certain amounts in the reserve account, were used to refund in advance of maturity $30.2 million of outstanding principal on MSD's sewer and drainage system revenue bonds, series 2008A. The refunded bonds are considered defeased and the liability was removed from MSD's statement of net position. The refunding will reduce debt service payments over the next 20 years by $7.7 million and resulted in a net present value savings of $5.3 million.

On August 30, 2016 MSD issued $67.7 million of revenue refunding bonds (series 2016C). The proceeds of the series 2016C bonds net of issuance costs and together with certain amounts in the reserve account, were used to refund in advance of maturity $22.3 million of outstanding principal on MSD's sewer and drainage system revenue bonds, series 2009A and $50.6 million of the outstanding principal amount on MSD's sewer and drainage system revenue bonds, series 2009B. The refunded bonds are considered defeased and the liability was removed from MSD's statement of net position. The refunding reduced debt service payments over the next 7 years by $7.7 million and resulted in a net present value savings of $4.7 million.

MSD ended fiscal 2017 with $2.1 billion in outstanding long-term debt compared to $2.0 billion in outstanding long-term debt at the end of fiscal 2016.

Short term debt outstanding payable from restricted assets at the end of fiscal 2017 totaled $82.6 million compared to $85.1 million at the end of fiscal 2016.

Net interest expense totaled $77.7 million in fiscal 2017, an increase of $3.9 million from fiscal 2016.

Debt Service Ratio: Although net operating income is the most significant component of determining MSD's debt service coverage ratio, other sources, including investment income and current period payments of property owner assessments, are also included in "available revenues" and "net revenues" for purposes of demonstrating MSD's compliance with debt service ratio tests from the 1993 Sewer and Drainage System Revenue Bond Resolution.

The 1993 resolution and its supplements require MSD to provide available revenues sufficient to pay 110% of each year's aggregate net debt service on revenue bonds and 100% of operating expenses. Available revenues, as used for purposes of the resolution, means all revenues and other amounts received by MSD and pledged as security for payment of bonds issued pursuant to the resolution, but excludes interest income which is capitalized in accordance with generally accepted accounting principles.

Net operating expenses include all reasonable, ordinary, usual or necessary current expenses of maintenance, repair, and operation determined in accordance with generally accepted accounting principles and the enterprise basis of accounting. Operating expenses do not include reserves for extraordinary maintenance and repair or administrative and engineering expenses of MSD which are necessary or incidental to capital improvements for which debt has been issued and which may be paid from proceeds of such debt.

Aggregate net debt service is debt service on all bonds issued pursuant to the resolution including principal payments, excluding (i) interest expense which, in accordance with generally accepted accounting principles, is capitalized and which may be paid from the proceeds of debt and (ii) other amounts, if any, available or expected to be available in the ordinary course of business for payment of debt service.

MSD's debt service coverage ratio[6], calculated on the foregoing basis, was 190% in 2018, 181% in 2017 and 187% in 2016 (see Figure 7).

[6] Excludes GASB 68 Pension Expense and GASB 75 OPEB Expense

FIGURE 7 - DEBT SERVICE COVERAGE *(amounts in thousands)*	FY 2018	FY 2017	Increase (Decrease) 2018-2017	FY 2016	Increase (Decrease) 2017-2016
Total available revenues	$296,912	$275,282	7.9%	$270,025	1.9%
Total net operating expenses	93,800	87,637	7.0%	87,155	0.6%
Net revenue	203,112	187,645	8.2%	182,870	2.6%
Aggregate net debt service	$107,088	$103,699	3.3%	$ 97,592	6.3%
Debt service coverage ratio	190%	181%	4.8%	187%	(3.4%)

FUTURE ECONOMIC FACTORS

The MSD Board approved a 6.9% rate increase for wastewater and stormwater volume and service charges as well as optional and quality charge rates that are assessed to commercial and industrial wastewater customers effective August 1, 2018.

On June 27, 2018 Moody's Investors Service affirmed its Aa3 rating on MSD's outstanding senior revenue bonds. The outlook is stable. According to Moody's, the Aa3 rating reflects the district's large service area and customer base, stable debt service coverage ratio and liquidity levels and high debt burden that will increase with additional borrowing under a new $500 million commercial paper program and remain elevated for the near-to medium-term because of MSD's considerable future capital needs.

On April 24, 2018, S&P Global ratings assigned its AA rating and stable outlook to MSD's series 2018A sewer and drainage system revenue refunding bonds. At the same time they affirmed their AA ratings on MSD's outstanding debt as well as their SP-1+ rating on MSD's series 2017 Bond Anticipation Notes (BANS). According to S&P, these ratings reflect a broad and diverse metropolitan statistical area (MSA), low industry risk, and good operational management practices and policies.

On October 3, 2017 Moody's assigned a MIG 1 rating to MSD's $226.3 million sewer and drainage system subordinated bond anticipation notes, series 2017. Concurrently, Moody's maintained the Aa3 long-term rating and stable outlook on MSD's outstanding debt.

On October 4, 2017 S&P assigned its SP-1+ short-term rating to MSD's $226.3 million sewer and drainage system subordinated bond anticipation notes, series 2017. At the same time, they affirmed their AA long-term rating on MSD's outstanding debt.

CONSENT DECREE

In April 2009, MSD agreed to enter into an amended Consent Decree with the Commonwealth of Kentucky's Environmental and Public Protection Cabinet (KEPPC) and the U.S. Environmental Protection Agency (EPA). The agreement calls for MSD to design and implement projects within specified deadlines that will eliminate sewer overflows in its service area. The cost of the projects is estimated to be $979 million. MSD has submitted plans to finance the projects through additional bonds and future rate increases. In a letter dated June 6, 2014, MSD requested approval from the KEPPC and the EPA for the Integrated Overflow Abatement Plan (IOAP) 2012 Modifications, dated May 2014. The IOAP 2012 Modifications represents a revision to 28 separate projects set forth in the original IOAP, dated September 30, 2009. The IOAP modifications were approved and will supersede and replace the 2009 IOAP. To date, MSD has complied with all submittals and reports requirements contained in the amended Consent Decree. For additional information on the Consent Decree see Note 11 to the financial statements.

REQUESTS FOR ADDITIONAL INFORMATION

This report is intended to provide readers with a general overview of MSD's finances and to provide information regarding the receipts and uses of funds. If you need clarification regarding a statement(s) made in the report or need additional information, please contact the Louisville and Jefferson County Metropolitan Sewer District, 700 West Liberty Street, Louisville Kentucky 40203. You can also submit a request for additional information via MSD's website, www.LouisvilleMSD.org.

LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
COMPARATIVE STATEMENT OF NET POSITION
AS OF JUNE 30,
DOLLARS IN THOUSANDS

	2018	2017
Current Assets		
Unrestricted cash and cash equivalents	$ 50,276	$ 42,449
Unrestricted investments	25,080	10,095
Restricted cash and cash equivalents	29,987	19,454
Restricted investments	-	22,675
Accounts receivable, less allowance for doubtful accounts of $1,030 (2018), $1,145 (2017)	26,332	23,480
Inventories	4,407	4,184
Accrued interest receivable	1,116	1,066
Prepaid expenses and other current assets	2,729	1,811
Total current assets	139,927	125,214
Non-current Assets		
Restricted cash and cash equivalents	1,399	37,642
Restricted investments	151,039	86,550
Capital assets - plant, lines and other facilities, net	2,925,982	2,742,037
Other non-current assets	32,221	32,768
Total non-current assets	3,110,641	2,898,997
Total Assets	3,250,568	3,024,211
Deferred Outflow of Resources		
Deferred outflow - pension contributions	27,541	16,499
Deferred outflow - OPEB contributions	9,392	-
Unamortized loss on refunding	17,334	19,412
Total deferred outflow of resources	54,267	35,911
Total Assets and Deferred Outflow of Resources	**$ 3,304,835**	**$ 3,060,122**
Current Liabilities		
Current liabilities (payable from unrestricted assets):		
Accounts payable and accrued expenses	$ 16,342	$ 16,550
Current liabilities (payable from restricted assets):		
Accounts payable and accrued expenses (capital), includes contractor retainage of $14,818 (2018), $14,630 (2017)	47,472	30,764
Accrued interest payable	18,455	15,935
Refundable deposits	2,861	2,300
Current maturities of bonds payable	40,190	33,655
Total current liabilities	125,320	99,204
Non-current Liabilities		
Bonds payable, net	2,047,168	1,905,933
Subordinated debt	228,211	228,313
Net pension liability	93,517	74,132
Net OPEB liability	32,119	-
Total non-current liabilities	2,401,015	2,208,378
Total Liabilities	2,526,335	2,307,582
Deferred Inflow of Resources		
Interest rate swaps	59,443	75,760
Deferred inflow - pension liability	3,832	2,529
Deferred inflow - OPEB liability	1,682	-
Other deferred inflows	4,869	5,763
Total deferred inflow of resources	69,826	84,052
Total Liabilities and Deferred Inflow of Resources	**$ 2,596,161**	**$ 2,391,634**
Net Position		
Net investment in capital assets	$ 580,275	$ 562,784
Restricted net position	73,447	83,667
Unrestricted net position	54,952	22,037
Total net position	708,674	668,488
Total Liabilities, Deferred Inflow of Resources and Net Position	**$ 3,304,835**	**$ 3,060,122**

See the accompanying notes to the financial statements.

LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
COMPARATIVE STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
FOR THE YEARS ENDED JUNE 30,
DOLLARS IN THOUSANDS

	2018	2017
Operating Revenues		
Service charges	$ 274,504	$ 253,943
Other operating income	4,645	5,691
Total operating revenues	279,149	259,634
Operating Expenses		
Service and administrative costs	93,800	87,637
GASB 68 pension/GASB 75 OPEB expense	10,852	2,512
Depreciation and amortization	77,954	77,156
Total operating expenses	182,606	167,305
Income from Operations	96,543	92,329
Non-operating Revenue (Expenses)		
Investment income	6,280	4,047
Build America bond refund	10,249	10,226
Interest expense - bonds	(95,041)	(90,117)
Interest expense - swaps	(7,724)	(8,926)
Interest expense - other	(9,873)	(9,317)
Amortization of debt discount / premium	15,198	13,701
Amortization of loss on refunding	(3,147)	(3,070)
Capitalized interest	21,859	20,074
Change in fair value - swaps	16,317	26,072
Total non-operating revenue (expenses) - net	(45,882)	(37,310)
Income before capital contributions	50,661	55,019
Capital contributions	12,726	12,889
Increase in net position	63,387	67,908
Net position, beginning of year	668,488	600,580
Restatement for GASB 75 implementation	(23,201)	-
Net position, beginning of year, as restated	645,287	600,580
Net position, end of year	$ 708,674	$ 668,488

See the accompanying notes to the financial statements.

LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
COMPARATIVE STATEMENT OF CASH FLOWS
FOR THE YEARS ENDED JUNE 30,
DOLLARS IN THOUSANDS

	2018	2017
Cash Flows from Operating Activities		
Cash received from customers	$ 276,711	$ 262,055
Cash paid to suppliers	(49,429)	(48,449)
Cash paid to employees	(45,721)	(39,851)
Net Cash Provided by Operating Activities	181,561	173,755
Cash Flows from Capital and Related Financing Activities		
Proceeds from issuance of debt	401,340	376,340
Premium from sale of bonds	21,894	15,715
Build America bond refund	10,248	10,226
Principal paid on debt	(263,395)	(271,064)
Interest and fees paid on debt	(102,394)	(103,919)
Interest paid on swaps	(7,724)	(8,926)
Proceeds from capital grants	7,183	6,386
Proceeds from sale of capital assets	3	10
Payments for capital assets	(216,503)	(220,892)
Proceeds from assessments	1,621	1,254
Assessments extended	-	(2,376)
Net Cash Provided (Used) by Capital and Related Financing	(147,727)	(197,246)
Cash Flows from Investing Activities		
Change in investments	(56,798)	15,990
Investment income	5,081	2,951
Net Cash Provided (Used) by Investing Activities	(51,717)	18,941
Net Increase (Decrease) in Cash and Cash Equivalents	(17,883)	(4,550)
Cash and Cash Equivalents, Beginning of Year	99,545	104,095
Cash and Cash Equivalents, End of Year	$ 81,662	$ 99,545
Reconciliation of Operating Income to Net Cash provided by Operating Activities		
Income from operations	$ 96,543	$ 92,329
Adjustments to reconcile operating income to net cash provided by operating activities		
Depreciation and amortization	77,954	77,156
Accounts receivable	(2,999)	2,678
Inventories	(223)	26
Prepaid expense	(918)	180
Accounts payable	123	(812)
Customer deposits	561	(257)
Accrued liabilities	(332)	(57)
Pension liability	9,646	2,512
OPEB liability	1,206	-
Net Cash Provided by Operating Activities	$ 181,561	$ 173,755
Non-Cash Capital Financing and Investing Activities		
Contribution of plant, lines and other facilities by developers and property owners	$ 5,542	$ 6,503
Construction costs in accounts payable	47,472	30,764
Change in fair value of investments	1,777	1,924
Decrease in interest rate swap deferred revenue	918	918
Change in fair value - swap agreements	16,317	26,072
Bonds issued for refunding of debt	94,900	96,000

See the accompanying notes to the financial statements.

NOTES TO THE FINANCIAL STATEMENTS

NOTE 1 – SIGNIFICANT ACCOUNTING POLICIES

The financial statements of the Louisville and Jefferson County Metropolitan Sewer District (MSD), a component unit of Louisville/Jefferson County Metro Government, are prepared in conformity with accounting principles generally accepted in the United States of America as applied to government units. The Governmental Accounting Standards Board (GASB) is the accepted standard-setting body for establishing governmental accounting and financial reporting principles. MSD follows GASB Pronouncements as codified under GASB 62, including electing to report as a regulated operation. MSD uses proprietary fund accounting (enterprise fund). Due to the election as a regulated operation under GASB 62, to meet industry accounting standards and follow transactional intent, MSD uses, as applicable, ASC 980, Regulated Accounting.

Reporting Entity: MSD is a public body corporate, and political subdivision of the Commonwealth of Kentucky. MSD was created in 1946 pursuant to Chapter 76 of the Kentucky Revised Statutes, in the interest of the public health and for the purpose of providing adequate sewer and drainage facilities in the urbanized area of the Louisville Metropolitan Area. Pursuant to Chapter 76, MSD is governed by a Board which consists of eight members who are appointed by the Mayor of Louisville Metro Government, subject to approval of Louisville Metro Council. Not more than five Board members may be of the same political party. However, there is not a continuing supervisory relationship exercised by Louisville Metro Government over MSD with respect to MSD's statutory public functions.

Chapter 76 authorizes MSD to provide sewer and drainage facilities and services. MSD is further authorized by the statute to establish and collect service charges and to budget accordingly for operations and maintenance, capital outlays and debt service on obligations it is authorized by the statute to incur. No special financing relationship exists between Louisville Metro Government and MSD, nor is Louisville Metro Government empowered by law or custom to approve MSD’s operating or capital budgets; nor are they responsible for financing deficits or disposing of surplus funds.

MSD has complete control, possession and supervision of the sewer and drainage system in large portions of Jefferson County, and has statutory authority to construct additions, betterments and extensions within its service area. Additionally, MSD has statutory responsibility for approval of the design and proper construction of sewer and drainage facilities within the County's boundaries. There are cities within the County that, by statute, have the option of using MSD sewer services on a contractual basis. Third and fourth class cities also have the option of obtaining drainage services from MSD. MSD’s enterprise business activities are managed by its Board, which has statutory authority to elect officers, enact bylaws and enter into agreements and contracts for the management and regulation of MSD's affairs.

MSD's revenue is derived from sewer and drainage service charges which are collected from residential, commercial and industrial customers. MSD controls the collection of all revenue, disbursement of payables and title to all sewer and drainage assets. Sewer service charges are distributed among customer classes on the basis of actual costs incurred to collect and treat wastewater. Drainage service charges are distributed among customer classes on the basis of actual costs of drainage services per equivalent unit of impervious surface.

Changes in MSD's service charges are implemented by MSD's Board, but no change in the service charge schedule is final within the Louisville Metro area until approval by Louisville Metro Council. However, the statute provides that such approval may not be arbitrarily withheld and that the schedule shall be sufficient to provide revenues for the operation and maintenance of the system and for debt service. By ordinance, Louisville Metro Government has provided that MSD’s Board may amend its service charge schedule to maintain a debt service ratio of 1.10 for MSD’s sewer and drainage revenue bonds, and that such amendments will be effective within the metropolitan area when adopted by MSD's Board, so long as the amended rates do not generate additional revenue from service charges in excess of 7% during the twelve months succeeding the period in which the deficiency was identified.

Chapter 76 permits MSD to finance sewer and drainage system construction, acquisition and other capital improvements through the issuance of its revenue bonds and with the proceeds of governmental grants, property owner contributions in aid of construction and bonds and loans for which pledge of repayment is subordinated to the pledge of all revenues given by MSD for the security of its revenue bond holders. MSD indebtedness does not constitute indebtedness of Louisville Metro Government or the Commonwealth, but Louisville Metro Government must authorize by ordinance the issuance by MSD of revenue bonds to finance projects within the Metropolitan area.

Basis of Accounting: The sewer and drainage system owned and operated by MSD is accounted for using a flow of economic resources measurement focus. With this measurement focus, all assets and all liabilities associated with the operation of the system are included on the statement of net position. Total net position is segregated into net investment in capital assets, restricted for payment of bond principal and interest and unrestricted. Operating statements present increases (e.g., revenues) and decreases (e.g., expenses) in net position. MSD utilizes the accrual basis of accounting wherein revenues are recorded when earned and expenses are recorded at the time the liability is incurred.

Cash and Cash Equivalents: For purposes of the Statements of Cash Flows, MSD includes repurchase agreements and other investments with an original maturity of three months or less in cash and cash equivalents.

Restricted and Unrestricted Funds: Restricted funds are reserved for the purpose of bond debt service, funding of capital construction, cost of issuance, and debt service reserves. Unrestricted funds, generated from service fees and other operating income, are used to pay for operating expenses. When an expense or outlay is incurred for which both restricted and unrestricted net position is available, it is MSD's practice is to use revenue from operations to finance construction, then to reimburse from restricted net position for construction as it is needed.

Investment Securities*:* Investments are stated at fair value. Investment income consists of interest income and the change in fair value of investments[1]. Investment income is reduced by estimated federal arbitrage liability.[2]

Revenues, Expenses and Receivables: Operating revenues are those revenues that are generated directly from the primary activity of MSD. These revenues are wastewater and stormwater service charges and other operating income. The Louisville Water Company is responsible for the billing and collection of these charges on behalf of MSD on a monthly basis. Operating expenses are expenses incurred through the activities of operating and maintaining MSD facilities.

Non-operating revenues and expenses are comprised of investment and financing earnings and costs, changes in the fair value of derivatives, as well as contributions from outside sources.

Accounts receivable are stated at the amount management expects to collect from outstanding customer accounts. Accounts are considered past due 30 days from the invoice date. Management provides an allowance for doubtful account that is based on historical collection experience and a review of the current status of individual accounts. Accounts that remain outstanding after management has exerted reasonable collection efforts are written off through a charge to allowance for doubtful accounts and a credit to accounts receivable.

Assessment receivables represent amounts billed to residents to have sewer lines installed in their neighborhood. Assessment receivables are considered past due once the balance is 90 days in arrears. Management considers all amounts collectible on the basis that liens are placed on properties at the time of assessment.

Inventories: Inventories are stated at the lower of cost (principally weighted average cost) or market. They consist of supplies and parts used in the operation of MSD's treatment plants and for the maintenance of sewers, fleet vehicles and other related equipment.

[1] See Note 2 – Deposits and Investments
[2] See Note 7 – Long-Term Debt

Contributed Capital and Construction Grants: MSD finances construction of sewer and drainage plant, lines and other facilities, in part, through government grants and contributions from property owners and developers. Governmental grants in aid of construction represent the estimated portion of construction costs incurred for which grants are expected to be paid to MSD by the governmental grantor. These amounts are recorded as a receivable and revenues from contributions at the time the related expenditures are incurred. The revenues from contributions are part of the change in net position.

Capital Assets - Plant, Lines and Other Facilities: Plant, lines and other facilities are recorded at historical cost or, if contributed, at acquisition value as determined by engineering estimates on the date the contribution is received. It is MSD's policy to depreciate the costs of these assets over their estimated useful lives on a straight line basis[3].

Estimated useful lives on depreciable assets are as follows:

Buildings and other structures	30 - 50 years
Land improvements	10 - 30 years
Miscellaneous machinery	10 - 20 years
Vehicles	6 - 12 years
Equipment, heavy	15 - 30 years
Equipment, light	5 - 15 years
Sewer lines and drainage channels	80 years

Costs incurred for capital construction and acquisition are carried in construction in progress until disposition or completion of the related projects. The major components of construction in progress are sewer lines, wastewater treatment and stormwater facilities. Costs relating to projects not pursued are expensed, while costs relating to completed projects are capitalized as plant, lines and other facilities.

Capitalized Interest: Interest capitalized on projects funded from bond proceeds is recorded as the average cumulative expenditures multiplied by the weighted average borrowing rate.[4] Interest is not capitalized on project costs that are reimbursed by contributions of capital from government, property owners and developers.

Impairment of Capital Assets: In accordance with GASB Statement No. 42, *Accounting and Financial Reporting for Impairment of Capital Assets and for Insurance Recoveries*, management evaluates prominent events or changes in circumstances affecting capital assets to determine whether impairment of a capital asset has occurred. Such events or changes in circumstances that may be indicative of impairment include evidence of physical damage, enactment or approval of laws or regulations, other changes in environmental factors, technology changes or evidence of obsolescence, changes in the manor of duration of use of a capital asset, and construction stoppage. A capital asset is generally considered impaired if both (a) the decline in service utility of the capital asset is large in magnitude and (b) the event or change in circumstance is outside the normal life cycle of the capital asset. No impairment losses were recognized in the years ended June 30, 2018 and 2017.

Bonds Payable: Bonds payable are recorded at the principal amount outstanding, net of any applicable premium or discount[5].

Bonds outstanding, which have been refunded and economically defeased, are not included in long-term debt. The related assets are not included in investments. Any loss on refunding, which is the difference between the reacquisition price and the net carrying amount of the old debt, is deferred outflow of resources and amortized as a component of interest expense over the shorter of either 1) the original life of the refunded debt or 2) the life of the refunding debt.

[3] See Note 5 – Capital Assets – Plant, Lines, and Other Facilities
[4] See Note 6 – Capitalized Interest
[5] See Note 7 – Long-Term Debt

MSD enters into interest rate swap agreements to modify interest rates on outstanding debt. MSD records the net interest expenditures resulting from these agreements and amortizes gains/losses resulting from the termination of these agreements until the original termination date of the agreement. Derivative instruments are reported at fair value as deferred inflow of resources. Changes in fair value of derivative instruments are reported in non-operating revenue (expenses) on the Statement of Revenues, Expenses and Changes in Net Position.

Bond issue costs are capitalized and amortized over the life of the respective bond issue using the straight-line method, which approximates the effective interest method, pursuant to the election of regulatory operation under GASB 62, as they are deemed recoverable through future rates.

Original issue discounts and premiums on bonds are amortized as a component of interest expense using the straight-line method, which approximates the effective interest method, over the lives of the bonds to which they relate.

Compensated Absences: Vacation and personal pay benefits are accrued as accumulated and vested by MSD employees.

Allocation of Overhead: MSD allocates overhead costs to its core business processes: operations and maintenance; design, construction and acquisition of plant lines and other facilities; and subsidiary business enterprises.

Use of Estimates: The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make assumptions and estimates that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Income Tax Status: MSD is exempt from federal income tax under the Internal Revenue Code as a political subdivision of the Commonwealth of Kentucky.

Adoption of New Accounting Pronouncements: Effective July 1, 2017, MSD adopted the following GASB pronouncements:

- Statement No. 75: *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions*
- Statement No. 81: *Irrevocable Split-Interest Agreements*
- Statement No. 85: *Omnibus 2017*
- Statement No. 86*: Certain Debt Extinguishment Issues*

The objective of GASB Statement No. 75: *Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions* is to improve financial report by state and local governments for postemployment benefits other than pensions (other postemployment benefits or OPEB). It also improves information provided by state and local government employers about financial support for OPEB that is provided by other entities[6].

The objective of GASB Statement No. 81: *Irrevocable Split-Interest Agreements* is to improve accounting and financial reporting for irrevocable split-interest agreements by providing recognition and measurement guidance for situations in which a government is a beneficiary of the agreement.[7]

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[6] Government Accounting Standards Board, Statement No, 75, page 3, from the Government Accounting Standards Board website, https://www.gasb.org/jsp/GASB/Document_C/DocumentPage?cid=1176166144750&acceptedDisclaimer=true, accessed August 21, 2018

[7] Government Accounting Standards Board, Statement No. 81, page 1, from the Government Accounting Standards Board website,

The objective of GASB Statement No. 85: *Omnibus 2017* is to address practice issues that have been identified during implementation and application of certain GASB Statements.[8]

The objective of GASB Statement No. 86: *Certain Debt Extinguishment Issues* is to improve consistency in accounting and financial reporting for in-substance defeasance of debt by providing guidance for transactions in which cash and other monetary assets acquired with only existing resources are placed in an irrevocable trust for the sole purpose of extinguishing debt.[9]

Adoption of statement GASB Statement No. 75 had a significant impact on MSD's financial position. The cost sharing plan, County Employee Retirement System (CERS), did not provide information for participating employers to implement GASB 75 for the earliest period reported. Therefore, restatement was applied to the opening balance at July 1, 2017. MSD restated the July 1, 2017 net position in the amount of $23,201 as outlined below:

(dollars in thousands)	Beginning Balance	As Restated	GASB 75 Adjustment
Statement of net position			
Net OPEB liability	$ -	$ (25,193)	$ (25,193)
Deferred outflows	-	1,992	1,992
Statement of revenues, expenses and changes in net position			
Net position, July 1, 2017	$ 668,488	$ 645,287	$ (23,201)

GASB Statements Nos. 81, 85, and 86 do not impact on MSD's financial reporting at this time.

Recent Accounting Pronouncements: GASB has issued additional guidance that is not yet effective. MSD is currently reviewing the provisions of the following GASB Statements to determine the impact of implementation in future periods.

- Statement No. 83*: Certain Asset Retirement Obligations (fiscal 2019)*
- Statement No. 84*: Fiduciary Activities (fiscal 2020)*
- Statement No. 87: *Leases (fiscal 2021)*
- Statement No. 88: *Certain Disclosures Related to Debt, Including Direct Borrowings and Direct Placements (fiscal 2019)*
- Statement No. 89: *Accounting for Interest Cost Incurred Before The End of a Construction Period (fiscal 2020)*
- Statement No. 90: *Majority Equity Interests – An Amendment of GASB Statements No 14 and No. 61 (fiscal 2020)*

http://www.gasb.org/cs/ContentServer?c=Pronouncement_C&pagename=GASB%2FPronouncement_C%2FGASBSummaryPage&cid=1176168022710, accessed June 15, 2017.

[8] Government Accounting Standards Board, Statement No. 85, page 1, from the Government Accounting Standards Board website, https://www.gasb.org/cs/ContentServer?c=Pronouncement_C&cid=1176168952756&d=&pagename=GASB%2FPronouncement_C%2FGASBSummaryPage, accessed on September 24, 2018

[9] Government Accounting Standards Board, Statement No. 86, page 3, from the Government Accounting Standards Board website, https://www.gasb.org/jsp/GASB/Document_C/DocumentPage?cid=1176169037804&acceptedDisclaimer=true, accessed on August 21, 2018

Reclassifications: Prior period financial statement amounts have been reclassified to conform to current period presentation. These reclassifications had no effect on the changes in net position or total net position.

NOTE 2 – CASH DEPOSITS AND INVESTMENTS

A reconciliation of cash, cash equivalents and investments as shown on the Comparative Statement of Net Position for MSD is as follows:

(dollars in thousands)	June 30,	
	2018	2017
Reported in Statements of Net Position:		
Cash and cash equivalents		
Unrestricted	50,276	42,449
Restricted - current	29,987	19,454
Restricted - noncurrent	1,399	37,642
Total cash and cash equivalents	81,662	99,545
Investments		
Unrestricted	25,080	10,095
Restricted - current	-	22,675
Restricted - noncurrent	151,039	86,550
Total investments	176,119	119,320
Total Cash, Cash Equivalents and Investments	257,781	218,865

The following comparative schedule presents the cash, cash equivalents and investments in MSD's portfolio at fair value with investment maturities and credit risk ratings from Moody's Investors Service.

June 30, 2018 *(dollars in thousands)*	Reported Value	Weighted Average Maturity in Years	Credit Rating
U.S. treasuries	$ 41,898	2.44	Aaa
U.S. agency securities	47,315	2.52	Aaa
Municipal bonds	61,826	16.12	Aa
Money market funds	34,303	0.03	Aaa
Commercial paper	49,908	0.14	Prime-1
Repurchase agreement/cash	22,431		
Certificate of Deposit	100	0.67	
Total cash, cash equivalents and investments	$ 257,781	5.24	
Accrued interest	$ 1,116		

June 30, 2017 *(dollars in thousands)*	Reported Value	Weighted Average Maturity in Years	Credit Rating
U.S. agency discount notes	$ -		
U.S. agency securities	27,820	1.53	Aaa
Municipal bonds	81,405	20.36	Aa
Money market funds	71,405	0.18	Aaa
Commercial paper	9,995	0.04	Prime-1
Repurchase agreement/cash	28,140		
Certificate of deposit	100	0.67	
Total cash, cash equivalents and investments	$ 218,865	9.90	
Accrued interest	$ 1,066		

Section 66.480 of the Kentucky Revised Statutes and MSD's bond resolutions authorize MSD to invest money subject to its control in, among other securities, (i) obligations of the United States and of its agencies and instrumentalities, including obligations subject to repurchase agreements, (ii) certificates of deposit or other interest-bearing accounts of any bank or savings and loan institution which are insured by the Federal Deposit Insurance Corporation or, to the extent not so insured, collateralized by obligations described in clause (i) above, (iii) securities issued by a state or local government, or any instrumentality or agency thereof, in the United States, and rated in either of the two highest categories by a nationally recognized rating agency, and (iv) money market mutual funds investing in any of the securities described above. MSD bond resolutions and covenants contain similar restrictions.

Investments are made based upon prevailing market conditions at the time of the transaction with the intent to hold the instrument until maturity. With this strategy, investments would be expected to reach maturity with limited realized gains or losses. If the yield of the portfolio can be improved upon by the sale of an investment, prior to its maturity, with the reinvestment of the proceeds, then this provision is also allowed.

Concentration of Credit Risk: MSD's Investment Policy (The Policy) requires that investments be diversified to eliminate the risk of loss resulting from over-concentration of assets in a specific maturity, a specific issuer, or a specific class of securities. Section 4.4.1 of The Policy limits the amount of money invested at any time in one or more categories of the investments authorized by KRS 66.480 shall not exceed 20% of the total amount invested.

Interest Rate Risk: MSD minimizes interest rate risk by structuring the investment portfolio so that securities mature to meet cash requirements for ongoing operations, thereby avoiding the need to sell securities on the open market prior to maturity. The weighted average maturity in years represents the interest rate risk for MSD.

Custodial Credit Risk: This is the risk that, in the event of the failure of the counterparty, MSD would not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. The collateral provided by financial institutions is considered adequate to cover all balances in excess of limits set forth by the Federal Deposit Insurance Corporation. All of MSD's investments are held by MSD or in the name of MSD by a Trustee.

Foreign Currency Risk: This risk relates to any potential adverse effects on the fair value of an investment from changes in exchange rates. MSD did not hold any foreign currency as of June 30, 2018 and 2017.

Fair Value Measurement: GASB 72 requires MSD to disclose how we measure the fair value of investments and the underlying valuation techniques. Debt and equity securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for these securities or repurchase agreements. Debt securities classified in Level 2 of the fair value hierarchy are valued using a matrix pricing approach. Matrix pricing is used to value securities based on the securities' relationship to the benchmark quoted prices. A comparative statement of investments subject to fair value measurements and valuation techniques follows:

June 30, 2018 *(dollars in thousands)*	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Investments by fair value level:				
Commercial paper	$ -	$ 49,908	$ -	$ 49,908
U.S. treasuries	-	41,898	-	41,898
U.S. agencies	-	47,315	-	47,315
State and municipal obligations	-	61,826	-	61,826
Total investments by fair value level	$ -	$ 200,947	$ -	$ 200,947

June 30, 2017 *(dollars in thousands)*	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Investments by fair value level:				
Commercial paper	$ -	$ 9,995	$ -	$ 9,995
U.S. agencies	-	27,820	-	27,820
State and municipal obligations	-	81,405	-	81,405
Total investments by fair value level	$ -	$ 119,220	$ -	$ 119,220

NOTE 3 - RESTRICTED CASH, CASH EQUIVALENTS, AND INVESTMENTS

MSD's revenue bond resolution provides that MSD shall maintain in a debt service reserve account a balance equal to the maximum annual aggregate gross principal and interest due on all outstanding revenue bonds; or, in lieu of cash and investments in that amount, a letter of credit or policy of bond insurance payable in that amount. Cash, cash equivalents and investments segregated as accounts restricted for authorized construction include proceeds from issuance of MSD bonds. Total restricted cash, cash equivalents, and investments at June 30, 2018 and June 30, 2017 was $182,425,207 and $166,321,339, respectively.

NOTE 4 - SCHEDULE OF NET POSITION

A comparative schedule of net position follows:

(dollars in thousands)	June 30, 2018	June 30, 2017
Net investment in capital assets:		
Plant, lines and other facilities net of depreciation	$ 2,925,982	$ 2,742,037
Outstanding debt that applies to plant, lines and other facilities	(2,315,569)	(2,167,901)
Accounts payable and accrued expenses (capital)	(47,472)	(30,764)
Deferred outflows and inflows of resources	17,334	19,412
Total	580,275	562,784
Restricted for:		
Assets restricted for debt service	174,880	166,321
Assets restricted for construction	7,545	-
Liabilities associated with restricted debt service	(108,978)	(82,654)
Net position, restricted	73,447	83,667
Unrestricted net position	54,952	22,037
Total net position	$ 708,674	$ 668,488

NOTE 5 - CAPITAL ASSETS - PLANT, LINES AND OTHER FACILITIES

A comparative schedule of plant, lines and other facilities follows:

June 30, 2018 *(dollars in thousands)*	Beginning Balance	Transfers In/ Additions	Retirements / Reclassifications	Ending Balance
Capital assets:				
Sewer lines	$ 1,440,360	$ 5,785	$ 50,945	$ 1,497,090
Wastewater treatment facilities/goodwill	638,048	415	10,040	648,503
Stormwater drainage facilities	542,271	414	18,656	561,341
Pumping and lift stations	166,158	-	17,637	183,795
Administrative facilities	50,818	-	-	50,818
Maintenance facilities	8,504	-	-	8,504
Machinery and equipment	66,169	187	(35)	66,321
Miscellaneous	31,086	-	-	31,086
Capitalized interest	363,437	21,859	-	385,296
Total capital assets	3,306,851	28,660	97,243	3,432,754
Less accumulated depreciation and amortization:				
Sewer lines	(320,209)	(17,771)	-	(337,980)
Wastewater treatment facilities/goodwill	(393,566)	(24,987)	-	(418,553)
Stormwater drainage facilities	(140,542)	(10,409)	-	(150,951)
Pumping and lift stations	(63,073)	(8,820)	-	(71,893)
Administrative facilities	(37,407)	(1,584)	-	(38,991)
Maintenance facilities	(6,385)	(178)	-	(6,563)
Machinery and equipment	(58,589)	(1,993)	4,276	(56,306)
Miscellaneous	(26,936)	(1,793)	-	(28,729)
Capitalized interest	(99,329)	(9,132)	-	(108,461)
Total accumulated depreciation/amortization	(1,146,036)	(76,667)	4,276	(1,218,427)
Construction in progress	581,222	232,041	(101,608)	711,655
Net capital assets	$ 2,742,037	$ 184,034	$ (89)	$ 2,925,982

Capital assets include non-depreciable assets for land related to the facilities and pumping and lift stations. The carrying value was $16,337,982 and $14,732,674 at June 30, 2018 and 2017 respectively.

June 30, 2017 *(dollars in thousands)*	Beginning Balance	Transfers In/ Additions	Retirements / Reclassifications	Ending Balance
Capital assets:				
Sewer lines	$ 1,379,153	$ 4,663	$ 56,544	$ 1,440,360
Wastewater treatment facilities/goodwill	629,083	420	8,545	638,048
Stormwater drainage facilities	515,898	2,252	24,121	542,271
Pumping and lift stations	139,651	1,408	25,099	166,158
Administrative facilities	49,342	17	1,459	50,818
Maintenance facilities	8,504	-	-	8,504
Machinery and equipment	60,043	-	6,126	66,169
Miscellaneous	30,659	-	427	31,086
Capitalized interest	343,363	20,074	-	363,437
Total capital assets	3,155,696	28,834	122,321	3,306,851
Less accumulated depreciation and amortization:				
Sewer lines	(303,082)	(17,127)	-	(320,209)
Wastewater treatment facilities/goodwill	(366,714)	(26,852)	-	(393,566)
Stormwater drainage facilities	(130,488)	(10,054)	-	(140,542)
Pumping and lift stations	(55,672)	(7,401)	-	(63,073)
Administrative facilities	(35,690)	(1,717)	-	(37,407)
Maintenance facilities	(6,153)	(232)	-	(6,385)
Machinery and equipment	(57,369)	(1,220)	-	(58,589)
Miscellaneous	(24,237)	(2,699)	-	(26,936)
Capitalized interest	(90,703)	(8,626)	-	(99,329)
Total accumulated depreciation/amortization	(1,070,108)	(75,928)	-	(1,146,036)
Construction in progress	487,674	215,869	(122,321)	581,222
Net capital assets	$ 2,573,262	$ 168,775	$ -	$ 2,742,037

NOTE 6 - CAPITALIZED INTEREST

A comparative schedule of capitalized interest and net interest expense reported in non-operating expenses follows:

(dollars in thousands)	June 30, 2018	June 30, 2017
Interest incurred	$ 100,587	$ 97,728
Less interest capitalization	(21,859)	(20,074)
Interest expense, net	$ 78,728	$ 77,654

NOTE 7 - LONG-TERM DEBT

A comparative schedule of long-term debt outstanding at June 30, 2018 and 2017 follows:

(dollars in thousands) Revenue Bonds	Original Issue Amount	Interest Rates	Final Payment In	Outstanding as of June 30: 2018	2017
2007A Series Revenue Bonds	61,125	4.00% - 5.00%	2025	-	42,965
2008A Series Revenue Bonds	105,000	4.00% - 5.00%	2038	-	65,520
2009A Series Revenue Bonds	76,275	5.00%	2022	6,640	13,040
2009B Series Revenue Bonds	225,770	2.00% - 5.00%	2023	52,975	69,725
2009C Series Revenue Bonds	180,000	5.98%	2040	180,000	180,000
2010A Series Revenue Bonds	330,000	6.25%	2043	330,000	330,000
2011A Series Revenue Bonds	263,360	3.00% - 5.00%	2034	250,565	252,610
2013A Series Revenue Bonds	115,790	4.00%	2036	115,790	115,790
2013B Series Revenue Bonds	119,515	4.00% - 5.00%	2038	115,550	116,940
2013C Series Revenue Bonds	100,000	3.00% - 5.00%	2044	99,500	99,625
2014A Series Revenue Bonds	80,000	4.00% - 5.00%	2045	79,850	79,900
2015A Series Revenue Bonds	175,000	3.125% - 5.00%	2046	173,735	174,280
2015B Series Revenue Bonds	81,750	2.00% - 5.00%	2038	76,685	79,085
2016A Series Revenue Bonds	150,000	3.00% - 5.00%	2047	149,760	150,000
2016B Series Revenue Bonds	28,315	2.00% - 5.00%	2036	28,095	28,095
2016C Series Revenue Bonds	67,685	5.00%	2023	67,685	67,685
2017A Series Revenue Bonds	175,000	3.00% - 5.00%	2048	175,000	-
2017B Series Revenue Bonds	35,725	5.00%	2025	34,520	-
2018A Series Revenue Bonds	60,380	4.00%	2038	60,380	-
Total long-term debt				1,996,730	1,865,260
Less: current maturities				(40,190)	(33,655)
Add : unamortized premium/discount				90,628	74,328
Total long-term debt, net				$ 2,047,168	$ 1,905,933

A schedule of future debt service requirements after June 30, 2018 follows:

(dollars in thousands)	Revenue Bonds Principal	Revenue Bonds Interest	Revenue Bonds Total
Year ending June 30,			
2019	$ 40,190	$ 94,963	$ 135,153
2020	42,200	93,058	135,258
2021	44,230	91,030	135,260
2022	46,435	88,821	135,256
2023	48,755	86,503	135,258
2024-2028	262,380	396,102	658,482
2029-2033	180,685	334,906	515,591
2034-2038	473,805	277,127	750,932
2039-2043	581,275	154,992	736,267
2044-2048	276,775	26,207	302,982
	$ 1,996,730	$ 1,643,709	$ 3,640,439

A comparative summary of current and long-term revenue bond activity follows:

(dollars in thousands)	June 30, 2018	June 30, 2017
Revenue bonds - beginning of year, net	$ 1,865,260	$ 1,754,570
Bonds issued	271,105	246,000
Principal paid on bonds and bond refunding	(139,635)	(135,310)
Revenue bonds - end of year, net	$ 1,996,730	$ 1,865,260

MSD long-term debt is issued to provide sufficient funding for sewer and drainage projects approved for construction. MSD has pledged all revenues to the payment of principal and interest on its outstanding revenue bonds.

Federal tax regulations generally require the periodic payment to the U.S. Treasury of investment earnings on the proceeds of an issue of tax-exempt municipal bonds to the extent those earnings exceed the yield on the bonds. Such payments, known as arbitrage rebate, are normally payable every fifth year following the issuance of a series of bonds and upon the retirement of the bond issue. MSD has arbitrage calculations performed as needed by an independent third party to comply with these regulations. As of June 30, 2018 and 2017, MSD's accrued liability for arbitrage rebate was $369,019 and $294,685, respectively.

Fiscal Year 2018 Significant Debt Transactions: On May 31, 2018, MSD issued $60,380,000 of revenue refunding bonds, series 2018A. The proceeds of the series 2018A bonds, together with certain amounts in the reserve account, were used to: (i) currently refund $63,335,000 of outstanding principal amount on MSD's sewer and drainage system revenue bonds, series 2007A, maturing May 15, 2037 through May 15, 2038, the proceeds of which were used to finance the costs of improvements to MSD's sewer and drainage system, and (ii) pay the cost of issuance of the series 2018A bonds. The refunding reduced debt service payments over the next 20 years by $8,452,933 and resulted in a net present value savings of $4,514,627.

On August 22, 2017, MSD issued $175,000,000 of revenue bonds, series 2017A. The proceeds of the series 2017A bonds were used to: (i) pay the costs of issuing the series 2017A bonds; (ii) make a deposit to the reserve account; and (iii) make a deposit to the construction and acquisition fund to pay the costs of improvements to MSD's sewer and drainage system.

On August 22, 2017, MSD issued $35,725,000 of revenue refunding bonds, series 2017B. The proceeds of the series 2017B bonds, together with certain amounts in the reserve account, were used to: (i) currently refund $42,965,000 of outstanding principal amount on MSD's sewer and drainage system revenue bonds, series 2007A, maturing May 15, 2018 through May 15, 2025, the proceeds of which were used to finance the costs of improvements to MSD's sewer and drainage system, and (ii) pay the cost of issuance of the series 2017B bonds. The refunding reduced debt service payments over the next 8 years by $9,570,028 and resulted in a net present value savings of $7,860,700.

Fiscal Year 2017 Significant Debt Transactions: On August 30, 2016, MSD issued $150,000,000 of revenue bonds, series 2016A. The proceeds of the series 2016A bonds were used to: (i) pay the costs of issuing the series 2016A bonds; (ii) make a deposit to the reserve account; and (iii) make a deposit to the construction and acquisition fund to pay the costs of improvements to MSD's sewer and drainage system.

On August 30, 2016, MSD issued $28,315,000 of revenue refunding bonds, series 2016B. The proceeds of the series 2016B bonds, together with certain amounts in the reserve account, were used to: (i) refund in advance of maturity $30,250,000 of outstanding principal amount on MSD's sewer and drainage system revenue bonds, series 2008A, maturing May 15, 2019 through May 15, 2026, the proceeds of which were used to finance the costs of improvements to MSD's sewer and drainage system, and (ii) pay the cost of issuance of the series 2016B bonds. The refunded bonds are considered defeased and the liability was removed from MSD's statement of net position. The refunding reduced debt service payments over the next 20 years by $7,789,668 and resulted in a net present value savings of $5,349,969.

On August 30, 2016 MSD issued $67,685,000 of revenue refunding bonds, series 2016C. The proceeds of the series 2016C bonds, together with certain amounts in the reserve account, were used to: (i) refund in advance of maturity $22,350,000 of outstanding principal on MSD's sewer and drainage system revenue bonds, Series 2009A, maturing May 15, 2020 through May 15, 2022 and $50,665,000 of the outstanding principal amount on MSD's sewer and drainage system revenue bonds, series 2009B, maturing May 15, 2020 through May 15, 2023, the proceeds of which were used to refund an earlier series of bonds, which in turn were used to finance or refinance the costs of improvements to MSD's sewer and drainage system and (ii) pay the cost of issuance of the series 2016C bonds. The refunded bonds are considered defeased and the liability was removed from MSD's statement of net position. The refunding reduced debt service payments over the next 7 years by $7,754,573 and resulted in a net present value savings of $4,774,821.

Debt Service Covenant: A debt service coverage ratio covenant has been established under the 1993 Sewer and Drainage System Revenue Master Bond Resolution. MSD was in compliance with the ratio covenant as of June 30, 2018 and 2017.

Refunded Debt: The portion of the 2009A and 2009B Series revenue bonds that were advance refunded with the 2016C Series revenue bonds are being paid from an escrow account. As of June 30, 2018, the amount outstanding on the Series 2009A is $22,350,000 maturing on May 15, 2019 and the amount outstanding on the Series 2009B is $50,665,000 maturing on November 15, 2019.

Line of Credit: MSD secured an uncommitted $25,000,000 line of credit in October 2015. As of June 30, 2018 and 2017 MSD does not owe anything on its line of credit. There was no activity on the line of credit in fiscal Year 2018 or 2017.

Derivatives: At June 30, 2018 and 2017 MSD had the following derivative instruments outstanding:

(dollars in thousands)

Item	Counter-Party	Initial Notional Amount	Current Notional Amount	MSD Payment Terms	Fair Value as of June 30 2018	Fair Value as of June 30 2017	Bond Issue to which Swap Relates	Change in Fair Value
A	Wells Fargo	$180,716	$180,716	4.4215%	$ (47,545)	$ (60,594)	BAN	$ 13,049
B	Bank of America	56,433	45,284	4.4215%	(11,898)	(15,166)	BAN	3,268
	Total	$237,149	$226,000		$ (59,443)	$ (75,760)		$ 16,317

Both swaps have termination dates of May 15, 2033. Payments are due on the fifteenth of each month. MSD receipt terms are 67% of 30-day LIBOR.

A comparative summary of the change in fair value of the swaps for the years ended June 30, 2018 and 2017 follows:

(dollars in thousands)	June 30, 2018	June 30, 2017
Fair value - beginning of year	$ (75,760)	$(101,832)
Change in fair value	16,317	26,072
Fair value - end of year	$ (59,443)	$ (75,760)

MSD's swaps are measured at fair value using significant other observable inputs (level 2) with a mid-market derivative valuation using a 67% of LIBOR Fixed Payer Swap rate.

MSD originally entered into these interest rate swaps as a hedging derivative instrument in anticipation of refinancing the 1999 series bonds at their call date. The swaps remain in the portfolio to lower interest rate risk associated with the Bond Anticipation Note (BAN). The total of investment derivatives is reported as interest rate swaps on the Statement of Net Position. All changes in fair value of the derivatives are recorded as a separate component of non-operating revenue (expense). MSD's two outstanding swaps are structured so that the notional amount of the swap decreases over time corresponding to the proposed payoff of the BAN.

MSD has implemented steps to safeguard it against the risks associated with the aforementioned swap transactions. If the counter-party does not maintain A1/A+ ratings from Moody's and Standard and Poor's, the swaps contain provisions that require them to be marked to market weekly with monthly statements sent to MSD and the value will be collateralized with U.S. Treasury and Agency securities with the securities held by a tri-party custodian approved by MSD.

All costs of collateralization will be borne by the downgraded party who must post the collateral. In addition, the swaps were awarded to multiple firms to further mitigate the credit risk associated with the transactions. The credit ratings as of June 30th, 2018 for the counter-parties are as follows:

	Credit Ratings: Moody's	**Credit Ratings: Standard & Poor's**
Bank of America, N.A.	P-1	A-1
Wells Fargo Bank, N.A.	P-1	A-1+

The agreements also provide for automatic termination if MSD's unenhanced bond rating is downgraded below BBB/Baa. MSD's obligations under all of its outstanding swap agreements are unsecured and subordinate to all bonds issued and outstanding. The positive and negative fair values of the swap agreements were provided by a third-party financial advisor. The net swap payments made in fiscal 2018 and fiscal 2017 were $7,724,335 and $8,926,139, respectively.

Swap Terminations: MSD entered into swaps and other derivative contracts to lock in long term rates in advance of issuing long term debt to create and manage variable rate exposure in its debt portfolio and to take advantage of market opportunities to hedge embedded interest rate risk and tax regulation risk that exists on its statement of net position.

Upon a termination of a swap, any termination receipt or payment is amortized into income or expense until the original expiration date of that swap. Any unamortized portion of the receipt or payment is recorded as a deferred debit or credit in long-term liabilities. MSD has swap agreement terminations with deferred inflow of resources balances accreting to non-operating revenue as follows:

- On January 24, 2001, MSD terminated a nineteen-year interest rate swap agreement for $100,000,000 of its fixed-rate 1999 series sewer and drainage revenue bonds. The termination of this swap agreement resulted in the receipt of a payment in the amount of $7,935,000. This payment will be amortized annually into income until 2019, the original termination date on the agreement.

- In April 2006, MSD entered into a swap agreement with Deutsche Bank AG for an initial notional amount of $171,405,000 which provided that beginning May 15, 2006, a net payment will be made based on MSD paying 78.78% of the 3-month LIBOR index on the notional amount and receiving 73.45% of the 5-year LIBOR Index on the notional amount. On January 23, 2008, MSD terminated this swap agreement and received a termination payment of $4,170,000 that will be amortized until 2023, the original termination date of the agreement.

- On January 25, 2008, MSD terminated a twenty-seven year floating to floating (basis) interest rate swap agreement with a notional amount of $282,165,000. MSD entered into this agreement with Morgan Stanley in April 2006 and paid 67% of the 1-month LIBOR index and received 62.2% of the 5-year LIBOR index. The termination of this swap agreement resulted in the receipt of a payment in the amount of $5,756,000. This payment will be amortized annually into income until 2033, the original termination date of the agreement.

- In May and June of 2013, MSD terminated two floating to fixed interest rate swap agreements, two basis swap agreements and three reversal swap agreements. Additionally, MSD partially terminated two floating to fixed interest rate swap agreements. The termination value of all swap agreements resulted in a net payment by MSD of $152,000. This action will result in a savings of $13,500,000 over the next ten years.

NOTE 8 – BOND ANTICIPATION NOTES

On November 14, 2017 MSD issued $226,340,000 of sewer and drainage system subordinated bond anticipation notes (BAN), series 2017, with a coupon rate of 5.0% and an effective interest rate of 1.04%. The proceeds of the notes were used to refinance the 2016 notes. The 2017 notes mature on November 12, 2018.

On November 15, 2016 MSD issued $226,340,000 of sewer and drainage system subordinated bond anticipation notes (BAN), series 2016, with a coupon rate of 3.5% and an effective interest rate of 0.89%. The proceeds of the notes were used to refinance the 2015 notes. The 2016 notes mature on November 15, 2017.

A comparative summary of subordinated debt follows:

(dollars in thousands)	June 30, 2018	2017
Subordinated debt - beginning of year	$ 228,313	$ 228,412
Debt incurred	226,340	226,340
Principal paid on debt	(226,442)	(226,439)
Subordinated debt - end of year	$ 228,211	$ 228,313

Under GASB 62, the BAN is considered a noncurrent liability because MSD intends to replace the series 2017 BAN with a new BAN in November 2018 which will extend the debt to November 2019. The BAN is used to finance capital projects.

NOTE 9 - RISK MANAGEMENT

MSD is exposed to various risks of loss related to torts; theft of, damage to and destruction of assets; errors and omissions; natural disasters; and injuries to MSD's employees. These risks are provided through the insurance programs described below.

Self-Insurance – Group Liability: MSD participates in the Louisville Area Governmental Self-Insurance Trust (LAGIT). LAGIT, which is certified by the Kentucky Department of Insurance to practice as a group liability self-insurance trust, was created on January 1, 1987. LAGIT members currently include Louisville Metro Government, six smaller cities, and six government agencies. LAGIT was formed to provide better risk protection and lower cost liability insurance by sharing the risk with all of its members. MSD's payments to LAGIT are reflected on the financial statements as an expense. LAGIT provides, after a $300,000 deductible, various liability coverages up to $5,000,000 per occurrence. Excess insurance may provide an additional $2,000,000 of coverage, above the LAGIT $5,000,000, to MSD. The amount of coverage available to MSD could be limited by the total assets of LAGIT and/or claims of other Members under the excess insurance policy. For fiscal 2018, LAGIT did not make any MSD claim payments.

MSD maintained additional excess liability coverage for fiscal 2018. Hallmark Specialty Insurance Company (A-) provided $5,000,000 of excess liability coverage beyond the $7,000,000 provided through LAGIT. Gemini Insurance Company (A+) provided another $15,000,000 of excess liability coverage beyond $12,000,000. In total, MSD maintained liability coverage of $27,000,000.

For fiscal 2017, LAGIT provided, after a $300,000 deductible, various liability coverages up to $5,000,000 per occurrence. Excess insurance provided an additional $2,000,000 of coverage, above the LAGIT $5,000,000 to MSD. The amount of coverage available to MSD was limited by the total assets of LAGIT and/or claims of other Members under the excess insurance policy. For fiscal 2017, LAGIT did not make any MSD claim payments.

MSD maintained in fiscal 2017 two additional excess liability policies that covered the period of January 2017 through June 2017. Arch Specialty Insurance Company (A+) provided $10,000,000 of excess liability coverage beyond the $7,000,000 provided through LAGIT. Gemini Insurance Company (A+) provided another $10,000,000 of excess liability coverage beyond $17,000,000. In total, MSD maintained liability coverage of $27,000,000.

Workers Compensation Insurance: MSD has chosen to self-insure the basic worker's compensation insurance. Claims administration is handled by a third-party administrator and includes claims monitoring check issuance, settlement negotiations and loss control services. Liabilities are reported when it is probable that a loss has occurred and the amount of the loss can be reasonably estimated. A separate insurance policy provides maximum coverage of $1,000,000 per occurrence and aggregate.
A roll forward of worker's compensation claims follows:

(dollars in thousands)	June 30, 2018	2017	2016
Liability - beginning of year	$ 1,701	$ 1,270	$ 1,755
Claims and changes in estimates	755	1,207	474
Payments	(899)	(776)	(959)
Liability - end of year	$ 1,557	$ 1,701	$ 1,270

Self-Insurance – Property: MSD joined the Louisville Area Governmental General Insurance Trust (LAGGIT) in September 2002. LAGGIT was created to provide lower cost to participants and broader coverage for property risks. MSD is responsible for covered property damage up to $100,000 except for flood and vehicle collision coverage, which have separate deductibles. LAGGIT provides coverage for the next $1,000,000 per occurrence, except for Flood Zone A locations. An excess insurance policy with a third-party carrier covers claims in excess of $1,100,000.

In the past three fiscal years LAGGIT paid $1,000,000 on a lightning/flood claim which exceeded MSD's deductibles under the Trust. Additionally, FM Global (excess carrier) paid $6,760,000 on a lightning/flood claim. MSD was affected by a flood event in February of 2018 and is working with LAGGIT and FM Global on the claim. At this time the final cost of damages has not been determined.

NOTE 10 - DEFERRED COMPENSATION

MSD offers its employees deferred compensation plans created in accordance with Internal Revenue Service Code Sections 401(k) and 457. These plans, available to all MSD employees, permit them to defer the payment of a portion of their salary until future years. Participation in these plans is voluntary and MSD makes no contributions to these plans on behalf of the employee. The deferred compensation is not available to employees until termination, retirement, death, or unforeseen emergency. All amounts of compensation deferred, including the investments and earnings thereon, vest with the employee and are not subject to the claims of MSD's general creditors.

NOTE 11 - COMMITMENTS AND CONTINGENCIES

Sale of Sewer Assessments*:* MSD has entered into agreements to sell sanitary sewer assessments to a local bank. These assessments reflect the portion of the cost that residents pay to have sewer lines installed in their neighborhood. Residents are given the opportunity to pay the assessment in full or to finance it over a twenty-year period at 7% interest per annum. The original agreement called for the bank to accept up to $25,000,000 of outstanding assessments and for MSD to receive 104% of the face value of the assessments.

The subsequent agreement allows an additional $5,000,000 of assessments to be sold to the bank at face value. These agreements give the bank the option to place the assessments back with MSD if the property owner's payments are 90 days in arrears or the property owner does not respond to the bank's demand for payment within a 90-day period after the issuance of the assessment. Sales to the bank are net of any subsequent repurchases of warrants by MSD. The unpaid principal balance of loans held by the bank at June 30, 2018 and 2017 was $964,127 and $1,337,636, respectively.

EPA Consent Decree: In August 2005, MSD agreed to enter into a Consent Decree with the Commonwealth of Kentucky's Environmental and Public Protection Cabinet (The Cabinet) and the U.S. Environmental Protection Agency (EPA). The Consent Decree called for MSD to submit a final Long-Term Control Plan (LTCP) to The Cabinet/EPA for review and joint approval by December 31, 2008, which was completed. The final LTCP includes schedules, deadlines, and timetables for projects to be completed by December 31, 2020. In addition, a Sanitary Sewer Discharge Plan (SSDP) was due by December 31, 2008, which was completed. The SSDP includes schedules and deadlines for capital projects to be completed by the end of 2024. The cost of the projects is estimated to be $979,000,000. Also, MSD agreed to pay a civil penalty to the Commonwealth of Kentucky in the amount of $1,000,000 to resolve the violations alleged in The Cabinet's and EPA's complaints up through the date of entry of the Consent Decree. The agreement also calls for MSD to perform supplemental environmental projects (SEPS) at an amount of not less than $2,250,000. MSD neither admitted nor denied the alleged violations but acknowledged that discharges occurred and accepted the obligations imposed in the Consent Decree. The Consent Decree, as negotiated, was entered by the U.S. District Court Judge on August 12, 2005.

In April 2009, MSD agreed to enter into an Amended Consent Decree with the Commonwealth of Kentucky's Environmental and Public Protection Cabinet (KEPPC) and the EPA. The agreement called for MSD to design and implement projects within specified deadlines that will eliminate sewer overflows in its service area. In a letter dated June 6, 2014, MSD requested approval from the KEPPC and the EPA for the IOAP 2012 Modifications, dated May 2014. The IOAP 2012 Modifications represent a revision to 28 separate projects set forth in the original IOAP, dated September 30, 2009. The IOAP Modifications were approved and will supersede and replace the 2009 IOAP. To date, MSD has complied with all submittals and reports requirements contained in the Amended Consent Decree. The enforcement actions initiated by the EPA are not unique in the wastewater treatment industry. Several wastewater utilities have signed, or are in the process of signing, Consent Decrees. In the opinion of MSD, the resolution of any violations will not result in material adverse effect on the operation, property or finances of MSD.

Claims and Litigation: Whittenberg Construction Company v. MSD; In the Jefferson County Circuit Court; Case No. 13-CI-000742. This is a breach of contract case stemming from the construction of a wastewater pump station and screening building at the Derek R. Guthrie Water Quality Treatment Center. Among other claims, Whittenberg contends MSD violated the terms of the construction contract pertaining to withholding of superior knowledge and that MSD's contract violates Kentucky's Fairness in Construction Act, KRS 371.425. Extensive discovery has been conducted and is on-going. Although the outcome is not certain, MSD has accrued a loss contingency as of June 30, 2018 and 2017.

MSD is a defendant in various other lawsuits. Although the outcome of these lawsuits is not presently determinable, it is the opinion of the MSD's management that resolution of these matters will not have a material adverse effect on the financial statements of MSD.

Construction Commitments: The value of construction contracts signed where work has not yet been performed amounted to $164,846,843 at June 30, 2018 and was $169,708,000 at June 30, 2017.

NOTE 12 - SUBSEQUENT EVENTS

Commercial Paper Program: On July 10, 2018 MSD introduced its Sewer and Drainage System Subordinated Program Notes Series 2018 Commercial Paper Sub-Series consisting of $250,000,000 Commercial Paper Notes, Series 2018A-1 and $250,000,000 Commercial Paper Notes Series 2018A-2. Notes issued under the program cannot exceed maturities of 270 days. The commercial paper notes will be used to provide funds for the interim financing of a portion of MSD's capital program.

Liquidity support for the Commercial Paper Series 2018A-1 is provided by Bank of America, N.A (BANA) pursuant to a 3-year Revolving Credit Agreement dated July 1, 2018. BANA has provided a commitment of $250,000,000 for the payment of the principal of and interest on the Commercial Paper Notes Series 2018A-1 which is the maximum amount available to be drawn under the BANA Revolving Credit Agreement. MSD and BANA entered into a Note Purchase Agreement dated July 1, 2018 providing for the purchase of Direct Purchase Notes by BANA up to the aggregate principal amount of $250,000,000. The BANA Revolving Credit Agreement and the BANA Note Purchase Agreement provided that the aggregate principal amount of Commercial Paper Notes Series 2018A-1 and the BANA Direct Purchase Notes shall not exceed $250,000,000. Merrill Lynch, Pierce, Fenner & Smith Inc. is acting as dealer for the Commercial Paper Notes Series 2018A-1.

Liquidity support for the Commercial Paper Series 2018A-2 is provided by JPMorgan Chase Bank (JPMCB) pursuant to a 3-year revolving credit agreement dated July 1, 2018. JPMCB has provided a commitment of $250,000,000 for the payment of the principal of and interest on the Commercial Paper Notes Series 2018A-

1 which is the maximum amount available to be drawn under the JPMCB Revolving Credit Agreement. MSD and JPMCB entered into a Note Purchase Agreement dated July 1, 2018 providing for the purchase of Direct Purchase Notes by JPMCB up to the aggregate principal amount of $250,000,000. The JPMCB Revolving Credit Agreement and the JPMCB Note Purchase Agreement provided that the aggregate principal amount of Commercial Paper Notes Series 2018A-1 and the JPMCB Direct Purchase Notes shall not exceed $250,000,000. J.P. Morgan Securities is acting as dealer for the Commercial Paper Notes Series 2018A-2.

Moody's Investors Service, Inc. and Standard and Poor's Ratings Services have assigned ratings of P-1 and A-1+, respectively, to the Commercial Paper Notes.

Commercial paper notes of $30,000,000 are outstanding as of October 31, 2018 in accordance with the respective Revolving Credit Agreements. Interest rates on the notes outstanding range from 1.77% to 1.83% and maturities range from 16 to 78 days. MSD intends to reissue maturing commercial paper in accordance with the refinancing terms of the Revolving Credit Agreements and periodically refund such maturities with proceeds from the issuance of long-term revenue bonds.

Direct purchase notes of $100,000 are outstanding as of October 31, 2018 in accordance with the terms of the JPMCB Note Purchase Agreement.

Rate Increase: On August 1, 2018, MSD's rates for wastewater and stormwater service charges increased by 6.9%.

2018 BAN Sale: On October 9, 2018, MSD sold $226,340,000 of sewer and drainage system subordinated bond anticipation notes (BAN), Series 2018, with a coupon rate of 4.0% and an effective interest rate of 2.08%. The proceeds of the notes will be used to refund the 2017 notes. The 2018 notes close on November 9, 2018 and mature on November 1, 2019.

NOTE 13 - DEFINED BENEFIT PENSION AND OTHER POSTEMPLOYMENT BENEFITS PLAN – COST SHARING - CERS

General Information about the Pension Plan and OPEB: All full-time and eligible part-time employees of MSD participate in County Employee Retirement System (CERS), a cost-sharing, multiple-employer defined benefit pension plan administered by the Kentucky Retirement System (KRS), an agency of the Commonwealth. Under the provisions of Kentucky Revised Statute Section 78.520, the Board of Trustees (the Board) of KRS administers CERS, Kentucky Employee Retirement System, and State Police Retirement System. Although the assets of the systems are invested as a whole, each system's assets are used only for the payment of benefits to members of that plan, and a pro rata share of administrative costs.

The plan provides for retirement, disability and death benefits to plan members. Retirement benefits may also be extended to beneficiaries of plan members under certain circumstances. Under the provisions of Kentucky Revised Statute Section 61.701, the Board of KRS also administers the Kentucky Retirement Systems Insurance Fund. The statutes provide for a single insurance fund to provide group hospital and medical benefits to retirees drawing a benefit from the three pension funds administered by KRS. The assets of the insurance fund are invested as a whole. KRS and the Commonwealth have statutory authority to determine Plan benefits and employer contributions.

KRS issues a publicly available financial report that includes financial statements and required supplementary information for CERS. The report may be obtained by writing to Kentucky Retirement System, Perimeter Park West, 1260 Louisville Road, Frankfort, Kentucky 40601, or it may be found at the KRS website at www.kyret.ky.gov.

Basis of Accounting: For purposes of measuring the net pension and liabilities, deferred outflow of resources and deferred inflow of resources related to pensions and OPEB, pension and OPEB expense, information about the fiduciary net position of CERS and additions to/deductions from CERS's fiduciary net position have been determined on the same basis as they are reported by CERS. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

Pension Benefits Provided:

The information below summarizes the major retirement benefit provisions of CERS-Nonhazardous. It is not intended to be, nor should it be interpreted as, a complete statement of all benefit provisions.

Members whose participation began before 8/1/2004:

Age and Service Requirement: Age 65 with at least one month of Nonhazardous duty service credit, or at any age with 27 or more years of service credit.

Benefit: If a member has at least 48 months of service, the monthly benefit is 2.20% times final average compensation times years of service depending on participation and retirement dates. Final compensation is calculated by taking the average of the highest five (5) fiscal years of salary. If the number of months of service credit during the five (5) year period is less than forty-eight (48), one (1) or more additional fiscal years shall be used. If a member has less than 48 months of service, the monthly benefit is the actuarial equivalent of two times the member's contributions with interest.

Members whose participation began on or after 8/1/2004, but before 9/1/2008:

Age and Service Requirement: Age 65 with at least one month of Nonhazardous duty service credit, or at any age with 27 or more years of service credit.

Benefit: If a member has at least 48 months of service, the monthly benefit is 2.00% multiplied by final average compensation, multiplied by years of service. Final compensation is calculated by taking the average of the highest five (5) fiscal years of salary. If the number of months of service credit during the five (5) year period is less than forty-eight (48), one (1) or more additional fiscal years shall be used. If a member has less than 48 months of service, the monthly benefit is the actuarial equivalent of two times the member's contributions with interest.

Members whose participation began on or after 9/1/2008 but before 1/1/2014:

Age and Service Requirement: Age 65 with 60 months of Nonhazardous duty service credit, or age 57 if age plus service equals at least 87.

Benefit: The monthly benefit is the following benefit factor based on service credit at retirement plus 2.00% for each year of service greater than 30 years, multiplied by final average compensation, multiplied by years of service.

Service Credit	Benefit Factor
10 years or less	1.10%
10+ - 20 years	1.30%
20+ - 26 years	1.50%
26+ - 30 years	1.75%

Final compensation is calculated by taking the average of the last (not highest) five (5) complete fiscal years of salary. Each fiscal year used to determine final compensation must contain twelve (12) months of service credit.

Members whose participation began on or after 1/1/2014:

Age and Service Requirement: Age 65 with 60 months of Nonhazardous duty service credit, or age 57 if age plus service equals at least 87.

Benefit: Each year that a member is an active contributing member to the System, the member contributes 5% of creditable compensation, and the member's employer contributes 4.00% of creditable compensation, which is a portion of the total employer contribution, into a hypothetical account. The hypothetical account will earn interest annually on both the member's and employer's contribution at a minimum rate of 4%. If the System's geometric average net investment return for the previous five years exceeds 4%, then the hypothetical account will be credited with an additional amount of interest equal to 75% of the amount of the return which exceeds 4%. All interest credits will be applied to the hypothetical account balance on June 30 based on the account balance as of June 30 of the previous year. Upon retirement the hypothetical account which includes member contributions, employer contributions and interest credits can be withdrawn from the System as a lump sum or annuitized into a single life annuity option.

OPEB Benefits Provided:

The information below summarizes the major retirement benefit provisions of CERS-Nonhazardous. It is not intended to be, nor should it be interpreted as, a complete statement of all benefit provisions.

Insurance Tier 1: Participation began before 7/1/2003

Benefit Eligibility**:** Recipient of a retirement allowance

Benefit: The percentage of member premiums paid by the retirement system are dependent on the number of years of service. Benefits also include duty disability retirements, duty death in service, non-duty death in service and surviving spouse of a retiree.

Insurance Tier 2: Participation began on or after 7/1/2003, but before 9/1/2008

Benefit Eligibility: Recipient of a retirement allowance with at least 120 months of service at retirement

Benefit: The system provides a monthly contribution subsidy of $10 for each year of earned service. The monthly contribution is increased by 1.5% each July 1. Benefits also include duty disability retirements, duty death in service and non-duty death in service.

Insurance Tier 3: Participation began on or after 9/1/2008

Benefit: Tier 3 insurance benefits are identical to Tier 2, except Tier 3 members are required to have at least 180 month of service in order to be eligible.

Contributions*:* MSD was required to contribute at an actuarially determined rate determined by Statute. Per Kentucky Revised Statute Section 78.545(33) normal contribution and past service contribution rates shall be determined by the KRS Board on the basis of an annual valuation last preceding July 1 of a new biennium. The KRS Board may amend contribution rates as of the first day of July of the second year of a biennium, if it is determined on the basis of a subsequent actuarial valuation that amended contribution rates are necessary to satisfy requirements determined in accordance with actuarial bases adopted by the KRS Board.

For the fiscal years ended June 30, 2018 and 2017, participating employers contributed 19.18% (14.48% allocated to pension and 4.70% allocated to OPEB) and 18.68% (13.95% allocated to pension and 4.73% allocated to OPEB) as set by KRS, respectively, of each Nonhazardous employee's creditable compensation. These percentages are inclusive of both pension and insurance payments for employers. Administrative costs of KRS are financed through employer contributions and investments earnings.

MSD has met 100% of the contribution funding requirement for the fiscal years ended June 30, 2018 and 2017. Total current year contributions recognized by the Plan were $8,207,009 ($6,195,907 related to pension and $2,011,102 related to OPEB) and $7,069,613 ($5,279,502 related to pension and $1,790,111 related to OPEB) for the years ended June 30, 2018 and 2017, respectively. The OPEB contribution amounts do not include the implicit subsidies reported in the amount of $392,546 and $201,532, respectively.

MSD has met 100% of the contribution funding requirement for the fiscal years ended June 30, 2016 and 2015. Total contributions recognized by the Plan were $4,767,402 ($3,470,758 related to pension and $1,296,644 related to OPEB) and $4,576,000 ($3,301,868 related to pension and $1,274,132 related to OPEB) for the years ended June 30, 2016 and 2015, respectively.

Members whose participation began before 9/1/2008:

Nonhazardous member contributions equal 5% of all creditable compensation. Interest paid on the members' accounts is currently 2.5%; and per statute shall not be less than 2.0%. Members are entitled to a full refund of contributions with interest.

Members whose participation began on or after 9/1/2008:

Nonhazardous member contributions equal to 6% of all creditable compensation, with 5% being credited to the member's account and 1% deposited to the KRS 401(h) Account. Interest paid on the members' accounts will be set at 2.5%. Members are entitled to a full refund of contributions and interest in their individual account, however, the 1% contributed to the insurance fund is non-refundable.

Members whose participation began on or after 1/1/2014

Nonhazardous member contributions equal to 6% of all creditable compensation, with 5% being credited to the member's account and 1% deposited to the KRS 401(h) Account. Members are entitled to a full refund of contributions and interest on the member's portion of the hypothetical account, however, the 1% contributed to the insurance fund is non-refundable.

<u>Pension Plan Information for June 30, 2018 Financial Statements:</u>

Total Pension Liability: The total pension liability was determined by an actuarial valuation as of June 30, 2017, using the following actuarial assumptions, applied to all periods included in the measurement:

Price Inflation	2.30%
Salary increases	3.05%, average, including inflation
Investment rate of return	6.25%, net of pension plan investment expense, including inflation

The mortality table used for active members is RP-2000 Combined Mortality Table projected with Scale BB to 2013 (multiplied by 50% for males and 30% for females). For healthy retired members and beneficiaries, the mortality table used is the RP-2000 Combined Mortality Table projected with Scale BB to 2013 (set back 1 year for females). For disabled members, the RP-2000 Combined Disabled Mortality Table projected with Scale BB to 2013 (set back 4 years for males) is used for the period after disability retirement. There is some margin in the current mortality tables for possible future improvement in mortality rates and that margin will be reviewed again when the next experience investigation is conducted. The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period July 1, 2008 – June 30, 2013.

Discount rate assumptions:

(a) Discount Rate: The discount rate used to measure the total pension liability was 6.25%, which was reduced from the 7.50% discount rate used in the prior year.

(b) Projected Cash Flows: The projection of cash flows used to determine the discount rate assumed the local employers and plan members would contribute the statutorily determined contribution rate of projected compensation over the remaining 26-year amortization period of the unfunded actuarial accrued liability. The actuarial determined contribution rate is adjusted to reflect the phase-in of anticipated gains on actuarial value of assets over the first four years of the projection period.

(c) Long-Term Rate of Return: The long-term expected return on plan assets is reviewed as part of the regular experience studies prepared every five years for the System. The most recent analysis, performed for the period covering fiscal years 2008 through 2013 is outlined in a report dated April 30, 2014. However, the Board of KRS has the authority to review the assumptions on a more frequent basis and adopt new assumptions prior to the next scheduled experience study. The long-term expected rate of return was determined by using a building-block method in which best-estimate ranges of expected future real rate of returns are developed for each asset class. The ranges are combined by weighting the expected future real rate of return by the target asset allocation percentage.

(d) Municipal Bond Rate: The discount rate determination does not use a municipal bond rate.

(e) Periods of Projected Benefit Payments: The long-term assumed rate of return was applied to all periods of projected benefit payments to determine the total pension liability.

(f) Assumed Asset Allocation: The target asset allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long Term Expected Real Rate of Return
US equity	17.50%	5.97%
International equity	17.50%	7.85%
Global bonds	4.00%	2.63%
Global credit	2.00%	3.63%
High yield	7.00%	5.75%
Emerging market debt	5.00%	5.50%
Private credit	10.00%	8.75%
Real estate	5.00%	7.63%
Absolute return	10.00%	5.63%
Real return	10.00%	6.13%
Private equity	10.00%	8.25%
Cash	2.00%	1.88%
	100.00%	6.56%

The long-term expected rate of return on pension plan assets was established by the KRS Board of Trustees at 6.25% based on a blending of the factors described above.

(g) Sensitivity Analysis: This paragraph requires disclosure of the sensitivity of the net pension liability to changes in the discount rate. The following presents MSD's allocated portion of the net pension liability of the System, calculated using the discount rate of 6.25%, as well as what MSD's allocated portion of the net pension liability would be if it were calculated using a discount rate that is 1 percentage-point lower (5.25%) or 1 percentage-point higher (7.25%) than the current rate:

(dollars in thousands)	1% Decrease (5.25%)	Current Discount Rate (6.25%)	1% Increase (7.25%)
MSD's net pension liability	$ 117,945	$ 93,517	$ 73,083

Employer's Portion of the Collective Net Pension Liability: MSD's proportionate share of the net pension liability, as indicated in the prior table, is $93,516,713 or approximately 1.6%. The net pension liability was distributed based on 2017 actual employer contributions to the plan.

Measurement Date: June 30, 2017 is the actuarial valuation date and measurement date upon which the total pension liability is based.

Changes in Assumptions and Benefit Terms: Since the prior measurement date, the demographic and economic assumptions that affect the measurement of the total pension liability have been updated as follows:

- The assumed investment rate of return was decreased from 7.50% to 6.25%.
- The assumed rate of inflation was reduced from 3.25% to 2.30%.
- Payroll growth assumption was reduced from 4.00% to 3.05%.

Changes Since Measurement Date: There were no changes between the measurement date of the collective net pension liability and the employer's reporting date.

Pension Expense: MSD was allocated pension expense of $15,988,493 related to the CERS for the year ending June 30, 2018.

Deferred Outflows and Deferred Inflows: Since certain expense items are amortized over closed periods each year, the deferred portions of these items must be tracked annually. If the amounts serve to reduce pension expense they are labeled as deferred inflows. If they will increase pension expense they are labeled deferred outflows. The amortization of these amounts is accomplished on a level dollar basis, with no interest included in the deferred amounts. Experience gains/losses and the impact of changes in actuarial assumptions, if any, are amortized over the average remaining service life of the active and inactive System members at the beginning of the fiscal year. Investment gains and losses are amortized over a fixed five-year period. Deferred inflows and outflows as of the Measurement Date include:

(dollars in thousands)	Deferred Outflow of Resources	Deferred Inflow of Resources
Difference between expected and actual experience	$ 116	$ 2,374
Change of assumptions	17,256	-
Changes in proportion and differences between employer contributions and proportionate shares of contributions	2,816	1,458
Differences between expected and actual investment earning on plan investments	1,157	-
	21,345	3,832
Contributions subsequent to the measurement date	6,196	-
Total	$ 27,541	$ 3,832

Deferred outflows of resources resulting from employer contributions subsequent to the measurement date of $6,195,907 will be recognized as a reduction of net pension liability in the year ending June 30, 2019. The remainder of the deferred outflows and deferred inflows of resources are amortized over three to five years with remaining amortization as follows:

(dollars in thousands)	
Year Ending June 30:	
2019	$ 7,232
2020	7,782
2021	3,700
2022	(1,201)
	$ 17,513

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

OPEB Information for June 30, 2018 Financial Statements:

Total OPEB Liability: The total OPEB plan was determined by an actuarial valuation as of June 30, 2017, using the following actuarial assumptions, applied to all periods included in the measurement:

Price inflation	2.30%
Payroll growth rate	2.00%
Salary increases	3.05%, average
Investment rate of return	6.25%
Healthcare trend rates	
Pre-65	Initial trend starting at 7.25% at January 1, 2019 and gradually decreasing to an ultimate trend rate of 4.05% over a period of 13 years.
Post-65	Initial trend starting at 5.10% at January 1, 2019 and gradually decreasing to an ultimate trend rate of 4.05% over a period of 11 years.

The mortality table used for active members is RP-2000 Combined Mortality Table projected with Scale BB to 2013 (multiplied by 50% for males and 30% for females). For healthy retired members and beneficiaries, the mortality table used is the RP-2000 Combined Mortality Table projected with Scale BB to 2013 (set back 1 year for females). For disabled members, the RP-2000 Combined Disabled Mortality Table projected with Scale BB to 2013 (set back 4 years for males) is used for the period after disability retirement. There is some margin in the current mortality tables for possible future improvement in mortality rates and that margin will be reviewed again when the next experience investigation is conducted. The actuarial assumptions used in the June 30, 2017 valuation were based on the results of an actuarial experience study for the period July 1, 2008 – June 30, 2013.

Discount rate assumptions:

(a) Discount Rate: The discount rate used to measure the total OPEB liability was 5.84%, which was reduced from the 6.89% discount rate used in the prior year.

(b) Projected Cash Flows: The projection of cash flows used to determine the discount rate assumed the local employers and plan members would contribute the actuarially determined contribution rate of projected compensation over the remaining 26-year amortization period of the unfunded actuarial accrued liability.

(c) Long-Term Rate of Return: The long-term expected return on plan assets is reviewed as part of the regular experience studies prepared every five years for the System. The most recent analysis, performed for the period covering fiscal years 2008 through 2013 is outlined in a report dated April 30, 2014. However, the Board of KRS has the authority to review the assumptions on a more frequent basis and adopt new assumptions prior to the next scheduled experience study. The long-term expected rate of return was determined by using a building-block method in which best-estimate ranges of expected future real rate of returns are developed for each asset class. The ranges are combined by weighting the expected future real rate of return by the target asset allocation percentage.

(d) Municipal Bond Rate: The discount rate determination used a municipal bond rate of 3.56% as reported in Fidelity Index's "20 – Year Municipal GO AA Index" as of June 30, 2017.

(e) Period of Projected Benefit Payments: Current assets, future contributions, and investment earnings are projected to be sufficient to pay the projected benefit payments from the retirement system. However, the cost associated with the implicit employer subsidy is not currently being included in the calculation of the system's actuarial determined contributions, and it is the actuary's understanding that any cost associated with the implicit subsidy will not be paid out of the system's trust. Therefore, the municipal bond rate was applied to future expected benefit payments associated with the implicit subsidy.

(f) Assumed Asset Allocations: The target asset allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long Term Expected Real Rate of Return
US equity	17.50%	5.97%
International equity	17.50%	7.85%
Global bonds	4.00%	2.63%
Global credit	2.00%	3.63%
High yield	7.00%	5.75%
Emerging market debt	5.00%	5.50%
Private credit	10.00%	8.75%
Real estate	5.00%	7.63%
Absolute return	10.00%	5.63%
Real return	10.00%	6.13%
Private equity	10.00%	8.25%
Cash	2.00%	1.88%
	100.00%	6.56%

The long-term expected rate of return on pension plan assets was established by the KRS Board of Trustees at 6.25% based on a blending of the factors described above.

(g) Sensitivity Analysis: This paragraph requires disclosure of the sensitivity of the net OPEB liability to changes in the discount rate and changes in the healthcare cost trend rate.

The following presents MSD's allocated portion of the net OPEB liability of the System, calculated using the discount rate of 5.84%, as well as what the MSD's allocated portion of the System's net

OPEB liability would be if it were calculated using a discount rate that is 1-percentage-point lower (4.84%) or 1-percentage-point higher (6.84%) than the current rate for Nonhazardous:

(dollars in thousands)	1% Decrease (4.84%)	Current Discount Rate (5.84%)	1% Increase (6.84%)
MSD's net OPEB liability	$ 40,869	$ 32,119	$ 24,387

The following presents the MSD's allocated portion of the net OPEB liability of the System, calculated using the healthcare cost trend rate of percent, as well as what the MSD's allocated portion of the System's net OPEB liability would be if it were calculated using a healthcare cost trend rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate for Nonhazardous:

(dollars in thousands)	1% Decrease	Current Healthcare Cost Trend Rate	1% Increase
MSD's net OPEB liability	$ 24,637	$ 32,119	$ 41,845

Employer's Portion of the Collective OPEB Liability: MSD's proportionate share of the net OPEB liability, as indicated in the prior table, is $32,118,692 or approximately 1.6%. The net OPEB liability was distributed based on 2017 actual employer contributions to the plan.

Measurement Date: June 30, 2017 is the actuarial valuation date and measurement date upon which the total pension liability is based.

Changes in Assumptions and Benefit Terms: Since the prior measurement date, the demographic and economic assumptions that affect the measurement of the total OPEB liability have been updated as follows:

- The assumed investment rate of return was decreased from 7.50% to 6.25%.
- The assumed rate of inflation was reduced from 3.25% to 2.30%.
- Payroll growth assumption was reduced from 4.00% to 3.05%.

Changes Since Measurement Date: There were no changes between the measurement date of the collective net OPEB liability and the employer's reporting date.

OPEB Expense: MSD was allocated OPEB expense of $3,660,044 related to the CERS for the year ending June 30, 2018.

Deferred Outflows and Deferred Inflows: Since certain expense items are amortized over closed periods each year, the deferred portions of these items must be tracked annually. If the amounts serve to reduce OPEB expense they are labeled as deferred inflows. If they will increase OPEB expense they are labeled deferred outflows. The amortization of these amounts is accomplished on a level dollar basis, with no interest included in the deferred amounts. Experience gains/losses and the impact of changes in actuarial assumptions, if any, are amortized over the average remaining service life of the active and inactive System members at the beginning of the fiscal year. Investment gains and losses are amortized over a fixed five-year period. Deferred inflows and outflows as of the Measurement Date include:

(dollars in thousands)	Deferred Outflow of Resources	Deferred Inflow of Resources
Difference between expected and actual experience	$ -	$ 89
Change of assumptions	6,989	-
Changes in proportion and differences between employer contributions and proportionate shares of contributions	-	75
Differences between expected and actual investment earning on plan investments	-	1,518
	6,989	1,682
Contributions subsequent to the measurement date	2,404	-
Total	$ 9,393	$ 1,682

Deferred outflows of resources resulting from employer contributions subsequent to the measurement date of $2,403,648 which include the implicit subsidy reported of $392,546, will be recognized as a reduction of net OPEB liability in the year ending June 30, 2019. The remainder of the deferred outflows and deferred inflows of resources are amortized over three to five years with remaining amortization as follows:

(dollars in thousands)	
Year Ending June 30:	
2019	$ 913
2020	913
2021	913
2022	913
2023	1,293
Thereafter	362
	$ 5,307

OPEB Plan Fiduciary Net Position: Detailed information about the OPEB plans' fiduciary net position is available in the separately issued OPEB plan financial reports.

<u>Pension Plan Information for June 30, 2017 Financial Statements:</u>

Total Pension Liability: The total pension liability was determined by an actuarial valuation as of June 30, 2016, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	3.25%
Salary increases	4.00%, average, including inflation
Investment rate of return	7.50%, net of pension plan investment expense, including inflation

The mortality table used for active members is RP-2000 Combined Mortality Table projected with Scale BB to 2013 (multiplied by 50% for males and 30% for females). For healthy retired members and beneficiaries, the mortality table used is the RP-2000 Combined Mortality Table projected with Scale BB to 2013 (set back 1 year for females). For disabled members, the RP-2000 Combined Disabled Mortality Table projected with Scale BB to 2013 (set back 4 years for males) is used for the period after disability retirement. There is some margin in the current mortality tables for possible future improvement in mortality rates and that margin will be reviewed again when the next experience investigation is conducted. The actuarial assumptions used in the June 30, 2016 valuation were based on the results of an actuarial experience study for the period July 1, 2008 – June 30, 2013.

Discount rate assumptions:

(a) Discount rate: The discount rate used to measure the total pension liability was 7.50%.

(b) Projected cash flows: The projection of cash flows used to determine the discount rate assumed that local employers would contribute the actuarially determined contribution rate of projected compensation over the remaining 27-year amortization period of the unfunded actuarial accrued liability. The actuarial determined contribution rate is adjusted to reflect the phase in of anticipated gains on actuarial value of assets over the first four years of the projection period.

(c) Long-term rate of return: The long-term expected return on plan assets is reviewed as part of the regular experience studies prepared every five years for the System. The most recent analysis, performed for the period covering fiscal years 2008 through 2013 is outlined in a report dated April 30, 2014. Several factors are considered in evaluating the long-term rate of return assumption including long term historical data, estimates inherent in current market data, and a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected return, net of investment expense and inflation) were developed by the investment consultant for each major asset class. These ranges were combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and then adding expected inflation. The capital market assumptions developed by the investment consultant are intended for use over a 10-year horizon and may not be useful in setting the long-term rate of return for funding pension plans which covers a longer timeframe. The assumption is intended to be a long term assumption and is not expected to change absent a significant change in the asset allocation, a change in the inflation assumption, or a fundamental change in the market that alters expected returns in future years.

(d) Municipal bond rate: The discount rate determination does not use a municipal bond rate.

(e) Periods of projected benefit payments: Projected future benefit payments for all current plan members were projected through 2117. The long-term assumed investment rate of return was applied to all periods of projected benefit payments to determine the total pension liability.

(f) Assumed Asset Allocation: The target asset allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long Term Expected Real Rate of Return
Combined equity	44.00%	5.40%
Combined fixed income	19.00%	1.50%
Real return (diversified inflation strategies)	10.00%	3.50%
Real estate	5.00%	4.50%
Absolute return (diversified hedge funds)	10.00%	4.25%
Private equity	10.00%	8.50%
Cash equivalent	2.00%	-0.25%
	100.00%	

The long-term expected rate of return on pension plan assets was established by the KRS Board of Trustees at 7.50% based on a blending of the factors described above.

(g) Sensitivity Analysis: This paragraph requires disclosure of the sensitivity of the net pension liability to changes in the discount rate. The following presents MSD's allocated portion of the net pension liability of the System, calculated using the discount rate of 7.50%, as well as what MSD's allocated portion of the net pension liability would be if it were calculated using a discount rate that is one percentage point lower (6.50 %) or one percentage-point higher (8.50 %) than the current rate:

(dollars in thousands)	1% Decrease (6.5%)	Current Discount Rate (7.5%)	1% Increase (8.5%)
MSD's net pension liability	$ 92,380	$ 74,132	$ 58,489

Employer's Portion of the Collective Net Pension Liability: MSD's proportionate share of the Plan's net pension liability, as indicated in the prior table, is $74,131,895. MSD's proportionate share of the CERS plan was approximately 1.506% for Nonhazardous service employees. The liability was distributed based on 2016 actual employer contributions to the plan.

Measurement Date: June 30, 2016 is the actuarial valuation date and measurement upon which the total pension liability is based.

Changes Since the Prior Measurement Date: Since the prior measurement date, the demographic and economic assumptions that affect the measurement of the total pension liability have not been updated.

Changes Since Measurement Date: The following changes in the Plan's assumptions and benefit terms will be comprehended at the next measurement date of June 30, 2017. The impact on the District's financial statements from these changes is not known.

- The assumed investment rate of return was decreased from 7.50% to 6.25%.
- The salary increase assumption was decreased from 4.00% to 0.00%.
- The inflation assumption was decreased from 3.25% to 2.3%.

Pension Expense: MSD's proportionated share of Plan pension expense was $9,029,292 for Nonhazardous service employees.

Deferred Outflows and Deferred Inflows: Since certain expense items are amortized over closed periods each year, the deferred portions of these items must be tracked annually. If the amounts serve to reduce pension expense they are labeled as deferred inflows. If they will increase pension expense they are labeled deferred outflows. The amortization of these amounts is accomplished on a level dollar basis, with no interest included in the deferred amounts. Experience gains/losses and the impact of changes in actuarial assumptions, if any, are amortized over the average remaining service life of the active and inactive System members at the beginning of the fiscal year. Investment gains and losses are amortized over a fixed five-year period. The table below provides a summary of the deferred inflows and outflows as of the Measurement Date.

For year ending June 30, 2017:

(dollars in thousands)	Deferred Outflow of Resources	Deferred Inflow of Resources
Difference between expected and actual experience	$ 324	$ -
Change of assumptions	3,927	-
Changes in proportion and differences between employer contributions and proportionate shares of contributions	-	2,529
Differences between expected and actual investment earning on plan investments	6,969	-
	11,220	2,529
Contributions subsequent to the measurement date	5,279	-
Total	$ 16,499	$ 2,529

Deferred outflows of resources resulting from employer contributions subsequent to the measurement date will be recognized as a reduction of net pension liability in the year ending June 30, 2018. The remainder of the deferred outflow of resources is amortized over five years with remaining amortization as follows:

(dollars in thousands)	
Year Ending June 30:	
2018	$ 3,227
2019	2,161
2020	2,104
2021	1,199
	$ 8,691

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

Louisville and Jefferson County Metropolitan Sewer District
Schedule of Proporationate Share of the Net Pension Liability
For the Years Ended June 30,
(dollars in thousands)

	2018	2017	2016	2015
MSD's proportion of the net pension liability	1.60%	1.51%	1.60%	1.60%
MSD's proportionate share of the net pension liability	$93,517	$74,132	$68,653	$51,988
MSD's covered payroll	43,084	39,596	37,900	37,100
MSD's proportion of the net pension liability as a percentage of its covered payroll	217.1%	187.2%	181.1%	140.1%
Plan fiduciary net postion as a percentage of the total pension liability	53.32%	55.50%	59.97%	66.80%

Notes:

1) The amounts presented for each fiscal year were determined as of the prior year end.
2) This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, governments should present information for those years that information is available.

Changes in Assumptions and Benefit Terms:

2015: Since the prior measurement date, the demographic and economic assumptions that affect the measurement of the total pension liability have been updated as described in Schedule D of the CERS actuary report. The changes are noted below:

- The assumed investment rate of return was decreased from 7.75% to 7.50%.
- The assumed rate of inflation was reduced from 3.50% to 3.25%.
- The assumed rate of wage inflation was reduced from 1.00% to 0.75%.
- Payroll growth assumption was reduced from 4.50% to 4.00%.
- The mortality table used for active members is RP-2000 Combined Mortality Table projected with Scale BB to 2013 (multiplied by 50% for males and 30% for females).
- For healthy retired members and beneficiaries, the mortality table used is the RP-2000 Combined Mortality Table projected with Scale BB to 2013 (set back 1 year for females). For disabled members, the RP-2000 Combined Disabled Mortality Table projected with Scale BB to 2013 (set back 4 years for males) is used for the period after disability retirement. There is some margin in the current mortality tables for possible future improvement in mortality rates and that margin will be reviewed again when the next experience investigation is conducted.
- The assumed rates of Retirement, withdrawal and disability were updated to more accurately reflect experience.

2016: There were no changes in assumptions and benefit terms since the prior measurement date.

2017: Since the prior measurement date, the demographic and economic assumptions that affect the measurement of the total pension liability have been updated as follows:

- The assumed investment rate of return was decreased from 7.50% to 6.25%.
- The assumed rate of inflation was reduced from 3.25% to 2.30%.
- Payroll growth assumption was reduced form 4.00% to 3.05%.

Louisville and Jefferson County Metropolitan Sewer District
Schedule of Employer Contributions - Pension
For the Years Ended June 30,
(dollars in thousands)

	2018	2017	2016	2015
Statutorily required contribution for pension	$ 6,196	$ 5,279	$ 4,767	$ 4,576
Contribution in relation to the statutorily required contribution	(6,196)	(5,279)	(4,767)	(4,576)
Annual contribution deficiency (excess)	$ -	$ -	$ -	$ -
MSD contributions as a percentage of statutorily required contribution for pension	100%	100%	100%	100%
MSD covered payroll	$45,859	$43,084	$39,596	$37,900
Contributions as a percentage of MSD's covered payroll	13.51%	12.25%	12.04%	12.07%

Notes:

1) This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, governments should present information for those years that information is available.

Louisville and Jefferson County Metropolitan Sewer District
Schedule of Proporationate Share of the Net OPEB Liability
For the Years Ended June 30,
(dollars in thousands)

	2018
MSD's proportion of the net OPEB liability	1.60%
MSD's proportionate share of the net OPEB liability	$32,119
MSD's covered payroll	43,084
MSD's proportion of the net OPEB liability as a percentage of its covered payroll	74.55%
Plan fiduciary net position as a percentage of the total OPEB liability	52.40%

Notes:

1) This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, governments should present information for those years that information is available.

Changes in Assumptions and Benefit Terms:

2017: Since the prior measurement date, the demographic and economic assumptions that affect the measurement of the total OPEB liability have been updated as follows:

- The assumed rate of return was decreased form 7.5% to 6.25%.
- The assumed rate of inflation was reduced from 3.25% to 2.3%.
- Payroll growth assumption was reduced from 4.0% to 3.05%.

Louisville and Jefferson County Metropolitan Sewer District
Schedule of Employer Contributions - OPEB
For the Years Ended June 30,
(dollars in thousands)

	2018
Statutorily required contribution	$ 2,011
Contributions in relation to the statutorily required contribution	(2,011)
Annual contribution deficiency (excess)	$ -
MSD contributions as a percentage of statutorily required contribution for OPEB	100%
MSD covered payroll	$ 45,859
Contributions as a percentage of MSD's covered paryoll	4.39%

Notes:

1) This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, governments should present information for those years that information is available.

The sky is aglow with morning light at MSD's Waterway Protection Tunnel construction site.

Statistical Section

STATISTICAL SECTION

This section of the Louisville & Jefferson County Metropolitan Sewer District's (MSD) Comprehensive Annual Financial Report presents detailed information as a supplement to the information presented in the financial statements and note disclosures to assist readers in assessing MSD's overall financial health.

This schedule presents information to help readers assess MSD's debt burden and MSD's ability to issue additional debt in the future.

These schedules contain trend information to help readers understand how MSD's financial performance and position have changed over time. The information presented includes changes in net assets, an analysis of revenues and expenses and a comparative statement of cash flows

This schedule contains information to help readers assess MSD's most significant revenue sources.

These schedules contain service and infrastructure data to help the reader understand how the information in MSD's financial report relates to the services that it provides. The information provided includes service and administration costs, project schedules, and water treatment capacity.

These schedules offer demographic and economic indicators to help readers understand the environment within which MSD operates.

LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
COMPARATIVE SCHEDULE OF DEBT SERVICE COVERAGE
YEARS ENDED JUNE 30
DOLLARS IN THOUSANDS

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Revenues:										
Service charges	$ 274,504	$ 253,943	$ 238,480	$ 225,462	$ 214,056	$ 205,222	$ 190,482	$ 183,297	$ 168,610	$ 163,004
Other operating income	4,645	5,691	4,810	4,407	2,576	4,823	1,756	2,379	2,980	4,552
Assessments	1,232	1,375	9,457	1,901	2,129	2,392	2,405	2,740	7,093	4,387
Investment income	16,531	14,273	17,278	17,623	20,330	20,119	40,687	33,700	36,045	25,568
Less: capitalized investment income	-	-	-	-	-	(3,817)	(1,851)	(12,134)	(5,990)	-
Total revenues	296,912	275,282	270,025	249,393	239,091	228,739	233,479	209,982	208,738	197,511
Operating expenses:										
Service and administrative costs[1]	131,948	119,586	117,671	106,301	108,814	108,041	108,325	107,307	101,068	93,935
Less: capitalized overhead	(38,148)	(31,949)	(30,516)	(30,056)	(33,568)	(33,110)	(33,200)	(30,308)	(28,129)	(25,257)
Capitalization Rate	29%	27%	26%	28%	31%	31%	31%	28%	28%	27%
Total operating expenses	93,800	87,637	87,155	76,245	75,246	74,931	75,125	76,999	72,939	68,678
Net revenues	203,112	187,645	182,870	173,148	163,845	153,808	158,354	132,983	135,799	128,833
Aggregate debt service:										
Current maturities of long-term debt	33,906	33,655	31,825	29,415	28,525	27,035	25,740	24,840	23,785	23,105
Interest expense - senior lien	95,041	90,117	86,818	83,404	80,613	92,616	89,243	78,954	69,949	72,776
Less: capitalized interest expense	(21,859)	(20,074)	(21,051)	(20,511)	(19,103)	(26,358)	(26,384)	(25,195)	(13,910)	-
Aggregate net debt service	$ 107,088	$ 103,698	$ 97,592	$ 92,308	$ 90,035	$ 93,293	$ 88,599	$ 78,599	$ 79,824	$ 95,881
Debt service coverage ratio[2]	190%	181%	187%	188%	182%	165%	179%	169%	170%	134%

[1]Excludes GASB 68 pension expense and GASB 75 OPEB expense

[2]Excludes GASB 68 pension expense and GASB 75 OPEB expense

This table has been prepared using the definitions of revenue, expense and debt service contained in MSD's 1993 Sewer & Drainage System Revenue Bond Resolution.

The 1993 Resolution and its supplements require MSD to provide "Available Revenues", as defined in the Resolution, sufficient to pay 110% of each fiscal year's "Aggregate Net Debt Service" on Revenue Bonds and 100% of "Operating Expenses". "Available Revenues", as used only for purposes of the Resolution, means all revenues and other amounts received by MSD and pledged as security for payment of Bonds issued pursuant to the Resolution, but excludes any interest income which is capitalized in accordance with generally accepted accounting principles. "Operating Expenses" includes all reasonable, ordinary, usual or necessary current expenses of maintenance, repair and operation determined in accordance with generally accepted accounting principles and the enterprise basis of accounting. "Operating Expenses" does not include reserves for extraordinary maintenance and repair, nor does it include administrative and engineering expenses of MSD which are necessary or incidental to capital improvements for which debt has been issued and which may be paid from the proceeds of such debt. "Aggregate Net Debt Service" is aggregate current principal and interest requirements on all Bonds issued pursuant to the Resolution, excluding (i) interest expense, which in accordance with generally accepted accounting principles, is capitalized and which may be paid from the proceeds of debt, and (ii) other amounts, if any, available, or expected to become available in the ordinary course for payment of principal and interest, and not included in "Available Revenues".

LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
COMPARATIVE STATEMENT OF NET POSITION
ASSETS AND DEFERRED OUTFLOW OF RESOURCES
YEARS ENDED JUNE 30
DOLLARS IN THOUSANDS

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Current Assets:										
Unrestricted cash and cash equivalents	$ 50,276	$ 42,449	$ 69,481	$ 63,013	$ 84,780	$ 66,376	$ 12,040	$ 34,508	$ 24,700	$ 22,552
Unrestricted investments	25,080	10,095	100	100	100	100	100	100	100	7,733
Restricted cash and cash equivalents	29,987	19,454	5,379	16,342	27,886	62,249	227,327	112,559	58,923	35,988
Restricted investments	-	22,675	14,999	-	-	90,574	94,639	294,868	394,880	61,303
Accounts receivable	26,332	23,480	26,696	23,787	21,809	18,465	16,666	17,789	15,779	18,065
Inventories	4,407	4,184	4,210	3,981	3,808	3,579	3,484	3,435	3,110	3,027
Prepaid expenses and other current assets	3,845	2,877	3,184	2,880	2,636	2,110	1,862	2,841	2,513	1,965
Total current assets	**139,927**	**125,214**	**124,049**	**110,103**	**141,019**	**243,453**	**356,118**	**466,100**	**500,005**	**150,633**
Plant, Lines and Other facilities:										
Completed projects	3,432,754	3,306,851	3,155,696	2,777,788	2,753,762	2,702,448	2,560,403	2,498,355	2,445,755	2,314,406
Less: Accumulated depreciation	(1,218,427)	(1,146,036)	(1,070,108)	(1,008,503)	(946,427)	(884,199)	(825,205)	(768,423)	(734,552)	(680,380)
	2,214,327	2,160,815	2,085,588	1,769,285	1,807,335	1,818,249	1,735,198	1,729,932	1,711,203	1,634,026
Construction in progress	711,655	581,222	487,674	623,181	463,167	371,816	370,350	272,850	140,134	182,711
Net plant, lines and other facilities	2,925,982	2,742,037	2,573,262	2,392,466	2,270,502	2,190,065	2,105,548	2,002,782	1,851,337	1,816,737
Other non-current assets	184,659	156,960	178,762	169,587	167,537	36,262	35,876	36,611	35,945	99,623
Total non-current assets	**3,110,641**	**2,898,997**	**2,752,024**	**2,562,053**	**2,438,039**	**2,226,327**	**2,141,424**	**2,039,393**	**1,887,282**	**1,916,360**
Total assets	**3,250,568**	**3,024,211**	**2,876,073**	**2,672,156**	**2,579,058**	**2,469,780**	**2,497,542**	**2,505,493**	**2,387,287**	**2,066,993**
Deferred outflow of resources	54,267	35,911	23,708	20,407	22,863	13,511	15,176	16,842	18,507	14,743
Total assets and deferred outflows	**$ 3,304,835**	**$ 3,060,122**	**$ 2,899,781**	**$ 2,692,563**	**$ 2,601,921**	**$ 2,483,291**	**$ 2,512,718**	**$ 2,522,335**	**$ 2,405,794**	**$ 2,081,736**

LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT

COMPARATIVE STATEMENT OF NET POSITION

LIABILITIES, DEFERRED INFLOW OF RESOURCES AND NET POSITION

YEARS ENDED JUNE 30

DOLLARS IN THOUSANDS

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Liabilities:										
Current liabilities (payable from current assets):										
Accounts payable and accrued expenses	$ 16,342	$ 16,550	$ 17,420	$ 14,936	$ 13,653	$ 12,693	$ 16,470	$ 15,732	$ 11,141	$ 11,035
Total current liabilities (payable from current assets)	16,342	16,550	17,420	14,936	13,653	12,693	16,470	15,732	11,141	11,035
Current liabilities (payable from restricted assets):										
Accounts payable and accrued expenses	47,472	30,764	33,271	30,607	14,712	16,168	12,656	15,105	13,692	7,735
Accrued interest	18,455	15,935	17,533	13,036	12,834	12,458	13,959	12,360	14,701	8,143
Current maturities of bonds payable	40,190	33,655	31,825	29,415	28,525	27,035	25,740	24,840	23,785	23,105
Refundable Deposits	2,861	2,300	2,557	1,639	1,568	1,137	1,013	1,341	1,622	3,478
Total current liabilities (payable from restricted assets)	108,978	82,654	85,186	74,697	57,639	56,798	53,368	53,646	53,800	42,461
Non-current liabilities:										
Bonds payable	1,956,540	1,831,605	1,722,745	1,583,390	1,549,700	1,478,225	1,536,770	1,591,670	1,302,000	1,385,185
Subordinated Debt	228,211	228,313	228,412	228,508	228,601	228,691	226,340	226,340	452,680	-
Unamortized debt premium/discount	90,628	74,328	67,462	60,797	60,263	56,764	45,841	25,646	9,562	8,912
Net Pension Liability and OPEB Liability	125,636	74,132	68,653	51,988	58,825	-	-	-	-	-
Other long-term liabilities	-	-	690	944	761	973	5,663	5,561	1,630	2,114
Total long-term debt	2,401,015	2,208,378	2,087,962	1,925,627	1,898,150	1,764,653	1,814,614	1,849,217	1,765,872	1,396,211
Total liabilities	2,526,335	2,307,582	2,190,568	2,015,260	1,969,442	1,834,144	1,884,452	1,918,595	1,830,813	1,449,707
Deferred inflow of resources	69,826	84,052	108,633	92,233	82,293	82,233	119,680	67,948	82,185	74,942
Net position:										
Net investment in capital assets	580,275	562,784	501,675	506,187	418,784	365,225	313,575	363,334	450,753	470,445
Restricted for payment of bond principal & interest	73,447	83,667	84,639	80,424	148,451	136,939	157,002	141,217	334,186	100,225
Unrestricted	54,952	22,037	14,266	(1,541)	(18,249)	64,750	38,009	31,241	(292,143)	(13,583)
Total net assets	708,674	668,488	600,580	585,070	548,986	566,914	508,586	535,792	492,796	557,087
Total liabilities, deferred inflows and net position	**$ 3,304,835**	**$ 3,060,122**	**$ 2,899,781**	**$ 2,692,563**	**$ 2,600,721**	**$ 2,483,291**	**$ 2,512,718**	**$ 2,522,335**	**$ 2,405,794**	**$ 2,081,736**

LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
COMPARATIVE STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
YEARS ENDED JUNE 30
DOLLARS IN THOUSANDS

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Operating revenue:										
Wastewater service charges	$ 210,636	$ 194,965	$ 183,592	$ 173,895	$ 165,599	$ 159,791	$ 149,626	$ 145,880	$ 133,853	$ 130,661
Stormwater service charges	63,868	58,978	54,888	51,567	48,457	45,431	40,856	37,417	34,757	32,343
Other operating income	4,645	5,691	4,810	4,407	2,576	4,823	1,756	2,379	2,980	4,552
Total operating revenue	279,149	259,634	243,290	229,869	216,632	210,045	192,238	185,676	171,590	167,556
Operating expenses:										
Service and administrative costs	142,711	122,098	121,674	106,174	108,814	108,041	108,326	107,307	101,068	93,935
Capitalization/recovery of cost	(38,147)	(31,949)	(30,516)	(30,056)	(33,568)	(32,200)	(30,860)	(30,472)	(28,129)	(24,401)
Capitalized overhead (over) under applied	88	-	-	-	-	(910)	(2,340)	164	(2,988)	(856)
Depreciation and amortization	77,954	77,156	62,820	63,321	63,516	60,335	60,527	58,741	58,513	56,727
Total operating expenses	182,606	167,305	153,978	139,439	138,762	135,266	135,653	135,740	128,464	125,405
Income (loss) from operations	96,543	92,329	89,312	90,430	77,870	74,779	56,585	49,936	43,126	42,151
Non-operating revenue (expense):										
Investment income	6,280	4,047	7,559	7,527	10,234	3,695	29,682	25,722	33,785	25,504
Build America bond refund	10,249	10,226	10,332	10,096	10,096	10,986	10,986	7,978	2,260	-
Interest expense - bonds	(95,041)	(90,117)	(86,818)	(83,404)	(80,613)	(92,616)	(89,243)	(78,954)	(69,949)	(69,893)
Interest expense - swaps	(7,724)	(8,926)	(9,514)	(9,737)	(9,733)	(10,200)	(11,235)	(11,627)	(8,815)	(2,883)
Interest expense - other	(9,873)	(9,317)	(8,601)	(4,611)	(4,629)	(4,829)	(6,595)	(4,896)	(6,819)	-
Amortization of debt discount/premium	15,198	13,701	12,052	7,887	7,296	6,735	7,032	3,063	3,096	-
Amoritzation of loss on refunding	(3,147)	(3,070)	(1,949)	(1,980)	(2,552)	-	-	-	-	-
Capitalized interest	21,859	20,074	21,051	20,511	19,103	26,358	26,384	25,195	13,910	-
Decrease upon hedge termination	-	-	-	-	-	-	-	-	(58,556)	-
Change in fair values - swaps	16,317	26,072	(22,951)	(5,240)	(1,222)	36,286	(52,897)	22,638	(19,889)	-
Total non-operating revenue (expenses), net	(45,882)	(37,310)	(78,839)	(58,951)	(52,020)	(23,585)	(85,886)	(10,881)	(110,977)	(47,272)
Net income / (loss) before contributions	50,661	55,019	10,473	31,479	25,850	51,194	(29,301)	39,055	(67,851)	(5,121)
Contributions										
Property owner assessments	-	2,376	-	-	-	-	-	334	(545)	2,239
All other	12,726	10,513	5,037	4,605	8,103	7,134	2,095	3,413	4,105	9,450
Increase (decrease) in net position	63,387	67,908	15,510	36,084	33,953	58,328	(27,206)	42,802	(64,291)	6,568
Net position, beginning of year	668,488	600,580	585,070	548,986	515,033	508,586	535,792	492,796	557,087	550,519
Restatement for GASB 75 implementation	(23,201)	-	-	-	-	-	-	-	-	-
Net Position, beginning of year, as restated	645,287	600,580	585,070	548,986	515,033	508,586	535,792	492,796	557,087	550,519
Net position, end of year	$ 708,674	$ 668,488	$ 600,580	$ 585,070	$ 548,986	$ 566,914	$ 508,586	$ 535,598	$ 492,796	$ 557,087

LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT

COMPARATIVE STATEMENTS OF CASH FLOWS

YEARS ENDED JUNE 30

DOLLARS IN THOUSANDS

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Cash flows from operating activities:										
Cash received from customers	$ 276,711	$ 262,055	$ 240,202	$ 227,976	$ 213,215	$ 207,905	$ 193,446	$ 182,976	$ 171,641	$ 166,123
Cash paid to suppliers and employees	(95,150)	(88,300)	(85,202)	(75,258)	(73,175)	(79,926)	(76,077)	(72,566)	(72,426)	(66,297)
Net cash provided by operating activities	181,561	173,755	155,000	152,718	140,040	127,979	117,369	110,410	99,215	99,826
Cash flows from capital and related financing activities:										
Proceeds from issuance of revenue bonds	175,000	150,000	175,000	80,000	100,000	115,790	263,360	330,000	405,770	76,275
Proceeds from subordinated debt	226,340	226,340	226,340	226,340	226,340	228,735	226,340	226,340	452,680	-
Premium from sale of bonds	21,894	15,715	16,887							
Build America bond refund	10,248	10,226	10,332	10,096	10,096	10,986	10,986	7,978	2,260	-
Principal paid on debt	(263,395)	(271,064)	(255,291)	(271,853)	(253,465)	(399,424)	(543,700)	(491,955)	(488,275)	(95,045)
Interest and fees paid on debt	(102,394)	(103,919)	(92,246)							
Interest paid on swaps	(7,724)	(8,926)	(9,514)	(9,737)	(9,733)	(10,200)	(11,235)	(11,627)	(8,832)	(4,166)
Proceeds from capital grants	7,183	6,386	91							
Proceeds from sale of capital assets	3	10	614							
Payments for capital assets	(216,503)	(220,892)	(213,996)							
Proceeds from assessments	1,621	1,254	2,329							
Assessments extended	-	(2,376)	-							
Capital contributed by governments, property owners & developers	-	-	-	4,605	8,103	7,134	2,095	3,747	3,560	11,689
Assessments receivable	-	-	-	2,050	1,695	1,833	1,930	1,676	2,998	557
Interest income - assessments	-	-	-	340	687	731	852	994	1,588	1,471
Interest paid on revenue bonds	-	-	-	(87,813)	(91,719)	(98,944)	(94,240)	(86,191)	(70,192)	(69,063)
Acquisition and construction of capital assets	-	-	-	(147,842)	(121,237)	(113,144)	(119,988)	(167,816)	(86,590)	(75,970)
Acquisition of non-operating property	-	-	-	(247)	(211)	(223)	(213)	(221)	(484)	(261)
Net cash provided (used) by capital and related financing activities	(147,727)	(197,246)	(139,454)	(194,061)	(129,444)	(256,726)	(263,813)	(187,075)	214,483	(154,513)
Cash flows from investing activities:										
Change in investments	(56,798)	15,990	(15,047)	1,052	(30,642)	4,064	200,229	100,012	(325,944)	(27,455)
Investment income	5,081	2,951	5,626	13,974	15,708	13,941	38,515	40,097	37,329	24,859
Net cash provided (used) by investing activities	(51,717)	18,941	(9,421)	15,026	(14,934)	18,005	238,744	140,109	(288,615)	(2,596)
Net increase (decrease) in cash and cash equivalents	(17,883)	(4,550)	6,125	(26,317)	(4,338)	(110,742)	92,300	63,444	25,083	(57,283)
Cash and cash equivalents, beginning of year	99,545	104,095	97,970	124,287	128,625	239,367	147,067	83,623	58,540	115,823
Cash and cash equivalents, end of year	$ 81,662	$ 99,545	$ 104,095	$ 97,970	$ 124,287	$ 128,625	$ 239,367	$ 147,067	$ 83,623	$ 58,540

Presentation and classification of items in the Cash flows from capital and related financing activities section was changed to provide better clarity beginning with the 2017 CAFR. Prior years were not reclassified and are shown as originally presented.

LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
COMPARATIVE SUMMARIES OF OPERATING REVENUE
YEARS ENDED JUNE 30
DOLLARS IN THOUSANDS

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Service charges:										
Wastewater service charges:										
Residential	$ 116,458	$ 108,809	$ 101,405	$ 96,563	$ 89,691	$ 86,409	$ 80,779	$ 78,552	$ 73,228	$ 71,159
Commercial	66,651	61,860	58,343	62,257	58,812	57,192	53,116	46,598	42,741	42,312
Industrial	24,439	21,218	19,878	17,605	19,738	19,536	18,063	21,498	18,948	18,216
Other - net	7,517	6,853	8,186	2,806	2,611	2,267	2,219	1,847	1,756	1,601
Free sewer to Metro Government	(4,429)	(3,775)	(4,220)	(5,336)	(5,253)	(5,613)	(4,551)	(2,615)	(2,820)	(2,627)
Total wastewater service charges	210,636	194,965	183,592	173,895	165,599	159,791	149,626	145,880	133,853	130,661
Stormwater service charges:										
Residential	23,811	22,111	20,439	20,090	18,522	17,372	15,907	14,776	13,613	12,709
Commercial	35,778	35,372	32,971	28,936	27,910	26,123	23,017	20,862	19,433	18,012
Industrial	3,864	3,445	3,219	3,030	3,112	2,956	2,575	2,351	2,189	2,064
Other - net	2,533	-	-	-	-	-	-	-	-	-
Free drainage to Metro Government	(2,118)	(1,950)	(1,741)	(489)	(1,087)	(1,020)	(643)	(572)	(478)	(442)
Total stormwater service charges	63,868	58,978	54,888	51,567	48,457	45,431	40,856	37,417	34,757	32,343
Total service charges	274,504	253,943	238,480	225,462	214,056	205,222	190,482	183,297	168,610	163,004
Other operating income:										
Capacity charges	3,132	3,318	2,087	2,667	1,620	1,624	335	446	564	820
Connection fees	76	(723)	1,118	379	133	93	64	71	68	47
Regional facilities fees	-	-	16	34	-	-	-	-	-	-
Reserve capacity charges	-	-	-	-	-	64	-	-	11	28
Wastewater miscellaneous	1,437	3,096	1,589	1,327	823	2,984	1,299	1,804	2,279	3,599
Stormwater miscellaneous	-	-	-	-	-	58	58	58	58	58
Total other operating income	4,645	5,691	4,810	4,407	2,576	4,823	1,756	2,379	2,980	4,552
Total operating revenue	$ 279,149	$ 259,634	$ 243,290	$ 229,869	$ 216,632	$ 210,045	$ 192,238	$ 185,676	$ 171,590	$ 167,556

LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
COMPARATIVE SUMMARIES OF SERVICE AND ADMINISTRATIVE COSTS
YEARS ENDED JUNE 30
DOLLARS IN THOUSANDS

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Service and administrative costs:										
Labor	$ 64,718	$ 59,183	$ 55,229	$ 54,378	$ 57,249	$ 55,028	$ 55,010	$ 56,358	$ 52,945	$ 49,354
Utilities	16,640	14,427	18,256	13,817	14,563	12,821	14,555	13,853	11,879	10,818
Materials and supplies	8,647	7,976	4,183	9,706	8,151	8,990	8,972	9,043	9,031	8,742
Professional services	3,985	4,127	4,169	2,839	1,932	3,942	2,416	2,624	2,363	2,730
Maintenance and repairs	7,208	9,116	10,007	7,915	9,096	10,866	11,090	10,054	8,847	9,675
Billing and collections	5,755	5,467	4,853	4,327	4,095	4,904	4,309	4,318	4,461	3,623
Chemicals and fuel	5,706	6,375	5,697	5,297	5,143	5,907	5,714	5,702	6,099	5,687
Biosolids disposal	2,616	2,651	2,245	1,967	1,795	1,709	1,759	2,035	2,186	2,063
All other	17,665	11,142	13,960	6,520	7,238	4,369	4,901	3,694	3,638	2,817
Service and administrative costs[1]	132,940	120,464	118,599	106,766	109,262	108,536	108,726	107,681	101,449	95,509
Less: Recovery of cost										
Capitalized project cost	(38,147)	(31,949)	(30,516)	(30,056)	(33,568)	(33,110)	(33,200)	(30,472)	(28,129)	(24,401)
Revenue recoveries	(993)	(878)	(928)	(465)	(448)	(495)	(400)	(374)	(381)	(1,574)
Recovery of cost	(39,140)	(32,827)	(31,444)	(30,521)	(34,016)	(33,605)	(33,600)	(30,846)	(28,510)	(25,975)
Net service and administrative costs	$ 93,800	$ 87,637	$ 87,155	$ 76,245	$ 75,246	$ 74,931	$ 75,126	$ 76,835	$ 72,939	$ 69,534

[1]Excludes GASB 68 pension expense and GASB 75 OPEB expense

LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
COMPARATIVE SCHEDULES OF PLANT, LINES AND OTHER FACILITIES
YEARS ENDED JUNE 30
DOLLARS IN THOUSANDS

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Completed projects										
Sewer lines	$ 1,497,090	$ 1,440,360	$ 1,379,153	$ 1,277,745	$ 1,274,180	$ 1,265,437	$ 1,179,685	$ 1,159,437	$ 1,134,637	$ 1,042,742
Wastewater treatment facilities	648,503	637,166	629,083	489,292	489,289	479,998	479,226	471,190	470,527	459,238
Stormwater drainage facilities	561,341	542,271	515,898	448,853	448,899	443,577	437,139	434,943	427,431	400,118
Pumping and lift stations	183,795	166,158	139,651	96,812	96,819	89,503	73,023	71,122	70,643	69,301
Administrative facilities	50,818	50,817	49,342	49,342	49,342	49,317	46,068	46,078	45,561	45,561
Maintenance facilities	8,504	8,504	8,504	8,037	8,037	8,037	8,037	8,037	7,827	7,827
Machinery, equipment and other	97,407	98,138	90,702	85,395	85,395	83,882	77,068	71,923	93,240	74,975
Capitalized interest	385,296	363,437	343,363	322,312	301,800	282,697	260,157	235,624	222,564	214,644
Total completed projects	3,432,754	3,306,851	3,155,696	2,777,788	2,753,761	2,702,448	2,560,403	2,498,354	2,472,430	2,314,406
Less accumulated depreciation	(1,218,427)	(1,146,036)	(1,070,108)	(1,008,503)	(946,426)	(884,199)	(825,205)	(768,423)	(734,552)	(680,380)
Total completed projects - net	2,214,327	2,160,815	2,085,588	1,769,285	1,807,335	1,818,249	1,735,198	1,729,931	1,737,878	1,634,026
Total construction in progress	711,655	581,222	487,674	623,181	463,167	371,816	370,350	272,850	140,134	182,711
Total net plant, lines and other facilities	$ 2,925,982	$ 2,742,037	$ 2,573,262	$ 2,392,466	$ 2,270,502	$ 2,190,065	$ 2,105,548	$ 2,002,781	$ 1,878,012	$ 1,816,737

LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
MISCELLANEOUS OPERATING INDICATORS
YEARS ENDED JUNE 30

	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Miscellaneous Operating Indicators										
Miles of sewers	3,463	3,322	3,293	3,240	3,263	3,240	3,332	3,200	3,207	3,197
Number of treatment plants	5	5	5	16	19	19	20	20	21	21
Number of service connections	283,936	280,489	280,063	253,462	240,174	239,334	235,136	230,240	228,580	226,711
Daily average treatment (MGD)	150	112	139	143	141	131	145	142	143	127
Daily treatment capacity (MGD)	200	170	170	177	177	177	173	173	174	174

MGD - millions of gallons per day

LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
WASTEWATER TREATMENT PLANT CAPACITY
2018

Plant	Design Capacity MGD	Avg Daily Flow MGD	Eventual Capacity MGD	Customer Base Residential	Customer Base Commercial	Customer Base Industrial	Total	Year Built	Treatment Process
Morris Forman	120.0	97.0	120.0	131,304	15,594	365	147,263	1958	Secondary added in 1972.
Derek R. Guthrie*	60.0	38.9	65.0	65,530	3,933	24	69,487	1986	Secondary
Hite Creek	6.0	4.4	9.0	10,427	630	8	11,065	1970	Tertiary: sand filter
Cedar Creek	7.5	5.6	11.3	17,248	1,119	9	18,376	1995	Tertiary: sand filter
Floyd's Fork	6.5	3.6	9.8	8,337	378	1	8,716	2001	Tertiary: sand filter
Total treatment system	200.0	149.5	215.1	232,846	21,654	407	254,907		

*Formerly known as the West County WTP
Source: MSD Engineering Department

LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
GREATER LOUISVILLE, KENTUCKY / INDIANA
EMPLOYERS OF 1,000 EMPLOYEES OR MORE

	2018		2017		2016		2015		2014		2013		2012		2011		2010		2009		
Employers	**Rank**	**Employees**	**Rank**	**Employees**	**Rank**	**Employees**	**Rank**	**Employees**	**Rank**	**Employees**	**Rank**	**Employees**	**Rank**	**Employees**	**Rank**	**Employees**	**Rank**	**Employees**	**Rank**	**Employees**	**Type of business**
United Parcel Service, Inc.	1	21,233	1	22,354	1	22,080	1	22,189	1	20,931	1	20,047	1	20,117	1	20,388	1	20,125	1	20,513	P Air cargo transport and distribution
Jefferson County, KY Public Schools	2	14,476	2	14,553	2	14,739	2	14,719	2	14,676	2	14,269	2	14,366	2	13,840	2	13,964	2	13,326	G Primary and secondary education
Ford Motor Company	3	12,600	3	12,600	3	12,990	5	9,028	5	8,987	6	8,512	5	8,696	11	3,847	9	5,397	8	5,624	P Vehicle manufacturing
Norton Healthcare (formerly Alliant Health)	4	12,247	5	11,944	5	11,389	4	10,739	4	10,245	4	9,666	4	9,658	4	9,421	4	8,698	4	8,142	N Hospital and health care facilities
Humana, Inc.	5	12,000	4	12,500	4	12,500	3	12,900	3	12,371	3	11,235	3	11,000	3	10,017	3	9,400	3	10,096	P Group health insurance/HMOs
University of Louisville	6	6,933	6	7,065	7	6,375	6	6,264	7	6,161	7	6,187	6	6,273	6	5,746	5	6,352	6	6,135	G Higher education
Amazon.com	7	6,500	8	6,500	6	6,500	7	6,000	-	-	-	-	-	-	-	-	-	-	-	-	P Logistics & Customer Service
Louisville-Jefferson County Metro Government	8	6,226	9	6,192	8	6,095	8	5,584	8	5,654	9	5,651	8	5,689	7	5,706	7	5,765	7	5,811	G City/County Government
Baptist Healthcare System	9	6,159	7	6,786	10	4,995	9	5,116	11	5,339	11	4,854	11	4,219	12	3,752	12	3,889	12	3,305	N Hospital and health care facilities
Kentucky One Health Inc (formerly Jewish Hosp)	10	6,000	10	6,000	9	6,000	7	6,000	9	5,602	5	8,893	7	5,898	5	5,819	6	5,782	5	6,500	N Hospital and health care facilities
General Electric Company	10	6,000	10	6,000	9	6,000	7	6,000	6	6,230	8	6,000	9	5,000	10	3,988	11	4,100	11	4,000	P Appliance manufacturing
The Kroger Company	12	3,079	12	3,079	11	4,626	10	4,892	10	5,417	10	5,152	-	-	-	-	-	-	-	-	P Grocery Retailer
Spectrum (formerly Charter Communications)	13	2,400	15	2,400	33	1,200	35	1,131	34	1,200	-	-	-	-	-	-	-	-	-	-	P Call Center
Manna Inc	14	2,300	14	2,600	12	3,120	13	2,400	16	2,250	-	-	-	-	-	-	-	-	-	-	P Food service provider
Roman Catholic Archdiocese of Louisville	15	2,252	13	2,660	17	2,263	17	2,237	14	2,260	14	2,345	13	2,352	15	2,416	17	2,142	17	2,343	N Religious, educational, social services
LG&E and KU Energy (formerly EON)	16	2,162	17	2,201	18	2,211	18	1,993	18	2,178	16	2,131	16	2,066	19	1,976	19	1,976	20	1,902	P Gas & Electric Utility
ResCare Inc	17	1,948	19	1,948	14	2,435	28	1,312	35	1,054	-	-	-	-	-	-	-	-	-	-	P Health care provider
Robley Rex VA Medical Center	18	1,816	21	1,800	21	1,900	19	1,800	20	1,703	18	1,799	18	1,728	22	1,671	24	1,596	-	-	N Hospital and health care facilities
Bullitt County Public Schools	19	1,736	22	1,718	22	1,739	21	1,671	22	1,633	21	1,629	-	-	-	-	-	-	-	-	G Primary and secondary education
U.S. Postal Service	20	1,691	20	1,896	23	1,659	12	2,401	13	2,546	13	2,509	-	-	14	2,653	18	1,991	14	2,626	G Mail distribution
New Albany - Floyd County Schools	21	1,652	26	1,405	25	1,600	22	1,622	21	1,648	20	1,640	-	-	-	-	-	-	-	-	G Primary and secondary education
Papa John's International	22	1,626	18	2,088	19	2,088	30	1,279	25	1,503	35	1,143	-	-	-	-	-	-	-	-	P Quick service restaurant
Kindred Healthcare (formerly Vencor Inc.)	23	1,571	16	2,216	16	2,381	16	2,244	17	2,249	17	2,130	15	2,252	18	2,297	16	2,224	18	2,153	P Long-term health care, facilities
Oldham County Public Schools	24	1,567	23	1,638	24	1,604	15	2,300	23	1,576	22	1,602	19	1,690	21	1,689	28	1,500	25	1,568	G Primary and secondary education
Churchill Downs Inc.	25	1,515	25	1,526	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P Racing, gaming and online entertainment
Texas Roadhouse Inc.	26	1,500	29	1,320	35	1,179	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P Food service provider
Samtec Inc.	26	1,500	35	1,200	29	1,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P Electronic connectors & microelectronics products
Greater Clark County, IN School Corp.	28	1,447	32	1,295	32	1,247	24	1,447	24	1,303	30	1,357	27	1,346	28	1,364	30	1,395	27	1,409	G Primary and secondary education
Rawlings Group	29	1,440	28	1,332	30	1,211	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P Insurance subrogation
Brown-Forman Corp.	30	1,300	31	1,304	29	1,300	31	1,266	31	1,256	32	1,244	31	1,196	34	1,184	37	1,240	37	1,081	P Distilled spirits manufacturing
Centerstone of Kentucky (formerly Seven Counties)	31	1,284	27	1,340	36	1,165	34	1,168	33	1,129	36	1,111	30	1,215	32	1,202	40	1,187	36	1,118	N Health care provider
Anthem, Inc.	32	1,269	34	1,238	29	1,300	26	1,350	32	1,139	37	1,100	34	1,122	35	1,150	36	1,276	29	1,358	P Health Insurance sales and services
US Census Bureau	33	1,209	38	1,185	38	1,037	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N Government
LSC Communications (formerly Publisher's Printing)	34	1,200	35	1,200	27	1,400	25	1,413	28	1,432	24	1,516	24	1,450	27	1,367	27	1,500	23	1,600	P Trade, professional, special printing
JBS USA	34	1,200	37	1,189	34	1,180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P Pork Products
Faurecia	34	1,200	40	1,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P Exhaust systems, interiors & seat systems
PNC Bank	37	1,175	39	1,175	26	1,500	23	1,569	-	-	-	-	-	-	-	-	-	-	-	-	P Financial Services
Horseshoe Southern IN (formerly Caesars')	38	1,160	33	1,239	31	1,252	29	1,303	29	1,404	26	1,418	25	1,437	31	1,244	26	1,540	22	1,697	P Gaming and entertainment resort
Clark Memorial Hospital	39	1,060	-	-	33	1,225	33	1,225	30	1,270	-	-	-	-	-	-	-	-	-	-	P Health care provider
Mortenson Dental Partners	40	1,047	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P Dental Services
Commonwealth of Kentucky	-	-	-	-	13	2,514	11	3,794	12	4,042	12	4,161	10	4,232	9	4,488	10	4,361	10	4,253	G General purpose government
U.S. Federal Government	-	-	-	-	15	2,406	14	2,397	15	2,252	15	2,191	12	2,676	13	2,855	13	3,575	13	2,985	G General purpose government
Yum! Brands Inc. (formerly Tricon)	-	-	30	1,314	28	1,343	32	1,226	30	1,270	23	1,544	22	1,558	23	1,640	21	1,757	19	2,076	P Food service provider
Floyd Memorial Hospital & Health Services	-	-	-	-	20	1,950	20	1,756	19	1,769	19	1,711	20	1,612	24	1,546	29	1,473	32	1,338	P Hospital and health services provider
Securitas Security Services USA Inc.	-	-	-	-	-	-	27	1,328	26	1,476	25	-	21	1,598	33	1,191	41	1,150	35	1,150	P Security Services
Signature Healthcare	-	-	24	1,558	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N Post-acute and long-term care provider
Shelby County Public Schools	-	-	40	1,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	G Primary and secondary education
Al J Schneider Co	-	-	40	1,000	37	1,047	37	1,000	36	1,050	-	-	-	-	-	-	-	-	-	-	P Hotel / Restaurants
American Commercial Lines	-	-	-	-	-	-	36	1,100	-	-	-	-	-	-	-	-	-	-	-	-	P Marine Transportation Service
Total employees		156,680		162,558		164,045		155,163		144,205		134,747		120,446		114,457		115,355		114,109	

P=for-profit organization N=not-for-profit organization G=governmental organization
Source: Business First of Louisville, KY

LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
ROLE OF OUTSTANDING DEBT AND MISCELLANEOUS DEMOGRAPHIC INFORMATION

Fiscal Year	Revenue Bonds *(In 000's)*	Population*	Personal Income***	Percentage of Personal Income	Unemployment Rate**	# of MSD Employees	# of MSD Service Connections	Miles of Sewer Line
2009	$ 1,408,290	736,705	$ 29,191,601	4.82%	10.4%	633	226,711	3,197
2010	$ 1,325,785	742,324	$ 29,921,911	4.43%	9.8%	651	228,580	3,207
2011	$ 1,616,510	746,372	$ 31,154,544	5.19%	9.9%	655	230,240	3,200
2012	$ 1,562,510	750,828	$ 32,592,092	4.79%	8.4%	666	235,136	3,232
2013	$ 1,505,260	756,832	$ 33,314,513	4.52%	8.2%	649	239,334	3,240
2014	$ 1,578,225	760,026	$ 34,609,792	4.56%	6.4%	606	240,174	3,263
2015	$ 1,612,805	763,623	$ 34,575,582	4.66%	4.9%	591	253,462	3,288
2016	$ 1,754,570	765,352	N/A	N/A	4.6%	617	280,063	3,293
2017	$ 1,865,260	N/A	N/A	N/A	4.6%	626	280,489	3,322
2018	$ 1,996,730	N/A	N/A	N/A	4.3%	632	283,936	3,463

*Source: U.S. Census Bureau (https://www.census.gov/quickfacts/fact/table/jeffersoncountykentucky/PST045216)
**Source: Workforce Kentucky Website (www.workforcekentucky.ky.gov)
***Source: Bureau of Economic Analysis website (www.bea.gov)

LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT
TOP 10 WASTEWATER AND STORMWATER CUSTOMERS

Rank	Customer Name	FY '18 Wastewater Billed	Percent Total Wastewater Revenue
1	Heaven Hill Distilleries	$ 5,291,400.74	2.51%
2	Swift Pork Co.	$ 2,824,202.94	1.34%
3	Lubrizol Advanced Material**	$ 2,335,162.41	1.11%
4	Early Times Distillery	$ 998,463.76	0.47%
5	Ford Motor Co.	$ 917,546.32	0.44%
6	Haier US Appliance Solutions	$ 880,308.90	0.42%
7	Rohm & Haas	$ 646,917.51	0.31%
8	Ford Motor Co.	$ 643,713.38	0.31%
9	Louisville Metro Housing Authority	$ 634,232.29	0.30%
10	Dean Milk	$ 580,607.73	0.28%
	Total	**$ 15,752,556**	**7.48%**
	Total FY 18 Wastewater Revenue:	$ 210,635,803	

Rank	Customer Name	FY '17 Wastewater Billed	Percent Total Wastewater Revenue
1	Swift & Company	$ 3,275,551.18	1.68%
2	Heaven Hill Distilleries	$ 2,895,242.74	1.49%
3	Early Times Distillery	$ 2,346,981.08	1.20%
4	Lubrizol Advanced Material**	$ 2,233,568.89	1.15%
5	General Electric (Haier)	$ 1,547,456.87	0.79%
6	Ford Motor Co.	$ 1,026,321.51	0.53%
7	Louisville Metro Housing Authority	$ 582,277.60	0.30%
8	Rohm & Haas	$ 503,873.29	0.26%
9	Dean Milk	$ 502,837.53	0.26%
10	Parrallel Products	$ 431,279.08	0.22%
	Total	**$ 15,345,390**	**7.87%**
	Total FY 17 Wastewater Revenue:	$ 194,965,047	

Rank	Customer Name	FY '18 Stormwater Billed	Percent Total Stormwater Revenue
1	Regional Airport Authority - Standiford	$ 1,258,666	1.97%
2	United Parcel Service	$ 610,278	0.96%
3	Ford Motor Co	$ 359,114	0.56%
4	Lit Industrial Limited Partner	$ 275,407	0.43%
5	Regional Airport Authority - Bowman	$ 251,264	0.39%
6	Kentucky State Fair	$ 250,477	0.39%
7	The U of L Campus	$ 230,236	0.36%
8	Seaboard Systems	$ 217,057	0.34%
9	Churchill Downs	$ 208,239	0.33%
10	Lou Jeff City Redev Auth	$ 198,156	0.31%
	Total	**$ 3,858,894**	**6.04%**
	Total FY 18 Stormwater Revenue:	$ 63,868,122	

Rank	Customer Name	FY '17 Stormwater Billed	Percent Total Stormwater Revenue
1	Regional Airport Auth	$ 1,144,524	1.94%
2	United Parcel Service	$ 567,604	0.96%
3	Ford Motor Co	$ 437,886	0.74%
4	Lit Industrial Limited Partner	$ 238,337	0.40%
5	Kentucky State Fair	$ 233,353	0.40%
6	The U of L Campus	$ 214,726	0.36%
7	Seaboard Systems	$ 201,299	0.34%
8	Churchill Downs	$ 193,808	0.33%
9	Lou Jeff City Redev Auth	$ 182,589	0.31%
10	Norfolk Southern	$ 154,154	0.26%
	Total	**$ 3,568,280**	**6.05%**
	Total FY 17 Stormwater Revenue:	$ 58,978,108	

* LIT Industrial Limited was formerly known as Trammell Crow Co.
**Lubrizol Advanced Material was formerly known as Oxy Vinyls

Safe, clean waterways

700 West Liberty Street
Louisville, KY 40203-1911
LouisvilleMSD.org
24/7 Customer Relations
502.540.6000

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