Monthly Executive Report

Capital Program and Financial Update

September 30, 2019

Safe, clean waterways

Issued October 28, 2019

MONTHLY EXECUTIVE REPORT
September 30, 2019

DISCLAIMER

The outline for this report was developed by the Louisville MSD Enterprise Program Manager. This monthly report was prepared by Louisville MSD staff using the best available information. Contributions were made from Engineering, Finance, and Project Controls. Additional information will be incorporated into this report as deemed appropriate.

Table of Contents

SECTION 1: EXECUTIVE SUMMARY 8
CAPITAL PROGRAM HEALTH 8
CAPITAL BUDGET HEALTH 9
CIP PRIORITIES FOR OPERATIONS 11
FINANCING SOURCE OPPORTUNITIES 11
WIFIA Loan Program 11
SRF Program 12
USACE Flood Protection System Federal Appropriation 12
FINANCIAL STATEMENT OVERVIEW 13
Revenues 13
Operating Expenses 13
Net Income 14
MBE/WBE EXPENDITURE REPORT 14
SECTION 2: CIP MONTHLY ACTIVITY REPORT 16
FY20 CAPITAL BUDGET BASIS 16
MSD'S CIP TRACKING PROCESS 17
Program Management Information System (PMIS) 17
Monthly CIP Management Team Meeting 18
Coordination with Strategic Business Plan 19
FY20 CIP OVERALL PERFORMANCE 19
CAPITAL PROGRAM FINANCIALS 19
MONTHLY PROJECT ACTIVITIES 20
Initiation and Procurement Activities 20
Design Projects 21
Construction Projects 22
Closeout/Warranty Phase Projects 23
Completed Capital Projects 24
Appropriation Projects 24
Emergency Contracts to Repair Infrastructure Damage 25
FEMA Grant Program 26
CASHFLOW PERFORMANCE 27
Projects Removed from Cashflow 30

Capital Budget Variance 31
Trending Top Projects 35
CHANGE MANAGEMENT ACTIVITIES 36
Notice of Advisement 36
Approved Change Orders – September 2019 37
PROCUREMENT ACTIVITIES 37
Bid Openings 37
Notice to Proceeds (NTP) Issued 38
PROJECT INFORMATION BY PROGRAM 38
IOAP AND CONSENT DECREE 38
Sanitary Sewer Discharge Plan Progress 39
WASTEWATER NON-IOAP PROGRAMS 41
Capacity, Management, Operations, and Maintenance (CMOM) Program 41
Development Infrastructure Program 44
Nine Minimum Controls Program 45
STORMWATER MANAGEMENT & FLOOD PROTECTION PROGRAMS 46
Stormwater Quality Municipal Separate Storm Sewer System (MS4) Program 46
Drainage Response Initiative (DRI) Program 47
Floodplain Management Program 49
Ohio River Flood Protection Program 49
SUPPORT PROGRAMS 50
Capital Equipment Program 50
Facilities Program 51
Information Technology (IT) and LOJIC 51
SECTION 3: FINANCIAL REPORT 53
FINANCIAL STATEMENTS 53
Statement of Revenues, Expenses and Changes in Net Position 53
Comparative Statement of Net Position 54
Financial Statement Overview 55
SUPPLEMENTAL FINANCIAL REPORTING 56
Number of Customers & Revenue by Customer Class 56
Accounts Receivable Aging 57
Wastewater & Stormwater Bad Debt 58
Comparative Operating Budget Performance 59

Comparative Monthly Operating Expenditures....61
Operating Expense Summary....62
Operating Expense by Division....63
Operations Division Operating Expense by Department....64
Staffing by Division....65
Overtime by Division....66
One Water Shared Expenses....67
CASH....68
Sources and Uses of Cash....68
Revenue Fund Summary....69
Revenue Fund & Construction Fund Balances....69
Commercial Paper Program Summary....71
INVESTMENTS....72
Investment by Category....72
Municipal Bond Investments....73
MSD's Current Investment Model....74
CAPITAL MARKETS....75
Market Rates and 10 year Bond....75
Market Rates: LIBOR....76
Baird Municipal Market Update....77
Mark to Market on Swaps....78
MISCELLANEOUS REPORTS....79
MasterCard Program Total Spend....79
MBE/WBE EXPENDITURE REPORT....80
September Approvals for Operating and Capital Expenditures....81
Approvals for Operating and Capital Expenditures – FY Comparison....82
Approvals for Operating and Capital Expenditures – Historical....83
Approvals for Operating and Capital Expenditures – FY Comparison....84
Approvals for Operating and Capital Expenditures – FY Comparison....85
Open Construction Orders Report....86

List of Tables

Table 1 – Summary of FY20 Capital Program Performance To-date 8
Table 2 – Analysis of Spending by Project Type....9
Table 3 – YTD Actual CIP Spending Trends 10
Table 4 – YTD Percent Expended Trends 11
Table 5 – CIP Projects Eligible for WIFIA Funding 12
Table 6 – CIP Projects Eligible for SRF Program Funding 12
Table 7 – CIP Projects Eligible for USACE Funding....13
Table 8 - Capital Budget Performance Summary....19
Table 9 – Summary of Active Non-Appropriation Projects During Reporting Month 20
Table 10 – CIP Projects in Initiation/Procurement during Reporting Month 21
Table 11 – CIP Projects in Design during Reporting Month....21
Table 12 – CIP Projects in Construction during Reporting Month....22
Table 13 – CIP Projects in Warranty Phase during Reporting Month....23
Table 14 – Completed CIP Projects during Reporting Month....24
Table 15 – CIP Asset Appropriation Projects during Reporting Month 25
Table 16 – Year-to-Date Emergency Contract Work 25
Table 17 – Status of Active FEMA Grants Program....26
Table 18 – FEMA Grants Program Projects in Planning....27
Table 19 – FY20 Evolving Spend Forecast and Actuals 28
Table 20 – YTD CIP Projects with Negative Impact to Cash Flow 30
Table 21 –Project Explanations 30
Table 22 – Projects Forecasted to Spend LESS than Assigned Budget 32
Table 23 – Projects Forecasted to Spend MORE than Assigned Budget....34
Table 24 – Evaluation of Actual Spending for Largest CIP Projects 35
Table 25 – Change Orders Processed during Reporting Period....37
Table 26 – Potential Upcoming Procurement Projects....37
Table 27 – Bids opened during Reporting Month....38
Table 28 – NTP's Issued during Reporting Month 38
Table 29 – FY20 Comparison of Budget to Projected Spending 38
Table 30 - Schedule Float for Remaining LTCP Projects....39
Table 31 - Schedule for Remaining SSDP Projects 39
Table 32 – Summary of FY20 IOAP Program Projects....40
Table 33 – Summary of FY20 Wastewater CMOM Program Projects....41
Table 34 – Summary of FY20 Development Program Projects....44
Table 35 – Summary of FY20 Wastewater NMC Program Projects 45
Table 36 – Summary of FY20 Stormwater MS4 Program Projects 47
Table 37 – Status of Active DRI Projects....47
Table 38 – Summary of FY20 Floodplain Management Program Projects 49
Table 39 – Summary of FY20 Ohio River Flood Protection Program Projects 49
Table 40 – Summary of FY20 Capital Equipment Program Projects 50
Table 41 – Summary of FY20 Facilities Program Projects....51
Table 42 – Summary of FY20 IT & LOJIC Program Projects....52
Table 43 – Statement of Revenues, Expenses and Changes in Net Position 53
Table 44 – Comparative Statement of Net Position 54
Table 45 – Customers and Revenue by Customer Class 56

Table 46 – FY20 Operating Expense 60
Table 47 – Operating Expense Summary 62
Table 48 – Operating Expense by Division 63
Table 49 – Operations Division Operating Expense by Department 64
Table 50 – Staffing by Division 65
Table 51 – Revenue Fund Summary 69
Table 52 – Commercial Paper Program Summary 71
Table 53 – Investments by Type Schedule 72
Table 54 – Municipal Bond Investments 73
Table 55 – September Approvals for Operating and Capital Expenditures 81
Table 56 – Open Construction Orders 86

List of Figures

Figure 1 – Capital Expenditures per Month 10
Figure 2 – MBE/WBE Expenditure Chart 15
Figure 3 – Roles and Responsibilities for Program Management 17
Figure 4 – FY20 Cashflow Forecast 29
Figure 5 – Summary of YTD Capital Budget Variances 32
Figure 6 – Revenue Comparison FY 2019 to FY20 Charts 56
Figure 7 –Accounts Receivable Aging Charts 57
Figure 8 –Wastewater and Stormwater Bad Debt Charts 58
Figure 9 – Comparative Operating Budget Performance Chart 59
Figure 10 – Comparative Monthly Operating Expenditures 61
Figure 11 – Overtime by Division Chart 66
Figure 12 – One Water Shared Expenses 67
Figure 13 – Sources and Uses of Cash Charts 68
Figure 14 – Revenue Fund and Construction Fund Balances Chart 70
Figure 15 – Interest Rate Trends 71
Figure 16 – Current Investment Model 74
Figure 17 – 10-Year Bond 75
Figure 18 – Capital Market Activity: Rates and Trends 76
Figure 19 – Mark to Market on Swaps 78
Figure 20 – MasterCard Program Total Spend Chart 79
Figure 21 – MBE/WBE Expenditure Chart 80
Figure 22 – FY Comparison: YTD Operating and Capital Expenditure Approvals 82
Figure 23 – Historical: Operating and Capital Expenditure Approvals 83
Figure 24 – FY 2017 – FY2018 Monthly Comparison: Operating and Capital Expenditure Approvals 84
Figure 25 – FY 2015 – FY2016 Monthly Comparison: Operating and Capital Expenditure Approvals 85

Acronyms & Abbreviations

BCE	Business Case Evaluation
BMP	Best Management Practice
CCWQTC	Cedar Creek Water Quality Treatment Center
CD	Consent Decree
CIP	Capital Improvement Program
CMOM	Capacity, Management, Operations, and Maintenance Program
CP	Commercial Paper
CRRP	Critical Repair and Replacement Plan
CSO	Combined Sewer Overflow
CSS	Combined Sewer System
DRGWQTC	Derrick Guthrie Water Quality Treatment Center
DRI	Drainage Response Initiative
EAC	Estimate-at-Completion
EPM	Enterprise Program Manager
FEMA	Federal Emergency Management Agency
FEPS	Final Effluent Pump Station
FFWQTC	Floyds Fork Water Quality Treatment Center
FPS	Flood Pump Station
FY	Fiscal Year
HCWQTC	Hite Creek Water Quality Treatment Center
IOAP	Integrated Overflow Abatement Plan
IT	Information Technology
LTCP	Long Term Control Plan
LWC	Louisville Water Company
MHI	Median Household Income
MFWQTC	Morris Forman Water Quality Treatment Center
MS4	Municipal Separate Storm Sewer System Program
MSD	Metropolitan Sewer District
NMC	Nine Minimum Controls
NOA	Notice of Advisement
NOI	Net Operating Income
NTP	Notice to Proceed
PM	Project Manager
PMIS	Project Information Management System
PS	Pump Station
RFP	Request for Proposals
SRF	State Revolving Loan Fund Program
SSDP	Sanitary Sewer DP
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VFD	Variable Frequency Drive
WIFIA	Water Infrastructure Finance and Innovation Act
WQTC	Water Quality Treatment Center
YTD	Year-to-Date

SECTION 1: EXECUTIVE SUMMARY

The Louisville and Jefferson County Metropolitan Sewer District (MSD) makes major infrastructure investments through its Capital Improvement Program (CIP). The organization continues to complete important projects; comply with Consent Decree and regulatory requirements; and repair/replace critical assets. This report provides a summary of the progress made during September 2019 with respect to program health and regulatory compliance.

CAPITAL PROGRAM HEALTH

A high-level summary of the status of key performance criteria is presented in Table 1. More detailed information is presented throughout this report.

Table 1 – Summary of FY20 Capital Program Performance To-date

Key Programs and Initiatives	Status as of September 30, 2019
Consent Decree Compliance	All required Consent Decree deadlines have been satisfied through September 30, 2019 and Regulatory Compliance is carefully monitoring the schedule for the remaining Consent Decree projects to be completed.
Emergency Repairs & Reactive Equipment Replacements	During the reporting month, the MSD staff were addressing priority repairs associated with the infrastructure. Two new emergency contracts were issued: $85,000 for FPS gate repair and $12,000 for sewer repair (refer to Table 16). At the Morris Forman WQTC, staff were developing an emergency certification project to off-load sludge from the plant and mitigate the impacts from a catastrophic failure of the drum dryer system. At the Flood Pump Stations, staff were working to maximize the number of pumps operational in advance of the flood season. For the large diameter sewer rehabilitation projects, staff were coordinating priority sewers into a consolidated program to retain specialized expertise to inspect, clean, and rehabilitate the sewers.
FEMA Buy-Out Grants Program	Through «Reporting_Month», MSD is working on 16 active grant projects that have received nearly $6 million in FEMA reimbursement during FY20 (refer to Table 17). These projects will purchase 133 parcels to mitigate risks associated with public health from localized flooding. Grant projects are tracked separately due to the nature of the cost share with the federal government.
Program Management Improvements	During the reporting month, MSD developed draft Change Management Protocols and held workshops with staff regarding rollout of a Notice-of-Advisement (NOA) process. This process will improve documentation related to scope, schedule, and budget changes; management approval/rejection of project impacts; and tracking and reporting of programmatic performance metrics.
Drainage Response Initiative (DRI) Program	MSD continues to advance 44 DRI projects totaling nearly $2.5 million to address localized stormwater drainage issues (refer to Table 37). The projects are a combination of storm sewers, culvert replacements, bank repairs, and drainage swales.

CAPITAL BUDGET HEALTH

Overall, the slate of capital projects is moving forward as expected. Annual appropriation projects are underway and the ongoing construction projects are moving forward without major incident. Significant program changes that have occurred since the FY20 capital budget approval in May have pushed $18.7M into future fiscal years. The impact on FY21 will be significant. The CIP Management Team will be focused on the impact throughout the year and will adjust as required.

FY20 capital expenditures for the Wastewater, Stormwater, and Support Services Programs totaled $16.2M (excluding grants and $17.5M including grants) with $15.3M spent during September 2019. It is important to note that "Actual Spending" presented in the tables throughout this document are offset by the accruals posted during July and August. This is an accounting practice that assigns the payment of the invoice for work performed in the prior fiscal year to the appropriate fiscal year. The accrual process impacts the June and July actuals every year. Invoices received and processed for the month of July totaled $8.6M, however, the data presented in this report indicate a "negative" spend in July due to the reversal of $9.8M in accruals. Additionally, the accruals were over estimated by approximately $3M. At the end of the current fiscal year, the Project Managers will work closely with Division Managers and Finance staff to try to more accurately forecast the accruals.

MSD has spent approximately 7.9% of the $205M FY20 budget through September 30, 2019. The total expenditures for FY20 are currently projected to be $184.8M, which is within 10.0% of the baseline spending budget. However, additional changes are anticipated over the next few months. The budget was developed, and the monthly forecasts continue to be calculated using a new tool to better reflect how project actuals occur over time. A breakdown of the FY20 budget by CIP type is presented in Table 2 and Figure 1.

Table 2 – Analysis of Spending by Project Type

CIP Project Types	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spend	FY20 Projected Excess or (Shortfall)
Consent Decree (CD)	$114.7M	$13.2M	$92.2M	$22.5M
Wastewater (Non-CD)	$56.6M	$0.7M	$53.4M	$3.2M
Stormwater & Flood Protection	$12.4M	$1.0M	$19.6M	$(7.2M)
Support Systems	$21.3M	$1.3M	$19.6M	$1.7M
TOTAL	**$205M**	**$16.2M**	**$184.8M**	**$20.2M**

Notes:

- *"Current Forecasted Spend" evolves throughout the year as project schedules and estimates change.*
- *Appropriation Projects (103) are included in the Analysis of Spending by Project Type table and graph. For a summary of Appropriation projects by Program refer to Table 15.*
- *Grants are not included in this Table as they were not included in the $205M FY20 CIP budget. YTD Actual Spending totals $17.5M when grants are included.*

A comparison of the spending analysis during the current and prior fiscal years is presented in the following figure.

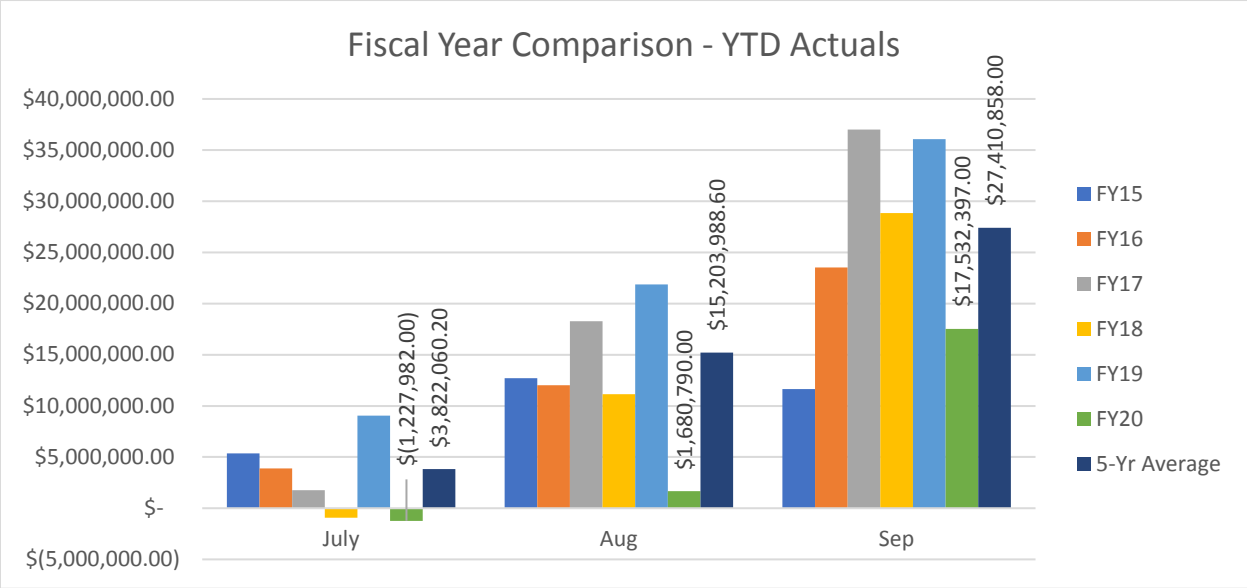


Figure 1 – Capital Expenditures per Month

The actual spending per month is reported by Finance. The current fiscal year, FY20 is showing an YTD actual expenditure that is less than the 5-Year Average. As shown in Table 3, the FY20 YTD CIP Expenditure through September is $17.5M (including grants) – as compared to the average of the previous five years of $27.4M. This information indicates FY20 is trending approximately $10M behind the average first quarter spend of the previous five years. This variance is due in part to the overestimating of accruals, projects whose status have been changed, and projects whose deadlines have been extended.

Table 3 – YTD Actual CIP Spending Trends

Year-to-Date Actual Spending Totals					
Fiscal Year	Budget	July	August	September	Average
FY15	$ 117,859,314	$ 5,346,882	$ 12,716,940	$ 11,632,363	$27,410,858
FY16	$ 187,476,359	$ 3,902,562	$ 12,006,650	$ 23,516,883	
FY17	$ 166,900,000	$ 1,751,638	$ 18,290,275	$ 36,999,653	
FY18	$ 195,000,000	$ (936,812)	$ 11,130,733	$ 28,841,502	
FY19	$ 190,000,000	$ 9,046,031	$ 21,875,343	$ 36,063,889	
FY20	**$ 205,000,000**	**$ (1,227,982)**	**$ 1,680,790**	**$ 17,532,397**	

As shown in Table 4, the YTD Spending is 7.9% of the approved budget (including grants). The 5-Year Average YTD spending is 15.48% of the approved FY budget. Therefore, FY20 is showing a 6.9% variance of spending as compared to the previous five years.

Table 4 – YTD Percent Expended Trends

Percent Expended Year-to-Date of Total Actual			
Fiscal Year	July	August	September
FY15	4.54%	10.79%	9.87%
FY16	2.08%	6.40%	12.54%
FY17	1.05%	10.96%	22.17%
FY18	-0.48%	5.71%	14.79%
FY19	4.76%	11.51%	18.98%
5-Yr Average	**2.39%**	**9.07%**	**15.67%**
FY20	**-0.60%**	**0.82%**	**8.55%**

CIP PRIORITIES FOR OPERATIONS

The intent of the CIP is to enhance, support, and streamline utility operations by 1) providing capital funding for new equipment, 2) replacing aging infrastructure, 3) reducing sewer overflows, and 4) improving the reliability of facilities. The FY20 CIP was developed in conjunction with MSD Engineering, Finance, and Operations staff. The top CIP priorities from an operational perspective include the following capital needs:

- District-Wide Biosolids Program
- Morris Forman Water Quality Treatment Center (WQTC) Sedimentation Basin Rehabilitation
- Broadway Interceptor Sewer Renewal
- Flood Pump Stations (FPS) Asset Management and Emergency Repairs

FINANCING SOURCE OPPORTUNITIES

MSD is committed to leveraging federal, state, and local partnerships wherever possible in order to maximize benefits to the community. Although the dollar value compared to MSD's capital plan is small, pursuing non-traditional funding sources like grants and low-interest loans have a positive impact on the CIP as a whole.

MSD is pursuing Water Infrastructure Finance and Innovation Act (WIFIA) and State Revolving Fund (SRF) low-interest loan financing. MSD is also working closely with the US Army Corps of Engineers (USACE) to determine how the results of the draft Flood Protection System Feasibility Study can apply to the projects noted in MSD's Critical Repair and Replacement Plan (CRRP). Careful CIP analysis and financial modeling is necessary for these submittals to determine project timing and ensure budget capacity for the life of the loans.

WIFIA Loan Program

MSD is preparing a WIFIA loan application for the long-term Morris Forman Biosolids Project estimated to cost $198M. WIFIA will fund approximately 49% of the total project cost. MSD will use a combination of revenue bonds and cash to fund its 51% portion of cost. A summary of these costs is shown in the following table. MSD will submit the loan application to USEPA no later than December 31, 2019. Staff are working with consultants to complete the following application requirements:

- Technical evaluation of the alternatives considered for a long-term biosolids management program
- Update of MSD's Financial Rate Model to include the 15-year CIP
- Draft RFP for advancing a progressive design-build project for this biosolids program
- Various detailed loan application attachments as required by USEPA

Table 5 – CIP Projects Eligible for WIFIA Funding

WIFIA Letter of Interest	Funding Timing	Total Cost	WIFIA Loan	Other Funding
Biosolids Facility	FY21 – FY25	$198,000,000	$97,020,000	$100,980,000

SRF Program

MSD is an active participant in the SRF loan program. The projects listed below are being considered as candidates for submittal for the FY21 SRF Program. Project selection is based upon established SRF criteria that emphasizes median household income (MHI) along project routes. MSD is evaluating the large-diameter sewer rehabilitation projects; wastewater pump station replacement projects; and wastewater pump station elimination projects listed in the following table. The SRF loan applications are due no later than December 15, 2019. MSD will be providing project profiles in mid-November for that State's consideration. The list of specific projects to be submitted for FY21 SRF Program funding may change between now and the submittal date. Draft information is provided herein for informational purposes.

Table 6 – CIP Projects Eligible for SRF Program Funding

Project Type	Budget ID | Project Description	Estimated Cost
SEWER REHABILITATION PROJECTS	H20147 | WESTERN OUTFALL SEWER REHABILITATION	$24,369,000
	A19208 | BROADWAY SEWER REHABILITATION	$9,000,000
	H18503 | I-64 AND GRINSTEAD SEWER REHABILITATION	$300,000
	TBD | RUDD AVENUE SEWER REHABILITATION	$2,436,000
PUMP STATION REPLACEMENT OR ELIMINATION PROJECTS	A20006 | LEA ANN WAY PUMP STATION ELIMINATION	$14,067,000
	TBD | ROSA TERRACE AND SANDERS LANE PUMP STATION ELIMINATIONS	$5,080,000
	TBD | WATHEN PUMP STATION REPLACEMENT	$4,810,000
	TBD | SONNE PUMP STATION ELIMINATION	$3,026,000
	H09192 | CINDERLLA LANE PUMP STATION ELMINATION	$1,638,000

Note: A portion of the total project estimated cost is anticipated to be eligible for SRF Funding. This information will continue to be updated until submittal.

USACE Flood Protection System Federal Appropriation

A federally-funded flood protection system feasibility study is underway by the USACE. The recommendations from the study may position MSD for future federal appropriations funding to reduce Ohio River flooding risks. The USACE is evaluating reliability improvements for all 16 MSD FPS including Paddy's Run FPS. MSD is waiting to receive the Draft USACE Preliminary Feasibility Study Report. During discussion with MSD staff, the USACE indicated the scope of this effort will fund reliability improvements and exclude capacity improvements. The CRRP identified the need for both reliability and capacity improvements at the FPSs. The timing for the reliability improvements will be dictated by the USACE and preliminary talks have suggested design would start in FY21 with construction occurring in FY22-FY23. The USACE would be managing this project(s) so MSD would have little input, if any, on the schedule. The cashflow is still under discussing at the executive level. Updated information will continue to be provided with the Monthly Executive Report.

Table 7 – CIP Projects Eligible for USACE Funding

Project	Estimated USACE Funding	Other Funding
Paddy's Run FPS Reliability Improvements	$13,000,000	$7,000,000
10th Street FPS Reliability Improvements	$2,500,000	$1,400,000
17th Street FPS Reliability Improvements	$1,500,000	$1,000,000
27th Street FPS Reliability Improvements	$5,500,000	$3,000,000
34th Street FPS Reliability Improvements	$3,000,000	$1,500,000
4th Street FPS Reliability Improvements	$5,500,000	$3,000,000
5th Street FPS Reliability Improvements	$2,000,000	$1,100,000
Beargrass Creek FPS Reliability Improvements	$19,000,000	$10,000,000
Bingham Way FPS Reliability Improvements	$5,500,000	$3,000,000
Lower Mill Creek FPS Reliability Improvements	$3,500,000	$2,000,000
Pond Creek FPS Reliability Improvements	$13,000,000	$7,000,000
Riverport FPS Reliability Improvements	$3,500,000	$2,000,000
Shawnee Park FPS Reliability Improvements	$12,000,000	$5,000,000
Starkey FPS Reliability Improvements	$1,500,000	$1,000,000
Upper Middle Creek FPS Reliability Improvements	$19,000,000	$10,000,000
Western Parkway FPS Reliability Improvements	7,000,000	$2,000,000
TOTAL	**$117,000,000**	**$60,000,000**

Note: The estimated costs shown in this table are speculative and will be updated when the Preliminary Feasibility Report is received.

FINANCIAL STATEMENT OVERVIEW

The financial information is provided in Section 3 of this Monthly Executive Report starting on page 52. Key highlights of information relevant to the current reporting period is provided herein.

Revenues

- Total Operating Revenue is $78.9 million compared to $73.2 million for the same period last year, an increase of $4.4 million, or 6.0%. Total Operating Revenue is $1.2 million, or 1.7%, higher than budget.

- Wastewater Service Charges total $59.6 million. This is $3.2 million, or 5.7%, higher than the same period last year. The year over year increase is being driven by a 6.9% rate increase enacted on August 1, 2019. Wastewater Service Charges are $1.0 million, or 1.8%, higher than budget.

- Stormwater Service Charges are $18.0 million for the year. This is an increase of $1.1 million, or 7.0%, from last year and is $0.2 million, or 1.1%, higher than budget. The year over year increase is being driven by a 6.9% rate increase enacted on August 1, 2019.

- Other Income totals $1.4 million. This is an increase of $0.3 million, or 29.8%, from last year and is $0.4 million, or 41.5%, higher than budget.

Operating Expenses

- Total Service & Administrative costs are $34.3 million. This is $0.04 million, or 1.4%, higher than last year. Service and Administrative costs are $3.5 million, or 9.4%, lower than budget.

- Depreciation and amortization expense totals $24.5 million. This is an increase of $4.7 million, or 23.6%, from a year ago and is $1.9 million, or 8.8%, higher than budget.

- Total Operating Expenses for fiscal year 2020 are $50.3 million which is 11.1%, or $5.0million, higher than the same period last year and 0.5%, or $0.3 million, lower than budget.

Net Income

- Net Operating Income (NOI) is $28.7 million compared to $28.9 million for the same period last year, a decrease of $0.3 million, or 1.0%. NOI is $1.9 million, or 7.2%, higher than the budget.

- Investment Income is $2.6 million compared to $3.3 million for the same period last year, a decrease of $0.7 million, or 22.5%, and is $0.1 million, or 5.6%, higher than the budget.

- Interest Expense is $1.6 million, or 7.9%, higher than last year and $0.4 million, or 1.9%, lower than budget.

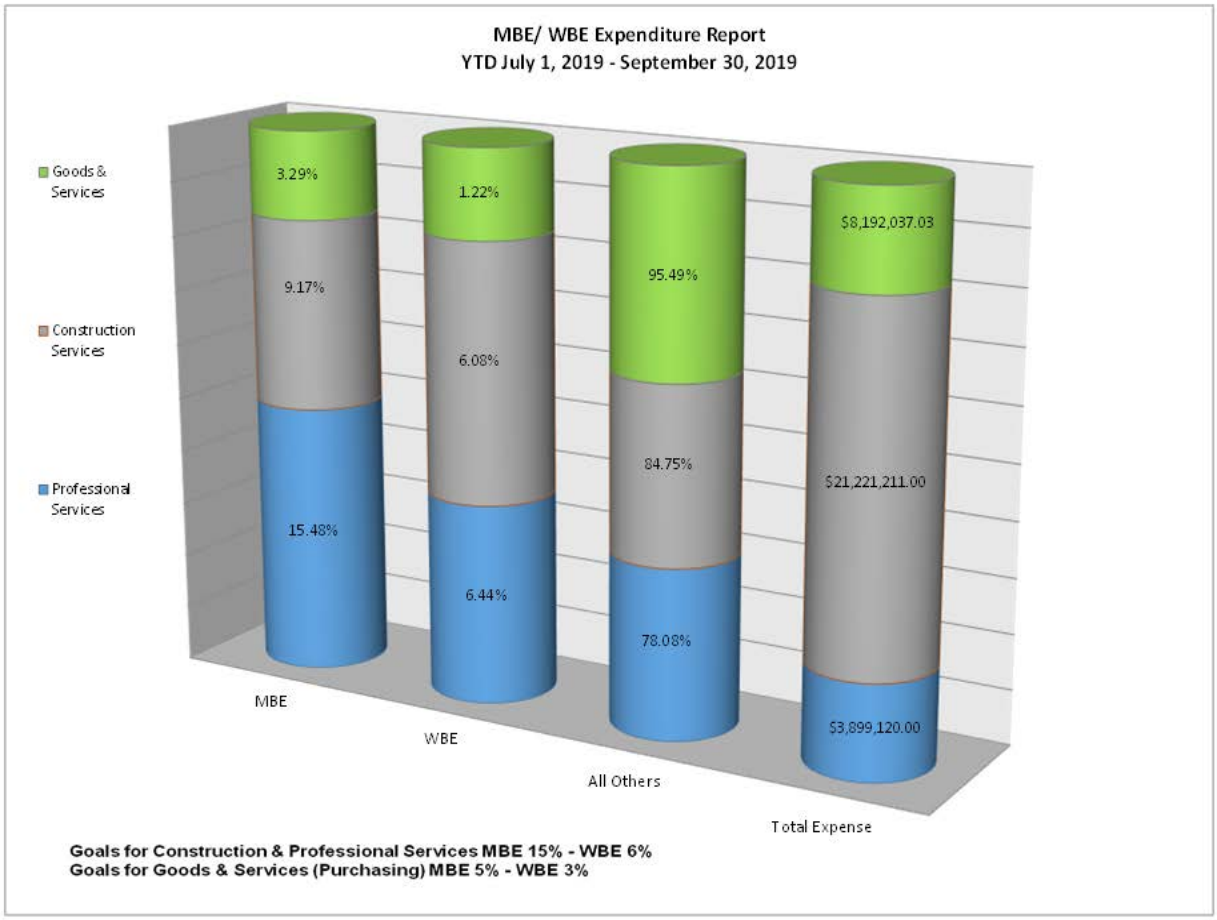
- Change in Net Position before Swaps totaled $10.0 million compared to $12.6 million for the same period last year, a decrease of $2.6 million, or 20.8%, and is $1.6 million, or 20.1%, higher than budget.

- Change in Net Position including the mark to market change on swaps totaled $3.5 million. This is $13.0 million, or 78.3%, lower than the same period last year and $4.7 million, or 56.9%, lower than budget.

MBE/WBE EXPENDITURE REPORT

MSD is committed to promoting and maximizing utilization of minority and women-owned businesses. The Finance Department tracks monthly utilization as reflected in the following figure.

Figure 2 – MBE/WBE Expenditure Chart



SECTION 2: CIP MONTHLY ACTIVITY REPORT

The CIP Monthly Enterprise Report is prepared to provide MSD's Executive Director and MSD Board with a high-level understanding of progress made with implementing the FY20 CIP, including Consent Decree, regulatory compliance commitments, CRRP implementation, and high priority asset management needs. The following information is presented in this report:

- Overall performance related to FY20 CIP
- Comparison of FY spending to the approved FY20 budget
- Discussion of change management activities occurring during the reporting period
- Forecast of upcoming procurement activities
- Summary of progress made for each of MSD's 25 capital program areas

Overall, the slate of capital projects is moving forward as expected. Annual appropriation projects are underway and the on-going construction projects are moving forward without major incident. Significant program changes that have occurred since the FY20 capital budget approval in May have pushed $18.7M into future fiscal years. The impact on FY21 will be significant. The CIP Management Team will be focused on impacts throughout the year and will adjust as required.

FY20 capital expenditures for the Wastewater, Stormwater, and Support Services Programs totaled $16.2M (excluding grants and $17.5M including grants) with $15.3M spent during September 2019. It is important to note that "Actual Spending" presented in the tables throughout this document are offset by the accruals posted during July and August. This is an accounting practice that assigns the payment of the invoice for work performed in the prior fiscal year to the appropriate fiscal year. The accrual process impacts the June and July actuals every year. Invoices received and processed for the month of July totaled $8.6M, however, the data presented in this report indicate a "negative" spend in July due to the reversal of $9.8M in accruals. Additionally, the accruals were over estimated by approximately $3M. At the end of the current fiscal year, the Project Managers will work closely with managers and Finance to try to more accurately forecast the accruals.

MSD has spent approximately 7.9% of the $205M FY20 budget through September 30, 2019. The total expenditures for FY20 are currently projected to be $184.8M, which is within 10.0% of the baseline spending budget. However, additional changes are anticipated over the next few months. The budget was developed, and the monthly forecasts continue to be calculated using a new tool to better reflect how project actuals occur over time.

FY20 CAPITAL BUDGET BASIS

The FY20 CIP budget of $205M was approved by the Board in April 2019. The approved budget was based upon total expenditures forecasted at that time for the projects scheduled to be active during the Fiscal Year July 1, 2019 through June 30, 2020. Therefore, the amounts included in the FY budget for discrete capital projects may not represent each project's total estimated cost. Rather it represents a level of anticipated spending for the project during the FY.

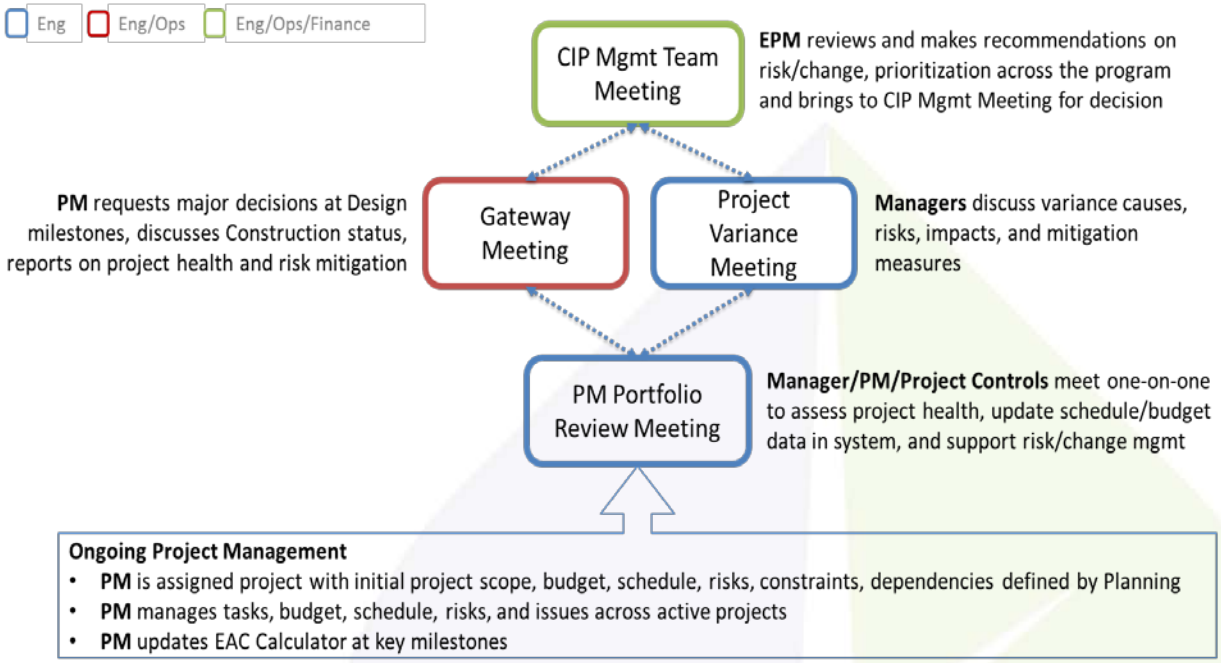
It is important to recognize several projects span across multiple fiscal years and construction spending is dependent upon the Contractor's actual progress with the work contracted. Complex construction projects, such as tunnels, are difficult to predict exactly how spending will occur each month. Variations in starting project activities, equipment deliveries, weather delays, subsurface conditions, etc. can affect the speed of monthly and annual spending. MSD works collaboratively with Contractors for large capital projects to develop a monthly spend forecast for the remainder of the project. These spend forecasts are updated by the Contractor on monthly basis which further complicates the task of simultaneously forecasting expenditures for hundreds of active CIP projects.

MSD staff are charged with balancing the spend forecast for all active projects and developing recovery strategies, as needed.

MSD'S CIP TRACKING PROCESS

MSD staff continue to track program execution and closely monitor project delivery, risk management, and performance against the Board-approved CIP Budget. MSD has a team of individuals working together to track, monitor, report, and adjust the CIP projects spending forecast for the remaining months of the FY. The roles and responsibilities of each working group are summarized in Figure 3.

Figure 3 – Roles and Responsibilities for Program Management



Program Management Information System (PMIS)

An interim PMIS solution is providing much needed data stability. The new forecast tool is working to integrate regularly updated and validated schedules and estimates to forecast CIP spending. Engineering and Finance continue to collaborate on anticipated technology enhancements and process improvements. A core group is currently assessing PMIS modules that are a part of the SAP software suite. As MSD's financial system, it makes sense to explore additional SAP functionality that would support traditional PMIS capabilities, as well as seamlessly integrate with financial data. This has been a past challenge with other systems. This assessment will continue over the coming months.

The Project Controls Team and an MSD IT representative are currently testing the functionality of the SAP-PPM module. Some of the capabilities of the system are:

<u>Strategic Financial & Capacity Planning</u>

- Project creation, project planning, budgeting

Review of Critical Success Factors

- Project implementation, posting actual costs, integration of schedule

Check on Financial and Capacity Data

- Integration of financial data

This module would allow MSD to create projects in a proposal phase prior to be included in the final budget and to create multiple budget scenarios.

Monthly CIP Management Team Meeting

To facilitate collaboration with implementing and reporting on the CIP, MSD created a CIP Management Team comprised of representatives from Executive Offices, Engineering, Finance, and Operations. The following MSD staff members participated in the September 17, 2019 meeting: Tony Parrott (voting member), Angela Akridge (voting member), Brian Bingham (voting member), Brad Good (technical support), John Loechle (technical support), David Johnson (technical support), Stephanie Laughlin (technical support), Dan French (technical support), Wolffie Miller (technical support), and Leisha Pica (consultant).

The following information was discussed at the meeting.

- Project Management Information System: The PMIS system is currently in a discovery phase with the local SAP vendor. MSD is testing data sets to determine if the system is sufficient for tracking key project information. In the meantime, staff will continue to manually coordinate the Monthly Executive Report summarizing the progress made during FY20 with implementing the CIP.

- Business Case Evaluations: The Planning Group is working on three pilot test cases of a standardized business case evaluation (BCE) format. The template will be shared with at an upcoming Gateway Meeting. It is intended projects slated for design in FY21 will have completed BCEs to inform the scope, schedule, and budget. This process remains under development and will continue to mature.

- State Revolving Fund Project Requests: The list of potential projects for MSD to submit for FY21 SRF funds was discussed. Several sewer rehabilitation projects are needed but only portions of many projects are expected to qualify for SRF funding due to local median household income (MHI) criteria applicability.

- Asset Management Update: MSD continues to work across Departments to develop a long-term framework for developing and implementing a robust asset management program. The work elements needed at a programmatic level are being coordinated with the FY20 Stategic Business Plan. In addition to these efforts, MSD is working with the Optimizer software to assess preliminary results of a sewershed prioritization pilot for the Cedar Creek Sewershed.

- US Army Corps Engineers Feasbility Study Update: Due to the uncertainty associated with the timing and the level of funding anticiapted to be received from the USACE, MSD elected to not submit a WIFIA Loan Application for the Paddy's Run Flood Pump Station in FY20. The reliability improvements have the potential to be fully funded by the USACE, depending up on available funds remaining from the Civil Works Congressional Appropriation. Much of the funding under this Congressional Appropriation is currently going to Puerto Rico. However, MSD is optimistic some funding will be provided for the Paddy's Run FPS. It was noted the USACE refused to consider climate change case studies published in conjunction with the Preliminary Feasibility Study. The means the capacity improvements for Paddy's Run will not be eligible for USACE funding. A future WIFIA Loan Application may be considered by MSD.

- Consent Decree Negotiations: MSD remains actively negotiating updates to the Consent Decree projects. Financial and technical evaluations are currently underway.

Coordination with Strategic Business Plan

MSD has developed an Integrated Strategic Business Plan based upon five Critical Success Factors (CFS). CFS #4 is to "Ensure Financial Stewardship and Sustainability of Community Resources". One objective under CFS#4 is to "ensure capital project delivery is effective and efficient". MSD has committed to performing the following actions over the next five years to fully satisfy this objective.

- Institute a process for standardizing reporting of capital schedule, spend, and change management
- Establish Quality Assurance/Quality Control functions
- Further clarify roles and responsibilities
- Develop a comprehensive and sustainable design and construction change management program.

Progress made toward these activities will be included in future monthly reports.

FY20 CIP OVERALL PERFORMANCE

The FY20 CIP approved $205M of total spending to address critical asset management needs, regulatory compliance requirements, and to maintain MSD's bond ratings (Moody's Aa3 and Standard & Poor's AA). Through September 30, 2019, MSD has spent approximately 7.9% of the approved FY 2020 budget (excluding grants). The remaining work necessary to be completed during FY 2020 is forecasting a spend of $168.6M resulting with a total FY20 forecast of $184.8 M, approximately 10.0% below the approved budget.

Table 8 - Capital Budget Performance Summary

Financial Category	Value	Comments
Approved FY20 Budget	$205M	Approved by MSD board April 2019
FY 2020 Expenditures to Date	$16.2M	Invoices Paid = 7.9% of approved budget
Remaining FY 2020 Projected Spending	$168.6M	Forecasted remaining spend in FY 2020
Current Forecast for Total FY 2020 Spend	$184.8M	Actuals plus forecasted remaining spend total
Difference from Approved Budget	$20.2M	10.0% of approved FY 2020 budget

Note: The forecast will continue to evolve throughout the FY based on changes to the program including project schedules and estimates.

CAPITAL PROGRAM FINANCIALS

The performance of the capital program is summarized in this section. The following topics are noted.

- Overview of monthly project activities
- Comparison of FY spending to the approved FY20 budget
- Discussion of change management activities
- Forecast of upcoming procurement activities for CIP projects

MONTHLY PROJECT ACTIVITIES

MSD's working definitions for each project's schedule activity are as follows:

- Initiation/ Procurement Activity: The time when a project in the approved CIP is waiting for planning to be completed; a design Project Manager (PM) assignment; or a consulting Professional Services Agreement Notice-to-Proceed (NTP).
- Design Activity: The time from when a project is transitioned from planning to preliminary design through final design, through bidding, until the NTP is issued for construction.
- Construction Activity: The time from when a project is issued a NTP through achievement of Substantial Completion of the contracted scope of work.
- Closeout/Warranty Phase Project: The time when contracted work has been Substantially Completed and the Project Manager is waiting to receive the final pay application and/or finalize the warranty walkthrough inspection.
- Completed Project: The time when the final pay application has been processed but a close-out letter remains pending.

A summary of status of projects active during the reporting period is provided in Table 9.

Table 9 – Summary of Active Non-Appropriation Projects During Reporting Month

Current Project Activity	Number of Projects	Lifetime Actuals
Initiation & Procurement	21	$448,685
Design	31	$1,006,336
Construction	19	$169,902,143
Closeout/Warranty	18	$103,624,464
Completed	1	$57,517
Total	**90**	**$275,039,175**

Note: Appropriation Projects (103) are not included in Table 9: Summary of Active Projects During Report Period table. For a complete list of Appropriation projects and associated financial information, refer to Table 15.

Initiation and Procurement Activities

The projects listed in Table 10 were in the Initiation/Procurement phase during the reporting period. The Initiation & Procurement projects showing $0 lifetime actuals represent the following types of projects:

- Projects that MSD has scheduled for planning to be performed during the FY.
- A project in which a task order for a professional services consultant has yet to be processed.
- A project that is completed at zero cost as part of a consultant settlement agreement.
- An asset appropriation project that is pending procurement of materials or equipment.

Table 10 – CIP Projects in Initiation/Procurement during Reporting Month

Budget ID	Project name	MSD Program Type	Lifetime Actuals
H20215	Camp Taylor 2A SSR - Union St Sewers	CMOM	$ 3,176
D20227	FFWQTC Filter Evaluation	CMOM	$ -
A19208	Broadway Interceptor Infrastructure Rehabilitation	CMOM	$ -
D19286	SWPS Gas Monitoring	CMOM	$ -
D17032	CCWQTC Tertiary Filtration	CMOM	$ -
D20224	Bells Lane PAA System	CMOM	$ -
H13099	Spalding University Green Infrastructure	Consent Decree (IOAP)	$ 412,413
H09164	Idlewood Inline Storage	Consent Decree (IOAP)	$ -
H18503	I-64 and Grinstead Basin Interceptor Rehab	Consent Decree (IOAP)	$ -
D18489	Fairmont Road Pump Station Force Main Extension	Development	$ -
G20028	WQTC Elevator Repairs	Facilities	$ -
G20135	Hold for Permanent Solution Improvements	Facilities	$ -
G20134	Hold for Permanent Solution	Facilities	$ -
A20244	Large Diameter Sewer Rehabilitation	NMC	$ -
D20226	Bells Lane and MF HW Bar Screen Grit Study	NMC	$ -
D17042	MFWQTC Sedimentation Basin RR	NMC	$ -
D19043	MFWQTC OGA and PTO Demolition	NMC	$ -
G17033	Louisville Green Major Maintenance	NMC	$ -
D19223	DRGWQTC Finite Element Analysis Phase 2	NMC	$ 33,096
F18515	Paddys Run FPS Capacity Upgrade	Ohio River Flood Protection	$ -
F20240	Shawnee Park FPS Motor No 3 Emergency Repairs	Ohio River Flood Protection	$ -

Note: Planning for some projects initiated in FY20 will be performed by MSD staff.

Design Projects

The projects listed in Table 11 were in the design phase during the reporting period.

Table 11 – CIP Projects in Design during Reporting Month

Budget ID	Project Name	MSD Program Type	Lifetime Actuals
D20225	Bells Lane EQ Basin Water Pressure Improvements	CMOM	$ -
D20222	Bells Lane Grit Classifier Drain Line	CMOM	$ -
H20153	SWPS Flood Repair	CMOM	$ -
H19232	Parkwood PS Access Road	CMOM	$ -
H16074	Nightingale Rehab	CMOM	$ 3,402
D19039	**CCWQTC Effluent Parshall Flume Upgrade**	**CMOM**	**$ -**

Budget ID	Project Name	MSD Program Type	Lifetime Actuals
D16272	CCWQTC Influent PS MCC Upgrades	CMOM	$ 139,517
D20167	MFWQTC East Headworks HVAC	CMOM	$ -
D20017	**CCWQTC Sodium Aluminate Building**	**CMOM**	**$ -**
H19142	Upper Floyds Fork Interceptor	Development	$ -
H20164	346 S Peterson Ave Stream Restoration	Drainage	$ -
G20018	SWPS Site Security	Facilities	$ -
G09535	CMF Parking Surface	Facilities	$ 156,427
D20016	DRG Admin Bldg HVAC	Facilities	$ 22,160
D15024	MFWQTC Chiller Replacement	Facilities	$ 35,990
D18128	**DRGWQTC Paving**	**Facilities**	**$ -**
N16071	Main Office Data Center Reconfiguration	IT	$ -
D20216	FY20 Strand CCWQTC Engineering Support	NMC	$ 1,289
D20218	FY20 Jacobs MFWQTC Engineering Support	NMC	$ -
D20219	FY20 HDR MFWQTC Engineering Support	NMC	$ -
D20217	FY20 Hazen DRGWQTC Engineering Support	NMC	$ -
D18118	MFWQTC Truck Unloading Station Pavement Repair	NMC	$ -
D19045	MFWQTC Sodium Hypochlorite Line Replacement	NMC	$ 25,671
D19046	MFWQTC Ground Water Well 10 Replacement	NMC	$ 75
D20229	MFWQTC Clarifier B5 Floor Repair	NMC	$ -
D17131	MFWQTC Biosolids Processing Engineering Services	NMC	$ 508,226
D19307	MFWQTC FEPS VFD Replacement	NMC	$ 7,973
F19277	Beargrass Creek FPS Wetwell Relief Gate	Ohio River Flood Protection	$ 41,039
F20013	Beargrass FPS Pump 8	Ohio River Flood Protection	$ -
F19276	FPS Auto Grease Systems Upgrades	Ohio River Flood Protection	$ 43,081
F19245	Flood Gate 1 Replacement	Ohio River Flood Protection	$ 21,516

Note: The design for some projects spans multiple fiscal years. Projects show in bold font transitioned into the Design Phase during the reporting month.

Construction Projects

The projects listed in Table 12 were in the construction phase during the reporting period. The Construction Projects showing $0 lifetime actuals represent subprojects created from larger projects or are equipment replacement projects which did not require design.

Table 12 – CIP Projects in Construction during Reporting Month

Budget ID	Project Name	MSD Program Type	Lifetime Actuals
E15033	Shively Pump Station Generator Replacement	CMOM	$ 1,579,345
D19227	MFWQTC Primary Sludge Line Replacement	CMOM	$ 158,444

Budget ID	Project Name	MSD Program Type	Lifetime Actuals
H14126	HCWQTC Expansion	CMOM	$ 1,801,362
D18292	DRGWQTC Clarifier Grout Repair and RAS Gate	CMOM	$ 145,389
H09127	Rowan Pump Station & Downtown CSO Interceptor	Consent Decree (IOAP)	$ 17,332,862
H09125	Portland CSO Basin	Consent Decree (IOAP)	$ 38,223,638
H09133	Ohio River Tunnel	Consent Decree (IOAP)	$ 87,825,794
H09141	Lexington and Payne CSO Interceptor	Consent Decree (IOAP)	$ 16,254,405
H19247	I-64 and Grinstead CSO Interceptor	Consent Decree (IOAP)	$ 2,655,390
H18176	Downtown CSO Interceptor RPR & CA Services	Consent Decree (IOAP)	$ 585,385
A16073	Mud Lane Interceptor	Development	$ 364,534
G17027	CMF Roof	Facilities	$ 2,350,912
D20228	MFWQTC Centrifuge Replacement	NMC	$ -
D15020	MFWQTC Cake Pump Phase 2	NMC	$ 132,585
D19275	MDS Downstream Flow Meter	NMC	$ -
D18127	DRGWQTC Hypo Containment	NMC	$ -
F14182	MFWQTC FEPS Pump Repair and Motor	NMC	$ 118,842
F18302	Paddy's Run FPS Pumps 1, 2 and 6 Rehab	Ohio River Flood Protection	$ 406,352
F19267	Pond Creek Emergency Pump Repairs	Ohio River Flood Protection	$ (33,096)

Note: Construction for some projects spans multiple fiscal years.

Closeout/Warranty Phase Projects

The projects listed in Table 13 were in the closeout phase during the reporting period. Closeout Projects are defined as projects that have satisfied the scope of work, met final completion, and are currently in the warranty period. These projects may not have budget in the current fiscal year if no expenses are anticipated.

Table 13 – CIP Projects in Warranty Phase during Reporting Month

Budget ID	Project Name	MSD Program Type	Lifetime Actuals
A18324	Oreland Mill Pump Station Elimination	CMOM	$ 294,952
A18353	Ohio River Interceptor Structural Rehabilitation	CMOM	$ 18,442,150
D19268	CCWQTC Safety Items	CMOM	$ 16,451
F14156	DRGWQTC RAS 1 and 4 Pump Replacement	CMOM	$ 1,502,673
F13016	MF High Yard Modification	Consent Decree (IOAP)	$ 6,314,731
F13023	Morris Forman WQTC Headworks	Consent Decree (IOAP)	$ 13,096,918
H09124	Bells Lane Wet Weather Treatment Facility	Consent Decree (IOAP)	$ 51,935,231

Budget ID	Project Name	MSD Program Type	Lifetime Actuals
H12155	Central Relief Drain CSO In-Line Storage, Green Infrastructure and Distributed Storage	Consent Decree (IOAP)	$ 921,450
H13142	Camp Taylor SSR 2B and 4	Consent Decree (IOAP)	$ 13,765,506
F09510	MF OGA Plants 1 and 2 Replacement	NMC	$ 6,327,600
F16003	Ashland RTC Facility Upgrades	NMC	$ 448,290
F17079	Southwestern Sluice Gate Replacement	NMC	$ 982,252
H18332	Botanical Garden Biofilter Upgrades	NMC	$ 61,509
F12095	4th St FPS Automation	Ohio River Flood Protection	$ 3,919,045
F15007	Paddys Run Instrumentation	Ohio River Flood Protection	$ 76,163
F16021	Gates 136 and 145 Floodwall Actuator Replacement	Ohio River Flood Protection	$ 544,970
F19218	Flood Gate 110 and 111 Elimination	Ohio River Flood Protection	$ 54,641
F19269	Upper Mill Creek Emergency Pump Repairs	Ohio River Flood Protection	$ 1,092,856

Completed Capital Projects

The projects listed in Table 14 were completed during the reporting period. Completed projects are defined as projects that have satisfied the scope of work, met completion, and the warranty period has elapsed. Many of the completed projects listed herein were from the prior FY and not included in the FY20 CIP.

Table 14 – Completed CIP Projects during Reporting Month

Budget ID	MSD Project Name	MSD Program Type	Lifetime Actuals
F18296	5th Street FPS Roof Replacement	Facilities	$ 57,517

Appropriation Projects

The FY20 CIP includes projects described as appropriation projects. These projects differ from traditional design-bid-construction projects in that they represent funds assigned to asset owners to address as-needed repairs and equipment replacements. A summary of the current status of the asset appropriation projects by Program is presented in Table 15 and includes current year projects as well as projects from prior years.

Table 15 – CIP Asset Appropriation Projects during Reporting Month

APPROPRIATION PROJECTS			
Program Type	Budget - FY20	Lifetime Actuals	Current Year Actuals
Capital Equipment	$3,911,025	$1,780,212	$767,496
CMOM	$22,218,775	$6,182,380	$115,416
Consent Decree (IOAP)	$7,278,337	$2,091,601	$162,330
Development	$285,000	$45,688	$6,008
Drainage	$850,000	$25,950	$25,950
Facilities	$66,595	$27,550	$10,145
Floodplain Management	$290,000	$0	$0
IT	$3,146,817	$506,733	$373,350
LOJIC	$469,194	$336,177	$155,594
NMC	$1,775,000	$45,358	$45,358
Ohio River Flood Protection	$1,982,761	$620,907	$31,461
Stormwater Quality (MS4)	$2,971,183	$1,146,763	$150,719
Grand Total	**$45,244,687**	**$12,809,319**	**$1,843,827**

Emergency Contracts to Repair Infrastructure Damage

When emergencies become larger than internal resources can handle and/or present immediate public safety dangers, emergency contracts are executed. MSD has issued several emergency contracts under Chief Engineer and Executive Director authority. Many of these emergencies are due to ongoing heavy rain events and saturated soils undermining of pipe infrastructure and drainage runoff has washing away and/or eroding drainage systems.

Details of the emergency contract work for FY20 through the current reporting period are included in the Table 16. The emergency projects listed below were charged to the FY20 Renewal and Replacement Budget ID (G20001).

Table 16 – Year-to-Date Emergency Contract Work

Repair Location	Date Began	Status	Amount	Procurement Type
Riverfront PS Force Main Repair	7/1/2019	Complete	$50,000.00	Single Bid (T&M)
Mockingbird Valley Trail Culvert Replacement	7/1/2019	Complete	$140,344.59	Single Bid (T&M)
15th and Wilson Sewer Repair	8/14/2019	Complete	$213,296.88	Bidding (LS)
Shawnee FPS Motor #3	8/22/2019	Active	$100,000.00	Single Bid (T&M)
Beargrass FPS Bay Gate #4	9/13/2019	Active	$85,000.00	Bidding (LS)
11508 Shelbyville Road Sewer Repair	9/25/2019	Active	$12,000.00	Single Bid (T&M)
TOTAL EMERGENCY UTILIZATION TO-DATE			**$600,641.47**	
PROJECT BUDGET (G20001) FY20 RENEWAL & REPLACEMENT			**$2,000,000.00**	
REMAINING FY20 PROJECT BUDGET			**$1,399,358.53**	

Note: T&M = time and materials contract; LS = lump sum contract.

FEMA Grant Program

Approximately 15% of Jefferson County is located in a regulated floodplain and approximately 15,000 homes and businesses are in a flood prone area. Throughout the County there are 8,000 homes that are located in the FEMA Special Flood Hazard Area. Of these structures, more than 350 are considered repetitive loss properties and 60 are severe repetitive loss properties. MSD has been working with the FEMA for decades to purchase low-lying properties. An overview of the FEMA Grant Program for the reporting month is provided in Table 17. Planning projects for this program are listed in Table 18.

Table 17 – Status of Active FEMA Grants Program

Active Project Name	EAC	Number Parcels Purchased	Total Reimbursements Received	FY20 Reimbursements Projected
H16333 | ALGONQUIN MEADOWS FLOOD MITIG.	$1,979,816	11	$356,271.95	$250,000
H16335 | BELQUIN FLOOD MITIGATION	$3,180,882	29	$1,010,313.72	$550,000
H16336 | LINWOOD FLOOD MITIGATION	$3,354,503	31	$840,076.13	$1,100,000
H16338 | WEWOKA WEST PARK FLOOD MITIGATION	$3,581,526	18	$675,367.65	$500,000
H17164 | 2015 RIVERSIDE SRL FLOOD MITIGATION	$1,693,714	6	$398,519.66	$900,000
H17165 | MEDFORD RL FLOOD MITIGATION	$608,612	3	$227,499.35	$175,000
H17166 | W INDIAN TRAIL RL FLOOD MITIGATION	$548,434	2	$157,411.11	$25,000
H17167 | TRANSYLVANIA BEACH N RL FLOOD MITIG.	$1,208,928	3	$749,304.99	$83,000
H18317 | 2016 RIVERSIDE DR FLOOD MITIGATION	$981,748	4	$276,234.05	$450,000
H18318 | WEST INDIAN TRAIL 2 SRL FLOOD MITIG.	$148,305	1	$0	$87,000
H18319 | HAYFIELD DUNDEE #1 FLOOD MITIGATION	$1,200,000	4	$0	$169,000
H18320 | HAYFIELD DUNDEE #2 FLOOD MITIGATION	$1,155,629	4	$820,184.44	$77,000
H18321 | TRANSYLVANIA BCH SOUTH FLOOD MITIG.	$566,361	1	$216,654.02	$80,000
H18331 | LINWOOD RE-SCOPE/ORVILLE-ELBA	$637,597	4	$257,444.19	$200,000
H18356 | WHISPERING HILLS	$536,956	1	$0	$150,000
H18358 | CATHLEEN WAY/BELQUIN RESCOPE	$2,912,529	11	$0	$1,200,000
H19064 | GRANT DELAWARE DR ACQUISITION	$639,680	Awaiting final approval		

Active Project Name	EAC	Number Parcels Purchased	Total Reimbursements Received	FY20 Reimbursements Projected
H19067 | GRANT ELBA RL ACQUISITION	$819,622			
H19068 | GRANT ELBA SRL ACQUISITION	$778,078			
H19069 | GRANT EASUM RD ACQUISITION	$646,755			
H19071 | GRANT RIVERSIDE ACQUISITION	$486,775			
H20155 | GRANT SUTHERLAND DRIVE HMGP	$292,953			
H20156 | GRANT SANDSTONE HMGP	$618,669			
Total	**$28,578,072**	**133**	**$9,319,194**	**$5,996,000**

Note: Total Reimbursements Received include expenses from previous and current FYs.

In addition to the active FEMA Grant projects, MSD is planning the grants listed in the following table.

Table 18 – FEMA Grants Program Projects in Planning

Planning Project	EAC	Status
H20154 | GRANT MIDDLE FORK BEARGRASS CREEK 319	$133,000	Project started September 2019
H20157 | GRANT ABBOTTS BEACH & ORVILLE DRIVE	$181,462	Waiting on FEMA approval
H20158 | GRANT 2018 ORVILLE DRIVE	$702,159	Waiting on FEMA approval
H20159 | GRANT 2018 TRANSYLVANIA BEACH	$1,298,939	Waiting on FEMA approval
H20160 | GRANT 2018 WALDOAH BEACH FMA	$2,178,833	Waiting on FEMA approval
H20161 | GRANT 2018 WALDOAH BEACH HMGP	$1,123,579	Waiting on FEMA approval
H20162 | GRANT 2019 ELBA DRIVE HMGP	$519,088	Waiting on FEMA approval
H20163 | GRANT 2018 MEDFORD	$402,395	Waiting on FEMA approval
Total	**$6,539,455**	

CASHFLOW PERFORMANCE

A breakdown of the monthly spend forecast/prediction as compared to actual spending for September is presented in Table 19 and Figure 4. The monthly spend shown in the table does not represent the dollar value of invoices received.

Table 19 – FY20 Evolving Spend Forecast and Actuals

FY20	Monthly Spend Baseline	Actual Monthly Spend
July 2019	$19.7M	$(1.2M)
August 2019	$18.6M	$2.1M
September 2019	$18.2M	$15.3M
October 2019	$17.2M	
November 2019	$18.9M	
December 2019	$16.9M	
January 2020	$16.8M	
February 2020	$16.4M	
March 2020	$15.6M	
April 2020	$15.4M	
May 2020	$15.2M	
June 2020	$16.1M	
FY Total	**$205M**	**$16.2M**

Note: The cashflow forecast and actuals exclude grant projects.

In the cash forecast graph presents the monthly actual spending along with the current forecasted projected spending for the FY. The baseline compares the forecast to the projection used to develop the FY20 CIP.

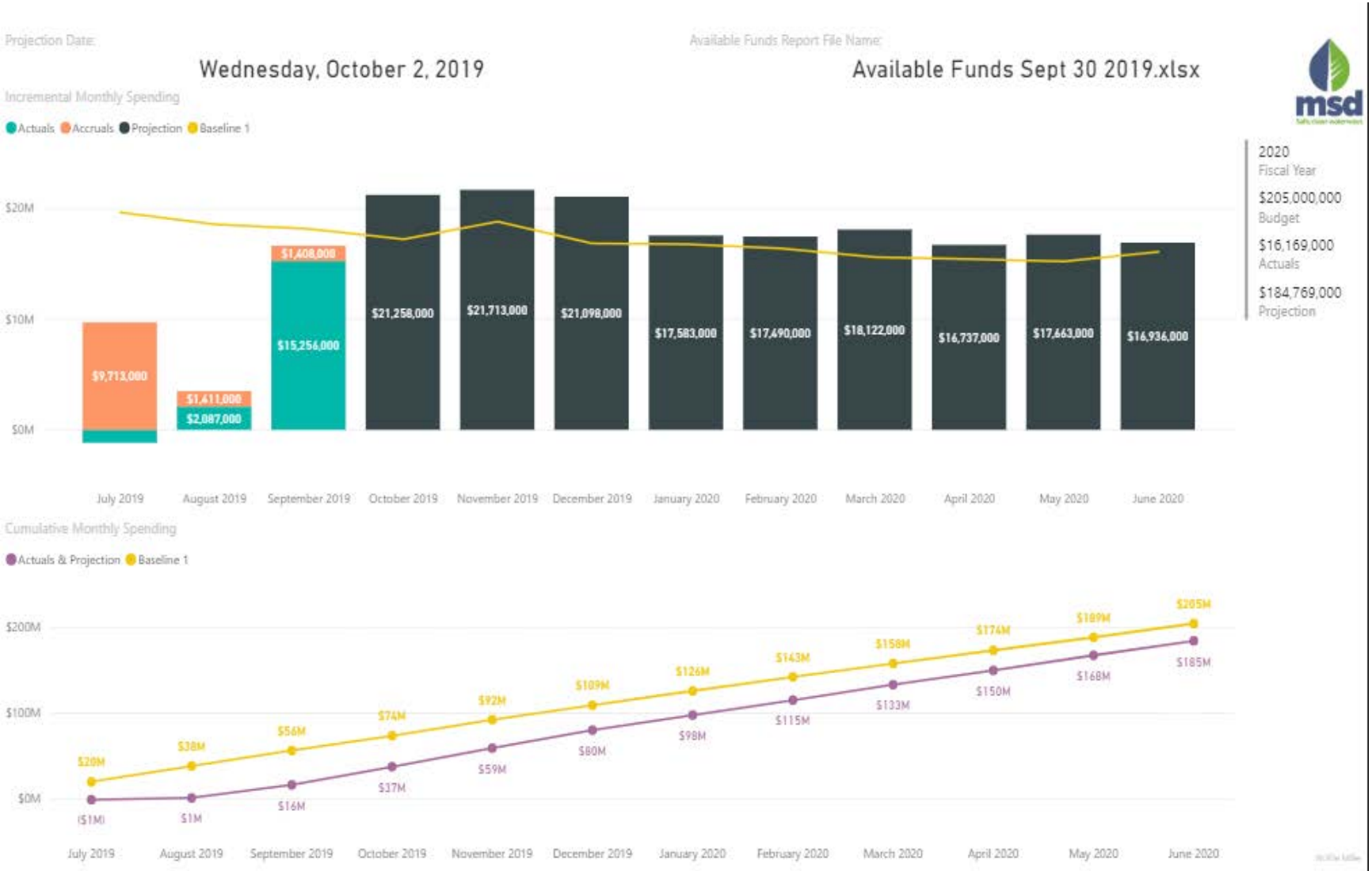
- The actual spending for FY20 is significantly less than the amount forecasted in the baseline due primarily to the accounting practice of accruals. Accruals assign expenditures to the proper fiscal year which affects July each year (and to a lesser extent August) where most invoices are for work in the prior month/fiscal year.

- MSD staff are currently reviewing the workflow for processing invoices to determine if there is an unusually long lag between the receipt of invoices and payment.

- The forecasted spending as of September 30th was $56.5M as compared to the YTD Spending is $16.2M excluding grants and $17.5M including grants.

- The total FY20 spending projection is $184.M, or 90% of the approved budget.

Figure 4 – FY20 Cashflow Forecast



Projects Removed from Cashflow

The FY20 CIP represents a list of projects forecasted to have spending during the fiscal year. However, from time to time, some projects must be removed from the cashflow forecast for a variety of reasons. Projects tend to be removed from the cashflow for the following reasons:

- Cancelled: The project has been determined to no longer be a priority for the CIP or has been integrated into a different CIP project.
- Interrupted: The project requires additional coordination or evaluation in order to proceed with spending during the FY20 CIP. The interruption time is anticipated to be short and spending is expected to reoccur during the FY.
- On-Hold: The project requires more consideration and spending may or may not reoccur during the FY.
- Deferred: The project has been reprioritized to a different FY.

When projects are removed from the cashflow forecast, they cause a negative impact – meaning spending will not occur as forecasted. A summary of the projects removed from the cashflow forecast during the year and the corresponding impact to the cashflow forecast is provided in Table 20.

The most significant impact to the cashflow was the cancellation of the I-64 and Grinstead Basin projection. Although the project did not have any budget assigned for FY20, the forecast (as of August 30th) was considering a $17M spend because the project is under litigation. The current spend for this project is about $1M and that amount has been accrued for FY19. Therefore, the FY20 had an impact of $17M. The total YTD negative impact to the cashflow for projects whose status have changed is $12.1M.

Table 20 – YTD CIP Projects with Negative Impact to Cash Flow

CIP Project Types	Number of FY20 Projects	Approved Budget	FY20 Actual Spending	FY20 Projected Excess or (Shortfall)
Cancelled Projects	1	$0	$0	($17M)
Interrupted Projects	1	$1.6M	$0	$1.6M
On Hold Projects	2	$0.4M	$0	$0.4M
Deferred Projects	10	$2.9M	$0	$2.9 M
Total	**14**	**$4.9M**	**$0**	**($12.1M)**

The specific projects referenced as the "Number of FY20 Projects" in the above table are provided in Table 21 along with the reason for the change to the project status.

Table 21 –Project Explanations

CIP Project Status Types	Budget ID	Project Name	Reason for Change
Cancelled Projects	H09121	I-64 and Grinstead Basin	The scope of this project was included in the ORT Project.

CIP Project Status Types	Budget ID	Project Name	Reason for Change
Interrupted Projects	D18285	Ohio River Odor & Corrosion Control	MSD staff are investigating the odor control systems used by other utilities. An economic analysis is scheduled to be completed in October 2019. MSD anticipates bidding a portion of this project during FY20.
On-Hold Projects	D16275	CCWQTC WAS Cycle Automation	MSD commissioned Stand Associates to complete a Near Term Needs Assessment for the CCWQTC. Recommendations were made for prioritizing projects. In a follow up meeting with staff, the list was revised to start design of filters this year and these other projects in a future FY.
	D16276	CCWQTC Digester Decant Enhancement	
Deferred Projects	D20223	Bells Lane Phase 2 Polymer Lines	This project is being coordinated with other improvements scheduled at this facility to improve access to equipment and streamline facility operation.
	H10048	Camp Taylor System Improvements 4	Deferred to FY23
	H09179	Dell Road 2022	Deferred to FY23
	H10044	Goose Creek PS Improvements	Deferred to FY26
	H11306	Middle Fork BG CRK SSR Phase 1	Deferred to FY25
	H09165	Bardstown Road PS Improvements	Deferred to FY23
	H10043	Raintree Elimination PS2021	Deferred to FY28
	H09192	Cinderella PS Elimination	Deferred to FY21
	H09242	Gunpowder PS 2021	Deferred to FY23
	H09166	Lucas Ln PS ILS 2021	Deferred to FY21

Note: The Consent Decree projects noted in this table as "Deferred Projects" assume the time extension under discussion with the Regulators is approved. If negotiations are not successful, MSD is committed to delivering all Consent Decree projects in accordance with mandated deadlines.

Capital Budget Variance

MSD's Capital Program is a continuous and dynamic effort that takes place in a multi-year span. The figure below highlights the impact of major change on the program as of September 30th. Details at the project level are provided in Tables 22 and 23.

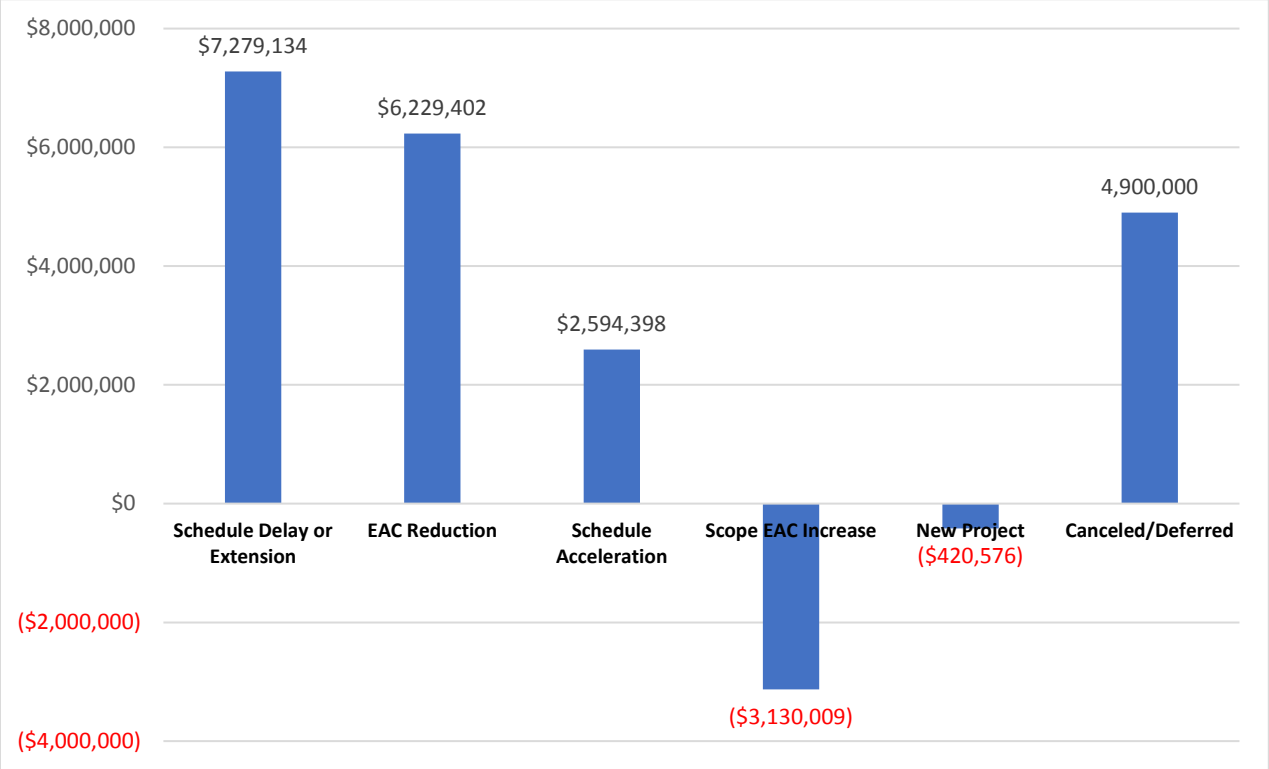


Figure 5 – Summary of YTD Capital Budget Variances

Projects having forecasted spending (as of September 30th) less than their assigned budget are listed in the following table. Table 22 is showing only projects with a variance at least 10% of the assigned budget for FY20. Note that these projections can change from month to month due to scope revision or schedule acceleration. Approximately $16.1M will not be spent for the projects listed in Table 22 during this fiscal year.

Table 22 – Projects Forecasted to Spend LESS than Assigned Budget

Budget ID	Project Name	FY Budget	FY Projected Spend	Variance	Comment
G17033	Louisville Green Major Maintenance	$682,961	$528,050	$154,911	Schedule Delay
F19277	Beargrass Creek FPS Wetwell Relief Gate	$173,526	$142,570	$30,956	Scope EAC reduction
G09535	CMF Parking Surface	$585,142	$219,415	$365,727	Schedule delay internal issue
F19245	Flood Gate 1 Replacement	$312, 493	$234,492	$78,001	Scope EAC Increase
D19307	MFWQTC FEPS VDF Replacement	$250,000	$125,000	$125,000	Scope EAC reduction
A19208	Broadway Interceptor Infrastructure Rehab	$5,800,000	$5,062,500	$737,500	Schedule delay internal issue. Refer to NOA section

Budget ID	Project Name	FY Budget	FY Projected Spend	Variance	Comment
H18503	I-64/Grinstead Interceptor Rehab	$3,104,325	$141,337	$2,962,988	Scope EAC reduction
H20164	346 S Peterson Ave Stream Restoration	$165,120	$24,126	$140,944	Schedule delay internal issue
A16073	Mud Lane Interceptor	$2,532,217	$1,320,136	$1,212,081	Schedule delay - easements
D15020	MFWQTC Cake Pump Phase 2	$1,394,682	$1,169,900	$224,782	Schedule delay internal issue
D17042	MFWQTC Sedimentation Basin	$2,159,694	$780,575	$1,379,119	Schedule delay internal issue
D20017	CCWQTC Sodium Aluminate Building	$650,096	$288,245	$361,851	Schedule delay internal issue
H14126	Hite Creek WQTC Expansion	$7,287,271	$6,353,186	$934,085	Scope EAC reduction. Schedule delay internal issue
D16272	CCWQTC Influent PS Motor Control Center	$413,951	$213,277	$200,674	Schedule delay internal issue. Redesign
D18292	DRG Clarifier Grout RPR & RAS Gate Replacement	$1,364,927	$348,033	$1,016,894	Bid came in lower than the estimate.
D19039	CCWQTC Effluent Parshall Flume Upgrade	$1,791,000	$157,686	$1,633,314	Schedule delay internal issue. Construction will start in FY21
D19285	Bells Lane Phase 2	$112,500	$69,999	$42,501	Scope Reduction
N20078	Mobile Communications Replacement	$250,000	$214,285	$35,715	Schedule Extension Spending will occur in a future fiscal year.
H09125	Portland CSO Basin	$2,650,906	$56,508	$2,594,398	Schedule Acceleration. Scope completed in FY19.
H18172	FY20 Information Governance Architecture	$300,000	$207,293	$92,707	Scope EAC reduction
N16071	Main Office Data Center Reconfiguration	$250,000	$55,555	$194,445	Schedule delay internal issue
D15024	MFWQTC Chiller Replacement	$299,010	$249,547	$49,463	Scope EAC reduction
D18128	DRGWQTC Plant Paving & Parking Phase 1	$525,455	$337,776	$187,679	Scope EAC reduction
D19043	MFWQTC OGA & PTO Demolition	$50,000	$5,000	$45,000	Scope EAC reduction

Budget ID	Project Name	FY Budget	FY Projected Spend	Variance	Comment
D19045	MF Sodium Hypochlorite	$205,809	$177,558	$28,251	Scope EAC reduction
D19286	SWPS Gas Monitoring	$247,197	$177,803	$69,394	Scope EAC reduction
D20016	DRG Admin Building HVAC	$404,954	$259,801	$145,153	Scope EAC reduction
G20028	WQTC Elevator Repairs	$1,013,675	$424,226	$589,449	Schedule delay internal issue
H20153	SWPS Flood Repair	$609,556	$472,226	$137,330	Scope EAC reduction
H16049	FY20 Env'l Data Collection	$875,000	$650,000	$225,000	Scope EAC reduction
H20122	FY20 MS4 Basin Retrofit	$85,000	$36,428	$48,572	Schedule Extension
D19223	DRG WWPS Finite Element Analysis Phase 2	$36,904	$1,904	$35,000	Scope EAC reduction and schedule extension
D20226	Bells Ln & MF HW Bar Screen Grit Study	$75,000	$51,000	$24,000	Scope EAC reduction
	TOTAL	**$36,658,371**	**$20,555,437**	**$16,102,934**	

Note: The variances noted in this table reflect a FY20 spending difference from the baseline forecast developed in July 2019. The variance amounts do not necessarily reflect a change in total project cost; rather when spending will occur.

Projects having forecasted spending (as of September 30th) more than their assigned budget are listed in the following table. Table 23 is showing only projects whose variance at least 10% of the assigned budget for FY20. Note that these projections can change from month to month due to scope revision or schedule delays. These projects are forecasting to spend $3.5M more than anticipated in the FY20 budget.

Table 23 – Projects Forecasted to Spend MORE than Assigned Budget

Budget ID	Project Name	FY Budget	FY Projected Spend	Variance	Comment
F18252	FY20 Levee and Floodwall RR	$400,000	$500,000	($100,000)	Scope EAC increase
F19267	Pond Creek Emergency Pump Repairs	$543,536	$1,063,316	($519,780)	Scope EAC increase
D18489	Fairmont Road PS FM Extension	$209,303	$451,878	($242,575)	Scope EAC increase. Bid came in higher than estimated
C19091	FY19 DRI	$2,000,000	$3,000,000	($1,000,000)	Scope EAC increase
H19142	Upper Floyds Fork Interceptor	$290,476	$470,835	($180,359)	Scope EAC increase
H19247	I-64 & Grinstead CSO Interceptor	$2,398,824	$3,339,160	($940,336)	Scope EAC increase
New_246	Rudd Ave Infrastructure Rehab Phase 1	$0	$234,862	($234,862)	New Project. Refer to NOA section

Budget ID	Project Name	FY Budget	FY Projected Spend	Variance	Comment
C20090	FY20 Stormwater Asset Inventory & Analysis	$230,000	$350,000	($120,000)	Scope EAC increase
D20225	Bells LN EQ Basin Water Pressure Improvements	$75,000	$101,959	($26,959)	Scope EAC increase
H20089	3-Forks BGC USACE General Investigation	$300,000	$335,714	($35,714)	New Project
H19089	FY20 CMOM WQTC Process Improvement	$0	$150,000	($150,000)	New project
	TOTAL	**$6,447,139**	**$9,997,724**	**($3,550,585)**	

Note: The variances noted in this table reflect a FY20 spending difference from the baseline forecast developed in July 2019. The variance amounts do not necessarily reflect a change in total project cost; rather when spending will occur.

The net consideration for projects spending 10% more/less than their assigned budget, indicates at a Capital Program level, the FY20 forecasted spending will be at least $12.5M less due to project-level variances, exclusive of the Ohio River Tunnel.

Trending Top Projects

Forecasting spending for large capital projects is challenging, particularly for construction projects spanning multiple fiscal years. MSD does not have control over the rate of spending or progress of the Contractor and subcontractors performing the contracted work. Additionally, appears to be a lag between the time invoices are submitted by the Contractor and when the invoices are paid. A brief lag is normal given the rigorous review MSD Finance and Engineering teams perform including evaluation of work invoiced, retainage, and contract terms.

MSD staff are currently evaluating the invoicing process to identify any workflow issues that warrant resolution. From a cursory review it appears some of the largest projects in the FY20 CIP are spending at the expected rate for the months of July, August and September. However, those invoices have not yet been paid and the "actual spending" is not showing up in the Available Funds Report issued by Finance. An overview of the actual spending for MSD's largest FY20 CIP projects is presented in the following table.

Table 24 – Evaluation of Actual Spending for Largest CIP Projects

Budget ID	Project	FY20 Approved Budget	Contractor's Invoices approved by PM	FY20 Actual Spending	FY20 Projected Spending	FY20 Budget Projected Excess or (Shortfall)
H09133	Ohio River Tunnel	$62.2M	$11.3M	$7.5M	$40.1M	$14.6M
H09127	Rowan Pump Station Downtown CSO Interceptor	$16.4M	$4.3M	$2.7M	$13.5M	$0.2M
H09141	Lexington and Payne CSO Interceptor	$16.2M	$4.3M	$2.9M	$13.3M	--

H14126	Hite Creek WQTC Expansion Project	$7.3M	--	$0.02	$6.3M	$1.0M
	Total	**$102.1M**	**$19.9M**	**$13.1M**	**$73.2M**	**$15.8M**

The Ohio River Tunnel is forecasting spending $14.6M less than included in the FY20 budget**. This $14.6M represents 70% of the FY20 total projected spend variance of $20.2M (refer to Table 8).** The Notice to Proceed for the construction phase of the Hite Creek Expansion Project was issued to the Contractor on September 23, 2019. The spending on this project is significantly less than its forecast at this point.

CHANGE MANAGEMENT ACTIVITIES

A core team, with input from internal stakeholders, is developing an updated Change Management process. The process will be rolled out during the second quarter of FY20. The new process will standardize how change is addressed and will document scope, schedule, and budget changes to a project throughout its life - from the planning phase through construction. More information will be added to the monthly report as the updated process is implemented.

Notice of Advisement

A key new initiative of the Change Management process will for be Project Managers to submit and MSD leadership to approve/reject Notice-of-Advisements (NOA). NOAs are intended to document any change to a project scope, schedule, and budget. A standardized electronic form has been created by the MSD Project Controls Team. The formal NOA process will be rolled out to all Project Manager, Planners, and Consultants in the near term. The following represent changes that will be documented by the NOA process.

- Emergency Biosolids Project: The Morris Forman Water Quality Treatment Center's (MFWQTC) capacity to process biosolids has diminished by approximately 67% due to catastrophic failure of its Drum Dryer System. Until a long term solution is executed, an interim solution for off-loading sludge at MFWQTC must be developed. The $9.8 million interim solution will be in service for a minimum of five years until such time the long-term biosolids improvement project is fully operational. MSD staff are in the process of executing the interim solution and intend for the components to be operational within six to 12 months.

- Morris Forman Sedimentation Basin Improvements: The MFWQTC Sedimentation Basins must be rehabilitated in order for the plant to meet its peak flow permit conditions. How to rehabilitate the basins remains a technical challenge. MSD has solicited input from 10 consultants having specialized expertise in this area. The selected firm will recommend a technology to the replace traveling bridge components of the sedimentation basins. The schedule of work and cashflow spending has been revised.

- Large Diameter Sewer Rehabilitation Project: MSD is in the process of combining multiple high risk sewers into one design-build contract. These sewers are large diameter and the consequence of their failure could be equivalent to the Main Street Emergency Repair Project. Contractors have more expertise inspecting, cleaning, working and repairing large diameter interceptors than engineering consultants. Having the contractor lead the effort will save time and cost. An engineer will most likely still be a part of their team. MSD desires to reduce total cost through economies of scale by advancing the work under one contract. By combining the projects under one contract, MSD will create and own a sense of continuity/uniformity for selecting/utilizing/monitoring available large diameter rehab technologies for future work.

- USACE Flood Pump Station Reliability Improvements: MSD's 5-Year CIP includes several projects involving reliability and capacity improvements at the FPSs. Pending the results of the USACE Preliminary Flood Protection System Feasibility Report, the existing projects have to be broken into two separate projects: 1)

for reliability improvements to be co-funded with the USACE and 2) for capacity and betterment improvements to be fully funded by MSD. The timing of both projects will be determined in the next few months for each FPS.

Approved Change Orders – September 2019

The Change Orders processed by MSD during the reporting period are listed in the following table. This information is provided for informational purposes. In future reports, a programmatic evaluation of construction change orders during the FY will be provided.

The total of change orders approved during this month was $167,564. This amount will be charged to the FY20 CIP. The change order for the Clifton CSO Basin was foreseen and it has budget assigned to cover such expense.

Table 25 – Change Orders Processed during Reporting Period

Budget ID	Project	Original Contract Amount	Change Order Amount (this month)	Revised Contract Amount
C19262	801 Colonel Anderson Parkway Flood Protection	$ 76,500	$68,046	$ 144,546
C19152	1805 Pershing Ave DIP	$ 114,400	$31,456	$ 182,576
H09123	Clifton Heights CSO Basin	$ 1,050,372	$43,845*	$3,487,657
H16036	FY19 I&I Reduction Program	$ 1,000,000	$68,062	$1,032,685

**Change Order for Professional Services Only and will not have an impact to the cashflow.*

PROCUREMENT ACTIVITIES

A forecast of the upcoming procurement activities for the next 90 days is presented in Table 26. The bid dates represent anticipated times and may be adjusted depending upon project conditions.

Table 26 – Potential Upcoming Procurement Projects

Budget ID	Project Name	Bid Opening	Engineer's Estimate
F19276	FPS Auto Grease Systems Upgrades	11/7/19	$300,000
F20013	Beargrass FPS Pump 8	11/7/19	$86,093
D20222	Bells Lane Grit Classifier Drain Line	12/1/19	$69,439
H20153	SWPS Flood Repair	12/11/19	$420,152
F19277	Beargrass Creek FPS Wetwell Relief Gate	12/28/19	$133,270

Bid Openings

Bids opened during the reporting month are shown in Table 27.

Table 27 – Bids opened during Reporting Month

Budget ID	Project Name	Bid Opening	Engineer's Estimate	Bid Award
F19245	Flood Gate 1 Replacement	9/27/19	$193,753	$276,000
H19232	Parkwood PS Access Road	9/10/19	$20,839	$28,893

Notice to Proceeds (NTP) Issued

Table 28 – NTP's Issued during Reporting Month

Budget ID	Project Name	Bid Amount	Engineer's Estimate
F20240	Shawnee Park FPS Motor No 3 Emergency Repairs	$112,130	$100,000

PROJECT INFORMATION BY PROGRAM

An overview of the FY20 CIP budget and the current forecasted annual spending is presented in Table 29. A detailed listing of the projects included in the FY20 CIP for each CIP Program is provided in this section.

Table 29 – FY20 Comparison of Budget to Projected Spending

Service Type Program	CIP Program	Approved Budget	FY20 Spending Projection	FY20 Spending Variance
Wastewater Service Type Programs	CMOM	$45.5M	$43.7M	$1.8M
	Consent Decree (IOAP)	$114.7M	$92.2M	$22.5M
	Development Infrastructure	$3.3M	$2.6M	$0.7M
	NMC	$7.8M	$7.1M	$0.7M
	Wastewater Total	**$171.3M**	**$145.7M**	**$25.7M**
Stormwater & Flood Protection Service Type Program	Drainage Management	$2.3M	$3.3M	($1.0M)
	Floodplain Management	$0.3M	$0.3M	$0
	Ohio River Flood Protection	$6.9M	$13.3M	($6.4M)
	Stormwater Quality (MS4)	$2.9M	$2.7M	$0.2M
	Stormwater Total	**$12.4M**	**$19.6M**	**($7.2M)**
Support Service Type Program	Capital Equipment	$3.2M	$3.8M	($0.6M)
	Facilities	$14.4M	$12.2M	$2.2M
	IT & LOJIC	$3.7M	$3.6M	$0.1M
	Support Systems Total	**$21.3M**	**$19.6M**	**$1.7M**
Grand Total		**$205M**	**$184.8M**	**$20.2M**

IOAP AND CONSENT DECREE

MSD did not certify any Consent Decree projects during the reporting period. The remaining Long Term Control Plan (LTCP) projects are listed in Table 30. From a regulatory compliance perspective, the Waterway Protection Tunnel is comprised of projects from the four former basins: 13th & Rowan Storage Basin; Story & Main Basin; Lexington &

Payne Basin; and I-64 & Grinstead Basin. It is important to note that the Waterway Protection Tunnel Bundle includes multiple individual CIP projects under one compliance deadline.

Table 30 - Schedule Float for Remaining LTCP Projects

Budget ID	LTCP Project	Amended Consent Decree Deadline	Schedule Float to CD Deadline (days)
Waterway Protection Tunnel Bundle			
H09127	Rowan Pump Station	12/31/2020	145
H09133	Ohio River Tunnel	12/31/2020	0
H09141	Lexington & Payne CSO Interceptor	12/31/2020	349
H18176	Downtown CSO Interceptor	12/31/2020	145
H19247	I-64 & Grinstead CSO Interceptor	12/31/2020	65

Sanitary Sewer Discharge Plan Progress

The suite of projects selected for the Final SSDP component of the IOAP will eliminate capacity-related SSOs up to site-specific levels of protection. The projects listed in Table 31 remain to fulfill SSDP project requirements of the Consent Decree. MSD is currently negotiating with the federal and state Regulators regarding the timing for completing the remaining IOAP projects. MSD is committed to completing projects in accordance with the outcomes of the on-going negotiations. Projects showing negative float will be corrected with updated information as negotiations progress.

Table 31 - Schedule for Remaining SSDP Projects

Budget ID	SSDP Project	Amended Consent Decree Deadline	Schedule Float to CD Deadline (days)
A18354	Raintree Drive and Marian Court System Improvements Phase 1 – Pump Station Eliminations	12/31/2021	322
H09180	Raintree Drive and Marian Court System Improvements Phase 2 – Pipe Upgrades	12/31/2021	-2107
H09165	Bardstown Road Pump Station Improvements	12/31/2021	-1103
H09176	Fox Harbor In-line Storage	12/31/2021	339
H09242	**Gunpowder Pump Station In-line Storage**	**12/31/2021**	**-760**
H09166	Lucas Lane Pump Station In-line Storage	12/31/2021	-237
H09179	Dell Road and Charlaine Parkway Interceptor Improvements	12/31/2022	-1125
H09196	Leven Pump Station Elimination	12/31/2022	185
H09182	Monticello Pump Station Elimination	12/31/2022	239
H09192	Cinderella Pump Station Elimination	12/31/2023	215
H09164	Idlewood In-line Storage	12/31/2023	-234

H09186 **H18310** **H18311**	UMF Pump Station UMF Force Main UMF Relief Interceptor	12/31/2023	406
H09200	Sutherland Interceptor	12/31/2023	360
TBD	Camp Taylor Phase 4 – Rehab and Off-Line Storage	12/31/2023	-941
H10044	Goose Creek Pump Station Improvements and Wet Weather Storage 2 – Pump Station and Force Main Upgrades	12/31/2023	-1945
H09171	Kavanaugh Road Pump Station Improvements	12/31/2024	304
H09159	Little Cedar Creek Interceptor Improvements	12/31/2024	554
H09188	Mellwood System Improvements and Pump Station Eliminations Phase 2	12/31/2024	224

Table 32 – Summary of FY20 IOAP Program Projects

Budget ID – Wastewater IOAP **Program Projects**	**FY20 Budget**	**FY20 Actual Spending**	**FY20 Current Forecasted Spend**	**FY20 Projected Excess or (Shortfall)**
F13023 | MF HEADWORKS REPLACE	$58,894	140,949	$0	($82,055)
H09123 | CLIFTON HEIGHTS STORAGE BASIN	$44,000	($519,835)	$0	$44,000
H09125 | PORTLAND CSO BASIN	$2,650,906	$642,973	($586,464)	$2,594,397
H09127 | ROWAN PS & DOWNTOWN CSO INTERCEPTOR	$16,412,382	$2,646,053	$13,494,556	$271,773
H09132 | SOUTHWESTERN PKWY STORAGE BASIN	$903,611	($1,741,573)	$2,645,184	$0
H09133 | OHIO RIVER TUNNEL	$62,223,931	$7,464,825	$40,180,754	$14,578,352
H09141 | LEXINGTON &PAYNE CSO INT	$16,208,828	$2,905,695	$13,303,133	$0
H09156 | FY18 GREEN INFRASTRUCTURE	$43,727	$4,440	$39,287	$0
H09164 | IDLEWOOD ILS2023	$144,459	$0	$151,776	($7,317)
H12196 | CAMP TAYLOR SSR 2A	$0	$1,500	$0	($1,500)
H13099 | SPALDING UNIVERSITY	$127,413	$0	$127,413	$0
H16035 | FY19 GREEN INFRASTRUCTURE	$1,388,549	($14,400)	$1,152,949	$250,000
H16051 | FY20 GREEN INFRASTRUCTURE	$307,425	$0	$307,425	$0
H16053 | FY20 IOAP POST CONST COMPLIANCE ASSMT	$425,000	$0	$425,000	$0
H18176 | DOWNTOWN CSO INT RPR	$650,885	$112,644	$520,357	$17,884
H18481 | FY19 IOAP CAPITAL PROGRAM AND REGULATORY COMPLIANCE SUPPORT	$0	($500)	$0	$500
H18482 | FY20 MODELING SUPPORT	$1,200,000	$62,906	$1,137,094	$0
H18503 | I-64/GRINSTEAD BASIN INTERCEPTOR REHAB	$3,104,325	$0	$149,190	$2,955,135
H19060 | BROWN FORMAN DISTILLERY	$1,250,000	$0	$1,250,000	$0
H19247 | I-64 & GRINSTEAD CSO INTERCEPTOR	$2,398,824	$1,112,878	$2,226,283	($940,337)
H20040 | FY20 CIP TASK ASSISTANCE	$1,100,000	$109,384	$990,616	$0

Budget ID – Wastewater IOAP **Program Projects**	**FY20 Budget**	**FY20 Actual Spending**	**FY20 Current Forecasted Spend**	**FY20 Projected Excess or (Shortfall)**
H20136 | IOAP MAJOR MODIFICATION DEVELOPMENT ASSISTANCE	$113,636	$0	$113,636	$0
H20144 | CHURCHILL DOWNS EAST SIDE IMPROVEMENTS GI	$1,200,000	$0	$1,200,000	$0
H20168 | LOUISVILLE FC STADIUM GI	$250,000	$0	$250,000	$0
TOTAL	**$112,206,795**	**12,927,939**	**$79,078,189**	**$19,680,832**

WASTEWATER NON-IOAP PROGRAMS

Wastewater management is a vital component of MSD's system. The CIP projects included in the FY20 CIP for the following programs are presented in this section.

- Capacity, Management, Operations, and Maintenance Program
- Development Infrastructure Program
- Nine Minimum Controls Program

Capacity, Management, Operations, and Maintenance (CMOM) Program

MSD's Consent Decree requires implementation of a CMOM Program including major renewal and replacement projects at the Hite Creek, Floyds Fork, Cedar Creek, and Derek R. Guthrie WQTCs to ensure MSD can maintain effective wastewater collection, transmission, and treatment. CMOM compliance is required as a component in each WQTC KPDES permit. Additionally, the CMOM Program provides proactive asset management of sewers, pump stations, and major interceptors that make up most of MSD's collection system. A list of active FY20 CMOM related projects is provided in Table 33.

Table 33 – Summary of FY20 Wastewater CMOM Program Projects

Budget ID – Wastewater CMOM Program Projects	**FY20 Budget**	**FY20 Actual Spending**	**FY20 Current Forecasted Spend**	**FY20 Projected Excess or (Shortfall)**
A18353 | OHIO RIVER INT STRUCTURE	$80,664	$16,906	$0	$63,758
A19090 | FY20 CONSTRUCTION INSPECTION	$500,000	$98,565	$401,435	$0
A19208 | BROADWAY INTERCEPTOR REHABILITATION	$5,800,000	$0	$5,062,500	$737,500[1]
D16272 | CCWQTC INFLUENT PS MCC UPGRADE	$413,951	$0	$213,277	$200,674
D16275 | CCWQTC WAS CYCLE AUTOMATION	$81,231	$0	$0	$81,231
D16276 | CCWQTC DIGESTER DECANT ENHANCE	$257,143	$0	$0	$257,143

Budget ID – Wastewater CMOM Program Projects	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spend	FY20 Projected Excess or (Shortfall)
D17032 | CCWQTC TERTIARY FILTRATION	$604,314	$0	$604,314[2]	$0
D18285 | ORFM ODOR & CORROSION CONTROL	$1,569,687	$1,740	$0[3]	$1,569,687
D18292 | DRG CLARIFIER GROUT RPR & RAS GATE REPLC	$1,364,927	$9,677	$338,356	$1,016,894
D18452 | FY20 MFWQTC EQUIPMENT RR	$1,185,000	$6,802	$1,178,198	$0
D19039 | CCWQTC EFFLUENT PARSHALL FLUME	$1,791,000	$0	$157,686	$1,633,314
D19042 | FY19 WQTC ODOR IMPRV	$0	$1,319	$0	($1,319)
D19227 | MFWQTC PRIMARY SLUDGE LINE	$436,598	$90,948	$342,913	$2,737
D19285 | BELLS LANE PHASE 2	$112,500	$988	$69,012	$42,500
D19286 | SWPS GAS MONITORING	$247,197	$0	$177,804	$69,393
D20017 | CCWQTC SODIUM ALUMINATE BUILDING	$650,096	$0	$288,245	$361,755
D20030 | FY20 CCWQTC EQUIPMENT RR	$300,000	$0	$300,000	$0
D20032 | FY20 HCWQTC EQUIPMENT RR	$300,000	$0	$300,000	$0
D20034 | FY20 FFWQTC EQUIPMENT RR	$280,000	$0	$280,000	$0
D20036 | FY20 DRGWQTC EQUIPMENT RR	$500,000	$0	$500,000	$0
D20167 | MFWQTC EAST HEADWORKS HVAC	$140,000	$0	$85,750	$54,250
D20222 | BELLS LANE GRIT CLASSIFIER DRAIN LINE	$100,000	$0	$100,000	$0
D20224 | BELLS LANE PAA SYSTEM	$200,000	$0	$163,059	$36,941
D20225 | BELLS LN EQ BASIN WATER PRESSURE	$75,000	$0	$101,959	($26,959)
D20227 | FFWQTC FILTER EVALUATION	$20,000	$0	$20,400	($400)
E15033 | SHIVELY PS GENERATOR	$501,668	$285,532	$217,844	($1,708)

Budget ID – Wastewater CMOM Program Projects	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spend	FY20 Projected Excess or (Shortfall)
E18446 | FY20 SYSTEMS AUTOMATION	$150,000	$0	$150,000	$0
E18467 | FY20 CMOM COLLECTION SYSTEM PUMP RR	$250,000	$11,081	$238,919	$0
E19211 | FY20 OPERATIONS RENEWAL & REPLACEMENT	$2,000,000	$0	$2,000,000	$0
F14005 | FY18 SEWER CLEANING	$148,720	$26,619	$0	$122,101
F14156 | DRG RAS #1&4 PUMP REPLACE	$0	$364	$0	($364)
G18462 | FY20 LAND ACQUISITION	$4,000,000	$0	$4,000,000	$0
G19001 | FY19 RENEWAL & REPLACE	$0	($31,128)	$0	($31,128)
G20001 | FY20 RENEWAL & REPLACEMENT	$1,700,000	$15,911	$1,684,089	$0
G20150 | FY20 CONTINGENCY RESERVE	$5,000,000	$0	$5,000,000	$0
H14126 | HITE CREEK WQTC EXPANSION	$7,287,271	$21,995	$6,331,191	$934,085
H16007 | FY20 CMOM WQTC CCP UPGRADES	$90,000	$0	$100,000	($10,000)
H16009 | FY20 CMOM PROGRAM MANAGEMENT	$150,000	$0	$150,000	$0
H16013 | FY20 CMOM SCAP, AAM & FOG	$150,000	$0	$150,000	$0
H16036 | FY19 I&I REDUCTION PROGRAM	$1,356,300	($288,471)	$0	$1,644,771
H16045 | FY20 PLUMBING MODIFICATION PROGRAM	$500,000	$73,585	$426,585	($170)
H16074 | NIGHTINGALE I/I REHAB	$1,739,348	$3,402	$1,738,017	($2,071)
H18172 | FY20 INFORMATION GOVERNANCE ARCHIT.	$300,000	$0	$207,293	$92,707
H19056 | CMOM TELOG 3G TO 4G CONVERSION	$38,449	$32	$38,317	$0
H19088 | FY20 CMOM GRINDER RR	$250,000	$133,912	$116,088	$0
H19089 | FY20 CMOM WQTC PROCESS IMPROVEMENT	$0	$0	$150,000	($150,000)

Budget ID – Wastewater CMOM Program Projects	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spend	FY20 Projected Excess or (Shortfall)
H19095 | FY20 PS RR	$594,000	$67,549	$532,451	($6,000)
H19232 | PARKWOOD PS ACCESS RD	$29,340	$0	$23,340	$6,000
H20045 | FY20 REGULATORY COMPLIANCE SUPPORT	$600,000	$11,457	$588,543	$0
H20055 | FY20 CMOM I&C IMPLEMENTATION	$125,026	$16,021	$109,005	$0
H20061 | FY20 CMOM GRAVITY LINE CLEANING & INSP.	$1,500,000	$0	$1,500,000	$0
H20137 | FY20 PMIS	$400,000	$0	$400,000	$0
H20153 | SWPS FLOOD REPAIR	$609,556	$0	$472,227	$137,329
H20215 | CAMP TAYLOR 2A - UNION ST SEWERS	$50,000	$3,176	$46,824	$0
Total	**$46,528,986**	**$577,982**	**$42,494,472**	**$15,472,152**

Development Infrastructure Program

The 20-Year CRRP includes recommended projects to ensure adequate conveyance and treatment capacity is available in advance of development and population growth. This program is particularly important for avoiding community development initiatives facing moratoriums due to the rated capacity of the WQTCs being exceeded. The development program includes a combination of phased WQTC capacity upgrades and under capacity sewers and pump stations. The development infrastructure projects active in FY20 are listed in Table 34.

Table 34 – Summary of FY20 Development Program Projects

Budget ID – Wastewater Development Program Projects	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spend	FY20 Projected Excess or (Shortfall)
A16073 | MUD LANE INTERCEPTOR	$2,532,217	$962	$1,319,174	$1,212,081
D18489 | FAIRMONT ROAD PUMP STATION FORCE MAIN EXTENSION	$209,303	$0	$451,879	($242,576)
G16032 | FY19 DEVELOPMENT SUPPORT	$0	$6,008	$19,866	($25,874)
G16048 | FY20 DEVELOPMENT INFRASTRUCTURE SUPPORT	$85,000	$0	$85,000	$0
G16050 | FY20 DEVELOPMENT INFRASTRUCTURE EXCESS COST REIMBURSE	$150,000	$0	$150,000	$0
H18165 | FY20 SEWER ASSESSMENTS	$50,000	$0	$50,000	$0
H19142 | UPPER FLOYDS FORK INTERCEPTOR	$290,476	$0	$470,300	($179,824)

Budget ID – Wastewater Development Program Projects	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spend	FY20 Projected Excess or (Shortfall)
TOTAL	**$3,316,996**	**$6,970**	**$2,546,219**	**$763,807**

Nine Minimum Controls Program

MSD's Consent Decree requires compliance with the USEPA Nine Minimum Controls Program (NMC) that was initially developed as part of the Clean Water Act CSO Policy to address combined sewer system (CSS) best management practices (BMPs) that do not require significant construction. NMC projects tend to be technology based. NMC programmatic compliance is required in the Morris Forman WQTC KPDES Permit. The 20-year CRRP includes projects focused on NMC including real-time control (RTC) assets in the combined sewer system and the Morris Forman WQTC Improvements. The FY20 approved budget included the NMC projects noted in Table 35.

Table 35 – Summary of FY20 Wastewater NMC Program Projects

Budget ID – Wastewater NMC Program Projects	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spend	FY20 Projected Excess or (Shortfall)
D15020 | MFWQTC CAKE PUMP PH2	$1,394,682	$1,026	$1,168,874	$224,782
D17042 | MFWQTC SEDIMENTATION BASIN REHAB INCLUDING FLOOR, GATES, TRAVELING BRIDGES, SLUDGE PIPING CHANNEL AIR	$2,159,694	$0	$780,575	$1,379,119
D18118 | MFWQTC TRK UNLOAD STATION VMT	$66,930	$0	$66,930	$0
D18127 | DRGWQTC HYPO CONTAINMENT	$121,700	$0	$121,700	$0
D19028 | FY20 MFWQTC UPGRADE PLCS	$250,000	$55,296	$194,704	$0
D19043 | MFWQTC OGA & PTO DEMOLITION	$50,000	$0	$5,000	$45,000
D19045 | MF SODIUM HYPOCHLORITE	$205,809	$6,480	$171,079	$28,250
D19046 | MFWQTC GROUNDWATER WELL #10	$134,325	$0	$134,325	$0
D19048 | MFWQTC RADIO REPEATER	$500,000	$0	$500,000	$0
D19223 | DRG WWPS FINITE ELEMENT ANALYSIS P2	$36,904	$0	$1,904	$35,000
D19228 | FY19 STRAND WQTC ENGINEERING	$0	$4,292	$0	($4,292)
D19241 | FY19 HDR MFWQTC ENGINEERING	$0	$5,325	$0	($5,325)
D19275 | MDS DOWNSTREAM FLOWMETER	$229,481	$0	$444,000	($214,519)
D19307 | MFWQTC FEPS VFD REPLACEMENT	$2,500,000	$7,973	$1,242,027	$1,250,000
D20216 | FY20 STRAND CCWQTC ENGINEERING	$35,000	$1,289	$33,711	$0
D20217 | FY20 HAZEN DRGWQTC ENGINEERING	$35,000	$0	$35,000	$0

Budget ID – Wastewater NMC Program Projects	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spend	FY20 Projected Excess or (Shortfall)
D20218 | FY20 JACOBS MFWQTC ENGINEERING	$30,000	$0	$30,000	$0
D20219 | FY20 HDR MFWQTC ENGINEERING SUPPORT	$35,000	$0	$35,000	$0
D20226 | BELLS LN & MF HW BAR SCREEN GRIT	$75,000	$0	$75,000	$0
D20228 | MFWQTC CENTRIFUGE REPLACEMENT	$360,000	$0	$360,000	$0
D20229 | MFWQTC CLARIFIER B5 FLOOR REPAIR	$30,000	$0	$28,125	$1,875
D20230 | MFWQTC BOC/SHOC FAN REPLACEMENT	$125,000	$0	$125,000	$0
D20231 | FY20 MFWQTC FEPS PUMP & MOTOR	$150,000	$0	$150,000	$0
F14182 | MF FEPS PUMP REPAIR & MOTOR	$83,403	$52,245	$0	$31,158
F16003 | ASHLAND AVE GATE STRUCTURE	$0	$16,400	$0	($16,400)
G17033 | LOUISVILLE GREEN MAJOR MAINTENANCE	$682,961	$0	$528,050	$154,911
H16056 | FY20 NMC	$50,000	$16,794	$33,206	$0
H18442 | FY20 RTC SUPPORT	$750,000	($26,732)	$726,732	($3,464)
TOTAL	**$10,090,889**	**$140,388**	**$6,990,942**	**$2,906,095**

STORMWATER MANAGEMENT & FLOOD PROTECTION PROGRAMS

Stormwater management is a vital component of MSD's system, because it directly impacts the health and safety of all Louisville and Jefferson County residents. The CIP projects included in the FY20 CIP for the following programs are presented in this section.

- Stormwater Program
- Drainage Response Initiative (DRI) Program
- Floodplain Management Program
- Ohio River Flood Protection Program

Stormwater Quality Municipal Separate Storm Sewer System (MS4) Program

The MS4 Program is a drainage-related program to improve the quality of surface waters through controls on stormwater runoff quality in Jefferson County and to protect the public health, safety, and welfare by reducing the introduction of harmful materials into the MS4s that discharge into community streams. The CRRP identified several large stormwater retention basins with the potential for conversion of all or part of the basin to provide infiltration of stormwater.

MSD coordinates MS4 implementation with the agencies that share implementation of the MS4 Program, including Metro Louisville government, small cities that handle their own drainage, and the Kentucky Department of Transportation. A summary of the MS4 related projects in the FY20 CIP is presented in Table 36.

Table 36 – Summary of FY20 Stormwater MS4 Program Projects

Budget ID - Stormwater MS4 Program Projects	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spend	FY20 Projected Excess or (Shortfall)
H16049 | FY20 ENV'L DATA COLLECTION – MS4 & IOAP	$875,000	$9,459	$640,541	$225,000
H16055 | FY20 MS4 PROGRAM	$800,000	$60,642	$739,358	$0
H16059 | FY20 USGS STREAM MONITORING	$395,650	$86,035	$309,615	$0
H20086 | FY20 TREE PROGRAM	$150,000	$0	$150,000	$0
H20089 | 3-FORKS BGC USACE GENERAL INVESTIGATION	$300,000	$25,000	$310,714	($35,714)
H20122 | FY20 MS4 BASIN RETROFIT - KCD	$85,000	$0	$36,429	$48,571
H20123 | FY20 MS4 WATER QUALITY SONDES	$250,000	$0	$250,000	$0
H20145 | MS4 THERMAL IMAGERY FLYOVER	$115,000	$0	$115,000	$0
TOTAL	**$2,970,650**	**$181,136**	**$2,551,657**	**$237,857**

Drainage Response Initiative (DRI) Program

Beginning in 2003, MSD initiated an aggressive program to address a wide variety of drainage issues that were pointed out by customers to address problems ranging from structural flooding to alleviating minor standing water problems. The 20-year CRRP includes an annual allocation ranging from $2.8 million to $5 million per year for the DRI Program. While MSD originally thought the DRI Program would be phased out as the backlog of customer drainage issues were resolved, customer drainage requests continue to be among the most common communication received by MSD. The active FY20 DRI projects are listed in the following table.

Table 37 – Status of Active DRI Projects

Project	EAC	Lifetime Actuals	Finish Date
C19091 | FY20 DRI	$200,000	$0	6/30/2020
C20170 | 2517 Paddock Lane DIP Phase 2	$35,208	$37,000	6/30/2020
C20171 | 329 Bridwell Drive DIP Phase 2	$50,000	$4,750	6/30/2020
C20172 | 1805 Round Ridge Road DIP Phase 2	$20,000	$0	6/30/2020
C20173 | 5412 Pueblo Road DIP Phase 2	$30,000	$24,600	6/30/2020
C20175 | 730 Waterford Road DIP	$50,000	$0	12/31/2019
C20176 | Pee Wee Reese DIP	$50,000	$0	6/30/2020
C20177 | 946 McKinley Ave DIP Phase 2	$40,000	$0	6/30/2020
C20178 | 1051 Hess Lane DIP	$76,403	$0	6/30/2020
C20179 | 1037 Trevilian Way DIP	$100,000	$0	12/31/2019
C20180 | 6010 Six Mile Lane DIP	$20,000	$0	6/30/2020
C20181 | 4125 Pomroy Court DIP	$50,000	$0	12/31/2019
C20182 | Oak Valley DIP	$74,609	$2,730	6/30/2020
C20183 | 1010 Mt Holly Road DIP	$20,000	$0	6/30/2020

Project	EAC	Lifetime Actuals	Finish Date
C20184 | Fox Ave DIP Phase 2	$50,453	$11,500	6/30/2020
C20185 | 2401 Parliament Court DIP Phase 2	$30,000	$22,600	6/30/2020
C20186 | 11515 Leemont Drive DIP Phase 2	$30,000	$0	6/30/2020
C20187 | 5406 Rolling Ridge Road DIP Phase 2	$25,000	$0	6/30/2020
C20188 | Ethel Ave Rear DIP	$80,774	$0	12/31/2019
C20189 | 6503 Deep Creek Drive DIP Phase 2	$76,046	$0	12/31/2019
C20190 | 15 Glenwood Drive DIP	$58,262	$0	12/31/2019
C20191 | 8904 Blossom Lane DIP Phase 2	$47,601	$0	6/30/2020
C20192 | 1002 Oxmoor woods Parkway Bank	$60,000	$0	6/30/2020
C20193 | 513 Moser Road DIP	$30,000	$0	6/30/2020
C20195 | 10706 Sunderland Road DIP	$40,000	$0	6/30/2020
C20196 | 4611 Stone Lakes Drive DIP Phase 2	$20,000	$0	10/31/2019
C20197 | 3003 Grand Lakes Drive DIP Phase 2	$30,000	$10,940	9/30/2019
C20198 | Steep Ridge Court DIP Phase 2	$13,233	$0	6/30/2020
C20199 | Possom Path DIP	$90,222	$0	6/30/2020
C20200 | Cliff Ave DIP Phase 2	$60,000	$28,114	6/30/2020
C20201 | 7912 Grenelle Drive DIP Phase 2	$24,047	$0	9/30/2019
C20202 | 6319 Applegate Lane DIP	$30,000	$0	6/30/2020
C20203 | 5029 Lea Ann Way Bank Repair	$40,000	$0	6/30/2020
C20204 | 2821 Windsor Forest DIP Phase 2	$6,305	$0	6/30/2020
C20205 | 4911 Andalusia Lane DIP Phase 2	$20,000	$10,000	6/30/2020
C20206 | Hawtorn Creek DIP Phase 2	$2,181	$0	6/30/2020
C20207 | 7636 S 3rd Street Bank Repair Phase 2	$33,101	$0	6/30/2020
C20208 | 3034 Talisman Road DIP Phase 2	$20,000	$4,813	6/30/2020
C20209 | FY20 DRI Inspection	$150,000	$0	6/30/2020
C20210 | FY20 Stormwater Hansen Clean Up	$220,000	$0	6/30/2020
C20214 | 13310 Bearcamp Road Culvert Replmt	$60,000	$0	6/30/2020
C20235 | 1712 Sheridan Ave DIP	$130,000	$0	6/30/2020
C20236 | 3910 East Pages Lane DIP	$100,000	$0	6/30/2020
C20238 | 967 IDA Way DIP	$48,000	$0	6/30/2020
Total	**$2,441,445**	**$157,046**	

Note: Projects listed in this table are slated to begin during the 1st quarter of FY20.

Floodplain Management Program

The floodplain management projects having spending during FY20 are listed in Table 38.

Table 38 – Summary of FY20 Floodplain Management Program Projects

Budget ID	Flood Management Project	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spend	FY20 Projected Excess or (Shortfall)
F19092	FY20 EMERGENCY PREPAREDNESS PLAN	$250,000	$0	$250,000	$0
H20088	FY20 MAPLE ST LAND USE PLANNING	$40,000	$0	$40,000	$0
	TOTAL	**$290,000**	**$0**	**$290,000**	**$0**

Ohio River Flood Protection Program

In 1987, as part of the Memorandum of Agreement with the City of Louisville related to drainage and flood protection services, MSD assumed responsibility for the Ohio River Flood Protection System. In addition to capacity concerns, many flood pumping stations have original 1950's vintage electrical and mechanical equipment. For the most part, the stations are manually operated using control systems that cannot be repaired with off-the-shelf components. The 20-year CRRP includes rehabilitating and/or expanding 15 of the 16 flood pumping stations in MSD's system. Given the size of these facilities, the costs are substantial, but the risks being addressed are vital to Louisville's protection against catastrophic flooding. A listing of Ohio River Protection projects is provided in Table 39.

Table 39 – Summary of FY20 Ohio River Flood Protection Program Projects

Budget ID - Ohio River Flood Protection Project	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spend	FY20 Projected Excess or (Shortfall)
F18234 | FY20 Floodwall Gates Actuators RR	$100,000	$0	$100,000	$0
F18238 | FY20 Floodwall Closures and Vaults RR	$100,000	$0	$100,000	$0
F18241 | FY18 FLOODWALL CONCRETE REPAIRS	$0	$1,099	$0	($1,099)
F18242 | FY18 FLOODWALL CLOSURE UPGRADES	$100,761	$2,565	$0	$98,196
F18248 | FY20 Floodwall Levee Repair and Toe Drains RR	$150,000	$0	$150,000	$0
F18252 | FY20 Levee and Floodwall RR	$400,000	$0	$500,000	($100,000)
F18295 | STARKEY FPS CHECK VALVE REPLACE	$103,337	$94,912	$8,425	$0
F18302 | PADDYS RUN FPS PUMPS 1,2&6 REHAB	$1,308,170	$303,040	$1,005,130	$0
F18515 | Paddys Run FPS Capacity Upgrade	$144,085	$0	$144,085	$0
F19245 | FLOOD GATE 1 REPLACEMENT	$312,493	$0	$234,493	$78,000
F19267 | POND CREEK EMERGENCY PUMP REPAIRS	$543,536	($33,096)	$1,096,412	($519,780)
F19276 | FPS Auto Grease System Upgrades	$409,021	$4,308	$353,370	$51,343

Budget ID - Ohio River Flood Protection Project	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spend	FY20 Projected Excess or (Shortfall)
F19277 | Beargrass Creek FPS Wetwell Relief Gate	$173,526	$4,104	$138,467	$30,955
F20013 | Beargrass FPS Pump #8	$130,000	$0	$130,000	$0
F20211 | FY20 Floodwall Toe Drain Inspection	$350,000	$0	$350,000	$0
F20212 | FY20 Closure Vault Roof Replacement	$150,000	$0	$150,000	$0
F20240 | Shawnee Park FPS Motor #3 Emergency Repair	$100,000	$0	$100,000	$0
H20213 | FY20 USACE FPS O&M UPDATES	$50,000	$0	$50,000	$0
K18264 | FY20 FPS Equipment RR	$660,000	$40,778	$619,222	$0
Total	**$5,284,929**	**$417,710**	**$5,229,604**	**($362,385)**

SUPPORT PROGRAMS

MSD owns a large inventory of rolling stock, information technology (IT) systems, and above-ground facilities that support MSD's operation of wastewater, stormwater drainage, and Ohio River flood protection infrastructure.

- Capital Equipment Program
- Facilities Program
- IT and LOJIC Programs

Capital Equipment Program

MSD owns more than 600 vehicles and portable equipment, ranging from passenger vehicles and pickup trucks to large excavators and sewer-cleaning trucks. This equipment is critical to MSD's ability to complete the preventive and corrective maintenance activities required to provide sustainable and reliable wastewater, stormwater, and flood protection services. The 20-year CRRP includes an annual allowance for equipment repair and replacement. The capital equipment allocations and projects are listed in Table 40.

Table 40 – Summary of FY20 Capital Equipment Program Projects

Budget ID - Capital Equipment Project	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spend	FY20 Projected Excess or (Shortfall)
K14128 | FY18 VEHICLES & EQUIP	$185,212	$22,024	$163,188	$0
K15053 | FY19 VEHICLES & EQUIP	$1,687,813	$487,122	$1,200,691	$0
K16060 | FY20 VEHICLES & EQUIPMENT	$2,000,000	$0	$2,000,000	$0
K19319 | WEB BASED POOL CAR SYSTEM	$0	$0	$9,900	($9,900)
K19324 | FY19 GATOR PURCHASE	$38,000	$0	$38,000	$0
TOTAL	**$3,911,025**	**$509,146**	**$3,411,779**	**($9,900)**

Note: Regulatory Compliance includes critical equipment noted in the CMOM Report

Facilities Program

As part of the CRRP a facility condition assessment of more than 200 buildings and recommended corrective actions where deficiencies were noted. The main areas of deficiency were in roofs. The facility condition assessments also identified deficiencies in areas related to heating, ventilation, and air conditioning, building egress, signage and ancillary equipment, and indications of conditions that could eventually cause structural issues and even structural failure. The 20-year CRRP includes projects to address the specific needs at each facility. Facility projects active during FY20 are listed in Table 41.

Table 41 – Summary of FY20 Facilities Program Projects

Budget ID - Facilities Project	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spend	FY20 Projected Excess or (Shortfall)
D15024 | MFWQTC CHILLER REPLACE	$299,010	$0	$250,831	$48,179
D18128 | DRGWQTC PLANT PAVING & PARKING EXP PH1	$525,455	$0	$354,457	$170,998
D20016 | DRG ADMIN BLDG HVAC	$404,954	$0	$252,890	$152,064
G09535 | CMF PARKING SURFACE	$585,142	$0	$219,416	$365,726
G17027 | CMF ROOF	$602,602	$14,117	$588,485	$0
G18303 | CMF COOLING TOWER	$8,633	$0	$0	$8,633
G18417 | FY20 Facility Roof Inspections	$39,000	$0	$39,000	$0
G19252 | DISTRICTWIDE FACILITY SECURITY UPGRADES	$27,595	$10,145	$17,450	$0
G20028 | WQTC ELEVATOR REPAIRS	$1,013,675	$0	$435,775	$577,900
G20134 | HOLD FOR PERMANENT SOLUTION	$8,000,000	$0	$8,000,000	$0
G20135 | HOLD FOR PERMANENT SOLUTION IMPROVE	$2,000,000	$0	$2,000,000	$0
TOTAL	**$13,506,066**	**$24,262**	**$12,158,302**	**$1,323,500**

Information Technology (IT) and LOJIC

MSD maintains an extensive inventory of IT hardware and software that is essential to overall agency operations; this includes the MSD intranet system that is the backbone of MSD electronic communication and digital data generation, communication and storage, and regulatory compliance reporting. This hardware and software system is also responsible for supplying the internet connection to MSD's supervisory control and data acquisition (SCADA)

system that controls more than 300 pump stations and control gates and serves as the platform for implementing the RTC system. This RTC system is used to optimize use of MSD's conveyance facilities to cost-effectively maximize the use of existing facilities to reduce sewer overflows. Without adequate and updated IT systems, public health and safety could be at risk. This inventory is subject to periodic upgrade and replacement like all MSD's other assets.

The Louisville and Jefferson County Information Consortium (LOJIC) is a multi-agency partnership that began in 1997 with the mission of building and maintaining a comprehensive geographic information system (GIS) to serve all of Louisville and Jefferson County, Kentucky. MSD hosts the LOJIC systems, which similarly require periodic upgrades and replacements to hardware and software. The IT and LOJIC projects active in FY20 are listed in Table 42.

Table 42 – Summary of FY20 IT & LOJIC Program Projects

Budget ID – IT and LOJIC Projects	FY20 Budget	FY20 Actual Spending	FY20 Current Forecasted Spend	FY20 Projected Excess or (Shortfall)
N16071 | MAIN OFFICE DATA CENTER RECONFIG	$250,000	$0	$55,556	$194,444
N18422 | FY20 IS Network Switch Replacement	$50,000	$12,405	$37,595	$12,405
N18425 | FY20 Wireless-Mobile Deployment	$50,000	$0	$50,000	$0
N18436 | FY20 IT Server Upgrades	$75,000	$2,952	$72,048	$2,952
N19077 | HANSEN MIGRATION TO INFOR CLOUD	$666,617	$106,706	$559,911	$106,706
N20014 | FY20 Cable Management	$200,000	$1,841	$198,159	$1,841
N20015 | FY20 Desktop Lifecycle	$449,500	$12,456	$437,044	$12,456
N20069 | REFRESH DISASTER RECOVERY CENTER	$1,405,700	$80,435	$1,325,266	$80,435
N20078 | MOBILE COMMUNICATIONS REPLACEMENT	$250,000	$0	$227,273	$22,727
G14150 | LOJIC FY18/19 AERIAL IMAGERY UPDATE	$319,194	$155,594	$163,600	$155,594
J20022 | FY20 LOJIC SURVEY CONTROL MAINTENANCE	$50,000	$0	$50,000	$0
TOTAL	**$3,766,011**	**$372,389**	**$3,176,450**	**$589,560**

SECTION 3: FINANCIAL REPORT

FINANCIAL STATEMENTS

Statement of Revenues, Expenses and Changes in Net Position

Table 43 – Statement of Revenues, Expenses and Changes in Net Position

Louisville & Jefferson County Metropolitan Sewer District
Statement of Revenues, Expenses, and Changes in Net Position
September 30, 2019

	YTD Actual	YTD Budget	YTD Variance	% YTD Variance	YTD Prior Year	YTD Variance	% YTD Variance
Wastewater Charges							
Residential	$ 32,741,871	$ 31,648,714	$ 1,093,156	3.5%	$ 30,269,240	$ 2,472,630	8.2%
Commercial	20,555,889	19,587,568	$ 968,321	4.9%	19,370,447	$ 1,185,441	6.1%
Industrial	5,619,902	6,229,272	$ (609,369)	-9.8%	6,060,295	$ (440,392)	-7.3%
Other Wastewater	2,446,792	2,860,579	$ (413,786)	-14.5%	2,655,978	$ (209,186)	-7.9%
Free Wastewater Charges	(1,802,900)	(1,836,435)	$ 33,535	-1.8%	(2,027,375)	$ 224,475	-11.1%
Total Wastewater Charges	**59,561,555**	**58,489,698**	**$ 1,071,857**	1.8%	**56,328,586**	**$ 3,232,968**	5.7%
Stormwater Charges							
Residential	6,476,951	6,567,371	$ (90,420)	-1.4%	6,038,683	$ 438,268	7.3%
Commercial	10,166,222	10,134,471	$ 31,751	0.3%	9,511,307	$ 654,915	6.9%
Industrial	1,168,999	1,135,158	$ 33,841	3.0%	1,074,376	$ 94,623	8.8%
Other Stormwater	746,157	537,679	$ 208,478	38.8%	720,998	$ 25,159	3.5%
Free Stormwater Charges	(530,284)	(537,679)	$ 7,394	-1.4%	(498,005)	$ (32,280)	6.5%
Total Stormwater Charges	**18,028,045**	**17,837,000**	**$ 191,045**	1.1%	**16,847,359**	**$ 1,180,686**	7.0%
Total Service Charges	**77,589,599**	**76,326,698**	**$ 1,262,902**	**1.7%**	**73,175,945**	**$ 4,413,654**	**6.0%**
Other Operating Income	**1,401,907**	**990,725**	**$ 411,182**	**41.5%**	**1,079,831**	**$ 322,076**	**29.8%**
Total Operating Revenue	**78,991,506**	**77,317,423**	**$ 1,674,084**	**2.2%**	**74,255,776**	**$ 4,735,730**	**6.4%**
Operating Expenses							
Salaries & Wages	12,097,741	12,814,621	$ (716,880)	-5.6%	11,333,847	$ 763,894	6.7%
Labor Related Overhead	6,086,732	6,577,254	$ (490,522)	-7.5%	5,774,621	$ 312,111	5.4%
Utilities	4,395,431	4,344,162	$ 51,269	1.2%	4,386,322	$ 9,110	0.2%
Materials & Supplies	1,838,293	1,857,670	$ (19,377)	-1.0%	2,015,725	$ (177,432)	-8.8%
Contractual Services	7,078,230	8,693,344	$ (1,615,114)	-18.6%	6,942,909	$ 135,321	1.9%
Chemicals	1,087,353	1,141,021	$ (53,668)	-4.7%	1,065,002	$ 22,351	2.1%
Fuel	215,622	357,180	$ (141,558)	-39.6%	383,384	$ (167,761)	-43.8%
Insurance Premiums & Claims	507,026	544,597	$ (37,571)	-6.9%	523,468	$ (16,442)	-3.1%
Bad Debt	906,369	750,000	$ 156,369	20.8%	1,033,728	$ (127,359)	-12.3%
Other Operating Expense	280,734	787,349	$ (506,615)	-64.3%	381,824	$ (101,090)	-26.5%
Mapping/Insurance Recovery	(190,011)	-	$ (190,011)	0.0%	-	$ (190,011)	0.0%
Capitalized Overhead	(8,510,879)	(9,845,471)	$ 1,334,593	-13.6%	(8,407,802)	$ (103,077)	1.2%
Capital Expenses (over)/under applied	-	-	$ -	0.0%	-	$ -	0.0%
Net Service and Administrative Costs	**25,792,643**	**28,021,727**	**$ (2,229,084)**	**-8.0%**	**25,433,029**	**$ 359,614**	**1.4%**
Depreciation	24,114,143	22,146,954	$ 1,967,189	8.9%	19,450,308	$ 4,663,834	24.0%
Amortization	390,349	378,660	$ 11,689	3.1%	375,495	$ 14,854	4.0%
Total Depreciation/Amortization	**24,504,492**	**22,525,614**	**$ 1,978,878**	**8.8%**	**19,825,803.72**	**$ 4,678,688**	**23.6%**
Total Operating Expenses	**50,297,135**	**50,547,341**	**$ (250,206)**	**-0.5%**	**45,258,833**	**$ 5,038,303**	**11.1%**
Net Operating Income	**28,694,371**	**26,770,082**	**$ 1,924,289**	**7.2%**	**28,996,943**	**$ (302,572)**	**-1.0%**
Non-Operating Revenue (Expenses)							
Gain/Loss Disposal of Assets	-	-	$ -	0.0%	-	$ -	0.0%
Investment Income	2,620,078	2,480,628	$ 139,451	5.6%	3,380,259	$ (760,181)	-22.5%
Interest Expense	(21,301,270)	(20,913,731)	$ (387,539)	1.9%	(19,742,057)	$ (1,559,212)	7.9%
Total Non-Operating Revenue (Expenses)	**(18,681,191)**	**(18,433,103)**	**$ (248,088)**	**1.3%**	**(16,361,798)**	**$ (2,319,393)**	**14.2%**
Contributions	-	-	$ -	0.0%	-	$ -	0.0%
Change in Net Position Before Swaps	**10,013,180**	**8,336,979**	**$ 1,676,201**	**20.1%**	**12,635,145**	**$ (2,621,966)**	**-20.8%**
Change in Fair Value of Swaps	**(6,423,094)**	**0.00**	**$ (6,423,094)**	**0.0%**	**3,923,070**	**$ (10,346,164)**	**-263.7%**
Change in Net Position After Swaps	**$ 3,590,086**	**$ 8,336,979**	**$ (4,746,893)**	**-56.9%**	**$ 16,558,215**	**$ (12,968,129)**	**-78.3%**

Comparative Statement of Net Position

Table 44 – Comparative Statement of Net Position

Louisville & Jefferson County Metropolitan Sewer District Comparative Statement of Net Position September 30, 2019				
	YTD September 2019	YTD June 2019	Variance	Percent
Current Assets				
Unrestricted Cash & Cash Equivalents	77,896,061	80,472,544	(2,576,483)	-3.20%
Sewer & Drainage Receivable	21,842,868	19,488,925	2,353,943	12.08%
Assessment Warrants Receivable	276,543	277,123	(580)	-0.21%
Miscellaneous Receivables	4,141,191	8,148,457	(4,007,265)	-49.18%
Inventories	4,899,453	4,622,556	276,897	5.99%
Prepaid Expenses	2,866,367	2,960,661	(94,294)	-3.18%
Restricted Funds	371,958,652	129,198,027	242,760,625	187.90%
Accrued Interest Receivable	957,091	957,091	-	0.00%
Total Current Assets	**484,838,226**	**246,125,385**	**238,712,841**	**96.99%**
Non-Current Assets				
Utility Plant in Service	3,988,430,032	3,984,619,134	3,810,898	0.10%
Accumulated Depreciation	(1,350,596,403)	(1,326,461,293)	(24,135,110)	1.82%
Construction in Progress	486,602,170	460,501,098	26,101,073	5.67%
Net Fixed Assets	**3,124,435,800**	**3,118,658,938**	**5,776,861**	**0.19%**
Non-Current Receivables	**31,215,939**	**31,644,191**	**(428,252)**	**-1.35%**
Total Assets	**3,640,489,965**	**3,396,428,514**	**244,061,451**	**7.19%**
Total Deferred Outflow of Resources	**52,147,174**	**52,018,217**	**128,957**	**0.25%**
Total Assets & Deferred Outflow of Resources	**3,692,637,139**	**3,448,446,731**	**244,190,408**	**7.08%**
Current Liabilities				
Miscellaneous Accounts Payable	8,877,102	10,567,565	(1,690,463)	-16.00%
Accounts Payable - Construction	7,906,328	19,755,737	(11,849,409)	-59.98%
Contract Retainage	10,274,955	12,189,582	(1,914,626)	-15.71%
Accrued Interest Payable	42,547,695	17,818,521	24,729,174	138.78%
Current Maturities of Bonds Payable	40,380,000	42,200,000	(1,820,000)	-4.31%
Subordinate Debt	575,437,587	349,097,587	226,340,000	64.84%
Deposits Payable	2,729,122	2,928,178	(199,056)	-6.80%
Accrued Salaries & Wages	1,726,602	1,924,627	(198,026)	-10.29%
Accrued Workers' Comp Insurance	2,532,148	2,325,612	206,536	8.88%
Employee Comp Absences Payable	3,142,099	3,350,024	(207,925)	-6.21%
Total Current Liabilities	**695,553,638**	**462,157,433**	**233,396,204**	**50.50%**
Non-Current Liabilities				
Long-Term Debt Payable	1,911,915,000	1,914,340,000	(2,425,000)	-0.13%
Other Long-Term Liability	218,831,900	215,402,582	3,429,318	1.59%
Total Non-Current Liabilities	**2,130,746,900**	**2,129,742,582**	**1,004,318**	**0.05%**
Total Liabilities	**2,826,300,538**	**2,591,900,016**	**234,400,522**	**9.04%**
Total Deferred Inflow of Resources	**92,194,923**	**85,995,123**	**6,199,800**	**7.21%**
Total Liabilities & Deferred Inflow of Resources	**2,918,495,461**	**2,677,895,139**	**240,600,322**	**8.98%**
Net Position	**774,141,678**	**770,551,592**	**3,590,086**	**0.47%**
Total Liabilities, Deferred Inflow of Resources and Net Position	**3,692,637,139**	**3,448,446,731**	**244,190,408**	**7.08%**

Financial Statement Overview

Revenues:

- Total Operating Revenue is $78.9 million compared to $73.2 million for the same period last year, an increase of $4.4 million, or 6.0%. Total Operating Revenue is $1.2 million, or 1.7%, higher than budget.

- Wastewater Service Charges total $59.6 million. This is $3.2 million, or 5.7%, higher than the same period last year. The year over year increase is being driven by a 6.9% rate increase enacted on August 1, 2019. Wastewater Service Charges are $1.0 million, or 1.8%, higher than budget.

- Stormwater Service Charges are $18.0 million for the year. This is an increase of $1.1 million, or 7.0%, from last year and is $0.2 million, or 1.1%, higher than budget. The year over year increase is being driven by a 6.9% rate increase enacted on August 1, 2019.

- Other Income totals $1.4 million. This is an increase of $0.3 million, or 29.8%, from last year and is $0.4 million, or 41.5%, higher than budget.

Operating Expenses:

- Total Service & Administrative costs are $34.3 million. This is $0.04 million, or 1.4%, higher than last year. Service and Administrative costs are $3.5 million, or 9.4%, lower than budget.

- Depreciation and amortization expense totals $24.5 million. This is an increase of $4.7 million, or 23.6%, from a year ago and is $1.9 million, or 8.8%, higher than budget.

- Total Operating Expenses for fiscal year 2020 are $50.3 million which is 11.1%, or $5.0million, higher than the same period last year and 0.5%, or $0.3 million, lower than budget.

Net Income:

- Net Operating Income (NOI) is $28.7 million compared to $28.9 million for the same period last year, a decrease of $0.3 million, or 1.0%. NOI is $1.9 million, or 7.2%, higher than the budget.

- Investment Income is $2.6 million compared to $3.3 million for the same period last year, a decrease of $0.7 million, or 22.5%, and is $0.1 million, or 5.6%, higher than the budget.

- Interest Expense is $1.6 million, or 7.9%, higher than last year and $0.4 million, or 1.9%, lower than budget.

- Change in Net Position before Swaps totaled $10.0 million compared to $12.6 million for the same period last year, a decrease of $2.6 million, or 20.8%, and is $1.6 million, or 20.1%, higher than budget.

- Change in Net Position including the mark to market change on swaps totaled $3.5 million. This is $13.0 million, or 78.3%, lower than the same period last year and $4.7 million, or 56.9%, lower than budget.

SUPPLEMENTAL FINANCIAL REPORTING

The supplemental financial reporting section is provided for additional insights into various components of the financial statements.

Number of Customers & Revenue by Customer Class

Table 45 – Customers and Revenue by Customer Class

Number of Customers & Revenue by Customer Class
September 30, 2019

	Number of Customers September		Revenue Per Customer Class September		Budget Per Customer Class September	
	FY 2020	FY 2019	FY 2020	FY 2019	FY 2020	FY 2019
Wastewater						
Residential	220,452	193,683	10,347,489	10,056,497	10,189,859	9,656,651
Commercial	21,356	19,227	7,607,160	7,368,863	7,181,002	6,805,239
Industrial	389	356	1,913,026	2,389,082	751,218	711,909
Sub-Total:	242,197	213,266	19,867,675	19,814,442	18,122,080	17,173,799
Stormwater						
Residential	215,426	188,097	1,919,686	1,975,218	2,079,220	1,852,862
Commercial	14,847	13,311	3,330,302	3,335,323	3,379,200	3,011,318
Industrial	304	265	386,735	371,453	422,541	376,541
Sub-Total:	230,577	201,673	5,636,723	5,681,993	5,880,961	5,240,721
Grand Total:			**$ 25,504,398**	**$ 25,496,435**	**$ 24,003,041**	**$ 22,414,520**

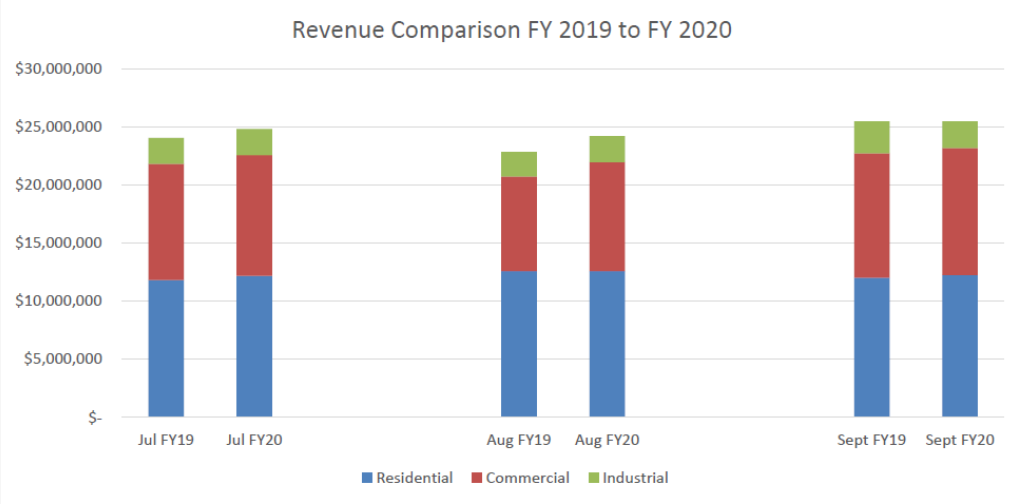
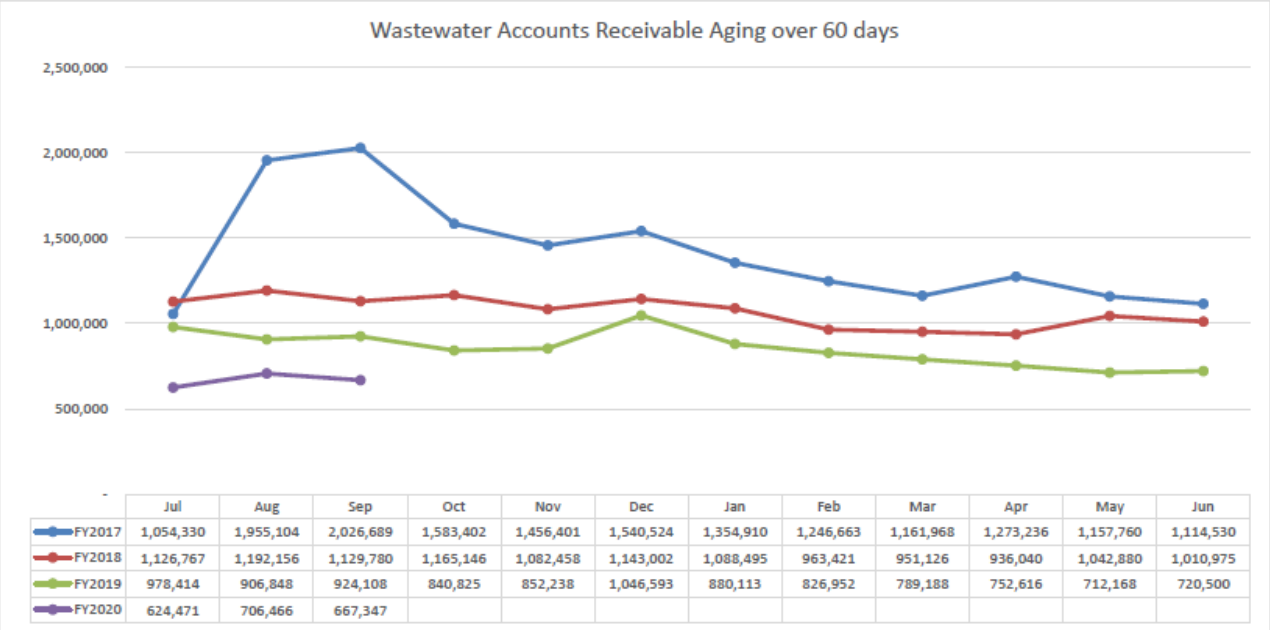


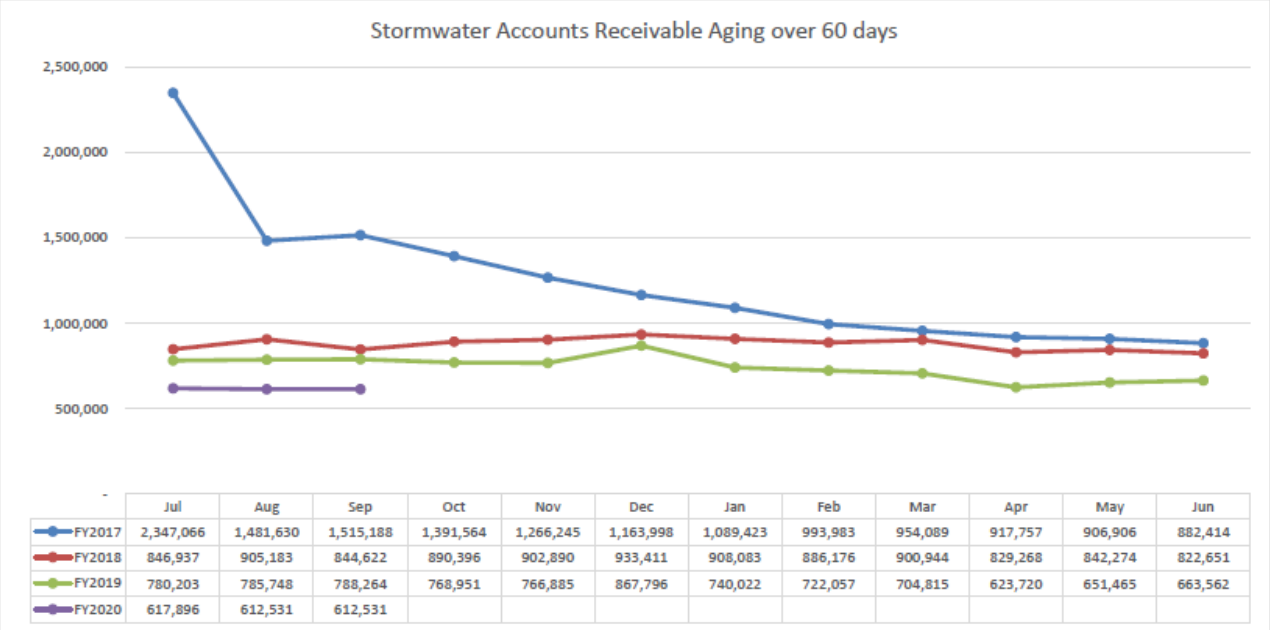
Figure 6 – Revenue Comparison FY 2019 to FY20 Charts

Accounts Receivable Aging

The following charts reflect MSD customer account balances unpaid 60 days or more after the invoice date for Wastewater and Stormwater accounts.



	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
FY2017	1,054,330	1,955,104	2,026,689	1,583,402	1,456,401	1,540,524	1,354,910	1,246,663	1,161,968	1,273,236	1,157,760	1,114,530
FY2018	1,126,767	1,192,156	1,129,780	1,165,146	1,082,458	1,143,002	1,088,495	963,421	951,126	936,040	1,042,880	1,010,975
FY2019	978,414	906,848	924,108	840,825	852,238	1,046,593	880,113	826,952	789,188	752,616	712,168	720,500
FY2020	624,471	706,466	667,347									

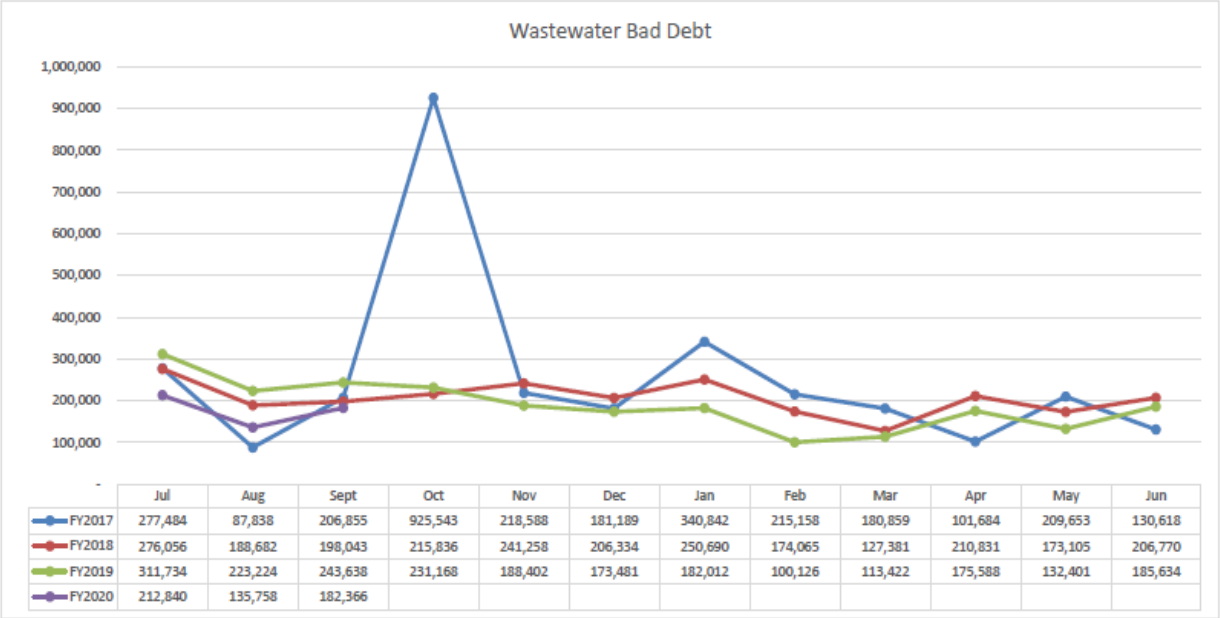


	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
FY2017	2,347,066	1,481,630	1,515,188	1,391,564	1,266,245	1,163,998	1,089,423	993,983	954,089	917,757	906,906	882,414
FY2018	846,937	905,183	844,622	890,396	902,890	933,411	908,083	886,176	900,944	829,268	842,274	822,651
FY2019	780,203	785,748	788,264	768,951	766,885	867,796	740,022	722,057	704,815	623,720	651,465	663,562
FY2020	617,896	612,531	612,531									

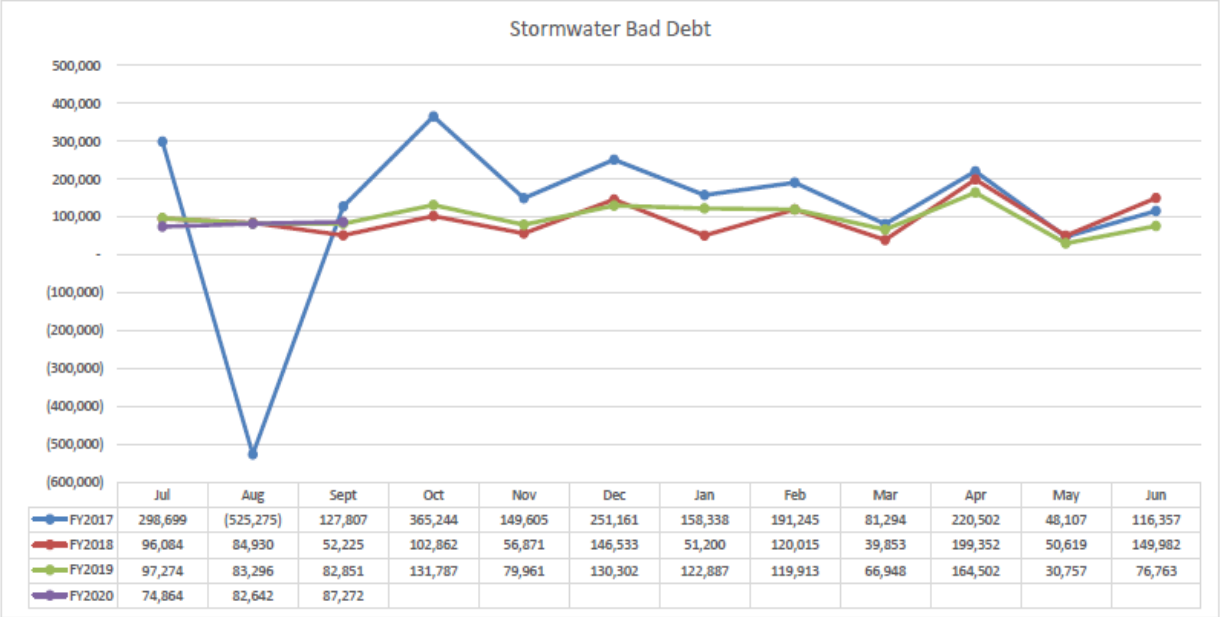
Figure 7 –Accounts Receivable Aging Charts

Wastewater & Stormwater Bad Debt

The following charts reflect monthly write offs of uncollectible Wastewater and Stormwater accounts. Accounts written off are turned over to a third party for subsequent collection efforts.



	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
FY2017	277,484	87,838	206,855	925,543	218,588	181,189	340,842	215,158	180,859	101,684	209,653	130,618
FY2018	276,056	188,682	198,043	215,836	241,258	206,334	250,690	174,065	127,381	210,831	173,105	206,770
FY2019	311,734	223,224	243,638	231,168	188,402	173,481	182,012	100,126	113,422	175,588	132,401	185,634
FY2020	212,840	135,758	182,366									



	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
FY2017	298,699	(525,275)	127,807	365,244	149,605	251,161	158,338	191,245	81,294	220,502	48,107	116,357
FY2018	96,084	84,930	52,225	102,862	56,871	146,533	51,200	120,015	39,853	199,352	50,619	149,982
FY2019	97,274	83,296	82,851	131,787	79,961	130,302	122,887	119,913	66,948	164,502	30,757	76,763
FY2020	74,864	82,642	87,272									

	Bad Debt as a % of Reveune			
	FY2017	FY2018	FY2019	FY2020 YTD
Wastewater	1.60%	1.19%	1.04%	0.89%
Stormwater	2.51%	1.81%	1.72%	1.38%

Figure 8 –Wastewater and Stormwater Bad Debt Charts

Comparative Operating Budget Performance

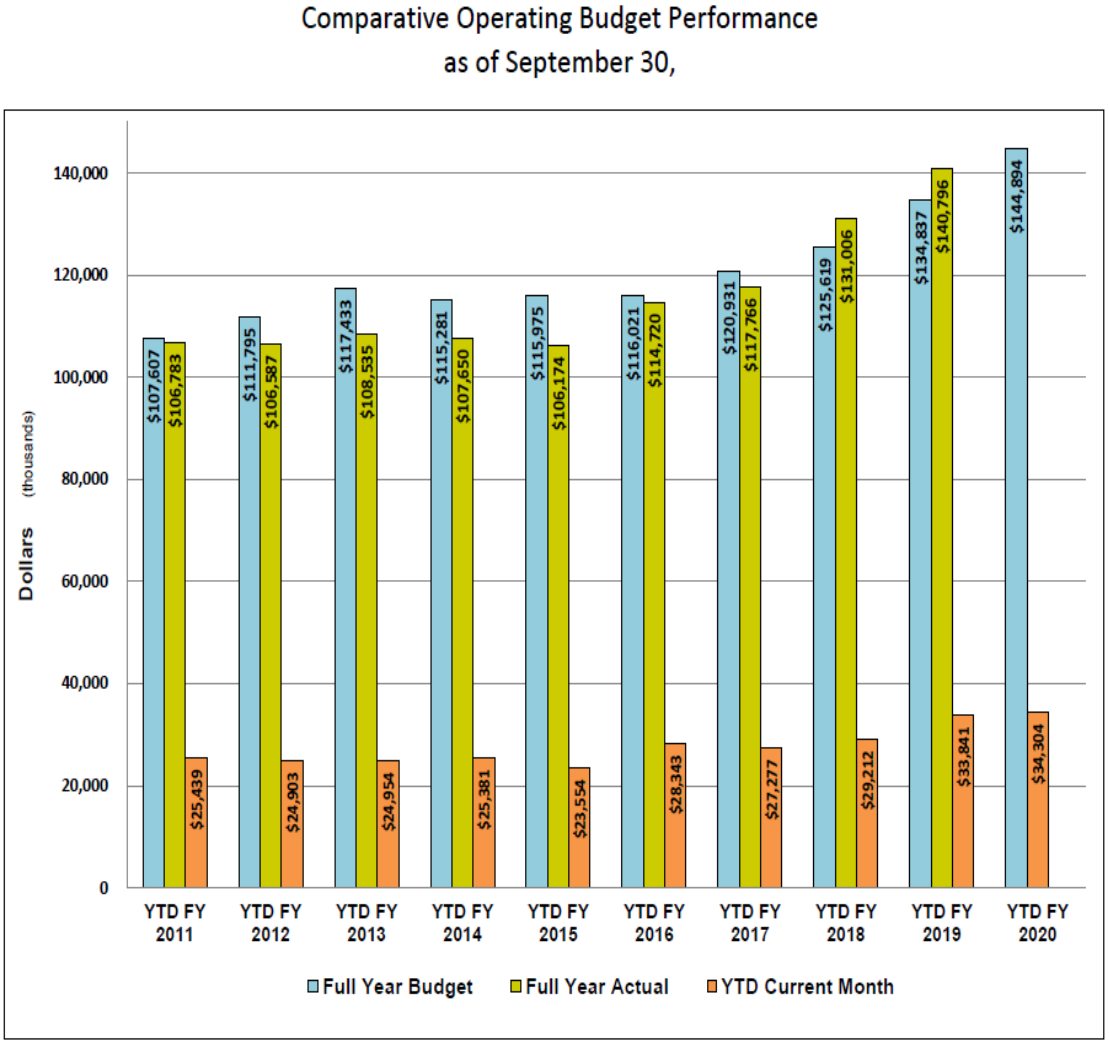


Figure 9 – Comparative Operating Budget Performance Chart

Table 46 – FY20 Operating Expense

OPERATING EXPENSE
FY 2020

"Manage the operating units of MSD within the FY2020 budget, delivering reliable and responsive services to customers."

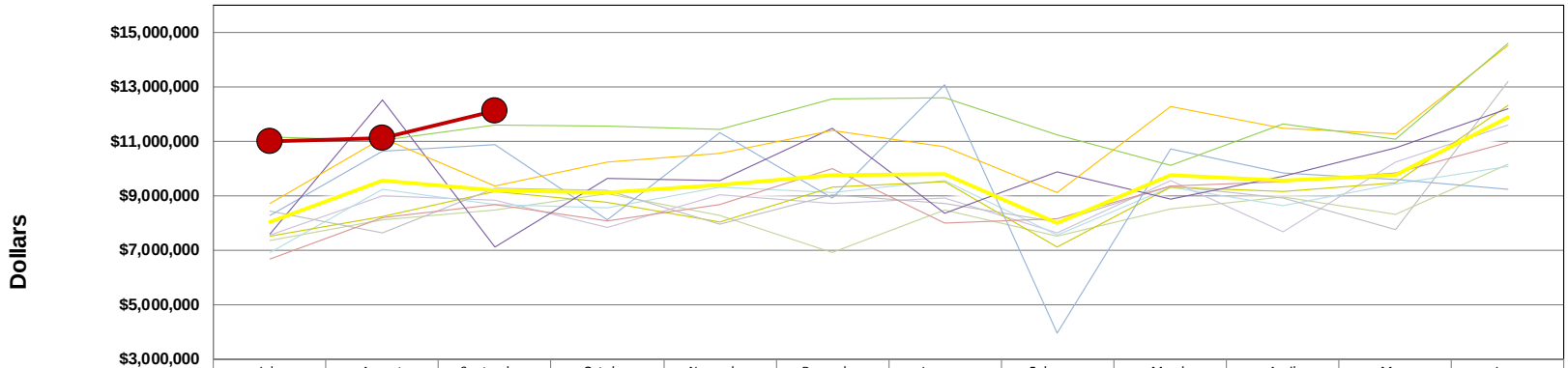
		ACTUALS											
Year to Date Totals	**O&M Budget**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**
FY15 YTD Total	115,975,014	6,671,498	14,866,211	23,553,895	31,636,191	40,321,276	50,333,536	58,353,348	66,508,611	75,879,722	85,389,477	95,219,201	106,174,406
FY16 YTD Total	116,021,156	7,762,835	16,440,660	28,342,724	37,926,793	46,102,024	58,298,571	68,378,257	75,313,842	86,045,680	95,886,535	105,489,677	114,719,776
FY17 YTD Total	120,930,511	7,620,192	20,131,479	27,277,326	36,914,606	46,463,982	57,941,517	66,304,967	76,178,939	85,083,800	94,811,091	105,572,784	117,765,773
FY18 YTD Total	125,619,049	8,716,633	19,830,607	29,212,214	39,475,941	50,030,801	61,447,285	72,267,405	81,385,856	93,686,417	105,173,247	116,477,537	131,006,196
FY19 YTD Total	134,837,024	11,181,510	22,219,166	33,840,830	45,424,477	56,881,302	69,450,206	82,076,580	93,333,009	103,447,932	115,093,201	126,186,788	140,796,276
FY20 YTD Total	144,894,329	11,022,883	22,166,195	34,303,521									
Percent Expended YTD of Total Actual													
FY15 YTD Total		6.28%	14.00%	22.18%	29.80%	37.98%	47.41%	54.96%	62.64%	71.47%	80.42%	89.68%	100.00%
FY16 YTD Total		6.77%	14.33%	24.71%	33.06%	40.19%	50.82%	59.60%	65.65%	75.01%	83.58%	91.95%	100.00%
FY17 YTD Total		6.47%	17.09%	23.16%	31.35%	39.45%	49.20%	56.30%	64.69%	72.25%	80.51%	89.65%	100.00%
FY18 YTD Total		6.65%	15.14%	22.30%	30.13%	38.19%	46.90%	55.16%	62.12%	71.51%	80.28%	88.91%	100.00%
FY19 YTD Total		7.94%	15.78%	24.04%	32.26%	40.40%	49.33%	58.29%	66.29%	73.47%	81.74%	89.62%	100.00%
5 Year Average		6.82%	15.27%	23.28%	31.32%	39.24%	48.73%	56.86%	64.28%	72.74%	81.31%	89.96%	100.00%
Performance Matrix Results - FY 2019													
FY19 YTD Budget		12,393,613	25,003,405	36,272,823	47,446,810	59,055,598	70,597,955	79,911,548	90,168,171	101,859,456	112,641,582	124,345,473	134,837,024
FY19 YTD Total		11,181,510	22,219,166	33,840,830	45,424,477	56,881,302	69,450,206	82,076,580	93,333,009	103,447,932	115,093,201	126,186,788	140,796,276
Variance of Actual to Budget		(1,212,103)	(2,784,239)	(2,431,993)	(2,022,333)	(2,174,296)	(1,147,749)	2,165,032	3,164,838	1,588,476	2,451,619	1,841,315	5,959,252
FY 2019 Performance Level Matrix Results		**90.22%**	**88.86%**	**93.30%**	**95.74%**	**96.32%**	**98.37%**	**102.71%**	**103.51%**	**101.56%**	**102.18%**	**101.48%**	**104.42%**
Performance Matrix Results - FY 2020													
FY20 YTD Budget		12,622,114	25,860,317	37,867,298	50,002,244	62,573,302	74,943,228	86,701,893	109,346,222	109,346,222	120,875,927	133,474,442	144,894,335
FY20 YTD Total		11,022,883	22,166,195	34,303,521	0	0	0	0	0	0	0	0	0
Variance of Actual to Budget		(1,599,231)	(3,694,122)	(3,563,777)	(50,002,244)	(62,573,302)	(74,943,228)	(86,701,893)	(109,346,222)	(109,346,222)	(120,875,927)	(133,474,442)	(144,894,335)
FY 2020 Performance Level Matrix Results		**87.33%**	**85.72%**	**90.59%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**

Budget Matrix Results				
	Budget	**Actual**	**Percentage**	**5 Yr Average**
FY15	115,975,014	106,174,406	91.55%	**99.30%**
FY16	116,021,156	114,719,776	98.88%	
FY17	120,930,511	117,765,773	97.38%	
FY18	125,619,049	131,006,196	104.29%	
FY19	134,837,024	140,796,276	104.42%	

Prepared by: Patrick Meador

ASSUMPTIONS: Matrix results assume a typical weather year and no extraordinary events exceeding contingency reserve.

Comparative Monthly Operating Expenditures



	July	August	September	October	November	December	January	February	March	April	May	June
FY10 Monthly Expense	7,386,999	8,148,639	8,486,419	9,094,573	8,283,698	6,948,622	8,476,898	7,519,560	8,540,456	8,974,921	8,330,559	10,162,054
FY11 Monthly Expense	7,587,390	9,001,815	8,850,109	7,851,341	9,040,318	8,747,213	8,932,186	7,661,459	9,567,360	7,677,838	10,239,672	11,625,964
FY12 Monthly Expense	6,938,802	9,262,950	8,701,018	8,576,673	9,335,042	9,121,497	9,575,862	7,561,275	9,333,951	8,651,037	9,449,379	10,079,761
FY13 Monthly Expense	7,542,927	8,233,728	9,177,573	8,774,161	8,039,016	9,326,840	9,527,659	7,129,486	9,312,560	9,163,157	9,495,244	12,317,967
FY14 Monthly Expense	8,456,854	7,639,492	9,284,868	9,203,567	7,974,333	9,041,529	8,743,617	8,040,331	9,381,557	8,925,528	7,754,558	13,203,938
FY15 Monthly Expense	6,671,498	8,194,713	8,687,684	8,082,296	8,684,686	10,012,260	8,019,812	8,155,263	9,371,511	9,509,755	9,830,123	10,954,806
FY16 Monthly Expense	8,282,835	10,657,815	10,902,076	8,137,821	11,341,478	8,945,330	13,079,686	3,966,801	10,731,838	9,840,856	9,601,731	9,231,509
FY17 Monthly Expense	7,620,192	12,509,795	7,147,062	9,637,557	9,549,376	11,477,535	8,363,450	9,873,973	8,904,861	9,727,223	10,761,760	12,192,989
FY18 Monthly Expense	8,716,169	11,113,723	9,382,323	10,263,726	10,554,860	11,416,484	10,820,120	9,118,452	12,300,560	11,486,830	11,304,290	14,528,659
FY19 Monthly Expense	11,181,147	11,038,019	11,621,664	11,583,647	11,456,825	12,568,904	12,626,105	11,256,698	10,114,923	11,645,268	11,093,586	14,609,488
Ten Year Average	8,038,481	9,580,069	9,224,080	9,120,536	9,425,963	9,760,621	9,816,540	8,028,330	9,755,958	9,560,241	9,786,090	11,871,113
FY20 Monthly Expense	11,023,534	11,143,332	12,136,656									

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(February Average & Actual results lower due to short period's impact on Salary & Labor Related Overhead expenses.)

FY16 February decrease due to reclasses of $6.5mil for Bad Debt and $2.0mil for Capital expenses from Operating, and also recording insurance reimbursements of $1.750mil for flooding at MFWTP.

Figure 10 – Comparative Monthly Operating Expenditures

Operating Expense Summary

Table 47 – Operating Expense Summary

FY 2020
Summary of MSD Operating Expense
as of 9/30/2019

Operating Expenses	FY20 Budget	FY20 YTD Actual	FY19 YTD Actual	Variance Actual to Budget	Variance Actual to Prior Year
Salaries & Wages	12,814,621	12,097,741	7,598,321	(716,880)	4,499,420
Labor Related Overhead	6,577,254	6,086,732	4,390,855	(490,522)	1,695,877
Utilities	4,344,162	4,395,431	2,321,610	51,269	2,073,821
Materials & Supplies	1,789,420	1,838,293	1,522,629	48,873	315,664
Contractual Services	8,761,594	7,078,230	4,216,204	(1,683,364)	2,862,026
Chemicals	1,141,021	1,087,353	636,466	(53,668)	450,887
Fuel	357,180	215,622	262,405	(141,558)	(46,783)
Insurance Premiums & Claims	544,597	507,026	356,351	(37,571)	150,675
Bad Debt	750,000	906,369	689,152	156,369	217,217
Other Operating Expense	787,349	280,734	233,301	(506,615)	47,433
Mapping Recovery - LOJIC	0	(190,010)	0	(190,010)	(190,010)
System Roll-up Variance	0	0	(8,130)	0	8,130
TOTAL	37,867,198	34,303,521	22,219,164	(3,563,677)	12,084,357

DIVISIONS	FY20 Budget	FY20 YTD Actual	FY19 YTD Actual	Variance Actual to Budget	Variance Actual to Prior Year
Corporate Costs	2,891,800	3,408,526	2,263,010	516,726	1,145,516
Engineering	3,354,486	2,761,767	1,729,235	(592,719)	1,032,532
Executive	2,496,263	1,891,280	1,191,493	(604,983)	699,787
Finance	838,428	695,727	440,830	(142,701)	254,897
Human Resources	728,794	657,745	388,718	(71,049)	269,027
Information Technology	3,353,382	2,930,806	1,630,095	(422,576)	1,300,711
Legal Services	997,666	505,540	387,772	(492,126)	117,768
OPERATIONS GROUP	22,410,728	20,959,789	13,963,953	(1,450,939)	6,995,836
Supply Chain	795,651	682,352	232,188	(113,299)	450,164
Mapping Recovery - LOJIC	0	(190,010)	0	(190,010)	(190,010)
System Roll-up Variance	0	0	(8,130)	0	8,130
TOTAL	37,867,198	34,303,521	22,219,164	(3,563,677)	12,084,357

OPERATIONS GROUP	FY20 Budget	FY20 YTD Actual	FY19 YTD Actual	Variance Actual to Budget	Variance Actual to Prior Year
COLLECTIONS - (Metro)	6,593,680	7,041,464	4,421,989	447,784	2,619,475
DRAINAGE & FP - (I&FP)	4,134,141	3,652,245	2,026,104	(481,896)	1,626,141
PERFORMANCE	324,754	143,571	129,676	(181,183)	13,895
SUPPORT - (Phy Assets)	2,193,804	1,776,223	1,646,964	(417,581)	129,259
TREATMENT - (MFWTP)	9,164,349	8,346,287	5,739,220	(818,062)	2,607,067
Operations Group Total	22,410,728	20,959,789	13,963,953	(1,450,939)	6,995,836

Prepared by: Patrick Meador

Operating Expense by Division

Table 48 – Operating Expense by Division

Operating Expense by Division
as of 9/30/2019

	CORPORATE COSTS		ENGINEERING		EXECUTIVE	
Operating Expenses	FY20 Budget	FY20 YTD Act	FY20 Budget	FY20 YTD Act	FY20 Budget	FY20 YTD Act
Salaries & Wages	(633,194)	3,700	2,118,259	1,780,651	921,474	844,469
Labor Related Overhead	620,936	502,541	947,016	810,182	377,698	347,650
Utilities	0	0	1,085	1,171	99,686	98,311
Materials & Supplies	0	0	36,151	19,398	90,557	36,524
Contractual Services	1,612,461	1,487,069	196,910	97,141	717,469	492,009
Chemicals	0	0	0	0	0	0
Fuel	0	0	0	0	0	0
Insurance Premiums & Claims	541,597	508,847	0	0	0	0
Bad Debt	750,000	906,369	0	0	0	0
Other Operating Expense	0	0	55,065	53,222	289,379	72,317
Settlement Accounts	0	0	0	0	0	0
Mapping Recovery - LOJIC	0	0	0	0	0	0
System Roll-up Variance	0	0	0	0	0	0
Total	2,891,800	3,408,526	3,354,486	2,761,767	2,496,263	1,891,280

	FINANCE		HUMAN RESOURCES		INFORMATION TECHNOLOGY	
Operating Expenses	FY20 Budget	FY20 YTD Act	FY20 Budget	FY20 YTD Act	FY20 Budget	FY20 YTD Act
Salaries & Wages	455,366	430,559	392,931	388,974	737,153	668,609
Labor Related Overhead	202,764	189,959	167,511	189,694	322,331	268,734
Utilities	0	69	0	0	328,425	210,107
Materials & Supplies	24,453	2,451	6,050	3,661	266,942	274,109
Contractual Services	114,252	61,387	125,561	59,080	1,602,197	1,500,295
Chemicals	0	0	0	0	0	0
Fuel	0	0	0	0	0	0
Insurance Premiums & Claims	0	0	0	0	0	0
Bad Debt	0	0	0	0	0	0
Other Operating Expense	41,593	11,301	36,741	16,337	96,334	8,953
Settlement Accounts	0	0	0	0	0	0
Mapping Recovery - LOJIC	0	0	0	0	0	0
System Roll-up Variance	0	0	0	0	0	0
Total	838,428	695,727	728,794	657,745	3,353,382	2,930,806

	LEGAL		OPERATIONS GROUP		SUPPLY CHAIN	
Operating Expenses	FY20 Budget	FY20 YTD Act	FY20 Budget	FY20 YTD Act	FY20 Budget	FY20 YTD Act
Salaries & Wages	295,997	188,468	8,119,404	7,370,878	407,231	421,433
Labor Related Overhead	123,184	74,467	3,630,258	3,523,049	185,556	180,455
Utilities	0	0	3,914,966	4,085,773	0	0
Materials & Supplies	7,509	390	1,335,458	1,497,868	22,300	3,891
Contractual Services	550,376	229,904	3,741,824	3,095,361	100,544	55,984
Chemicals	0	0	1,141,021	1,087,353	0	0
Fuel	0	0	357,180	215,622	0	0
Insurance Premiums & Claims	0	0	3,000	(1,821)	0	0
Bad Debt	0	0	0	0	0	0
Other Operating Expense	20,600	12,310	167,617	85,706	80,020	20,588
Settlement Accounts	0	0	0	0	0	0
Mapping Recovery - LOJIC	0	0	0	0	0	0
System Roll-up Variance	0	0	0	0	0	0
Total	997,666	505,540	22,410,728	20,959,789	795,651	682,352

Operations Division Operating Expense by Department

Table 49 – Operations Division Operating Expense by Department

Detail of MSD Operating Expense
as of 9/30/2019

	COLLECTIONS		DRAINAGE & FP		PERFORMANCE MATRIX	
Operating Expenses	FY20 Budget	FY20 YTD Act	FY20 Budget	FY20 YTD Act	FY20 Budget	FY20 YTD Act
Salaries & Wages	2,987,159	4,152,878	1,592,152	486,281	212,968	99,314
Labor Related Overhead	1,323,949	1,300,363	726,015	694,445	108,871	47,602
Utilities	797,500	511,594	905,750	1,506,450	0	0
Materials & Supplies	457,292	470,572	239,395	267,790	1,200	417
Contractual Services	740,963	359,122	639,230	681,543	1,445	(3,907)
Chemicals	235,050	238,212	0	405	0	0
Fuel	3,000	4,148	2,500	0	0	0
Insurance Premiums & Claims	0	(1,821)	3,000	0	0	0
Bad Debt	0	0	0	0	0	0
Other Operating Expense	48,767	6,397	26,099	15,331	270	144
Settlement Accounts	0	0	0	0	0	0
Mapping Recovery - LOJIC	0	0	0	0	0	0
System Roll-up Variance	0	0	0	0	0	0
Total	6,593,680	7,041,464	4,134,141	3,652,245	324,754	143,571

	SUPPORT		TREATMENT		OPERATIONS GROUP	
Operating Expenses	FY20 Budget	FY20 YTD Act	FY20 Budget	FY20 YTD Act	FY20 Budget	FY20 YTD Act
Salaries & Wages	836,457	737,272	2,490,668	1,895,132	8,119,404	7,370,878
Labor Related Overhead	367,297	354,813	1,104,126	1,125,826	3,630,258	3,523,049
Utilities	0	0	2,211,716	2,067,730	3,914,966	4,085,773
Materials & Supplies	416,506	332,964	248,065	426,125	1,362,458	1,497,868
Contractual Services	180,984	124,779	2,152,202	1,933,824	3,714,824	3,095,361
Chemicals	0	0	905,971	848,736	1,141,021	1,087,353
Fuel	348,980	211,474	2,700	0	357,180	215,622
Insurance Premiums & Claims	0	0	0	0	3,000	(1,821)
Bad Debt	0	0	0	0	0	0
Other Operating Expense	43,580	14,921	48,901	48,913	167,617	85,706
Settlement Accounts	0	0	0	0	0	0
Mapping Recovery - LOJIC	0	0	0	0	0	0
System Roll-up Variance	0	0	0	0	0	0
Total	2,193,804	1,776,223	9,164,349	8,346,287	22,410,728	20,959,789

Prepared by: Patrick Meador

Staffing by Division

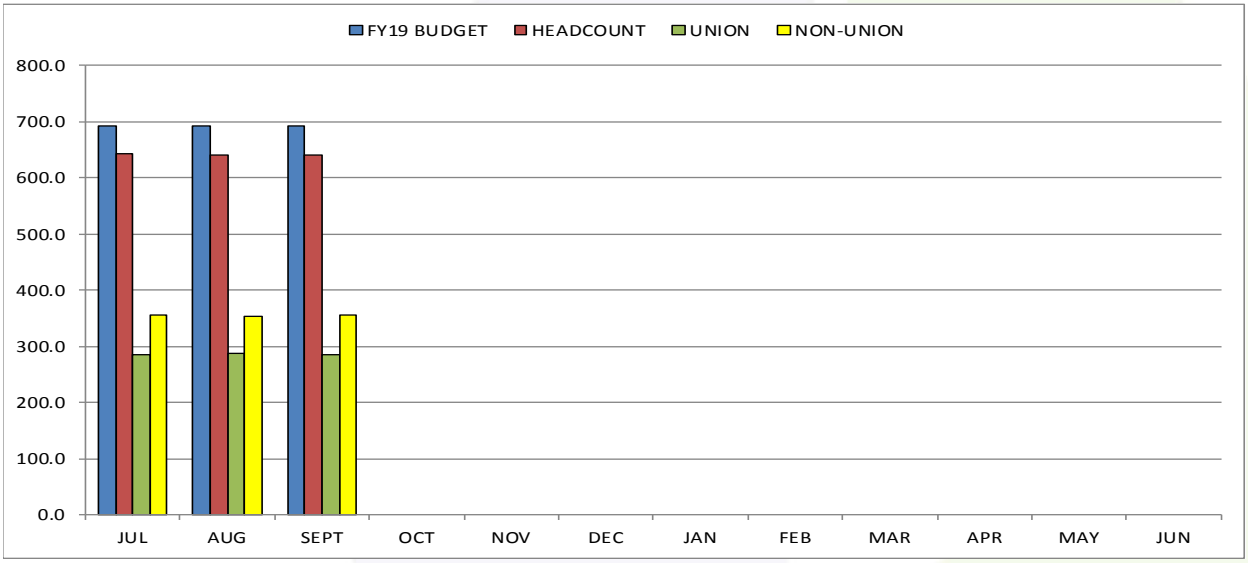
Table 50 – Staffing by Division

FY 2020
MSD STAFFING
September

	UNION	NON-UNION	HEADCOUNT	FY20 BUDGET
ENGINEERING	0.0	82.0	82.0	101.0
EXECUTIVE	0.0	44.0	44.0	45.0
FINANCE	0.0	23.0	23.0	22.0
HUMAN RESOURCES	0.0	16.0	16.0	16.0
INFORMATION TECH	0.0	28.0	28.0	33.0
LEGAL	0.0	7.0	7.0	11.0
OPERATIONS	285.0	133.0	418.0	443.0
SUPPLY CHAIN	0.0	22.0	22.0	21.0
ALL DIVISIONS	285.0	355.0	640.0	692.0

(Non-Union and Headcount Totals include One Water Employees)

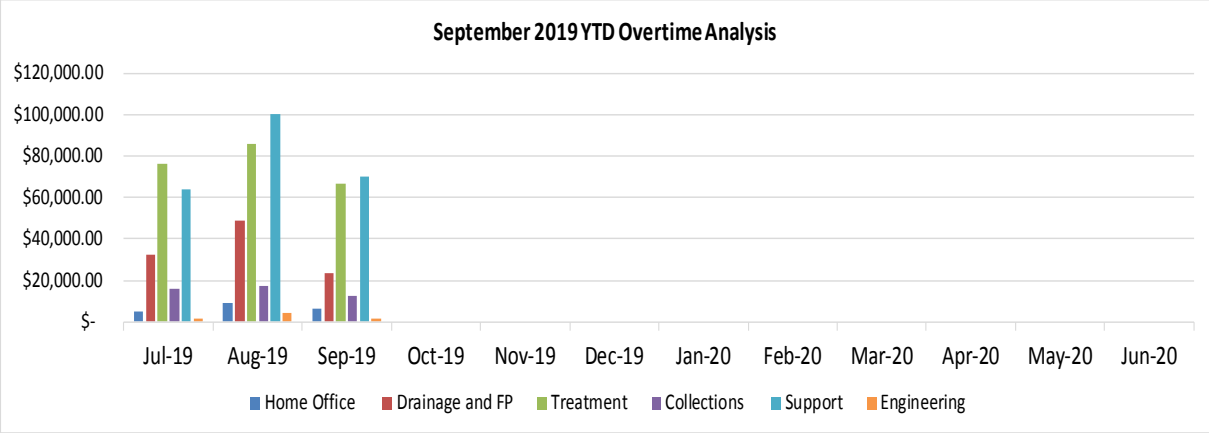
Prior Month - August	288.0	353.0	641.0	692.0
Prior Month - July	286.0	357.0	645.0	692.0



Prepared by: Patrick Meador

Overtime by Division

This report below represents a look into MSD's overtime expense on a month to month basis while comparing it to last year's total. For the month of September, MSD's total overtime expense decreased by 42% as compared to this time last year.



MSD's Overtime September 2019 YTD	
Home Office	20,322.05
Treatment	229,610.22
Drainage and Flood Protection	104,623.17
Collections	45,319.73
Support	234,489.36
Engineering	7,533.17

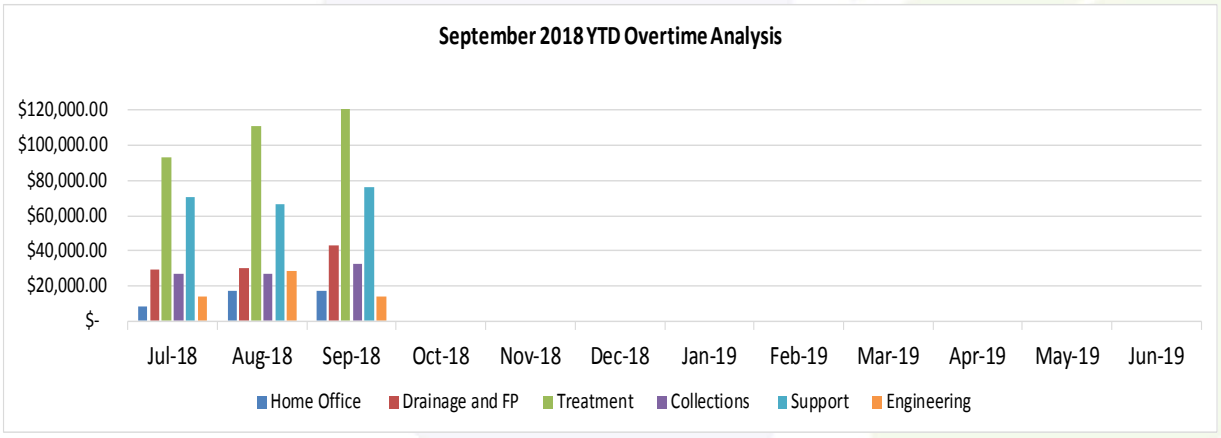
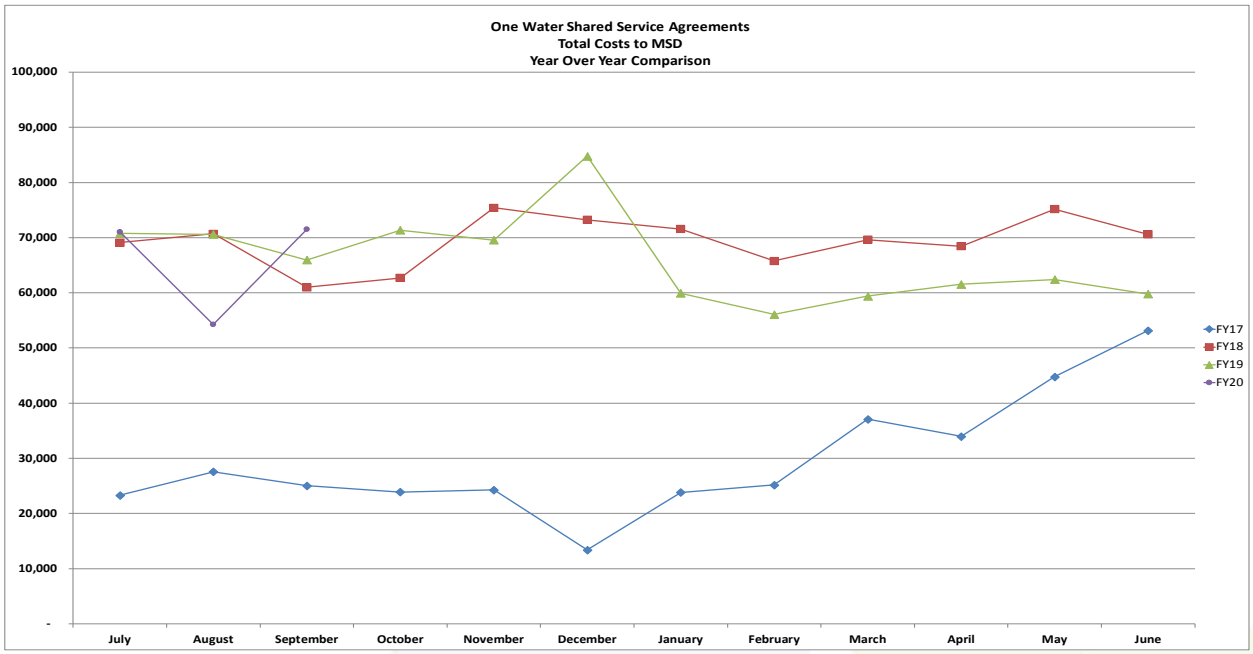


Figure 11 – Overtime by Division Chart

One Water Shared Expenses

The following illustrates the labor costs allocated to both MSD and Louisville Water for One Water Shared Service Agreements. In September, One Water costs allocated to MSD from LWC totaled $24,891. In addition, the labor costs associated with MSD employees who are considered One Water employees raised the total cost to MSD to $71,509. One Water costs allocated from MSD to the Louisville Water Company totaled $23,633.

(This schedule only shows MSD related costs from Shared Services and does not reflect overall OneWater benefits/savings. Increasing the number of Shared Services Agreements will result in increasing OneWater benefits/savings.)



OneWater Costs to MSD Year Over Year													
Fiscal Year	July	August	September	October	November	December	January	February	March	April	May	June	TOTAL
Fiscal Year 17	23,298	27,573	25,049	23,908	24,278	13,412	23,819	25,184	37,092	33,964	44,774	53,162	355,511
Fiscal Year 18	69,114	70,708	61,008	62,709	75,422	73,236	71,565	65,795	69,642	68,461	75,178	70,608	833,444
Fiscal Year 19	70,800	70,601	65,941	71,374	69,564	84,773	59,941	56,090	59,408	61,556	62,431	59,803	792,283
Fiscal Year 20	70,998	54,244	71,509										196,751

OneWater Costs Allocated to MSD by Employee															
LWC OneWater Employees	MSD%	LWC%	July	August	September	October	November	December	January	February	March	April	May	June	TOTAL
IT Vice President	50%	50%	12,335	11,799	11,263	-	-	-	-	-	-	-	-	-	35,397
Project Liasion Director	50%	50%	-	-	-	-	-	-	-	-	-	-	-	-	-
Vice President of Communications*	0%	0%	-	-	11,022	-	-	-	-	-	-	-	-	-	11,022
Manager of Education & Outreach*	0%	0%	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Service Director	25%	75%	15,473	268	-	-	-	-	-	-	-	-	-	-	15,741
Customer Service Manager	25%	75%	2,383	2,279	2,176	-	-	-	-	-	-	-	-	-	6,838
Customer Service Representative	20%	80%	431	431	431	-	-	-	-	-	-	-	-	-	1,293
			30,622	14,777	24,891	-	-	-	-	-	-	-	-	-	70,290

OneWater Costs Allocated to LWC by Employee															
MSD OneWater Employees	MSD%	LWC%	July	August	September	October	November	December	January	February	March	April	May	June	TOTAL
Chief Innovations Officer*	0%	0%	11,938	8,758	8,816	-	-	-	-	-	-	-	-	-	29,512
Fleet Services Director	68%	32%	4,716	4,716	5,210	-	-	-	-	-	-	-	-	-	14,642
Fleet Services Administrator	68%	32%	3,368	3,368	3,595	-	-	-	-	-	-	-	-	-	10,331
Procurement Director	71%	29%	5,308	5,308	6,012	-	-	-	-	-	-	-	-	-	16,628
OneWater Buyer	60%	40%	-	-	-	-	-	-	-	-	-	-	-	-	-
			25,330	22,150	23,633	-	-	-	-	-	-	-	-	-	71,113

*Position work percentage is based on actual hours worked and fluctuates from month to month

Prepared by: Michael Fitzner

Figure 12 – One Water Shared Expenses

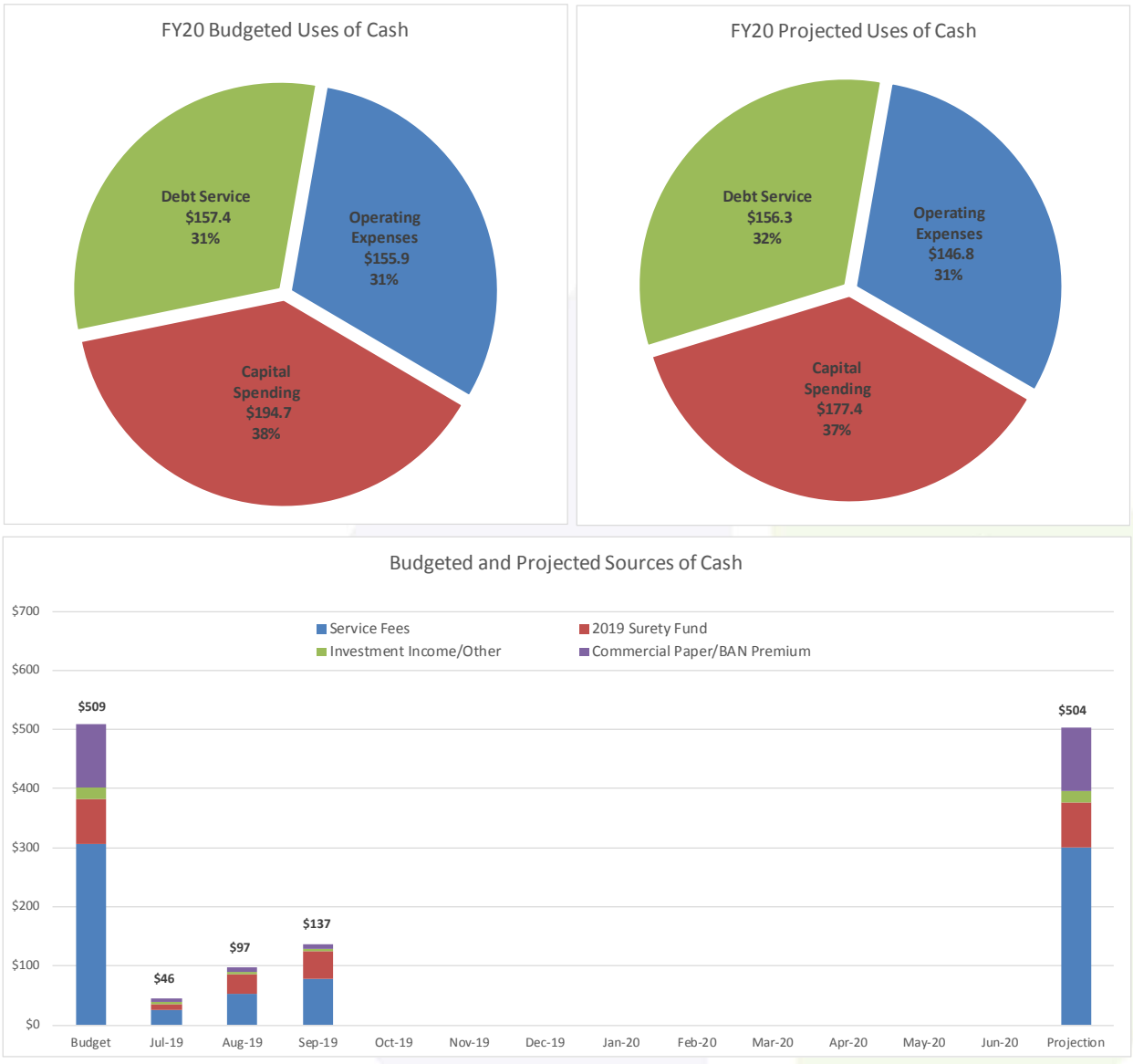
CASH

The following section provides information on MSD's cash balances as well as actual and planned uses of cash.

Sources and Uses of Cash

The following schedule summarizes planned and actual sources and uses of cash for FY20.

Sources and Uses of Cash FY20
($ in Millions)



*Capital Budgeted based on 95% spend

Figure 13 – Sources and Uses of Cash Charts

Revenue Fund Summary

Revenue Fund transactions are summarized by type for the last 12 months:

Table 51 – Revenue Fund Summary

Revenue Fund Actual Cash Activity
(000's)

	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19
Revenue	31,716	32,060	27,481	24,976	24,122	26,133	31,802	24,726	29,499	26,389	28,241	30,184
Operating Expenses	(13,005)	(13,923)	(13,270)	(13,108)	(11,468)	(12,759)	(13,740)	(16,386)	(12,766)	(11,403)	(14,427)	(12,531)
Debit Service	(13,400)	(13,400)	(13,174)	(12,608)	(12,519)	(13,065)	(12,716)	(12,621)	(14,279)	(8,636)	(4,286)	(8,011)
Funds Available	5,311	4,737	1,037	(740)	135	309	5,346	(4,281)	2,454	6,351	9,528	9,642
Transfer In/Out	10,578	15,005	20,000	15,000	15,000	20,000	0	20,000	6,193	7,485	16,434	7,230
Captial Expenses	(16,708)	(18,435)	(21,462)	(21,833)	(14,501)	(9,040)	(10,555)	(9,695)	(14,066)	(12,622)	(8,199)	(10,477)
Net Change	(819)	1,307	(425)	(7,573)	634	11,269	(5,209)	6,024	(5,419)	1,214	17,763	6,395

Revenue Fund & Construction Fund Balances

Revenue Fund and Construction Fund ending balances are summarized by type for the last 12 months below. The Construction Fund balances for October 2018 through May 2019 reflect only the Commercial Paper Construction Fund. Construction Fund balances for June 2019 through September 2019 include both the Surety Construction Fund and the Commercial Paper Construction Fund.

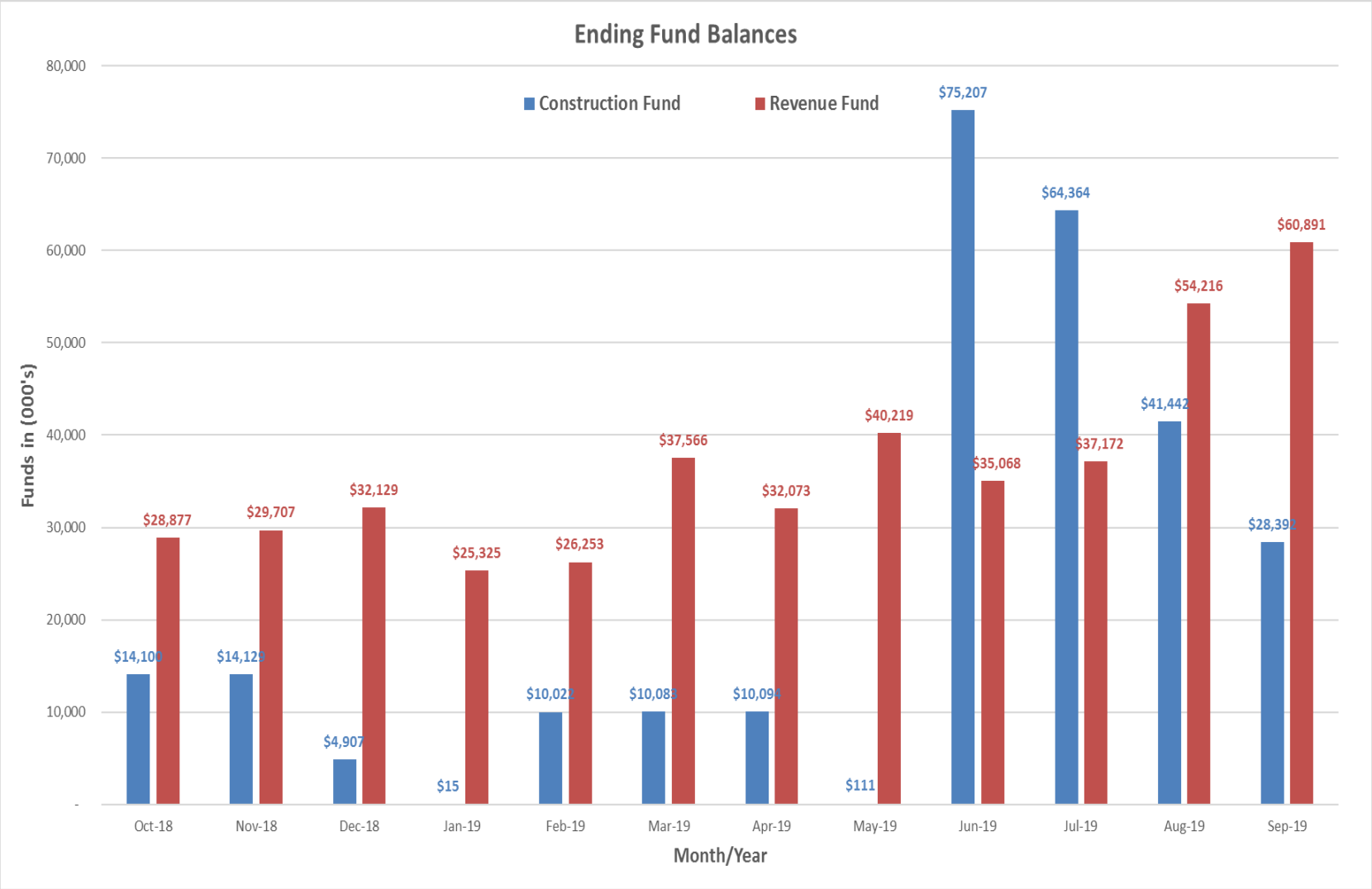


Figure 14 – Revenue Fund and Construction Fund Balances Chart

Commercial Paper Program Summary

MSD operates a $500 million Commercial Paper (CP) program to provide interim financing for its capital program. Liquidity support is proved by JPMorgan Chase and Bank of America, NA. Merrill Lynch, Pierce, Fenner & Smith Inc. and J.P. Morgan Securities are dealers for the program. In September we rolled four $10 million CP note maturities and one $5 million maturity. The average interest rate received for the replacement CP notes was 1.43% and the new notes carry an average maturity of 57 days. In the month of October there are five CP notes maturing totaling $60 million.

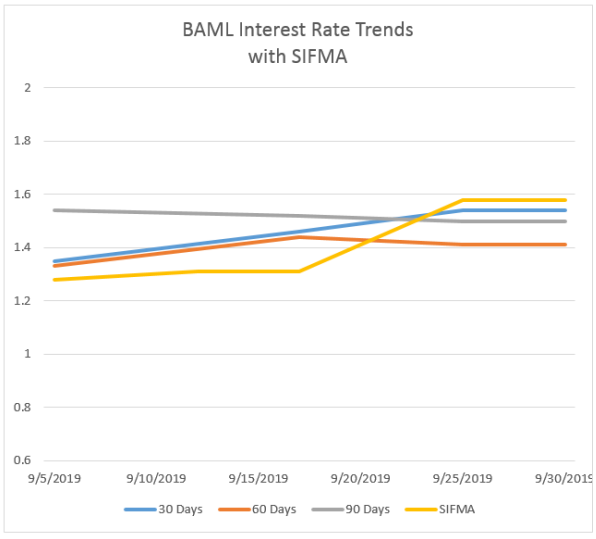
The CP Construction Fund balance at September 30th was $216,322. Outstanding CP notes are currently split 50/50 between JP Morgan and Bank of America. New money CP is not anticipated to be issued until the proceeds in the Surety Construction Fund are exhausted, currently projected to be in December 2019.

Table 52 – Commercial Paper Program Summary

CP Issuance Details
Currently Outstanding

Issuance Date	CUSIP	Principal	Rate	Term (# of days)	Maturity Date	Dealer (JPM/BAML)	Interest Cost	New Issuance or Roll?	SIFMA Index	Spread over (under) SIFMA
7/1/2019	**54658QAR5**	10,000,000	1.43%	94	10/3/2019	JPM	36,827.40	Roll	1.90%	-0.47%
7/2/2019	**54658QAS3**	10,000,000	1.43%	91	10/1/2019	JPM	35,652.05	Roll	1.90%	-0.47%
8/7/2019	**54658QAU8**	10,000,000	1.32%	63	10/9/2019	JPM	22,783.56	Roll	1.40%	-0.08%
8/23/2019	**54658NAV3**	10,000,000	1.36%	54	10/16/2019	BAML	20,120.55	Roll	1.36%	0.00%
8/26/2019	**54658NAW1**	20,000,000	1.35%	60	10/25/2019	BAML	44,383.56	Roll	1.36%	-0.01%
8/30/2019	**54658QAV6**	15,000,000	1.35%	67	11/5/2019	JPM	37,171.23	Roll	1.35%	0.00%
9/6/2019	**54658NAX9**	10,000,000	1.36%	75	11/20/2019	BAML	27,945.21	Roll	1.28%	0.08%
9/13/2019	**54658QAW4**	5,000,000	1.36%	61	11/13/2019	JPM	11,364.38	Roll	1.31%	0.05%
9/18/2019	**54658NAY7**	10,000,000	1.43%	58	11/15/2019	BAML	22,723.29	Roll	1.31%	0.12%
9/26/2019	**54658NAZ4**	10,000,000	1.49%	43	11/8/2019	BAML	17,553.42	Roll	1.58%	-0.09%
9/30/2019	**54658QAX2**	10,000,000	1.48%	49	11/18/2019	JPM	19,868.49	Roll	1.58%	-0.10%
Currently Outstanding:		**$ 120,000,000**					**$ 296,393**			
YTD:		**$ 495,000,000**					**$ 1,639,321**			

Quoted rates for the month of September from each dealer at various maturities are provided below:



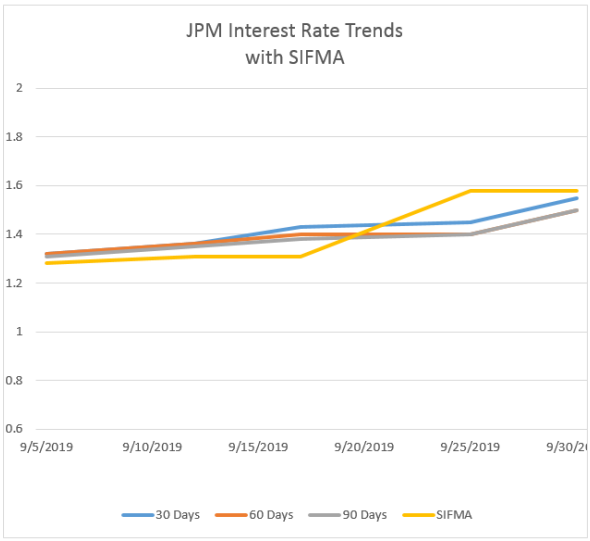


Figure 15 – Interest Rate Trends

INVESTMENTS

Monthly reporting on MSD's investment activity is required by its Investment Policy.

Investment by Category

The following schedule itemizes MSD investments by type.

Table 53 – Investments by Type Schedule

Total by Category	Market Value	Face Value	Cost Value	Accrued Interest	Market Gain/Loss	Market Yield
Cash/Overnight Sweep	40,190,805.49	40,190,805.49	40,190,805.49	-	-	
Federated Gov Oblig*	69,438,049.87	69,438,049.87	69,438,049.87	-	-	1.73%
Investco Gov Agency*	6,580,147.94	6,580,147.94	6,580,147.94	-	-	1.94%
Dreyfus Cash Mgmt*	11,734,760.44	11,731,241.07	11,735,232.18	-	(471.74)	1.88%
First American Government*	115,978.62	115,978.62	115,978.62	172.08	-	1.52%
Federal Farm Credit Banks	1,016,250.00	1,000,000.00	1,000,000.00	5,625.00	16,250.00	2.66%
Federal Home Loan Banks	2,261,780.59	2,230,000.00	2,227,331.15	1,068.33	34,449.44	3.26%
Residual Funding Corp Principal Strip	22,653,089.91	22,671,000.00	22,194,731.03	-	458,358.88	
US Treasury Note	244,784,265.65	244,841,000.00	244,600,427.32	1,567,574.89	183,838.33	1.50-2.37%
Municipal Obligations	39,637,726.70	38,895,000.00	39,003,021.22	647,630.32	375,499.98	2.09-4.98%
Certificate of Deposit	100,000.00	100,000.00	100,000.00	-	-	1.75%
Commercial Paper	9,995,075.00	10,000,000.00	9,988,811.11	-	-	
	$ 448,507,930.21	**$ 447,793,222.99**	**$ 447,174,535.93**	**$ 2,222,070.62**	**$ 1,067,924.89**	

Total earnings from investments FY2020 YTD: $ 3,811,768.06

* Money Market Funds

Municipal Bond Investments

The following table provides detailed information on existing investments in Municipal Bonds.

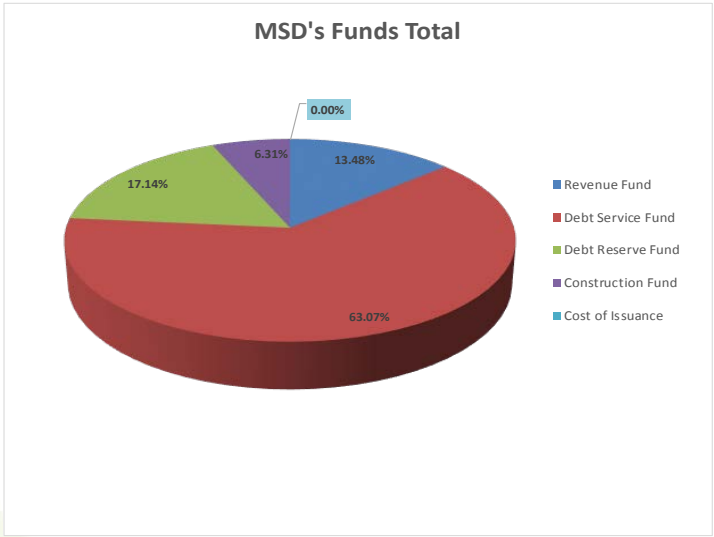
Table 54 – Municipal Bond Investments

Investments	Market Value	Face Value	Cost Value	Accrued Interest	Market Gain/Loss	Market Yield	Coupon Rate	Yield to Maturity	Duration	Moody's Rating	Maturity Date
City of Austin TX Water & wastewater System	5,197,100.00	5,000,000.00	5,087,981.25	96,805.56	109,118.75	4.93%	5.13%	4.99%	21.1	Aa2	11/15/2040
City of Chicago IL	5,177,131.20	5,160,000.00	5,220,322.23	64,500.00	(43,191.03)	4.98%	5.00%	4.90%	19.2	Ba1	1/1/2039
City of Los Angeles Department of Airports	5,114,000.00	5,000,000.00	4,791,850.00	94,444.44	73,611.11	4.89%	5.00%	5.34%	20.6	Aa2	5/15/2040
City of New York NY	5,657,736.00	5,600,000.00	5,650,792.00	44,800.00	6,944.00	2.38%	2.40%	1.96%	2.1	Aa2	12/1/2021
County of Balitmore MD	569,943.00	570,000.00	555,197.10	1,992.15	14,745.90	2.10%	2.10%	3.63%	1.8	Aaa	8/1/2021
County of Baltimore MD	3,199,680.00	3,200,000.00	3,116,896.00	11,184.00	82,784.00	2.10%	2.10%	3.63%	1.8	Aaa	8/1/2021
Harris County Flood Control District	5,183,700.00	5,000,000.00	5,094,694.44	125,000.00	89,005.56	4.82%	5.00%	4.85%	20.0	Aaa	10/1/2039
JEA Water & Sewer System Revenue	641,579.40	630,000.00	633,412.50	15,750.00	8,166.90	4.91%	5.00%	4.96%	20.0	A2	10/1/2039
JEA Water & Sewer System Revenue	330,668.00	325,000.00	326,760.42	8,125.00	8,079.86	4.91%	5.00%	4.96%	20.0	A2	10/1/2039
JEA Water & Sewer System Revenue	616,119.90	605,000.00	608,277.09	15,125.00	7,842.81	4.91%	5.00%	4.96%	20.0	A2	10/1/2039
JEA Water & Sewer System Revenue	310,319.20	305,000.00	306,652.08	7,625.00	3,667.12	4.91%	5.00%	4.96%	20.0	A2	10/1/2039
NY State Thruway Authority Highway & Bridge Trust Fund	506,510.00	500,000.00	516,065.00	11,622.50	(9,555.00)	4.59%	4.65%	-2.46%	0.4	A2	4/1/2020
NY State Thruway Authority Highway & Bridge Trust Fund	506,510.00	500,000.00	516,065.00	11,622.50	(9,555.00)	4.59%	4.65%	-2.46%	0.4	A2	4/1/2020
NY State Thruway Authority Highway & Bridge Trust Fund	1,519,530.00	1,500,000.00	1,548,195.00	34,867.50	(28,665.00)	4.59%	4.65%	-2.46%	0.4	A2	4/1/2020
State of Louisiana Gasoline & Fuel Tax	5,107,200.00	5,000,000.00	5,029,861.11	104,166.67	62,500.00	4.90%	5.00%	4.95%	20.5	Aa3	5/1/2040
	$ 39,637,726.70	**$ 38,895,000.00**	**$ 39,003,021.22**	**$ 647,630.32**	**$ 375,499.98**						

Total Weighted Average Yield to Maturity: **3.95%**
Total Weighted Average Coupon Rate: **4.34%**
Total Weighted Average Market Yield: **4.26%**
Total Weighted Average Duration: **14.57**

MSD's Current Investment Model

Series	Revenue Fund	Debt Service Fund	Debt Reserve Fund	Construction Fund	Cost of Issuance	Total
2008A	-	-	919,457	-	-	919,457
2009A	-	-	4,373,951	-	-	4,373,951
2009B	-	1,327,142	14,692,677	-	-	16,019,819
2009C	-	4,127,017	13,331,813	-	-	17,458,830
2010A	-	6,906,675	18,156,053	-	-	25,062,728
2011A	-	5,593,858	-	-	-	5,593,858
2013A	-	1,779,172	23,366,754	-	-	25,145,926
2013B	-	2,141,210	-	-	-	2,141,210
2013C	-	1,616,946	353,494	-	-	1,970,440
2014A	-	1,164,370	-	-	-	1,164,370
2015A	-	2,467,258	150,040	-	-	2,617,298
2015B	-	1,969,500	-	-	-	1,969,500
2016A	-	1,714,025	-	-	-	1,714,025
2016B	-	1,022,190	-	-	-	1,022,190
2016C	-	6,902,776	-	-	-	6,902,776
2017A	-	4,894,625	1,519,986	-	-	6,414,610
2017B	-	859,279	-	-	-	859,279
2018A	-	825,789	-	-	-	825,789
2018 BAN Note	-	233,408,338	-	-	-	233,408,338
2019 BAN Project	-	4,175,871	-	-	-	4,175,871
2019 BAN COI	-	-	-	-	6,500	6,500
Surety Construction Fund	-	-	-	28,175,534	-	28,175,534
CP 2018 A-1 & A-2	-	-	-	115,979	-	115,979
Cash	39,984,567	-	-	-	-	39,984,567
Certificate of Deposit	100,000	-	-	-	-	100,000
Money Market	20,365,086	-	-	-	-	20,365,086
	$ 60,449,654	**$ 282,896,040**	**$ 76,864,224**	**$ 28,291,513**	**$ 6,500**	**$ 448,507,930**



Asset Description	Revenue Fund	Debt Service Fund	Debt Reserve Fund	Construction Fund	Cost of Issuance	Total
Cash	39,984,567	56,198	150,040	-	-	40,190,805
Certificate of Deposit	100,000	-	-	-	-	100,000
Money Market Funds	20,365,086	49,513,228	804,652	17,179,471	6,500	87,868,937
Muni-Bonds	-	-	39,637,727	-	-	39,637,727
US Treasury Bills	-	233,326,614	11,457,652		-	244,784,266
US Treasury Agency	-	-	24,814,153	1,116,968	-	25,931,121
Corporate Commercial Paper	-	-	-	9,995,075	-	9,995,075
	$ 60,449,654	**$ 282,896,040**	**$ 76,864,224**	**$ 28,291,513**	**$ 6,500**	**$ 448,507,930**

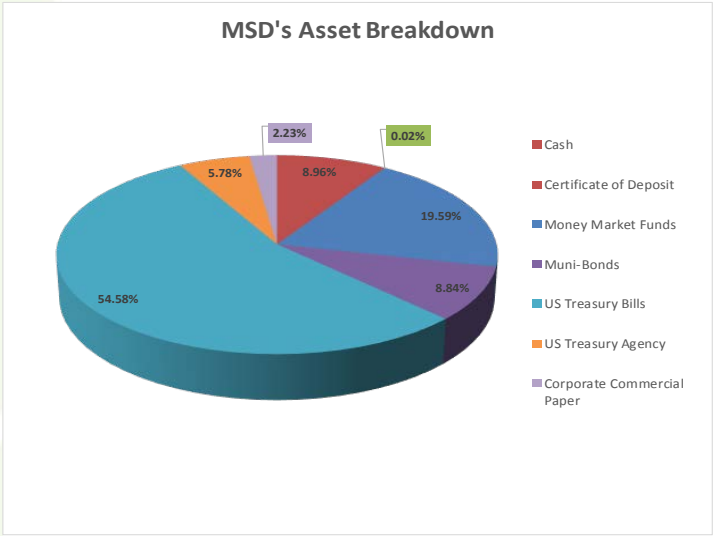


Figure 16 – Current Investment Model

CAPITAL MARKETS

Information is provided on capital market activity, so readers have insight into interest rate activity and market trends.

Market Rates and 10 year Bond

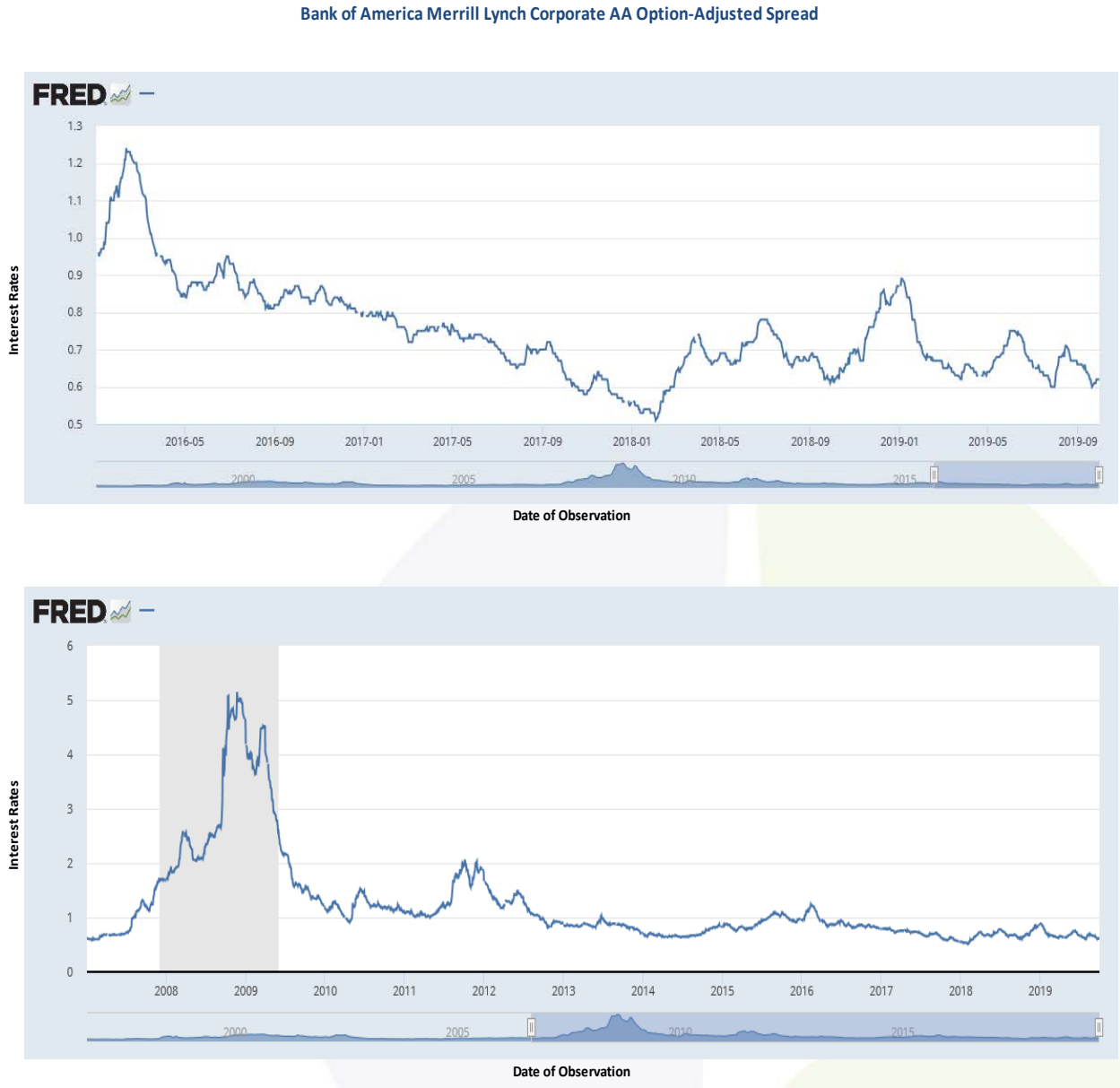
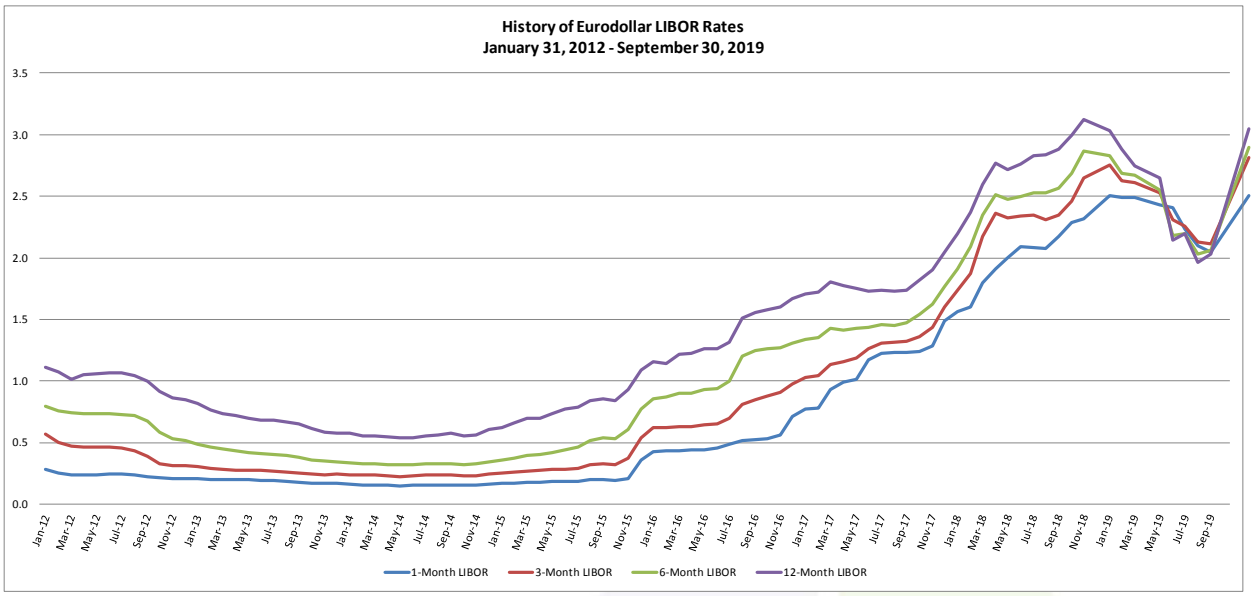


Figure 17 – 10-Year Bond

Market Rates: LIBOR



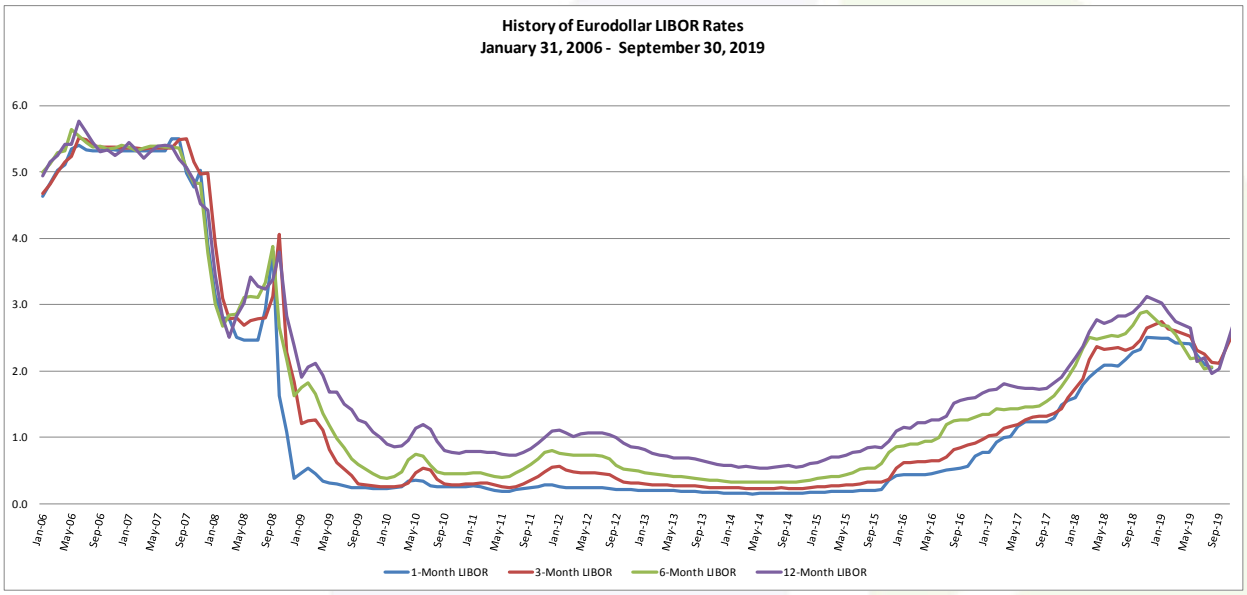


Figure 18 – Capital Market Activity: Rates and Trends

Baird Municipal Market Update

Kentucky Municipal Market Update

October 2019

Prepared by the Kentucky Public Finance Department of Baird for the Louisville & Jefferson Metropolitan Sewer District

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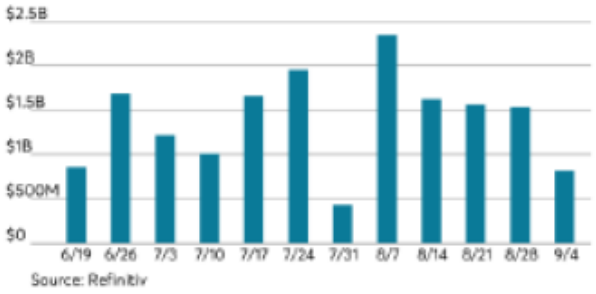
Market Overview

Treasuries rose off recent lows. For the bulk of the last week, yields have been range-bound until Thursday when some renewed optimism of a Chinese trade talk resumption lifted risk taking attitudes. Economic Data highlighted the bifurcation of manufacturing and still resilient labor data with a sprinkling of weak consumer sentiment. Of course Brexit dynamics churn in the background with complete uncertainty. The ECB meeting this week will be viewed with heightened importance by global markets.

Also, Muni Funds completed the 35th consecutive week of net inflows. Net inflows amounted to $820.1 million in total. The four-week moving average is $1.4 billon dollars. Both ETF's and high-yield funds experienced net inflows. You can see in the graph below the last few weeks of Muni fund inflows.



Source: Refinitiv

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Mark to Market on Swaps

At September 30, 2019 MSD had 2 derivative instruments outstanding. 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. 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.

Mark to Market Swap Valuation
September 30, 2019

Credit Support Provider	Description	Maturity Date	Notional Amount	Outstanding Notional Amount	Clean Market Value	Accrued Interest	Mark-to-Market Value
Wells Fargo NA	1999 - 1 - $225.732M 67% LIBOR Fixed Payer	5/15/2033	180,716,000.00	180,716,000.00	(63,333,115.94)	(231,198.77)	(63,564,314.71)
Bank of America NA	1999 - 2 -$56.433 67% LIBOR Fixed Payer	5/15/2033	56,433,000.00	45,284,000.00	(15,844,363.13)	(54,009.30)	(15,898,372.43)
	Total		**237,149,000.00**	**226,000,000.00**	**(79,177,479.07)**	**(285,208.07)**	**(79,462,687.14)**

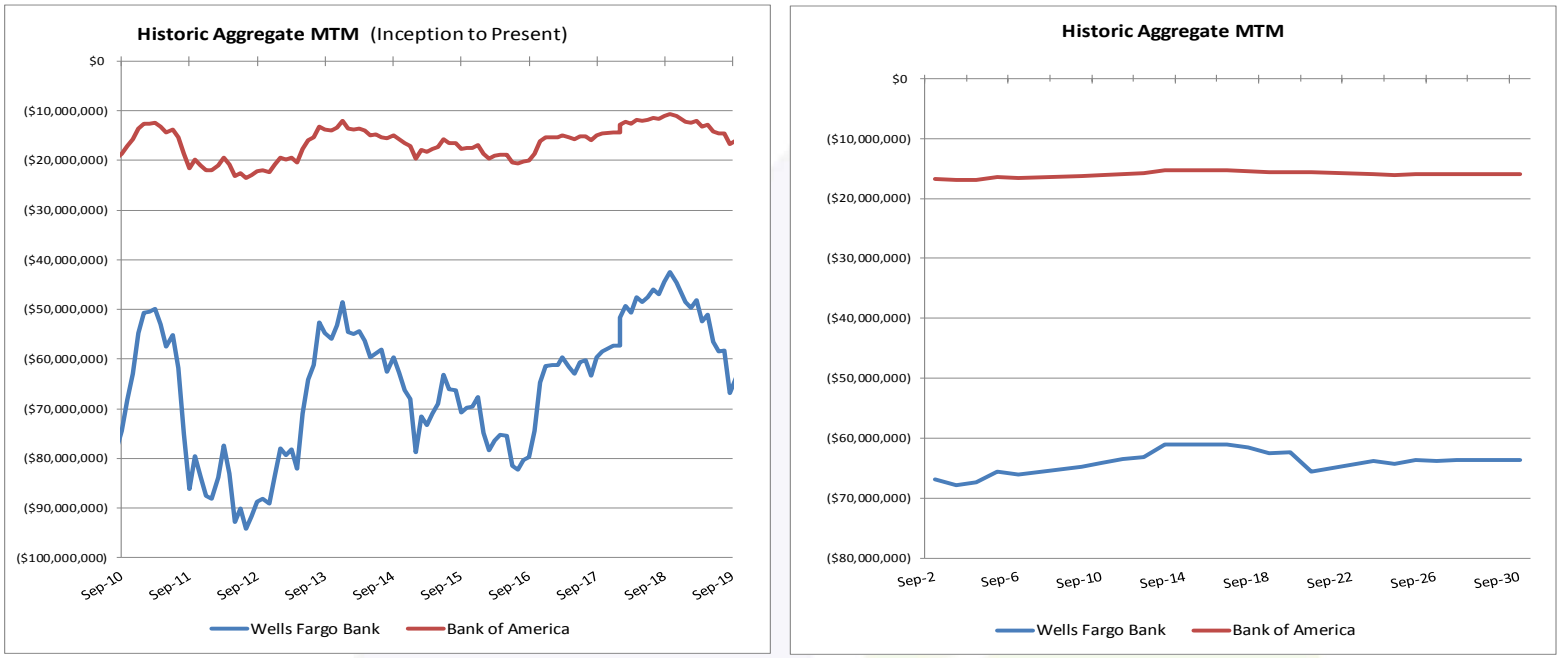
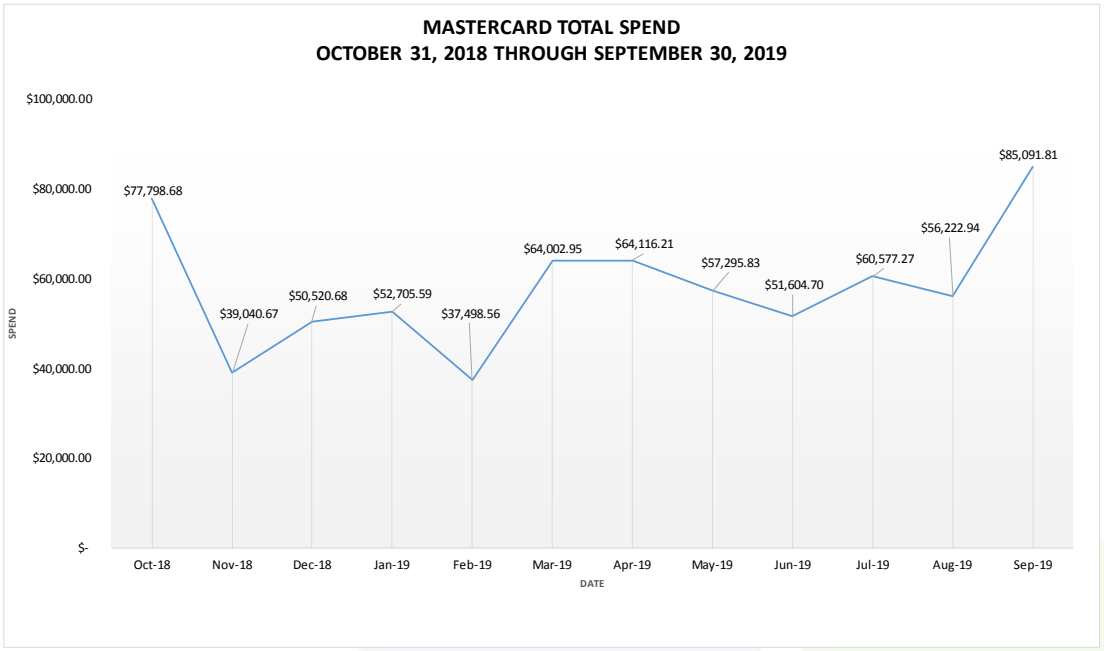


Figure 19 – Mark to Market on Swaps

MISCELLANEOUS REPORTS

MasterCard Program Total Spend

This Purchase Card Spend Report quantifies the total monthly spend amount that has been charged to an employee's purchase card as well as all the Travel Cards. As for September, there was a great increase in spending due an increase in travel. There was a total of 53 employees traveling in September which included the Five Cities Plus, Labor Management, WEFTEC conferences and the One Water Summit.



Mastercard Purchase Cards Issue = 114

***Total P-Card Violations =**	**17**	**P-CARDHOLDERS BY DIVISION**	
Sales Tax -			
Split Charges -		**Executive Offices**	**Operations**
Missing Receipt -		Customer Relations & Communications - 2	Administration - 3
Personal Expenses -		Executive Offices - 4	Automation Controls - 2
Late Report -	15	Facilities, Safety & Security - 4	Collections Systems - 7
Supplies -	2		Emergency Response - 1
Prepay -		Legal - 3	Fleet - 5
Substitute Receipt -		Human Resources - 4	Flood Protections - 4
Travel Expenditures -		Finance - 2	Performance Metrics- 2
Lack of Business Description -		Information Technology - 5	Support Services - 2
		Supply Chain & Economic Inclusion - 11	Treatment Facilities - 11
			Treatment Facilities (Maintenance) - 18
		Engineering Divison	Wastewater & Drainage - 13
***Total Travel Card Violations**	**0**	Development & Stormwater - 2	Wastewater & Drainage (Sanitary) - 6
Lack of Travel Justification -		Engineering Technical Services - 1	
Substitue Receipt -		Records & GIS - 1	
		Regulatory & GIS - 1	

**Violations are recorded one month in arrears*

REPORT PREPARED BY: Latoya English

Figure 20 – MasterCard Program Total Spend Chart

MBE/WBE EXPENDITURE REPORT

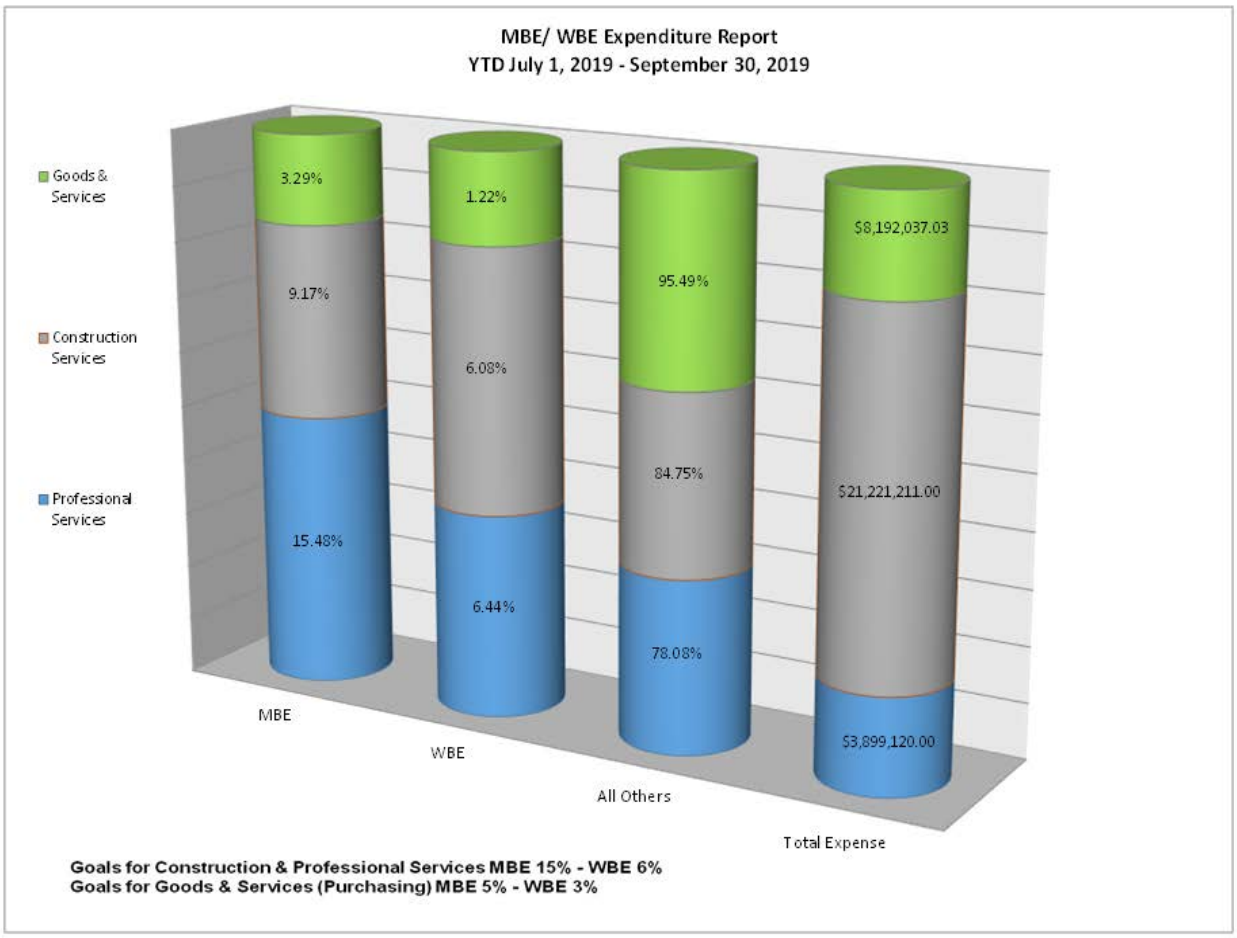


Figure 21 – MBE/WBE Expenditure Chart

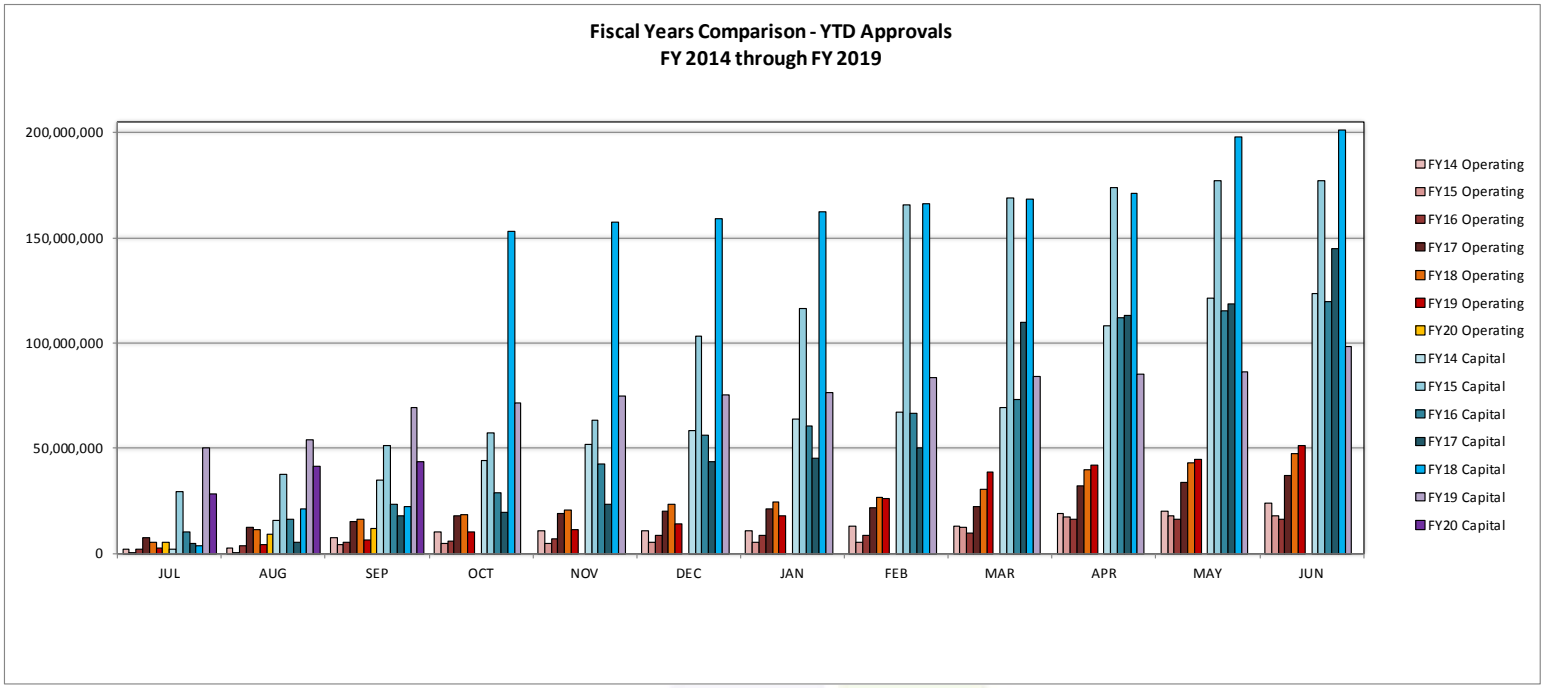
September Approvals for Operating and Capital Expenditures

Table 55 – September Approvals for Operating and Capital Expenditures

BOARD MEETING 9-30-19 / EXPENDITURE APPROVALS DESCRIPTION	DEPARTMENT	ACCOUNT	OPERATING	CAPITAL
Thieneman Construction / DRGWQTC Secondary Clarifier Grout Repair	D18292 - Eng Design / Construction	56216 - Construction		$1,409,000
MAC Construction & Excavating / 15th & Wilson Sewer Repair	TBD - Engineering / Tech Services	Not Provided		$250,000
B&R Contracting / 15 Glenwood Road DIP	C20190 - Engineering	56216 - Construction		$33,575
Allterrain Paving & Construction / 6503 Deep Creek Drive DIP	C20189 - Engineering	56216 - Construction		$51,174
Montgomery Integrated Networking Co . / Cleaning Service for Main Office	3230511 - Executive	Not Provided	$58,408	
Kentuckiana Regional Planning & Development / Nightingale I&I Project	H16074 - Engineering	Not Provided		$44,000
Allterrain Paving & Construction / Ethel Ave Rear DIP	C20188 - Engineering	Not Provided		$71,010
Spencer Machine & Tool / Machine Shop Services	Operations - Various	52195 - Other Contract Services	$87,500	
University of Louisville Research Fdtn / Maple Street Historic Artifacts Curation	Not Provided / Engineering	Not Provided	$36,500	
CDW Government / Microsoft Enterprise Agreement Renewal	8330631 - Information Technology	52160 - Maintenance & Repairs	$303,265	
CDW Government / Netmotions Mobility Maintenance Agreement	8330631 - Information Technology	53140 - Materials & Supplies	$44,278	
McMahon DeGulius / Legal Services for IOAP Amendment	Not Provided / Legal	52140 - Professional Services	$40,000	
Make It Plain Consulting / Finance Division Climate Assmnt	5110311 - Executive	52140 - Professional Services	$69,750	
Sabak, Wilson & Lingo / Surveying Services	5200321 - Legal	52140 - Professional Services	$40,000	
JWC Environmental / Sewage Grinder Lea Ann Way PS	H19088 - Operations	56217 - Equipment		$39,933
CDW Government / ThinkCentra M720s	8330631 - Information Technology	52160 - Maintenance & Repairs	$301,717	
YKI Material Handling Systems / Gas Powered Forklift	K16060 - Operations	56217 - Equipment		$28,356
Southern Ionisc / Liquid Sodium Bisulfate	Operations - Various	53250 - Dechlorination	$228,000	
UHL Truck Sales of Kyana / Day Cab Road Tractor	K16060 - Operations	56217 - Equipment		$99,000
McCoy & McCoy Labs / Organic Sample Analysis	5530311 - Operations	52140 - Professional Services	$49,000	
V3iT Consulting / SAP Hosting, Migration & Support Services	8350631 - Executive	52140 - Professional Services	$284,798	
Derby City Environmental / Remove, Haul and Dump Trmnt Plant Biosolids	Operations - Various	"Multiple"	$1,382,400	
		SEPTEMBER TOTALS	$2,925,615	$2,026,048
		Y-T-D TOTALS	$12,092,790	$43,715,725

Prepared by: Patrick Meador

Approvals for Operating and Capital Expenditures – FY Comparison

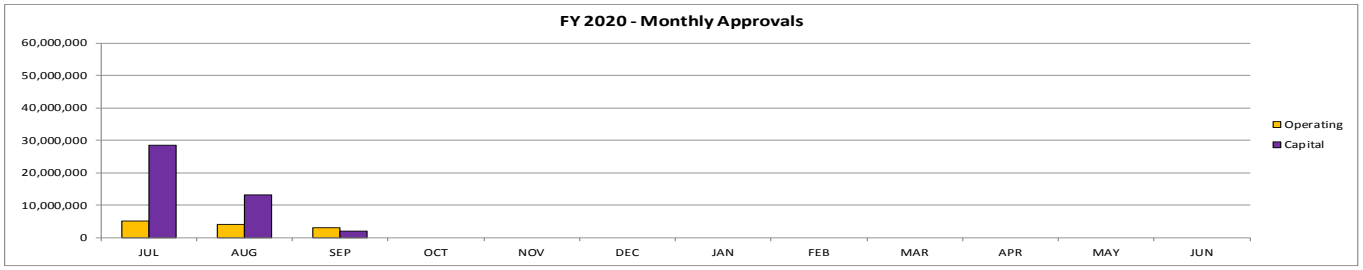


2020	July	August	September	October	November	December	January	February	March	April	May	June	Total	Percentage
Operating	5,171,975	9,167,175	12,092,790										12,092,790	22%
Capital	28,530,330	41,689,677	43,715,725										43,715,725	78%
Total	33,702,305	50,856,852	55,808,516	0	0	0	0	0	0	0	0	0	55,808,516	100%

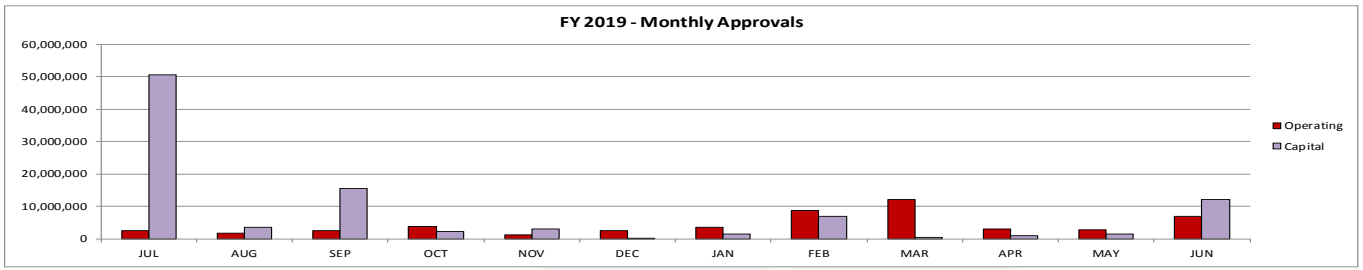
Prepared by: Patrick Meador

Figure 22 – FY Comparison: YTD Operating and Capital Expenditure Approvals

Approvals for Operating and Capital Expenditures – Historical



2020	July	August	September	October	November	December	January	February	March	April	May	June	Total	Percentage
Operating	5,171,975	3,995,200	2,925,615	0	0	0	0	0	0	0	0	0	12,092,790	22%
Capital	28,530,330	13,159,347	2,026,048	0	0	0	0	0	0	0	0	0	43,715,725	78%
Total	33,702,305	17,154,547	4,951,663	0	0	0	0	0	0	0	0	0	55,808,516	100%

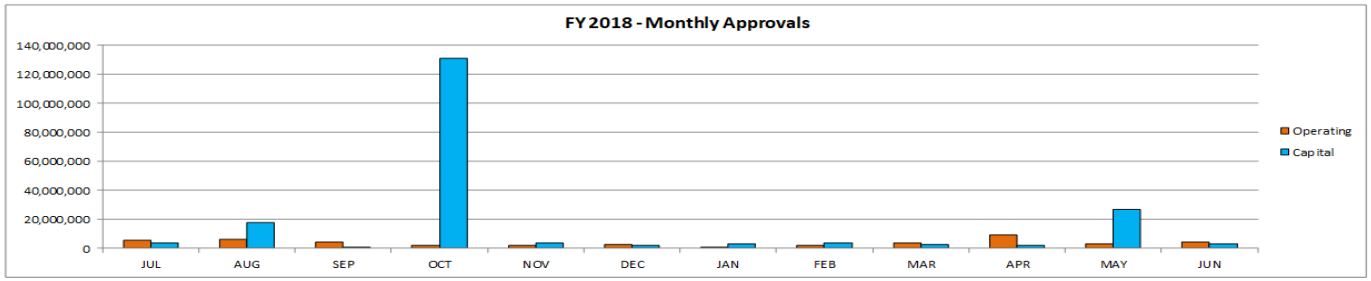


2019	July	August	September	October	November	December	January	February	March	April	May	June	Total	Percentage
Operating	2,478,791	1,760,365	2,378,894	3,749,522	1,208,976	2,610,629	3,548,302	8,719,359	12,191,342	3,145,870	2,768,280	6,979,387	51,539,718	34%
Capital	50,497,241	3,666,741	15,401,254	2,255,988	3,154,602	213,332	1,532,274	6,856,734	511,422	899,264	1,394,600	12,066,724	98,450,177	66%
Total	52,976,033	5,427,106	17,780,148	6,005,511	4,363,578	2,823,961	5,080,576	15,576,093	12,702,764	4,045,134	4,162,880	19,046,111	149,989,895	100%

Figure 23 – Historical: Operating and Capital Expenditure Approvals

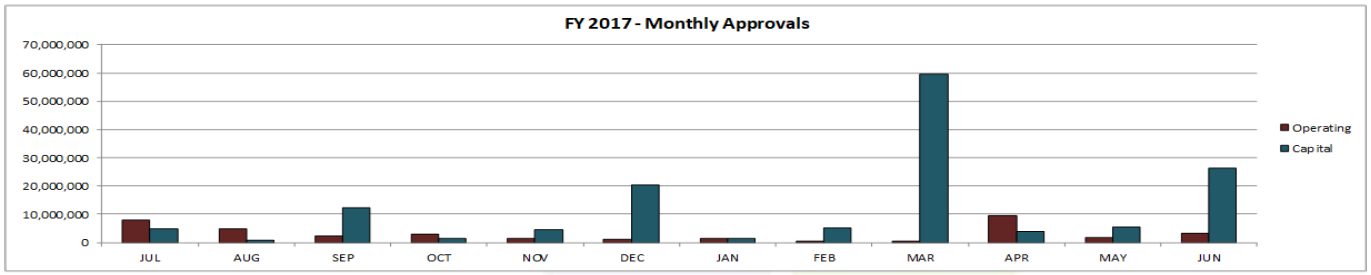
Prepared by: Patrick Meador

Approvals for Operating and Capital Expenditures – FY Comparison



2018	July	August	September	October	November	December	January	February	March	April	May	June	Total	Percentage
Operating	5,595,785	6,019,744	4,617,131	2,186,235	2,285,815	2,859,668	723,504	2,177,792	3,861,491	9,573,598	3,200,079	4,483,767	47,584,609	19%
Capital	3,879,849	17,623,990	604,044	131,170,367	3,935,294	1,839,900	3,132,816	3,742,106	2,731,370	2,290,473	26,880,631	3,425,760	201,256,600	81%
Total	9,475,635	23,643,734	5,221,175	133,356,602	6,221,109	4,699,568	3,856,320	5,919,898	6,592,861	11,864,071	30,080,710	7,909,527	248,841,209	100%

Prepared by: Patrick Meador



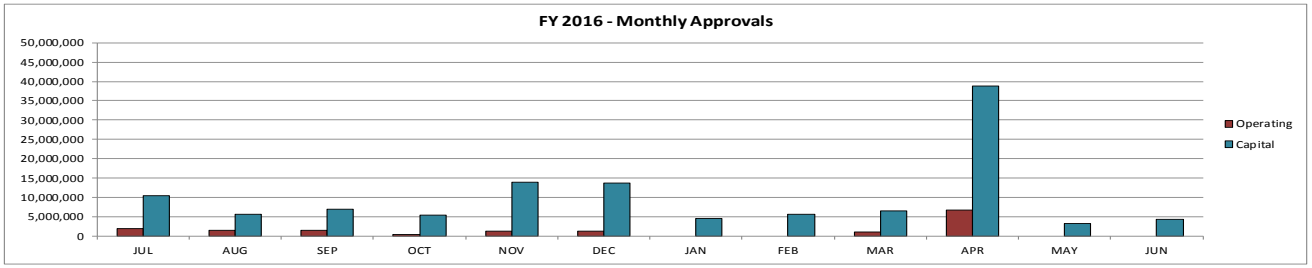
2017	July	August	September	October	November	December	January	February	March	April	May	June	Total	Percentage
Operating	7,831,807	4,921,765	2,268,959	2,967,898	1,276,073	946,342	1,283,110	439,598	539,286	9,508,388	1,594,106	3,414,365	36,991,697	20%
Capital	4,939,806	726,451	12,197,966	1,486,972	4,362,362	20,240,801	1,255,917	5,041,921	59,430,114	3,738,335	5,447,809	26,204,470	145,072,923	80%
Total	12,771,613	5,648,216	14,466,925	4,454,870	5,638,435	21,187,143	2,539,027	5,481,519	59,969,400	13,246,722	7,041,915	29,618,835	182,064,620	100%

Prepared by: Patrick Meador

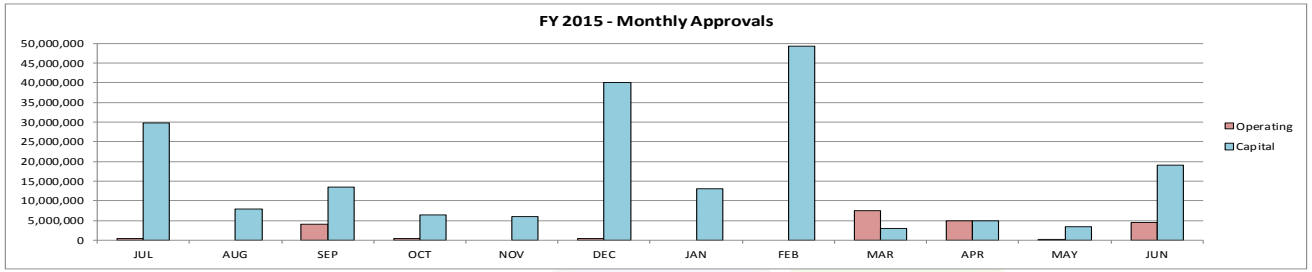
Figure 24 – FY 2017 – FY2018 Monthly Comparison: Operating and Capital Expenditure

Approvals

Approvals for Operating and Capital Expenditures – FY Comparison



2016	July	August	September	October	November	December	January	February	March	April	May	June	Total	Percentage
Operating	2,106,697	1,564,811	1,670,350	400,000	1,423,300	1,296,583	0	0	1,172,755	6,861,107	0	0	16,495,603	12%
Capital	10,546,131	5,648,074	7,102,873	5,391,209	13,917,934	13,671,522	4,630,083	5,736,777	6,672,460	38,850,000	3,336,465	4,367,515	119,871,042	88%
Total	12,652,828	7,212,885	8,773,223	5,791,209	15,341,234	14,968,105	4,630,083	5,736,777	7,845,215	45,711,107	3,336,465	4,367,515	136,366,646	100%



2015	July	August	September	October	November	December	January	February	March	April	May	June	Total	Percentage
Operating	524,000	0	4,036,001	334,790	0	421,801	0	0	7,400,112	4,985,695	250,000	4,489,873	22,442,272	10%
Capital	29,727,349	7,848,025	13,500,248	6,486,602	5,971,443	40,010,700	13,026,599	49,272,656	2,987,256	4,904,876	3,354,890	19,043,463	196,134,107	90%
Total	30,251,349	7,848,025	17,536,249	6,821,392	5,971,443	40,432,501	13,026,599	49,272,656	10,387,368	9,890,571	3,604,890	23,533,336	218,576,379	100%

Prepared by: Patrick Meador

Figure 25 – FY 2015 – FY2016 Monthly Comparison: Operating and Capital Expenditure Approvals

Open Construction Orders Report

Table 56 – Open Construction Orders

Date Created	P/O#	Vendor	Project Name	PO Amount	PO Amount Remaining Open	Completion Scheduled	Payment % Complete	Status
10/14/2016	4500073663	Smith Contractors	Portland CSO Basin Interceptor	$4,722,997	$100,000	6/5/2017	98%	Under Construction
1/12/2017	4500074669	Ulliman Schutte Construction	Southwestern Pkwy CSO Basin D/B Stage 2	$77,003,982	5,130,858	4/1/2019	93%	Design/Const Phase 2
1/25/2017	4500074814	Temple & Temple Excavating	Floodgate 136 Actuator Replace & Gate 145	$591,938	$47,846	5/14/2018	92%	Under Construction
5/25/2017	4500077412	Dugan & Meyers LLC	Portland CSO Basin	$29,134,305	$60,001	10/27/2019	99.8%	Under Construction
6/13/2017	4500076623	Basham Construction	Linwood Ave Flood Mitigation Demolition	$349,876	$129,506	12/31/2019	63%	Under Construction
7/24/2017	4500077135	Thieneman Construction	I-64 & Grinstead CSO Basin Construction	$23,165,364	$17,381,910	12/15/2019	25%	Under Construction
11/13/2017	4500078455	Shea-Traylor JV	Ohio River Tunnel & Shafts Package	$146,936,550	$86,208,753	12/31/2020	41%	Under Construction
11/27/2017	4500078565	Garney Companies, Inc.	Lexington & Payne CSO Interceptor	$23,344,747	$14,449,803	3/14/2020	38%	Under Construction
2/22/2018	4500079578	Basham Construction	Algonquin Meadows Flood Mitigation Demolition	$50,899	$14,917	6/30/2018	71%	Under Construction
2/22/2018	4500079580	Basham Construction	Wewoka West Park Flood Mitigation Demolition	$143,265	$41,164	6/30/2018	71%	Under Construction
3/19/2018	4500079829	Basham Construction	Riverside SRL Flood Mitigation Demolition	$158,340	$7,400	12/31/2018	95%	Under Construction
4/25/2018	4500080316	Hanka Builders	Medford Ln Flood Mitigation Demolition	$27,605	$1,598	8/31/2018	94%	Under Construction
6/2/2018	4500080787	Pace Contracting	Shively PS Electrical Improvements	$1,441,708	$232,473	7/12/2019	84%	Under Construction
7/11/2018	4500081230	Pace Contracting	Rowan PS & Downtown CSO Interceptor	$25,470,918	$16,025,134	8/4/2020	37%	Under Construction
7/18/2018	4500081321	TRC, LLC	FY18 Floodwall Closure Upgrades	$275,000	$51,151	12/31/2018	81%	Under Construction
7/18/2018	4500081322	TRC, LLC	FY18 Concrete Repairs	$325,000	$160,712	12/31/2018	51%	Under Construction
7/30/2018	4500081469	Allterrain Paving & Construction	5312 Alba Way DIP	$131,910	$43,096	7/31/2019	67%	Under Construction
8/21/2018	4500081715	Pace Contracting	Cooling Tower Addition CMF	$409,792	$62,642	5/24/2019	85%	Under Construction
11/28/2018	4500082910	Wooldridge Homes Inc.	408 Browns Lane DIP	$42,036	$7,236	2/28/2019	83%	Under Construction
12/5/2018	4500083011	Leak Eliminators, LLC	1300 Ellison/St. Michael Cemetery Emergency	$108,875	$108,875	6/30/2019	0%	Awaiting Start
12/7/2018	4500083026	Miller Pipeline LLC	FY19 Sewer Rehab	$1,000,000	$300,683	9/30/2019	70%	Under Construction
12/7/2018	4500083027	Robinson Pipe Cleaning	FY19 Sewer Rehab	$1,100,751	$618,959	6/30/2019	44%	Under Construction
1/4/2019	4500083306	Basham Construction	Riverside 2016 Demolition Project	$67,711	$12,364	3/31/2019	82%	Under Construction
1/17/2019	4500083469	Allterrain Paving & Construction	8004 Sandness Ct DIP	$106,650	$106,650	3/31/2019	0%	Awaiting Start
2/4/2019	4500083641	American Roofing & Metal Company	CMF Roof E & F Replacement	$2,948,319	$1,018,819	7/31/2019	65%	Under Construction
2/25/2019	4500083874	Basham Construction	Hayfield Dundee 1&2 Flood Mitigation Demolition	$139,000	$32,004	5/31/2019	77%	Under Construction
2/26/2019	4500083898	Allterrain Paving & Construction	4102 Bold Ruler Way DIP	$44,797	$44,797	5/31/2019	0%	Awaiting Start
2/28/2019	4500083938	Abbico Contracting LLC	4804 Kingfisher Way DIP	$30,346	$1,980	5/31/2019	93%	Under Construction
3/5/2019	4500083987	Bradshaw Construction Corporation	I-64 & Grinstead CSO Trenchless Sewer	$4,209,305	$2,244,356	3/31/2020	47%	Under Construction
3/14/2019	4500084122	Hanka Builders, LLC	Transylvania Beach South Mitigation Demolition	$22,300	$22,300	6/30/2019	0%	Awaiting Start
3/14/2019	4500084123	Basham Construction	801 Colonel Anderson Pkwy Flood Protection	$144,546	$72,050	7/30/2019	50%	Under Construction
4/3/2019	4500084331	Merrick Company LLC	Hatch & Cover Plate - Elevation 420 SWPS	$18,699	$18,699	8/16/2019	0%	Awaiting Start
4/12/2019	4500084454	B&R Contracting	13904 Bear Camp Road Restoration	$5,000	$2,500	4/18/2019	50%	Under Construction
5/22/2019	4500084905	MAC Construction & Excavation	Beargrass Creek Bank Repair	$364,000	$324,919	9/30/2019	11%	Under Construction
5/23/2019	4500084907	Pace Contracting	DRGWQTC Sodium Hypochlorite System Mods	$100,000	$77,450	9/30/2019	23%	Under Construction
5/24/2019	4500084925	Basham Construction	2901 Long Creek Way	$10,000	$7,559	5/15/2019	24%	Under Construction
5/24/2019	4500084926	Pace Contracting	3402 Charlane Parkway Concrete Repair	$10,000	$6,955	5/24/2019	30%	Under Construction
6/6/2019	4500085104	Allterrain Paving & Construction	Pershing Avenue DIP	$182,576	$71,796	9/30/2019	61%	Under Construction
6/7/2019	4500085123	B&R Contracting	10609 Fairmount Falls Way DIP	$62,532	$17,332	8/31/2019	72%	Under Construction
6/24/2019	4500085312	Walsh Construction	Logan CSO Basin Entrance Gate Replacement	$9,899	$9,899	10/15/2019	0%	Awaiting Start
6/28/2019	4500085385	MAC Construction & Excavation	Paddy's Run FPS Pumps 1 2 & 6 Rehab	$1,191,000	$928,263	2/28/2020	22%	Under Construction
6/28/2019	4500085386	Grant Line Garden Center & Nursery	Story Avenue Green Infrastructure Maintenance	$2,869	$723	12/31/2019	75%	Under Construction
6/28/2019	4500085387	Grant Line Garden Center & Nursery	Portland Green Infrastructure Maintenance	$6,044	$3,361	12/31/2019	44%	Under Construction
7/3/2019	4500085424	EZ Construction	MFWQTC Primary Sludge Line Replacement	$388,150	$313,556	12/18/2019	19%	Under Construction
7/9/2019	4500085451	Allterrain Paving & Construction	Tycoon Way Tree Replacement	$4,500	$3,254	7/31/2019	28%	Under Construction
7/10/2019	4500085481	Pace Contracting	Emergency T&M Riverfront PS FM Repair	$9,189	$9,189	12/31/2019	0%	Awaiting Start
7/30/2019	4500085700	B&R Contracting	3003 Grand Lakes Drive DIP	$21,000	$21,000	8/23/2019	0%	Awaiting Start
7/30/2019	4500085701	DD Midori Construction	1241 Gilmore Lane DIP	$35,510	$12,026	8/23/2019	66%	Under Construction
8/1/2019	4500085749	B&R Contracting	Whitegate Court Rip-Rap Installation	$5,000	$1,500	8/1/2019	70%	Under Construction
8/9/2019	4500085842	B&R Contracting	Martha Avenue DIP	$22,500	$22,500	9/13/2019	0%	Awaiting Start
8/13/2019	4500085881	B&R Contracting	7912 Grenelle Drive DIP	$24,900	$24,900	9/16/2019	0%	Awaiting Start

Date Created	Total Budget	Agreement #	P/O#	Vendor	Project Name	PO Amount	PO Amount Remaining Open	Completion Scheduled	Payment % Complete	Status
8/13/2019			4500085882	DD Midori Construction	Mt. Holyoke Drive DIP	$22,200	$22,200	9/20/2019	0%	Awaiting Start
8/16/2019			4500085914	B&R Contracting	11810 Pierce Way DIP	$28,500	$28,500	9/30/2019	0%	Awaiting Start
8/21/2019			4500085978	Rennirt's Septic Service	6112/6205 Catheen & 6116 Gloria Ln Demolition	$28,865	$28,865	11/15/2019	0%	Awaiting Start
8/21/2019			4500085979	Rennirt's Septic Service	908 West Indian Trail Demolition	$8,600	$8,600	11/15/2019	0%	Awaiting Start
8/27/2019			4500086063	Robert Woodford	Rain Garden & Bioswale Maintenance	$7,850	$3,700	6/30/2020	53%	Under Construction
8/27/2019			4500086068	B&R Contracting	2921 Meadowview Circle DIP	$20,000	$20,000	9/30/019	0%	Awaiting Start
8/27/2019			4500086069	DD Midori Construction	4611 Stone Lakes Drive DIP	$26,400	$26,400	9/30/019	0%	Awaiting Start
8/28/2019			4500086080	EZ Construction	Mockingbird Valley Trail Emergency Culvert Replace	$75,000	$75,000	12/31/2019	0%	Awaiting Start
8/30/2019			4500086111	Dugan & Meyers LLC	Hite Creek Expansion to 9MGD	$23,869,685	$23,869,685	11/30/2021	0%	Awaiting Start
9/3/2019			4500086133	Hanka Builders LLC	Belquin Re-Scope /Catheen Property Secure	$9,500	$9,500	12/30/2019	0%	Awaiting Start
9/10/2019			4500086217	B&R Contracting	7 Overbrook Road DIP	$10,000	$10,000	9/30/2019	0%	Awaiting Start
9/11/2019			4500086233	MAC Construction	15th & Wilson Sewer Repair T&M Emergency	$250,000	$250,000	12/31/2019	0%	Awaiting Start
9/16/2019			4500086294	MAC Construction	I-64 & Grinstead CSO Interceptor	$5,859,000	$5,859,000	2/28/2021	0%	Awaiting Start
9/17/2019			4500086301	Seven Seas Construction	Bar Screen Cover at the SWPS	$9,600	$9,600	10/11/2019	0%	Awaiting Start
9/17/2019			4500086316	JCI Industries, Inc.	Shawnee Park FPS Motor #3 Repairs Emergency	$100,000	$100,000	12/31/2019	0%	Awaiting Start
9/20/2019			4500086371	B&R Contracting	Westfield Road DIP	$23,530	$23,530	10/31/2019	0%	Awaiting Start
9/25/2019			4500086418	Riverside Paving and Contracting	Parkwood Pump Station Access Drive	$28,893	$28,893	11/21/2019	0%	Awaiting Start
9/25/2019			4500086430	K Weihe Construction	6717 Regal Road DIP	$9,100	$9,100	9/30/2019	0%	Awaiting Start
9/27/2019			4500086452	B&R Contracting	1010 Mt. Holly Road DIP	$27,000	$27,000	10/31/2019	0%	Awaiting Start
9/27/2019			4500086457	Pace Contracting	7th Street Floodwall Closure Repair	$6,214	$6,214	10/4/2019	0%	Awaiting Start
					Totals	**$376,542,137**	**$177,033,205**			

Fiscal Year	Total Open PO's	Total Still Open	Total Amount Paid through Sept 2019	Amount Paid Sept 2019 Only
FY17	$111,803,098	$5,468,211	$106,334,887	$2,331,124
FY18	$195,268,478	$118,338,018	$76,930,460	$8,813,070
FY19	$38,539,875	$22,403,264	$16,136,611	$2,497,514
FY20	$30,930,686	$30,823,712	$106,974	$97,415

END OF REPORT

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