The Government Finance Officers Association of the United States and Canada (GFOA) presented a Distinguished Budget Presentation Award to Madison Metropolitan Sewerage District, Wisconsin for its annual budget for the fiscal year beginning January 1, 2016. In order to receive this award, a governmental unit must publish a budget document that meets program criteria as a policy document, as an operations guide, as a financial plan, and as a communications device. This award is valid for a period of one year only. We believe our current budget continues to conform to program requirements, and we are submitting it to GFOA to determine its eligibility for another award.
OFFICERS

COMMISSIONERS
James Martin
Ezra Meyer-Vice President
Brad Murphy
Tom Wilson
Brian Potts

Angela James-Secretary
Thomas Hovel-President
Sara Eskrich
Ken Clark
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SECTION ONE

INTRODUCTION TO THE DISTRICT BUDGET
I am pleased to present the Madison Metropolitan Sewerage District 2017 Operating Budget and Capital Improvements Plan. Generally, the budget reflects the budget trends and forecasts staff reported to the Commission in May, and the capital needs presented in July. This budget also reflects the Department reorganization that occurred in 2016. Several significant changes occurred such as the creation of a new department, Planning and Strategy, which impacted where dollars were allocated in the existing budget and whether totals were adjusted or actual. Explanations are given in the Departmental Information section regarding these significant changes and how to interpret data since it may be a bit confusing comparing 2016 department numbers to 2017.

Service charges are expected to increase on average by 4.9%, primarily to account for increases in expenditures. The billing parameters for flows and loadings have increased, which is a relief after a few years of significant fluctuations.

In this message, I emphasize every year that the District does not charge households directly, but rather charges customer communities. Our customer communities in turn, bill households using their own cost recovery methodology. Even so, the District is still concerned about the actual impact on citizens and makes an attempt to quantify budget effects each year. With that clarification, the average household user charge for District services is estimated to be $170 per year, an increase of 1.5%, or $0.21 more per month. These estimates are a prediction not a promise because actual billing is influenced by customer use and can vary widely by customer class.

The only factors the District controls are costs. The 2017 Budget has expenditures increasing by 7.11% overall. There are expected increases in debt service payments for capital projects, labor costs, and watershed adaptive management.
Highlights of the Operating Budget include:

- Establish a strategic communications program that will support efforts to reduce phosphorous, chlorides, and fats, oils, and greases (FOG) through pollution prevention and source reduction programs, market beneficial reuse of recovered resources, and meet regulatory obligations for public involvement/notice as part of the CMOM (Capacity, Management, Operation, and Maintenance) program.
- Upgrade information technology systems to support the outcomes of the Information Technology Strategic Plan and improve business decision making to support sustainable infrastructure management.
- Required plant improvements to maintain the air permit.

Highlights of the Capital Budget are:

- To implement recommendations from the Liquid Stream Facility Plan to address peak capacity concerns, replace aging systems, and reduce energy consumption.
- To ensure adequate pumping capacity for the next 50 years in the Middleton and West Madison areas through the rehabilitation of Pumping Station 15.
- Perform a collection system evaluation to update the 2008 plan in order to help the District anticipate future capacity problems and identify needs for expansion or improvement.
- To complete the rehabilitation of Pumping Stations 11 & 12 and provide redundant power supplies.

In closing, the District’s 2017 budget continues to support critical efforts to take care of District facilities, provide for regional collaboration, and continue to provide a high level of environmental performance to District customers. The District’s ongoing vision and commitment to providing sustainable, high value water resource management services at a reasonable cost continues with this budget. We thank the Commission, our partners, our staff, and most of all, our customer communities for enabling this vital work.

Respectfully submitted,

D. Michael Mucha, P.E.
Chief Engineer and Director
**TRENDS**

In order to protect public health and the environment, the District’s network of pipes, pumps, and facilities must perform every minute of every day in conditions that vary greatly depending on weather conditions and demand. The District’s traditional process of collecting, transporting, treating and discharging wastewater has been reliable. With an 80-year history of achieving impressive environmental outcomes at a low cost to the community.

To ensure continued success, District staff plan and proactively take action to stay ahead of impending requirements and foreseeable challenges. Approximately 95% of District resources are allocated to the construction, operation, and maintenance of physical infrastructure. Effectively managing infrastructure to protect public health and the environment is, and always will be, a primary responsibility of the District. However, the District can no longer operate in the same manner that has proven to be successful in the past because of the following macro trends. Figure 1 illustrates four macro trends that threatens the District’s ability to achieve its mission on an affordable and reliable manner.

**Macro Trend One: Diminishing returns for infrastructure solutions**

After more than 40 years of increasing regulatory pressures on the District, most of the easy and cost-effective solutions are already in place. Achieving further reductions in pollutant loadings using existing approaches will be disproportionately expensive relative to gains in water quality.

What this means is that over time, the District will invest a larger proportion of annual revenues on programmatic, non-structural related activities. Pollution prevention and source reduction programs and activities will avoid or delay the need to invest in expensive capital improvement projects. The effect of this shift will be that operating budget will increase to develop the necessary programs that will avoid significant capital outlays. To the public, this may appear that costs are going up. But the reality is that cost increases are significantly avoided. As an example, the 2017 Operating Budget is increasing by $265,000 to support watershed adaptive management activities to reduce phosphorous loads in receiving water bodies. This investment avoids a $130 million capital improvement to remove phosphorous at the treatment plan.

---

**FIGURE 1 | Affordability and Reliability Funnel**
Macro Trend Two: Decreasing Certainty
The District’s system of pipelines, pumping stations, and treatment plants were designed decades ago to accommodate operating conditions that were assumed to remain constant over time. It was easy to predict with confidence extreme wet and dry conditions when designing wastewater infrastructure capacity. Science is proving, and recent experience is showing, that future operating conditions in terms of wastewater inputs, availability of natural resources, and weather patterns are highly uncertain. Wet conditions are proving to be wetter, and dry conditions are proving to be drier.

These extreme conditions have two major impacts on the District. First, extreme wet weather could risk dangerously overtaxing District infrastructure systems, causing wastewater overflows and spills. Extreme dry conditions prevent material from moving efficiently through the system.

Second, fluctuating flows also create fluctuations in District revenues. It is becoming more difficult to predict future year flows and loadings. These predictions are the foundation for calculating services charges in the Districts user charge system.

Macro Trend Three: Aging infrastructure
Trend three is driving a need to invest more in infrastructure renewal and replacement, so that we take care of the infrastructure we already have in place. The District is at the dawn of the first wave of pipes, pumps and treatment plants reaching the end of their useful life.

Programs, such as sustainable infrastructure management will help the District take a strategic approach for how we invest limited resources. The District must balance the level of service the public expects with the risk communities are willing to accept.

Macro Trend Four: Growing Public Awareness and Concern
In 2016, there was intense national attention on water scarcity in California and the public health crisis in Flint Michigan. These events placed a spotlight on the safety of water and shook public confidence in water utilities. Furthermore, with water rates rising, citizens have higher expectations and want to know how their rate money is being spent. Because of this, wastewater utilities, such as the District who have enjoyed decades of anonymity, can no longer be out-of-site and out-of-mind.

These trends threaten the Distrcits ability to achieve its mission in an affordable way. To proactively respond to these trends, the District performs regular strategic planning and allocates resources to adapt to changing conditions. Figure 2 is the District’s high level strategic plan. It includes the District’s long-term Key Result Areas and Initiatives. The Key Result Areas embody emphasis areas at the District. These areas represent long term emphasis and help to focus work and give direction. The Key Initiatives are shorter term and represent strategic priorities. For a more in-depth explanation of strategic planning and goals at the District, please refer to the Strategic Planning and Departmental Information sections of this document.
### SUSTAINABILITY LENS

<table>
<thead>
<tr>
<th>ENVIRONMENT</th>
<th>COMMUNITY</th>
<th>EMPLOYEES</th>
<th>FINANCIAL</th>
</tr>
</thead>
</table>

#### OUR KEY RESULT AREAS

- **We see Opportunities in Wastewater** to recover valuable resources.  
  *Goal: Increase recovery of resources, while meeting permit requirements.*

- **We see Solutions in the Community** to engage others in meeting future challenges.  
  *Goal: Improve partnerships to build and increase public support.*

- **We see success in a healthy, resilient Workforce** to promote a culture of positive engagement.  
  *Goal: Achieve culture of positive engagement.*

- **We see value in Sustainable Infrastructure** to support a vibrant regional community.  
  *Goal: Achieve expected community level of services at the lowest total cost of ownership.*

#### OUR KEY RESULT INITIATIVES

<table>
<thead>
<tr>
<th>O&amp;M:</th>
<th>ECO:</th>
<th>DLS:</th>
<th>ENG:</th>
<th>P&amp;S:</th>
<th>ADMIN:</th>
</tr>
</thead>
</table>
| - Solve the Air Permit Issue/Regulatory Issues  
- Optimizing the Ostara Process  
- Determine the Viability of Working with the City of Madison on a Digestion Process for Source Separated Organics | - Adaptive Management  
- Intensify PPSR Outreach  
- Water Center  
- LEED Platinum Maintenance Facility  
- External Support and Engagement | - Strategic Communications  
- Yahara Watershed Academy  
- Strategic Planning  
- Development of Purpose Centered Leaders  
- Competitive Wages/Salaries  
- Diverse and Inclusive Workforce  
- Safety  
- Succession Planning  
- ELC Development  
- Strategic Planning  
- Development of Purpose Centered Leaders | - Connection Charge Rate Study  
- Sustainable Infrastructure Program  
- P&S: Liquid Process Facility Plan  
- User Charge Billing System | - 3-5 Year Financial Plan  
- IS/GIS Strategic Plan  
- Budget Software Implementation | - Energy Independence  
- Policy Governance  
- Implement LIMS  
- Policy Governance  
- Implement LIMS |

- **DLS:** One Water  
- **ECO:** WDNR Approval of Chloride PMP  
- WPDES Permit Re-issuance  
- **ENG:** LEED Platinum Maintenance Facility  
- **O&M:** Energy Independence  
- **P&S:** Sustainable Infrastructure Program  
- **ADMIN:** 3-5 Year Financial Plan  
- IS/GIS Strategic Plan  
- Budget Software Implementation  
- **O&M:** Energy Independence  
- **DLS:** Policy Governance  
- **ECO:** Implement LIMS

*Bold green indicates highest priorities*

**ACRONYM KEY**

- ADMIN: Administration
- DLS: District Leadership & Support
- ECO: Ecosystem Services
- ENG: Engineering Department
- O&M: Operations and Maintenance
- P&S: Department of Planning and Strategy

*Document last updated September 2016.*
BUDGET PROCESS

The purpose of the annual budgeting process is to ensure that the District has adequate resources to deliver its planned services during the upcoming year and in future years. As part of this process, the following questions need to be answered:

1. What are the estimated expenses for operating the District’s facilities and programs next year?
2. What are the estimated costs for construction of new or replacement facilities over the next six years?
3. How much money can the District expect from the various revenue sources next year, and how much money will the District need to recover through service charges?
4. How much money will the District need to borrow to finance construction work?
5. How much money does the District need in the bank to ensure adequate cash flow, to fulfill promises made when borrowing money, and to address unforeseen emergencies?

The annual budget process addresses the upcoming year’s financial management plan in three areas:

1. The Operating Fund Budget addresses the operation of facilities and includes recovery of future years’ debt service costs to comply with promises made at the time the District borrows money to finance construction projects. Service charge revenue is the primary source of funds used to pay for the operation of facilities.

2. The Capital Projects Fund Budget addresses construction of new or replacement facilities. Larger projects are typically funded with proceeds from a Clean Water Fund loan. These loans are administered by the State of Wisconsin. The District uses its taxing authority as collateral for these loans; however, the intent is to repay these loans with revenues generated through service charges. Smaller construction projects are funded through connection charge revenue and interest earned on the fund’s investments.

3. The Debt Service Fund Budget addresses debt service, the annual principal and interest payments due on borrowed funds. When the District borrows money from the State in the form of a Clean Water Fund loan, the District promises to place the amount of the next year’s debt service payments on the tax roll unless the Debt Service Fund has a balance by October 1 sufficient to make those payments. Since the District intends to repay its debt through service charges, each year’s Operating Fund budget includes sufficient amounts of principal and interest in its operating expenses to fulfill this requirement. This money is transferred from the Operating Fund to the Debt Service Fund prior to October 1 each year to ensure that no debt service payments need to be placed on the tax roll.

Each year, the Chief Engineer and Director submits a Proposed Operating Budget, Proposed Capital Projects Budget, and Proposed Debt Service Budget. These proposed budgets are typically submitted at the first Commission meeting in September. After a public hearing and further consideration by the Commission, the Commission commonly approves the Operating, Capital Projects, and Debt Service budgets in October.
FIGURE 3 | Budget Calendar

SECTION ONE

STAFF/OUTSIDE ACTION

JUNE

Commission review & accept Draft CIP.

JULY

Department staff develops and submits their budget requests to the Budget Review Team (CED, Dir. of Admin, and Comptroller), who then balances and develops the CED’s proposed budget.

AUGUST

September 14: A summary of the proposed budget is published and notice given of the upcoming budget hearing as required by Wisconsin Statutes Section 65.90.

SEPTEMBER

September 15: CED presents preliminary budget to Commission.

October 5: Deadline to receive written comments from the public on the proposed budget.

October 31: Notification to customers of delayed adoption of budget and rates.

October 27: Commission deliberates budgets.

OCTOBER

October 13: Commission deliberates budgets.

November 10: Commission adopts Operating, Capital Projects, and Debt Service Budgets and adopts service charge and septage disposal rates.

November 11: Notify customers and septage haulers of new rates and estimated charges.

NOVEMBER

December 11: Notify customers of adoption of budget and rates.

December 11: Submit to legislative review boards.

Commission ACTION
TABLE 1 | Amendment Procedures

<table>
<thead>
<tr>
<th>BUDGET</th>
<th>REQUIREMENTS FOR BUDGET AMENDMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPERATING</td>
<td>Any increase in the total authorized expenditures.</td>
</tr>
<tr>
<td>CAPITAL PROJECTS</td>
<td>Any increase in the budget total for the year. The addition of a new project not previously included in the adopted budget. Any increase to a previously approved total project cost.</td>
</tr>
<tr>
<td>DEBT SERVICE</td>
<td>Any change to the approved amount to be transferred from the Operating Fund to the Debt Service Fund.</td>
</tr>
</tbody>
</table>

BUDGET AMENDMENT PROCEDURES
Amendments to the proposed Operating, Capital Projects, and Debt Service budgets, or to the approved budgets, can be initiated by either the Commission or staff. Once the Commission approves the budgets for the succeeding calendar year, amendments to the budgets must be approved by the Commission as shown in Table 1.

BUDGET POLICIES AND PRACTICES
Several overarching policies and practices combine to form the District’s approach to budgeting for the services provided by the District:

1. Users pay charges based on the cost of the service.
2. Operating costs are funded on a “pay-as-you-go” basis. Annual costs for operating the District’s facilities are recovered from current users through the payment of service charges that reflect the customer’s use of the service and the current costs of providing that service. The District does not use borrowed money to pay for current operating costs.
3. Construction of new facilities is financed primarily with debt. New facilities are built to last twenty years or more, and designed with sufficient capacity to handle increasing loads caused by expected growth over their useful lives. Debt for new facilities is generally paid back over a 20-year period. This spreads the up-front construction costs over those users that actually use the facility during its service life.
4. Detailed long-range planning helps to ensure stable rates and charges. The District’s Capital Projects Fund budget includes a six-year projection of construction-related expenses and revenues. The financial plan that evaluates the impacts of long-term borrowing on future budgets uses a 20-year projection.
BUDGET POLICY GUIDANCE

A number of policies guide the preparation of the annual budget for each of the three District funds.

The Operating Fund Budget policies are:
1. Maintain a minimum fund balance equal to 180 days of the annual operating costs (does not include debt service), to ensure adequate cash flow capabilities.
2. Balance the budget by calculating the required service charge revenues so that total revenues equal total expenditures. Service charge rates are reviewed and set annually so projected flows and loadings will provide the required service charge revenue.

The Capital Projects Fund Budget policies are:
Maintain a minimum fund balance of $3 million to fund any unforeseen project that may arise during the year.
Utilize reserve funds, interest earnings, and connection charge revenues to pay project costs before borrowing additional funds, unless the estimated project cost significantly exceeds the sum of these sources. In such cases, money is borrowed to finance the project. Since the early 1990s, the Clean Water Fund program has been the lowest cost source of debt financing for the District. All District loans since 1992 have been through the Clean Water Fund program.

The Debt Service Fund budget policies are:
Maintain a minimum balance in the Debt Service Fund to ensure that no debt service payments need to be placed on the tax roll.

DEFINITIONS

Fiscal Year: The fiscal year for Madison Metropolitan Sewerage District begins on January 1 of each year and ends on December 31 of that year. The fiscal year is the accounting and budget year.

Enterprise Fund: The District prepares its financial statements on an enterprise fund basis. Generally Accepted Accounting Principles (GAAP) require state and local governments to use the enterprise fund to account for “business-type activities”—activities similar to those found in the private sector. Business-type activities include services primarily funded through service charges.

Balanced Budget: The Madison Metropolitan Sewerage District is required to adopt a balanced budget each year. A balanced budget is one in which anticipated District revenues equal anticipated District expenditures for the fiscal year. The District achieves this with the Operating Budget by offsetting expenditures with service charge billings, other operating income, and fund reserves. The District’s Capital Projects Budget is balanced by offsetting total project expenditures with Clean Water Fund loans, connection charge revenues, fund reserves, and all other capital projects fund income. The District’s Debt Service Budget achieves balance by offsetting total debt service expenses with funds transferred from the Operating Fund, debt service reserves, and interest income.

Fund Balance: Fund balance is the difference between the assets and liabilities of a fund. It is a measure of the amount available to budget or spend in the future.
The District prepares its financial statements and budgets on an enterprise fund basis. The District’s operating expenses are funded within the Operating Budget, the capital expenditures are funded within the Capital Projects Budget and the Debt Service Budget is funded by transfers from the Operating Fund. The Operating Fund is the main fund. The Operating Budget authorizes use of the Operating Fund. The Capital Projects Budget authorizes use of the Capital Projects Fund. The Debt Service Budget authorizes use of the Debt Service Fund.

Figure 4 summarizes the fund structure for the Operating, Capital Projects, and Debt Service Budgets. The connection between the Operating Budget and the Debt Service Budget is the transfer of service charge revenues to the Debt Service Fund. The connection between the Debt Service Budget and the Capital Projects Budget is an indirect one. Loan proceeds are used to fund projects budgeted in the Capital Projects Budget.

Table 2 provides a combined summary of revenues and expenditures for 2015 through 2017. Table 3 provides details on the sources of funds, use of funds, basis of accounting, and basis for accounting and expense in the Operating and Capital Projects Budgets.
<table>
<thead>
<tr>
<th>REVENUE CATEGORY</th>
<th>2015 Actual</th>
<th>2016 Estimated</th>
<th>2016 Budget</th>
<th>Proposed 2017 Budget</th>
<th>Change from 2016 Adopted Budget</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OPERATIONS AND MAINTENANCE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sewer Service Charges</td>
<td>$28,487,402</td>
<td>$33,300,000</td>
<td>$31,590,000</td>
<td>$33,132,000</td>
<td>$1,542,000</td>
<td>4.88%</td>
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<tr>
<td>Septage Disposal Revenue</td>
<td>491,292</td>
<td>506,000</td>
<td>430,000</td>
<td>555,000</td>
<td>125,000</td>
<td>29.07%</td>
</tr>
<tr>
<td>Servicing Pumping Stations</td>
<td>402,495</td>
<td>280,000</td>
<td>260,000</td>
<td>320,000</td>
<td>60,000</td>
<td>23.08%</td>
</tr>
<tr>
<td>Struvite Fertilizer Sales</td>
<td>124,131</td>
<td>135,000</td>
<td>140,000</td>
<td>140,000</td>
<td>NMF</td>
<td>0.00%</td>
</tr>
<tr>
<td>All Other Operating Income</td>
<td>238,996</td>
<td>248,000</td>
<td>222,000</td>
<td>213,000</td>
<td>(9,000)</td>
<td>-4.05%</td>
</tr>
<tr>
<td>Cash Reserves</td>
<td>180,000</td>
<td>180,000</td>
<td>796,000</td>
<td>616,000</td>
<td>NMF</td>
<td>342.22%</td>
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<tr>
<td><strong>TOTAL OPERATIONS AND MAINTENANCE REVENUES</strong></td>
<td>$29,744,316</td>
<td>$34,469,000</td>
<td>$32,822,000</td>
<td>$35,156,000</td>
<td>$2,334,000</td>
<td>7.11%</td>
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<tr>
<td><strong>CAPITAL PROJECTS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean Water Fund Loans</td>
<td>$17,972,429</td>
<td>$13,810,000</td>
<td>$13,221,000</td>
<td>$(8,823,000)</td>
<td>-66.73%</td>
<td></td>
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<tr>
<td>Interceptor and Treatment Plant Connection Charges</td>
<td>1,841,205</td>
<td>1,050,000</td>
<td>1,050,000</td>
<td>1,800,000</td>
<td>71.43%</td>
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<tr>
<td>Interest on Investments</td>
<td>32,141</td>
<td>38,000</td>
<td>38,000</td>
<td>43,000</td>
<td>5,000</td>
<td>13.16%</td>
</tr>
<tr>
<td>Contribution from Operating Fund</td>
<td>172,000</td>
<td>172,000</td>
<td>NMF</td>
<td>NMF</td>
<td>NMF</td>
<td></td>
</tr>
<tr>
<td>Return Spare Parts to Inventory</td>
<td>242,552</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>NMF</td>
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</tr>
<tr>
<td><strong>TOTAL CAPITAL PROJECTS REVENUES</strong></td>
<td>$20,088,327</td>
<td>$14,898,000</td>
<td>$14,309,000</td>
<td>$(7,896,000)</td>
<td>-55.18%</td>
<td></td>
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<tr>
<td><strong>DEBT SERVICE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transfer from Operating Fund</td>
<td>$11,843,000</td>
<td>$12,909,000</td>
<td>$12,909,000</td>
<td>$13,684,000</td>
<td>$775,000</td>
<td>6.00%</td>
</tr>
<tr>
<td>Interest on Investments</td>
<td>23,860</td>
<td>57,000</td>
<td>26,000</td>
<td>28,000</td>
<td>2,000</td>
<td>-7.69%</td>
</tr>
<tr>
<td><strong>TOTAL DEBT SERVICE REVENUES</strong></td>
<td>$11,866,860</td>
<td>$12,966,000</td>
<td>$12,935,000</td>
<td>$13,712,000</td>
<td>$777,000</td>
<td>6.01%</td>
</tr>
<tr>
<td><strong>TOTAL REVENUES (net of transfers and reserves)</strong></td>
<td>$49,856,503</td>
<td>$49,424,000</td>
<td>$46,977,000</td>
<td>$(6,348,000)</td>
<td>-13.51%</td>
<td></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>EXPENSE CATEGORY</th>
<th>2015 Actual</th>
<th>2016 Estimated</th>
<th>2016 Budget</th>
<th>Proposed 2017 Budget</th>
<th>Change from 2016 Adopted Budget</th>
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</tr>
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<tbody>
<tr>
<td><strong>OPERATIONS AND MAINTENANCE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administration, Engineering &amp; Planning</td>
<td>$3,389,024</td>
<td>$4,114,000</td>
<td>$3,901,000</td>
<td>$5,236,000</td>
<td>$1,335,000</td>
<td>34.22%</td>
</tr>
<tr>
<td>User Charge &amp; PreTreatment Program</td>
<td>502,996</td>
<td>703,000</td>
<td>726,000</td>
<td>758,000</td>
<td>32,000</td>
<td>4.41%</td>
</tr>
<tr>
<td>Wastewater Collection</td>
<td>2,107,709</td>
<td>2,383,000</td>
<td>2,334,000</td>
<td>2,360,000</td>
<td>26,000</td>
<td>1.11%</td>
</tr>
<tr>
<td>Wastewater Treatment</td>
<td>10,136,829</td>
<td>10,117,000</td>
<td>10,710,000</td>
<td>10,671,000</td>
<td>(39,000)</td>
<td>-0.36%</td>
</tr>
<tr>
<td>Effluent Division</td>
<td>122,942</td>
<td>117,000</td>
<td>116,000</td>
<td>102,000</td>
<td>(14,000)</td>
<td>-12.07%</td>
</tr>
<tr>
<td>Metrogro Biosolids Reuse Program</td>
<td>1,313,643</td>
<td>1,431,000</td>
<td>1,516,000</td>
<td>1,533,000</td>
<td>17,000</td>
<td>1.12%</td>
</tr>
<tr>
<td>Capital Outlay</td>
<td>525,770</td>
<td>436,000</td>
<td>275,000</td>
<td>220,000</td>
<td>(55,000)</td>
<td>-20.00%</td>
</tr>
<tr>
<td>Servicing Pumping Stations Owned by Others</td>
<td>399,962</td>
<td>280,000</td>
<td>260,000</td>
<td>320,000</td>
<td>60,000</td>
<td>23.08%</td>
</tr>
<tr>
<td>Contribution to Capitol Projects Fund</td>
<td>172,000</td>
<td>172,000</td>
<td>NMF</td>
<td>NMF</td>
<td>NMF</td>
<td></td>
</tr>
<tr>
<td>Contribution to Equipment Replacement Fund</td>
<td>-</td>
<td>75,000</td>
<td>75,000</td>
<td>100,000</td>
<td>25,000</td>
<td>33.33%</td>
</tr>
<tr>
<td>Transfer to Debt Service Fund</td>
<td>11,843,000</td>
<td>12,909,000</td>
<td>12,909,000</td>
<td>13,684,000</td>
<td>775,000</td>
<td>6.00%</td>
</tr>
<tr>
<td><strong>TOTAL OPERATIONS AND MAINTENANCE EXPENDITURES</strong></td>
<td>$30,342,875</td>
<td>$32,565,000</td>
<td>$32,822,000</td>
<td>$35,156,000</td>
<td>$2,334,000</td>
<td>7.11%</td>
</tr>
<tr>
<td><strong>CAPITAL PROJECTS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nine Springs Wastewater Treatment Plant Projects</td>
<td>$9,998,731</td>
<td>$3,678,000</td>
<td>$3,209,000</td>
<td>$1,376,000</td>
<td>$(1,833,000)</td>
<td>-57.12%</td>
</tr>
<tr>
<td>Interceptors</td>
<td>221,712</td>
<td>1,221,000</td>
<td>3,131,000</td>
<td>4,785,000</td>
<td>1,654,000</td>
<td>52.83%</td>
</tr>
<tr>
<td>Pumping Stations and Force Mains</td>
<td>7,755,496</td>
<td>8,555,000</td>
<td>8,094,000</td>
<td>1,932,000</td>
<td>(6,162,000)</td>
<td>-76.13%</td>
</tr>
<tr>
<td>Capital Budget Expenses</td>
<td>309,337</td>
<td>515,000</td>
<td>515,000</td>
<td>695,000</td>
<td>180,000</td>
<td>34.95%</td>
</tr>
<tr>
<td><strong>TOTAL CAPITAL PROJECTS EXPENDITURES</strong></td>
<td>$18,285,275</td>
<td>$13,969,000</td>
<td>$14,949,000</td>
<td>$(6,161,000)</td>
<td>-41.21%</td>
<td></td>
</tr>
<tr>
<td><strong>DEBT SERVICE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principal Payments</td>
<td>$8,947,401</td>
<td>$8,947,000</td>
<td>$9,012,000</td>
<td>$9,449,000</td>
<td>$437,000</td>
<td>4.85%</td>
</tr>
<tr>
<td>Interest Payments</td>
<td>3,406,654</td>
<td>$3,496,000</td>
<td>3,704,000</td>
<td>3,625,000</td>
<td>(7,900)</td>
<td>-2.13%</td>
</tr>
<tr>
<td><strong>TOTAL DEBT SERVICE REVENUES</strong></td>
<td>$12,354,055</td>
<td>$12,443,000</td>
<td>$12,716,000</td>
<td>$13,074,000</td>
<td>$358,000</td>
<td>2.82%</td>
</tr>
<tr>
<td><strong>TOTAL EXPENDITURES (net of transfers and reserves)</strong></td>
<td>$49,139,205</td>
<td>$45,993,000</td>
<td>$47,503,000</td>
<td>$43,062,000</td>
<td>$(4,441,000)</td>
<td>-9.35%</td>
</tr>
</tbody>
</table>

NMF=No Meaningful Figure
## TABLE 3 | Operating and Capital Budgets Combined

<table>
<thead>
<tr>
<th>OPERATIONS</th>
<th>CAPITAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SOURCES OF FUNDS</strong></td>
<td>Wisconsin Clean Water Fund loans, interceptor and treatment plant connection charges, reserve funds, and interest</td>
</tr>
<tr>
<td>Service charges, servicing pump stations, struvite fertilizer sales, reserve funds, interest and other income</td>
<td></td>
</tr>
<tr>
<td><strong>USE OF FUNDS</strong></td>
<td>Project expenses and all other capital expenses</td>
</tr>
<tr>
<td>Operating and maintenance expenses, debt service</td>
<td></td>
</tr>
<tr>
<td><strong>BUDGETARY BASIS OF ACCOUNTING</strong></td>
<td></td>
</tr>
<tr>
<td>Actual revenues and expenses are recorded on a full accrual basis in accordance with Generally Accepted Accounting Principles. Revenues and expenses are budgeted on a full accrual basis, except capital outlays. These are budgeted as expense in the year incurred, but capitalized and depreciated for financial reporting purposes. Depreciation is not budgeted.</td>
<td>For financial reporting, actual revenues and expenses are recorded on a full accrual basis in accordance with Generally Accepted Accounting Principles. Revenues are budgeted on a cash basis. Because the Capital Budget serves as a financing plan, it is important to plan when revenues are received rather than when they are earned. Expenses are budgeted according to what is projected to be completed for that particular year.</td>
</tr>
<tr>
<td><strong>BASIS FOR EXPENSE</strong></td>
<td></td>
</tr>
<tr>
<td>Costs of operating and maintaining the sewerage system. Costs also include asset repair and replacement that is necessary to maintain the capacity and performance to meet the needs of the communities we serve, our regulatory requirements, and to protect the environment.</td>
<td>Costs of acquiring, purchasing, planning, designing, construction, extending and improving all or any part of the sewerage system.</td>
</tr>
</tbody>
</table>
The District’s 2017 combined budget totals approximately $40.6 million in revenue and $43.1 million in expenditures. As seen in Figure 5, the primary sources of revenue in the 2017 combined budgets are sewer service charges (81.5 percent) and Clean Water Fund loans (10.8 percent). On the expenditure side, the Capital Budget comprises (20.4 percent) of the 2017 combined budget while operations and maintenance of the District facilities (net of debt service) totals (49.2 percent). Debt service is (30.4 percent) of 2017 expenditures.
SECTION TWO

2017 OPERATING BUDGET SUMMARY
Operating Budget Summary

OVERVIEW

The Operating Budget is the annual financing plan for the District’s Operating Fund expenditures. The Operating Fund is the general fund of the District and accounts for revenues and expenses used to support daily operations and maintenance of all District facilities.

Table 4 summarizes the District’s operating expenditures, revenues, and operating reserves for the years 2015 through 2017. Figure 6 summarizes the amounts for the revenues and expenditure categories for the proposed 2017 Budget. The proposed 2017 Operating Budget includes an 7.11% increase ($2.1 million) in expenses over the current year’s budget and will require an 4.88% increase ($1.5 million) in service charge revenues.

Table 4

<table>
<thead>
<tr>
<th>Year</th>
<th>Operating Expenditures</th>
<th>Operating Revenues</th>
<th>Operating Reserves</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>$X</td>
<td>$Y</td>
<td>$Z</td>
</tr>
<tr>
<td>2016</td>
<td>$A</td>
<td>$B</td>
<td>$C</td>
</tr>
<tr>
<td>2017</td>
<td>$D</td>
<td>$E</td>
<td>$F</td>
</tr>
</tbody>
</table>

Staff projects 2016 revenues to be $1.7 million more than budgeted with 2016 expenses $260,000 less than budgeted. Operating Budget reserves are projected to increase $2.0 million in 2016. The expected operating reserves at the end of this year are $15.5 million.

2016 Revenues

Staff estimates 2016 revenues will be approximately $1.8 million or 5.6% more than budgeted. This is due to revenues from estimated service charges being $1.7 million or 5.4% more than budgeted, septage disposal fees $76,000 more than budgeted, miscellaneous income $29,000 more than budgeted, and revenues from servicing pumping stations $20,000 more than budgeted. An unusually wet fourth quarter of 2015 and higher than normal precipitation through September has resulted in higher than anticipated wastewater loadings. Pollutant loadings for biochemical oxygen demand and total suspended solids are also above the budgeted values. A significant factor in the increased loadings for biochemical oxygen demand and total suspended solids is the return in early 2016 of a significant industrial contributor.

Income from servicing pumping stations is estimated to be $20,000 more than budgeted due to slightly higher than expected levels of required maintenance for pumping stations owned by others. Miscellaneous income is estimated to be $29,000 more than budgeted due to higher than expected workers compensation insurance premium refund and liability insurance dividend and the unbudgeted sale of equipment. Septage revenues are estimated to be $76,000 higher than budgeted due to greater than expected volumes of septic tank and holding tank wastes and the 2016 budget estimate not accounting for rate increases for the septage wastes. Struvite fertilizer sales, interest on investments, annexation and plan review fees, and rent revenue are all estimated to be close to the budgeted amounts.

2016 Expenditures

The District anticipates expenditures for 2016 to be $260,000, or 0.8%, less than budgeted. Amounts under budget for user charge and pretreatment ($23,000), wastewater treatment ($593,000), and the Metrogro program ($85,000) offset amounts over budget for administration and engineering ($213,000), wastewater collection ($49,000), and capital outlay ($161,000). The expenses for servicing pumping stations owned by others are offset by the revenue collected for that service.

2017 Revenues

The budgeted revenues for 2017 are 4.88% greater than budgeted revenues for 2016 and 0.5% less than the estimated 2016 revenues. Required service charge revenues will increase $1,542,000 (4.9%) over the 2016 budgeted amount and decrease $168,000 over the estimated 2016 revenues. Revenues from septage disposal are expected to increase by $125,000. Revenues from servicing pump stations are expected to increase by $60,000. Revenues from struvite fertilizer sales are estimated to be unchanged. Staff expects interest rates to remain low and interest income to increase slightly by $2,000 to $15,000. Plan review and annexation fees are projected to decrease by $4,000 and miscellaneous income by $9,000.
## TABLE 4  |  2017 Operating Budget

<table>
<thead>
<tr>
<th>REVENUE CATEGORY</th>
<th>2015 Actual</th>
<th>2016 Thru June</th>
<th>2016 Estimated Total</th>
<th>2016 Budget</th>
<th>2017 Budget</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewer Service Charges</td>
<td>$28,487,402</td>
<td>$16,391,042</td>
<td>$33,300,000</td>
<td>$31,590,000</td>
<td>$33,132,000</td>
<td>4.88%</td>
</tr>
<tr>
<td>Servicing Pumping Stations</td>
<td>402,495</td>
<td>127,439</td>
<td>280,000</td>
<td>260,000</td>
<td>320,000</td>
<td>23.08%</td>
</tr>
<tr>
<td>Rent</td>
<td>69,634</td>
<td>37,606</td>
<td>71,000</td>
<td>71,000</td>
<td>71,000</td>
<td>0.00%</td>
</tr>
<tr>
<td>Interest</td>
<td>13,248</td>
<td>9,529</td>
<td>16,000</td>
<td>13,000</td>
<td>15,000</td>
<td>15.38%</td>
</tr>
<tr>
<td>Annexation and Plan Review Fees</td>
<td>55,000</td>
<td>35,250</td>
<td>57,000</td>
<td>65,000</td>
<td>61,000</td>
<td>-6.15%</td>
</tr>
<tr>
<td>Miscellaneous Income</td>
<td>79,395</td>
<td>60,305</td>
<td>84,000</td>
<td>55,000</td>
<td>46,000</td>
<td>-16.36%</td>
</tr>
<tr>
<td>Septage Disposal Revenue</td>
<td>491,292</td>
<td>186,987</td>
<td>506,000</td>
<td>430,000</td>
<td>555,000</td>
<td>29.07%</td>
</tr>
<tr>
<td>Pretreatment Monitoring</td>
<td>21,719</td>
<td>-</td>
<td>20,000</td>
<td>18,000</td>
<td>20,000</td>
<td>11.11%</td>
</tr>
<tr>
<td>Struvite Fertilizer Sales</td>
<td>124,131</td>
<td>48,022</td>
<td>135,000</td>
<td>140,000</td>
<td>140,000</td>
<td>0.00%</td>
</tr>
<tr>
<td>Cash Reserves</td>
<td>-</td>
<td>-</td>
<td>180,000</td>
<td>796,000</td>
<td>342.22%</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL REVENUES</strong></td>
<td>$29,744,316</td>
<td>$16,896,180</td>
<td>$34,469,000</td>
<td>$32,822,000</td>
<td>$35,156,000</td>
<td>7.11%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EXPENSE CATEGORY</th>
<th>2015 Actual</th>
<th>2016 Thru June</th>
<th>2016 Estimated Total</th>
<th>2016 Budget</th>
<th>2017 Budget</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration, Engineering, and Planning</td>
<td>$3,389,024</td>
<td>$2,018,440</td>
<td>4,114,000</td>
<td>3,901,000</td>
<td>5,236,000</td>
<td>34.22%</td>
</tr>
<tr>
<td>User Charge &amp; PreTreatment Program</td>
<td>502,996</td>
<td>284,299</td>
<td>703,000</td>
<td>726,000</td>
<td>758,000</td>
<td>4.41%</td>
</tr>
<tr>
<td>Wastewater Collection</td>
<td>2,107,709</td>
<td>858,239</td>
<td>2,383,000</td>
<td>2,334,000</td>
<td>2,360,000</td>
<td>1.11%</td>
</tr>
<tr>
<td>Wastewater Treatment</td>
<td>10,136,829</td>
<td>4,618,256</td>
<td>10,117,000</td>
<td>10,710,000</td>
<td>10,671,000</td>
<td>-0.36%</td>
</tr>
<tr>
<td>Effluent Diversion</td>
<td>123,942</td>
<td>53,432</td>
<td>117,000</td>
<td>116,000</td>
<td>102,000</td>
<td>-12.07%</td>
</tr>
<tr>
<td>Metrogro Biosolids Reuse Program</td>
<td>1,313,643</td>
<td>520,301</td>
<td>1,431,000</td>
<td>1,516,000</td>
<td>1,533,000</td>
<td>1.12%</td>
</tr>
<tr>
<td>Capital Outlay</td>
<td>525,770</td>
<td>126,996</td>
<td>436,000</td>
<td>275,000</td>
<td>220,000</td>
<td>-20.00%</td>
</tr>
<tr>
<td>Servicing Pumping Stations Owned by Others</td>
<td>399,962</td>
<td>106,134</td>
<td>280,000</td>
<td>260,000</td>
<td>320,000</td>
<td>23.08%</td>
</tr>
<tr>
<td>Contribution to Capital Projects Fund</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>172,000</td>
<td>172,000</td>
<td>NMF</td>
</tr>
<tr>
<td>Contribution to Equipment Replacement Fund</td>
<td>-</td>
<td>-</td>
<td>75,000</td>
<td>75,000</td>
<td>100,00</td>
<td>33.33%</td>
</tr>
<tr>
<td>Transfer to Debt Service Fund</td>
<td>11,843,000</td>
<td>-</td>
<td>12,909,000</td>
<td>12,909,000</td>
<td>13,864,000</td>
<td>6.00%</td>
</tr>
<tr>
<td><strong>TOTAL EXPENDITURES</strong></td>
<td>$30,342,875</td>
<td>$8,586,097</td>
<td>$32,565,000</td>
<td>$32,747,000</td>
<td>$35,056,000</td>
<td>7.05%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPERATING FUND BALANCE</th>
<th>2015 Actual</th>
<th>2016 Thru June</th>
<th>2016 Estimated Total</th>
<th>2016 Budget</th>
<th>2017 Budget</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BEGINNING BALANCE</strong></td>
<td>$14,107,762</td>
<td>$13,509,203</td>
<td>$13,509,203</td>
<td>$13,351,000</td>
<td>$15,488,000</td>
<td>16.01%</td>
</tr>
<tr>
<td><strong>TOTAL REVENUES LESS CASH RESERVES USED</strong></td>
<td>29,744,316</td>
<td>16,896,180</td>
<td>34,269,000</td>
<td>32,642,000</td>
<td>34,360,000</td>
<td>5.26%</td>
</tr>
<tr>
<td><strong>TOTAL EXPENDITURES LESS CONTRIBUTIONS TO ERF</strong></td>
<td>30,342,875</td>
<td>8,586,097</td>
<td>32,490,000</td>
<td>32,747,000</td>
<td>35,056,000</td>
<td>7.05%</td>
</tr>
<tr>
<td><strong>ENDING BALANCE</strong></td>
<td>$13,509,203</td>
<td>$21,819,286</td>
<td>$15,288,000</td>
<td>$13,246,000</td>
<td>$14,792,000</td>
<td>11.67%</td>
</tr>
</tbody>
</table>
FIGURE 6 | 2017 Operating Budget

2017 OPERATING REVENUES
Total Operating Revenue $35,156,000

- SEWER SERVICE CHARGES $33,132,000
- CASH RESERVES $796,000
- SEPTAGE DISPOSAL REVENUE $555,000
- SERVICING PUMPING STATIONS $320,000
- STRUVITE FERTILIZER SALES $140,000
- OTHER $213,000

2017 OPERATING EXPENDITURES
Total Operating Expenditures $35,156,000

- WASTEWATER TREATMENT $13,684,000
- TRANSFER TO DEBT SERVICE FUND $10,671,000
- ADMINISTRATION, ENGINEERING & PLANNING $5,236,000
- WASTEWATER COLLECTION $2,360,000
- METROGRO BIOUSE REUSE PROGRAM $1,533,000
- USER CHARGE & PRETREATMENT PROGRAM $758,000
- SERVICING PUMPING STATIONS OWNED BY OTHERS $320,000
- CAPITAL OUTLAY $220,000
- CONTRIBUTION TO CAPITAL PROJECTS FUND $172,000
- EFFLUENT DIVERSION $102,000
- CONTRIBUTION TO EQUIPMENT REPLACEMENT FUND $100,000
2017 Expenditures

The budgeted expenditures of $35.2 million are $2.3 million, 7.11%, more than the budget for 2016. Total operating budget personnel services related costs (salaries, benefits, payroll taxes, etc.) increase by $508,000, 5.1%, to $10.5 million. Non-personnel related costs increase by $1.83 million, 8.0%, to $24.7 million.

The personnel services increase is due to the following factors:

- Allowance for implementing the pay study
- Step and/or longevity increases for hourly employees
- Performance increase for salaried employees.
- Net addition of one full-time equivalent position starting in January 2017 and ¾ of a year’s salary for a full-time position that is budgeted to start in October 2016 – total salary and benefits cost of $129,000 for a communications position and $85,000 for salary and benefits for the added ¾-year position to be added in late 2016
- A 6.5% increase in health insurance rates

Significant non-personnel related operating expenditure increases include:

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Water Fund debt service</td>
<td>$775,000</td>
</tr>
<tr>
<td>Funding for the Yahara WINS phosphorus adaptive management program</td>
<td>$258,000</td>
</tr>
<tr>
<td>Geographic Information System (GIS) improvements</td>
<td>$150,000</td>
</tr>
<tr>
<td>Implementation planning for updated version of Oracle WAM (Work and Asset Management) software</td>
<td>$50,000</td>
</tr>
</tbody>
</table>

See Departmental Information in Section 5 for more detail on department budgets.

OPERATING FUND BALANCE

The Operating Fund balance is projected to decrease by $696,000 or 11.7% in 2017 compared to the estimated 2016 ending balance. This increase is due to the contribution of $100,000 to the Equipment Replacement Fund and the use of $796,000 of operating reserves. The District expects the actual Operating Fund 2016 ending balance to increase $2.0 million over the 2015 ending balance. The increase is due to higher than budgeted revenues and lower than budgeted expenses.

The District’s 2016 Operating Fund estimated ending balance includes the District’s Equipment Replacement Fund of $3,075,000 and unrestricted operating reserves of $12.4 million or 228 days of operating expenses. This meets the District’s minimum targeted end-of-year reserves of 180 days. Operating expenses for this purpose are defined as the Operating Budget expenditure total less the debt service expenditures and contributions to reserves. The projected Operating Fund balance at the end of 2017 of $14.8 million includes an Equipment Replacement Fund balance of $3,175,000 and unrestricted operating reserves of 200 days operating expenses and meets the District’s target end-of-year minimum balance of 180 days operating expenses.
IMPACTS OF CAPITAL INVESTMENTS ON THE OPERATING BUDGET

The District’s capital investments have a major effect on the District’s operating budget. The largest effect is from debt service expenses. Debt service accounts for 38.9% of the proposed operating budget expenditures in 2017 and accounted for 39.3% of budgeted expenditures in 2016. The $0.8 million increase in debt service in the 2017 budget is 33% of the total increase in expenditures of $2.3 million. The 2017 budget includes an increase of $775,000 or 6.0% in debt service expenses raised through service charges.

The District also funds some smaller capital investments in the capital outlay line item of the operating budget. The 2017 proposed Operating Budget includes $220,000 of capital outlay items, or 0.6% of total operating expenditures. Capital outlay items were budgeted at $275,000 or 0.8% of total operating expenditures in 2016.

In 2017, the Operating Budget also includes a one-time transfer of $172,000 to the Capital Projects Fund. This transfer accounts for 0.5% of 2017 Operating Budget expenditures.

Debt service increases to support the capital improvements program have driven the operating budget increases in the last five years. This driver for the Operating Budget will lessen in the coming years. The last five budgets covering the years 2012 through 2016 have seen operating budget increases for debt service of 12% in 2012, 10% for 2013 and 2014, and 9% in 2015 and 2016. The budget includes a 6.0% increase in debt service in 2017. In 2016 debt service accounted for 39% of operating budget expenditures. In the coming years the debt service increases will trend lower with the annual debt service increase projected to be 6% in 2018 and 2019, 4.5% in 2020, and 3.5% per year for the period from 2021 to 2024.

OPERATING BUDGET PLANNING

The District has committed to developing a more detailed operating budget plan covering a three to five year period. The District currently has a good long-range budget forecast for its capital projects but has no comparable plan for its operating expenses.

Projected operating expenses over a five-year period is a key element in the development of a multi-year operating budget forecast. The goal for 2016 is to develop a planning process and budget planning principles to guide the planning work. The goal for 2017 is to develop a more detailed Operating Budget plan covering 3 to 5 years by July in order to inform development of the fiscal year 2018 budget. A multi-year plan will better integrate in a proactive manner the strategic plan, new initiatives, and existing programs and activities into our annual budgeting work.

2017 SERVICE CHARGE RATES

The District service charge rates depend on the budget and the predicted pollutant loadings for the coming year. The budget sets the service charge revenues required to cover expenses. Loadings to the treatment plant are estimated from recent loadings history. The service charge rates are determined by dividing the required service charge revenues by the loadings expected to be received at the treatment plant.

\[ Rate = \frac{\text{(Required Revenue)}}{\text{Loading}} \]

The District has seven billing parameters: five wastewater parameters and two customer parameters. District expenses are allocated to these seven parameters and rates are determined for each parameter. The District therefore has seven rates that we use to determine billings to our customer communities. More details about the District’s rate structure can be found in our Sewer Use Ordinance at http://www.madsewer.org/Planning/Permits-Ordinances.

The last year has shown higher loadings than what was estimated in the 2016 rate setting. The increase in flows and loadings will lead to lower increases in service charge rates in 2017 that overall are lower than the increase in expenditures. As loadings increase, rates will decrease if expenses stay the same. Overall service charge rates for 2017 are therefore expected to increase less than the 4.9% increase in service charges. The service charge rate determinations are made in October after the third quarter service charge billings are completed.
REVENUE CATEGORIES

Sewer Service Charges
This category covers charges paid by the District’s customer communities for the wastewater conveyance and treatment services provided by the District. Customer communities pay these charges according to the volume and strength of the wastewater they discharge to the District. These charges are the primary revenue source for the District. The District currently serves five cities, eight villages, and 16 sanitary or utility districts.

Servicing Pumping Stations (Figure 7)
This category covers charges to various customer communities for District services to operate and maintain pumping stations owned by the communities. The District currently services 45 pumping stations owned by others. The station owner and the number of stations served as of August 31, 2016 are shown below:

Rent
This category covers rent the District receives for use of District-owned property. The District rents three houses, one set of farm buildings including a house, barn, sheds, and associated acreage, 157 acres of farmland, and land for an electrical substation.

FIGURE 7 | Number of Pumping Stations Serviced by Location

Total Stations: 63
Interest
This category covers interest earned on the District’s cash reserves.

Annexation & Plan Review Fees
This category covers District expenses for the annexation process and sewer plan review and approval processes. Customer communities pay annexation fees when new lands are added to the District. Customer communities pay sewer plan review fees for modifications or additions to their sewer systems.

Miscellaneous Income
This category covers income received for various revenues that do not fit in other categories. For instance, the income from the sale of scrap materials and income for laboratory services performed for others are placed in this category.

Septage Disposal Income
This category covers income received for wastes delivered by truck to the Nine Springs Wastewater Treatment Plant. The largest single source of waste delivered by truck is septage from homes and businesses on septic systems. Twenty-nine haulers have permits to discharge at the treatment plant as of August 31, 2016.

Pretreatment Monitoring
This category covers the District’s expenses for industrial monitoring. The fees are paid by businesses that are required to have industrial treatment permits issued by the District. Twenty-one businesses have industrial discharge permits issued by the District as of August 31, 2016.

Struvite Fertilizer Sales
This category covers the income from the sale of struvite fertilizer pellets. The District operates a process to recover phosphorus from the wastewater treated at the Nine Springs Wastewater Treatment Plant. The process recovers phosphorus in the form of struvite pellets, which is sold as a fertilizer.

Cash Reserves
This category covers funds used from our cash reserves.
EXPENDITURE CATEGORIES

Administration, Engineering, and Planning
This cost center includes the Chief Engineer’s office, Accounting, Information Systems, Resource Team, Engineering, Human Resources/Safety, Planning and Strategy, and Ecosystem Services:

- District Leadership and Support: Provides organizational leadership to the District. Oversees communication and public information, coordinates District strategic efforts, and oversees overall District performance and general administration of District business.
- Accounting: Provides general accounting, payroll, purchasing, and grants and loan administration.
- Information Systems: Ensures data integrity, optimal network functionality, and provides hardware, software and user support. IS also provides technological expertise to District staff.
- Resource Team: Provides District-wide communications and administrative support.
- Engineering: Provides engineering, design and construction of projects within the District’s capital improvement plan.

- Human Resources/Safety: Provides opportunities for growth of the organizational culture and performance. Provides cost effective employee management services for recruitment, safety, and leadership development while minimizing the District’s liability in employment matters.
- Planning and Strategy: Provides strategic and capital improvements planning, sustainable infrastructure program management, customer service charge billing, connection charge and annexation management, and geographic information system services.
- Ecosystem Services: Oversees a wide range of regulatory, legislative, environmental and strategic initiatives that impact District operations and/or help establish overall District focus and oversees the Metrogro resource recovery program.

User Charge & Pretreatment Program
This cost center implements state and federal requirements directed towards industrial users and implements strategies for pollution prevention and source control. In addition, this cost center includes wastewater flow and loadings data sampling and analysis for customer billing.

Wastewater Collection
This cost center provides funding to operate and maintain the District’s gravity sewers, pumping stations, and raw wastewater force mains. The District operated and maintained 95 miles of gravity sewer, 18 pumping stations and 32 miles of raw wastewater force mains serving 13 cities and villages and 16 sanitary and utility districts as of August 31, 2016.

Wastewater Treatment
This cost center includes funding to operate and maintain the Nine Springs Wastewater Treatment Plant. This plant treats about 40 million gallons of wastewater per day from our customer communities and districts and 80,000 gallons per day of hauled wastes.
**Effluent Diversion**
This cost center includes operations and maintenance for the District’s 15 miles of force mains that discharge treated effluent to Badfish Creek and the Badger Mill Creek. The cost center also includes monitoring to determine the impact on receiving streams.

**Metrogro Biosolids Reuse Program**
This cost center recycles biosolids to agricultural land through the Metrogro program.

**Capital Outlay**
This cost center funds asset purchases such as vehicles and equipment.

**Service Pumping Stations Owned by Others**
This cost center funds activities to operate and maintain, on a contract basis, local pumping stations owned by other cities and districts. The District operated and maintained forty-five such pumping stations as of August 31, 2016.

**Contribution to Capital Projects Fund**
This cost center accounts for the transfer of funds to the Capital Projects Fund.

**Contribution to Equipment Replacement Fund**
This cost center accounts for additions to the Equipment Replacement Fund required by the State of Wisconsin Clean Water Fund loan program.

**Transfer to Debt Service**
This cost center pays the annual debt service on the District’s long-term debt.
PERSONNEL

As of January 1, 2016 the District’s workforce was no longer comprised of two categories of employees: a) represented and b) management and non-represented. The previously unionized employees represented by Wisconsin Council 40, Local 60, AFSCME, AFL-CIO did not re-certify. All District employees are now non-represented and are covered by an employee handbook, not a labor agreement.

In 2016 under Commission Resolution, the District formed an Employee Leadership Council (ELC) to serve as an advisory body to the Executive Team. The ELC began to serve in this capacity and will continue in 2017.

Additionally in 2016, a wage survey was completed in 2016 to ensure wages paid by the District are competitive. The results of the wage survey will be implemented in 2017.

Table 5 shows changes in the District’s overall staffing from 2015-2017. One FTE position is added in 2017, a Strategic Communications Manager (District Leadership and Support Department). Figure 8 is a representation of the District’s hierarchy with the proposed position included. For more information on the addition of this new position, please see the Departmental Information (DLST) section of this document.

<table>
<thead>
<tr>
<th>DEPARTMENT</th>
<th>2015 FTE COUNT</th>
<th>2016 FTE COUNT</th>
<th>2017 PROPOSED FTE COUNT</th>
<th>CHANGES FOR 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration</td>
<td>13</td>
<td>15</td>
<td>15</td>
<td>No Changes</td>
</tr>
<tr>
<td>Chief Engineer</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>New position of Strategic Communications Manager</td>
</tr>
<tr>
<td>Ecosystem Services</td>
<td>11</td>
<td>17</td>
<td>17</td>
<td>No Changes</td>
</tr>
<tr>
<td>Engineering</td>
<td>12</td>
<td>7</td>
<td>7</td>
<td>No Changes</td>
</tr>
<tr>
<td>Operations</td>
<td>59</td>
<td>51</td>
<td>51</td>
<td>No Changes</td>
</tr>
<tr>
<td>Planning</td>
<td>0</td>
<td>6</td>
<td>6</td>
<td>No Changes</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>98</strong></td>
<td><strong>99</strong></td>
<td><strong>100</strong></td>
<td></td>
</tr>
</tbody>
</table>
INTRODUCTION

The District’s Capital Improvements Plan (CIP) represents the foreseen major capital projects for the next six years and, in some cases, beyond. The projects included represent the best estimate of what might happen over the next six-year period. Staff updates this plan on an annual basis using the latest information and estimates available, integrating the District’s current financial situation.

As a planning document, one of the main purposes of the District’s CIP is to set the stage for development of the next year’s Capital Projects Fund Budget (also known as the Capital Budget or Capital Projects Budget). Therefore, the CIP includes the proposed projects for the next six-year period with approximate costs and timeframes for planning, design, and construction.

The proposed 2017 Capital Budget is based on the CIP, the status of ongoing and pending projects, and the District’s current financial situation. The Capital Budget shows past actual revenues and expenditures through 2015, anticipated revenues and expenditures through the remainder of 2016, and projected revenues and expenditures for 2017. In addition, the Capital Budget includes anticipated total project expenditures for projects underway and those that will be approved prior to the end of 2017. Projects in the CIP that will begin after 2017 will require approval in subsequent budgets; approval of the Capital Budget on an annual basis provides a means to reauthorize funding for ongoing projects.

The present revenues and expenditures information and total project costs typically change somewhat between the development of the draft CIP (the Draft 2017 Capital Improvements Plan was published on June 30, 2016) and the completion of the budget process. The District takes a conservative approach to budgeting and anticipates project spending as “early and often.” This typically means that subsequent projections show less spending in the near term and more spending later. Additionally, estimates are updated to reflect the most recent best estimate, which can be less or more than previously anticipated.

Project summaries for anticipated new projects within the next six years are included in Appendix A. The project summaries highlight the scope, need, cost and schedule for each project. For near-term projects, the project’s anticipated financing mechanism has been identified with any resulting debt or debt service included in the debt service projection. Beyond three years into the future, the funding mechanism for each project is uncertain; however, many of the projects, especially larger projects, will require funding, most often through the use of a Clean Water Fund loan. Detailed project information can be found in business cases on the District’s website (http://www.madsewer.org/Planning/2017-CIP-Full-Business-Cases).

Appendix B provides a short summary of completed projects and retainers.
OVERVIEW AND HIGHLIGHTS

For 2017, the Capital Improvements Plan (CIP) anticipates total funds received (identified as revenues) of $6.4 million, expenditures of $8.8 million, and a projected 2017 year-end operating reserve of $7.4 million. The plan predicts that the District will incur additional debt of $4.4 million from construction activities during 2017 and that debt service revenue collected in rates will increase from $12,909,000 to $13,684,000. This level of increase, $775,000 (6.0%), is necessary to complete the adjustments to address debt service related to the Eleventh Addition ($48 million) and the Pumping Station 18 related projects ($32 million), among other projects for which the District has recently incurred debt.

Major construction activities through 2017 include:

- Completion and startup of a new Maintenance Facility and other space needs improvements at the Nine Springs Wastewater Treatment Plant
- Rehabilitations of the District’s Pumping Stations 11, 12, and 15
- Construction of new interceptor extensions near Morse Pond and along the Lower Badger Mill Creek
- Lining projects on the West, Southeast and Northend Interceptors
- Relocation of a portion of the Pumping Station 12 Force Main to accommodate major road reconstruction at Verona Road and County Trunk Highway PD

Lesser activities include potential improvements at the Struvite Harvesting Facility and minor improvements such as coating of thickener tanks, pavement replacement at the Nine Springs Wastewater Treatment Plant and relocation of the Capital City Bike Path near the Vehicle Loading Building.

The year 2017 will bring further planning related to the District’s Energy Study and planning efforts related to addressing liquid stream concerns at the Nine Springs Wastewater Treatment Plant. Planning and design will also begin on a relief force main for Pumping Station 17, rehabilitation of a portion of the Pumping Station 10 force main, and lining of the Northeast Interceptor–Truax Extension.

The District continues to develop its sustainable infrastructure program. The District began work on its Liquid Processing Facilities Plan in early 2016. A key component of the facility plan is to assess the condition of related assets and to use that information to help develop the District’s Plant Asset Management Plan by the end of 2017. Planning also includes a 2017 update of the District’s Collection System Evaluation by the Capital Area Regional Planning Commission. The results of this evaluation will be used to help the District update its Collection System Facilities Plan in 2018.

In addition to the aforementioned projects, staff anticipates numerous other projects will develop during the years 2018 through 2022, and beyond. Table 7 highlights some of these projects in a six-year projection of anticipated capital expenditures. A summary of each of the projects in the six-year capital plan is included in Appendix A. Table 6 summarizes the District’s 2017 Capital Budget showing actual results from 2015, ongoing information related to 2016, and expected 2017 activities. The anticipated Capital Projects Fund cash flow for 2017 to 2022 is included in Table 8. The plan’s impact on the District’s debt and debt service is summarized in Tables 9 through Table 12 in the next section (Section 4 – Debt Service). Charts 1 and 2 and subsequent discussion, also in Section 4 on Debt Service, provide a more long-term view on debt and potential scenarios that might drive debt.
The Future Debt Service Scenario section of this document (see Section 4 – Debt Service) includes two long-term scenarios for comparison. One of the scenarios includes costs for a plant addition related to nitrogen removal. We expect that the District’s 2020 discharge permit may include language related to reducing total nitrogen. In anticipation of this potential change to our permit, we have included a scenario that shows what the effects of these additional regulations might be to the District’s long-term debt and finances. Other areas that continue to receive closer scrutiny and regulation include thermal regulations and more stringent chloride restrictions. At this time we anticipate that the financial impacts of these two items on the District’s CIP will be minimal; however, this could change going forward.

The 2017 CIP forecasts an annual increase in debt service of 6.0% in 2017-2019, 4.5% in 2020 and then 3.5% thereafter. The anticipated 6.0% increase in 2017 is mainly the result of construction of the Eleventh Addition to the Plant and construction of a new Pumping Station 18 and its force main. Rather than a one-time very large increase, the District implemented multiple-year, yet still larger-than-normal, increases in debt service to address the debt impacts of the new facilities.

In addition, several other trends continue to drive higher levels of construction and incurrence of debt. These include:

- The need to replace or refurbish aging facilities, many of which the District constructed around the same timeframe
- The need for more capacity in certain parts of the District’s system due to long-term growth
- Lower amounts of connection charge revenues and interest since 2008

Although connection charge revenues have rebounded significantly well from their low point, interest on capital remains at historic lows.

**Conformance with Adopted Plans and Programs**

As with the 2016 Capital Budget and Capital Improvements Plan, current projects assume conformance with Master Plan Alternative 1A, or potentially Alternative 1B or 1C, and relief of the Nine Springs Valley Interceptor and other similar capacity relief projects.

Per the District’s Master Plan, Alternative 1 options (1A, 1B, 1C, or 1D) are centralized treatment options as opposed to Alternative 2 options, which would require construction of a satellite treatment plant in the Sugar River Basin. Alternative 1 options rely on continuing to pump all wastewater to the Nine Springs Wastewater Treatment Plant and returning a portion of the effluent to the Sugar River Basin. Specifically, Alternative 1A maintains the present effluent flow of up to 3.6 million gallons per day to Badger Mill Creek, while Alternatives 1B or 1C would increase flows to match the amount of flow (as groundwater) taken out of the Sugar River Basin. Future regulations and decisions will help determine if either Alternative 1B or 1C is a feasible option. Alternative 1D, returning a portion of the effluent to the Upper Sugar River, was determined nonviable.

While the 50-year Master Plan provides long-term guidance, shorter-term planning is required to assess the condition and capacity of the District’s systems and assets. The District relies upon facility planning efforts, its sustainable infrastructure program and other planning efforts to help direct annual updates to its capital improvements plan. The following planning efforts provide the most significant guidance to the District’s annual capital improvements planning.

1. **Collection System Facilities Plan.** Last updated in 2011, the Collection System Facilities Plan provides a list of recommended capital improvements to the District’s collection system. The Capital Area Regional Planning Commission will be updating its 2009 evaluation of the District’s collection system in 2017. This update will in turn allow the District to update its Collection System Facilities Plan.
2. Solids Handling Facilities Plan. This facilities plan formed the basis for work constructed during the Eleventh Addition to the Plant. This addition, completed in 2014, essentially revised the Plant’s entire solids handling processes, providing upgrades which will allow it to meet loadings for the next twenty years.

3. Liquid Processing Facilities Plan. While the Solids Handling Facilities Plan investigated the Plant’s solids streams and processes, the Liquid Processing Facilities Plan, now underway, is reviewing the Plant’s liquid streams and processes. The outcome of this planning effort will likely be a single project, multiple projects or other recommendations that will address the plant’s liquid processing needs.

4. Sustainable Infrastructure Management (SIM) Program and Plant Asset Management Program. Although the SIM program is still developing, the District developed a draft Plant Asset Management Plan in 2011 that has helped guide improvements and planning at the Plant. The District is leveraging the Liquid Processing Facilities Plan to help collect data for its Plant Asset Management Plan, scheduled for completion by the end of 2017. The SIM Program and the Plant Asset Management Plan are both ongoing efforts that will continue to guide capital planning efforts.

District staff cannot anticipate all projects that may become necessary in the future, but we believe that the District’s asset management efforts, which include plant asset management planning and collection system facilities planning, coupled with annual capital improvements planning, reasonably anticipate most necessary major expenditures and reflect good long-term planning. Planning efforts continue throughout the year, not just at budget time, with a process that is continuous and constantly evolving. Staff updates their formal plans annually for presentation to the District’s Commission and to the general public. However, as new information becomes available, plans, schedules, and corresponding estimates are changed to reflect the most w information.

2017 CAPITAL PROJECTS BUDGET SUMMARY

Table 6 provides a summary of the Capital Budget for years 2015 through 2017. For 2015 the summary shows the actual year-end totals for revenue and expenses for each project. For the current year, 2016, the summary shows the budgeted amount, the actual revenue and expenses through June, and the estimated year-end totals. For 2017 the summary shows anticipated revenues and expenditures. Please note that estimates are rounded to the nearest thousand dollars.

2015 revenues of $20.1 million exceeded 2015 expenditures of $18.3 million, leaving an end-of-year balance of $8.84 million. Revenues included clean water loan proceeds of $18.0 million, connection charge revenues of $1.8 million, investment income of $32,000 and an additional $243,000 that is categorized as ‘return spares to inventory’. Expenditures included $10.0 million in Treatment Plant Project expenses, $222,000 in Interceptor Project expenses, $7.8 million in Pumping Station and Force Main Project expenses and $309,000 of Capital Budget Expenses.
### TABLE 6  |  Capital Projects Budget

<table>
<thead>
<tr>
<th></th>
<th>2015 Actual</th>
<th>2016 Thru June</th>
<th>2016 Estimated Total</th>
<th>2016 Budget</th>
<th>Proposed 2017 Budget</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TOTAL SOURCES OF FUNDS</strong></td>
<td>$20,088,327</td>
<td>$4,531,641</td>
<td>$14,898,000</td>
<td>$14,309,000</td>
<td>$6,413,000</td>
<td>-55.18%</td>
</tr>
<tr>
<td><strong>EXPENSE CATEGORY</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>NINE SPRINGS WTP PROJECTS</strong></td>
<td>$9,998,731</td>
<td>$1,243,934</td>
<td>$3,678,000</td>
<td>$3,209,000</td>
<td>$1,376,000</td>
<td>-57.12%</td>
</tr>
<tr>
<td>Engine Stacks and Oxidation Catalysts</td>
<td>18,542</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>NMF</td>
</tr>
<tr>
<td>Process Control System Upgrade</td>
<td>415,712</td>
<td>9,038</td>
<td>20,000</td>
<td>-</td>
<td>-</td>
<td>NMF</td>
</tr>
<tr>
<td>New Maintenance Facility/Space Needs Improvements</td>
<td>9,204,771</td>
<td>1,033,607</td>
<td>2,228,000</td>
<td>1,633,000</td>
<td>-</td>
<td>100%</td>
</tr>
<tr>
<td>Plant Energy Projects</td>
<td>37,050</td>
<td>2,227</td>
<td>103,000</td>
<td>103,000</td>
<td>109,000</td>
<td>5.83%</td>
</tr>
<tr>
<td>Liquid Processing Facilities Plan</td>
<td>44,299</td>
<td>197,856</td>
<td>833,000</td>
<td>927,000</td>
<td>100,000</td>
<td>-89.21%</td>
</tr>
<tr>
<td>Liquid Processing Improvements</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>NMF</td>
</tr>
<tr>
<td>Stormwater Harvesting Facility &amp; W4 System Improvements</td>
<td>-</td>
<td>-</td>
<td>155,000</td>
<td>155,000</td>
<td>212,000</td>
<td>36.77%</td>
</tr>
<tr>
<td>Metromix Facility Expansion</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>52,000</td>
<td>-</td>
<td>100%</td>
</tr>
<tr>
<td>Capital City Recreational Trail Relocation</td>
<td>-</td>
<td>965</td>
<td>116,000</td>
<td>116,000</td>
<td>-</td>
<td>100%</td>
</tr>
<tr>
<td>Annual Clarifier Coating</td>
<td>55,600</td>
<td>241</td>
<td>170,000</td>
<td>170,000</td>
<td>175,000</td>
<td>2.94%</td>
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<td>Annual Pavement Improvements</td>
<td>31,665</td>
<td>-</td>
<td>53,000</td>
<td>53,000</td>
<td>55,000</td>
<td>3.77%</td>
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<td>Minor Capital Improvements</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>206,000</td>
<td>-</td>
<td>NMF</td>
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<tr>
<td>Metrogro Applicators &amp; Equipment</td>
<td>191,093</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>NMF</td>
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<td><strong>INTERCEPTORS</strong></td>
<td>$221,712</td>
<td>$869,752</td>
<td>$1,221,000</td>
<td>$3,131,000</td>
<td>$4,785,000</td>
<td>52.83%</td>
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<tr>
<td>NEI- Far East Int. to Southeast Int. Junction</td>
<td>4,894</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>NMF</td>
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<tr>
<td>NEI- Rehab West of Airport (lining project)- Phase I</td>
<td>101,990</td>
<td>-</td>
<td>-</td>
<td>10,000</td>
<td>-</td>
<td>100%</td>
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<tr>
<td>West Int.- Randall Avenue to Near PS 2 (lining project)</td>
<td>18,712</td>
<td>41,441</td>
<td>60,000</td>
<td>1,313,000</td>
<td>1,522,000</td>
<td>15.92%</td>
</tr>
<tr>
<td>Rimrock Int. Replacement/Relief</td>
<td>85,770</td>
<td>824,562</td>
<td>946,000</td>
<td>572,000</td>
<td>-</td>
<td>100%</td>
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<tr>
<td>NSVI- Morse Pond Extension</td>
<td>10,345</td>
<td>3,749</td>
<td>55,000</td>
<td>958,000</td>
<td>1,030,000</td>
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<tr>
<td>NSVI- Mineral Pt. Ext.- Relocation at CTH PD (PS 12 FM)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>NMF</td>
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<tr>
<td>Northend Int.- Sherman Avenue (lining project)</td>
<td>-</td>
<td>-</td>
<td>125,000</td>
<td>149,000</td>
<td>40,000</td>
<td>-73.15%</td>
</tr>
<tr>
<td>Lower Badger Mill Creek Int.- Phase 4</td>
<td>-</td>
<td>35,000</td>
<td>129,000</td>
<td>942,000</td>
<td>630.23%</td>
<td></td>
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<tr>
<td>NEI- Triax Extension Rehab (lining project)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>211,000</td>
<td>-</td>
<td>NMF</td>
</tr>
<tr>
<td>SEI - Rehab upstream of PS 9 (lining project)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1,040,000</td>
<td>-</td>
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<tr>
<td><strong>PUMPING STATIONS AND FORCE MAINS</strong></td>
<td>$7,755,496</td>
<td>$2,055,914</td>
<td>$8,555,000</td>
<td>$8,094,000</td>
<td>$1,932,000</td>
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<tr>
<td>PS 16 Ventilation Modifications</td>
<td>191,376</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>NMF</td>
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<tr>
<td>PS 18 Construction</td>
<td>649,263</td>
<td>119</td>
<td>-</td>
<td>20,000</td>
<td>-</td>
<td>100%</td>
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<tr>
<td>PS 18 Force Main Construction</td>
<td>105,793</td>
<td>7,626</td>
<td>-</td>
<td>30,000</td>
<td>-</td>
<td>100%</td>
</tr>
<tr>
<td>PS 11 &amp; 12 Rehab</td>
<td>6,278,618</td>
<td>1,970,385</td>
<td>3,815,000</td>
<td>3,022,000</td>
<td>-</td>
<td>100%</td>
</tr>
<tr>
<td>PS 15 Rehab</td>
<td>478,897</td>
<td>54,863</td>
<td>2,492,000</td>
<td>2,421,000</td>
<td>1,698,000</td>
<td>-29.86%</td>
</tr>
<tr>
<td>PS 7 Improvements- Phase 1 (deferred to Phase 2)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>NMF</td>
</tr>
<tr>
<td>PS 12 FM Relocation at Verona Road</td>
<td>51,549</td>
<td>22,920</td>
<td>2,248,000</td>
<td>2,539,000</td>
<td>100,000</td>
<td>-96.06%</td>
</tr>
<tr>
<td>PS 17 Force Main Relief- Phase 1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>62,000</td>
<td>82,000</td>
<td>32.26%</td>
</tr>
<tr>
<td>PS 10 Force Main Rehab</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>52,000</td>
<td>-</td>
</tr>
<tr>
<td><strong>CAPITAL EXPENSES</strong></td>
<td>$309,337</td>
<td>$55,173</td>
<td>$515,000</td>
<td>$515,000</td>
<td>$605,000</td>
<td>34.95%</td>
</tr>
<tr>
<td>Capital Budget Expenses</td>
<td>179</td>
<td>9,293</td>
<td>-</td>
<td>-</td>
<td>103,000</td>
<td>NMF</td>
</tr>
<tr>
<td>Sustainable Infrastructure Management Program</td>
<td>232,672</td>
<td>45,879</td>
<td>515,000</td>
<td>515,000</td>
<td>412,000</td>
<td>-20.00%</td>
</tr>
<tr>
<td>PS 14 Service Area I/I Study</td>
<td>16,271</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>NMF</td>
</tr>
<tr>
<td>Chloride Study</td>
<td>60,214</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>NMF</td>
</tr>
<tr>
<td>Collection System Evaluation</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>180,000</td>
<td>-</td>
<td>NMF</td>
</tr>
<tr>
<td><strong>TOTAL EXPENDITURES</strong></td>
<td>$18,285,275</td>
<td>$4,224,772</td>
<td>$13,969,000</td>
<td>$14,949,000</td>
<td>$8,788,000</td>
<td>-41.21%</td>
</tr>
<tr>
<td><strong>BEGINNING BALANCE</strong></td>
<td>$7,035,919</td>
<td>$8,383,971</td>
<td>$8,839,000</td>
<td>$8,027,000</td>
<td>$9,768,000</td>
<td>21.69%</td>
</tr>
<tr>
<td><strong>TOTAL SOURCES OF FUNDS</strong></td>
<td>20,088,327</td>
<td>4,531,641</td>
<td>14,898,000</td>
<td>14,309,000</td>
<td>6,413,000</td>
<td>-55.18%</td>
</tr>
<tr>
<td><strong>TOTAL EXPENDITURES</strong></td>
<td>18,285,275</td>
<td>4,224,772</td>
<td>13,969,000</td>
<td>14,949,000</td>
<td>8,788,000</td>
<td>-41.21%</td>
</tr>
<tr>
<td><strong>ENDING BALANCE</strong></td>
<td>$8,838,971</td>
<td>$9,145,841</td>
<td>$9,768,000</td>
<td>$7,387,000</td>
<td>$7,393,000</td>
<td>0.08%</td>
</tr>
</tbody>
</table>
2016 Summary
The 2016 Capital Budget showed 2016 expenditures exceeding revenues by $0.6 million; we now anticipate that revenues will exceed expenditures by $0.9 million. The estimated year-end fund balance will be $9.8 million, which is greater than the budgeted $7.4 million. One of the main reasons for this is greater than anticipated connection charge revenues for 2015. Most of the remaining difference can be attributed to less overall spending than anticipated and later construction starts than originally scheduled for certain projects.

For Clean Water Fund loan projects, the District pays for planning and design from reserves until projects have been bid and move into the construction phase. For larger projects, planning and design costs can be significant and at times in the future, short-term lending may be required to fund these costs until loans close after the bidding process. Another possible way to cover these costs would be to increase the amount that the District keeps in reserves. The District’s minimum balance is presently set at $3 million, or 10% of the next year’s total capital expenditures, whichever is greater. Presently, no changes in the minimum reserve amount are contemplated and the District’s reserves are in good condition. However, this does not mean that the District cannot increase reserves if it is advantageous to do so based upon anticipated spending.

2017 Revenues & Expenditures
The proposed 2017 CIP anticipates revenues from all sources totaling $6.4 million and expenditures of $8.8 million with a resulting year-end fund balance of $7.4 million which represents a fund balance decrease of $2.4 million below the estimated year-end balance for 2016.

As detailed in Table 6, anticipated 2017 revenues include $4.4 million in Clean Water Fund Loan proceeds for the four projects listed below:

- Pumping Station 15 Rehabilitation ($1.7 million)
- West Interceptor – Randall Avenue to Near PS 2 (lining project) ($1.6 million)
- Southeast Interceptor Rehabilitation Upstream of PS 9 ($1.0 million)
- Pumping Station 12 Force Main Relocation at Verona Road ($100,000)

Other anticipated revenues include $1,800,000 in interceptor and treatment plant connection charges (connection charge revenues), $43,000 in interest on investments and a contribution of $172,000 from the Operating Fund. Since its low point, we have begun to see significant increases in connection charge amounts and we are optimistic that connection charge amounts will continue to increase slowly. Interest on investments continues to remain at historically low amounts and we do not anticipate any significant changes in the near-term.

Also detailed in Table 6, the highest expense items for 2017 include the following projects:

- Pumping Station 15 Rehabilitation – second year construction ($1.7 million)
- West Interceptor – Randall Avenue to Near PS 2 (lining project) ($1.6 million)
- Southeast Interceptor Rehabilitation Upstream of PS 9 ($1.0 million)
- Nine Springs Valley Interceptor – Morse Pond Extension ($1.0 million)

Other anticipated expenditures include an additional $2.8 million in other capital project expenditures as well as $695,000 in Capital Budget Expenses.

2017 Capital Projects Fund Balance
The 2017 Capital Projects Fund ending balance of $7,393,000 is projected to increase by 0.1%, or $6,000, in 2017 compared to the budgeted 2016 ending balance of $7,387,000, and to decrease by 24.3%, or $2,375,000, compared to the present estimated 2016 ending balance of $9,768,000. The end-of-year Capital Projects Fund balance varies significantly from year-to-year depending upon the timing of project expenses and loan proceeds.

Per District policy, we aim to maintain a minimum Capital Projects Fund balance (or reserve) of the greater of $3,000,000 or 10% of anticipated expenditures. Therefore, for 2017, the minimum acceptable balance should be $3.0 million (10% of $9.0 million is less than $3 million). The projected 2017 end-of-year balance is estimated to be $7.4 million, which is well above the minimum acceptable amount.
SIX-YEAR CAPITAL PROJECTS OVERVIEW

Included in the District’s Six-Year Capital Improvements Plan (CIP) are projects currently underway that will continue into 2017 as well as those future projects that will begin in the associated period. District staff has identified these projects as higher priority needs during the planning process. Drivers include addressing condition and capacity needs as well as meeting other facility needs or regulatory requirements.

Table 7 provides a summary of the Six-Year Capital Projects plan. The base scenario shows nearly $121 million worth of expenditures over the six-year period from 2017 to 2022, representing projects whose costs total $128 million (see “Totals Before Nitrogen Removal Projects” in Table 11). At the bottom of the summary, the advanced nitrogen removal scenario speculates additional expenditures based upon constructing advanced nitrogen removal facilities. Note that the scenario anticipates advanced nitrogen removal facilities as a requirement in the District’s 2020 discharge permit. At this time, we are uncertain when more stringent nitrogen limits would require this additional level of treatment.

For comparative purposes, the base alternative includes no advanced nitrogen removal facilities. A more thorough discussion of the two scenarios is included in the section on Future Debt Service Scenarios. At this time, the advanced nitrogen removal scenario is relatively speculative; however, the Nutrient Removal Cost Study, completed by CH2M Hill in 2011 to 2012, provides some further insight into potential long-term costs. The District may not completely understand the financial impacts of more stringent nitrogen regulations until the details of these regulations are further developed and contemplated.

Project Summaries and Business Cases

Summary descriptions for each of the projects in Table 7 are included in Appendix A. Projects are categorized as Nine Springs Wastewater Treatment Plant Projects, Interceptor Projects, or Pumping Station and Force Main Projects. Projects are identified using an alphanumeric identifier. Specific identifiers included in Table 7 will match those used in the appendices. Project IDs for Nine Springs Wastewater Treatment Plant projects begin with the letter A, those for Interceptor projects begin with the letter B, those for Pumping Station and Force Main projects begin with the letter C, and those for Capital Budget Expenses begin with the letter D.

Additional project information for most projects is contained in comprehensive business cases, located on the District’s website at http://www.madsewer.org/Planning/2017-CIP-Full-Business-Cases. Excluded are some of the projects already underway and routine annual expenditures. Since some projects are closely connected or contingent upon other projects, more than one project may be included in a single business case. A table of contents identifies which projects are included in which business case summary. Note that some business cases, and hence associated costs, are more developed than others. Where costs have not been fully developed, amounts have been included as placeholders or allowances to identify the need. As with all projects, these costs will be modified as project scopes are refined and better estimates become available.

Capital Projects Budget Expenses

Planning for the future ensures long-term quality service for the District’s customers. The final category of expenditures in Table 7 is Capital Budget Expenses (letter D). These expenses typically include expenses related to planning and studies assessed against the capital fund, but which would be difficult to capitalize to a specific asset. The 2016 budget included $515,000 related to ongoing planning efforts in the collection system and at the treatment plant including, but not limited to, sustainable infrastructure program expenses (note that anticipated 2016 and budgeted 2017 costs are shown in Table 6).
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<td>5</td>
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</tr>
</tbody>
</table>

**NINE SPRINGS WTP PROJECTS**

<table>
<thead>
<tr>
<th>Nos</th>
<th>Description</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>A01</td>
<td>Plant Energy Projects</td>
<td>12,470,000</td>
<td>109,000</td>
<td>563,000</td>
<td>696,000</td>
<td>5,970,000</td>
<td>4,635,000</td>
</tr>
<tr>
<td>A02</td>
<td>Liquid Processing Facilities Plan</td>
<td>977,000</td>
<td>100,000</td>
<td>100,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>A03</td>
<td>Liquid Processing Improvements</td>
<td>25,956,000</td>
<td>519,000</td>
<td>8,295,000</td>
<td>11,964,000</td>
<td>4,108,000</td>
<td>-</td>
</tr>
<tr>
<td>A04</td>
<td>Struvite Harvesting Facility &amp; W4 System Improvements</td>
<td>3,487,000</td>
<td>212,000</td>
<td>109,000</td>
<td>113,000</td>
<td>2,898,000</td>
<td>-</td>
</tr>
<tr>
<td>A05</td>
<td>Metromix Facility Expansion</td>
<td>2,138,000</td>
<td>55,000</td>
<td>281,000</td>
<td>1,802,000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>A06</td>
<td>Annual Clarifier Coating</td>
<td>929,000</td>
<td>175,000</td>
<td>186,000</td>
<td>191,000</td>
<td>197,000</td>
<td>-</td>
</tr>
<tr>
<td>A07</td>
<td>Annual Pavement Improvements</td>
<td>353,000</td>
<td>55,000</td>
<td>56,000</td>
<td>60,000</td>
<td>61,000</td>
<td>63,000</td>
</tr>
<tr>
<td>A08</td>
<td>Minor Capital Improvements</td>
<td>769,000</td>
<td>206,000</td>
<td>109,000</td>
<td>113,000</td>
<td>116,000</td>
<td>119,000</td>
</tr>
<tr>
<td>A09</td>
<td>Metrogro Applicators &amp; Equipment</td>
<td>3,300,000</td>
<td>580,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**TOTALS BEFORE NITROGEN REMOVAL PROJECTS**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>$127,933,000</td>
<td>$20,888,000</td>
</tr>
</tbody>
</table>

**NITROGEN REMOVAL PROJECTS**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Nitrogen Removal Facilities (78 million over 7 years)</td>
<td>195,000</td>
</tr>
</tbody>
</table>

**TOTALS INCLUDING NITROGEN REMOVAL FACILITIES**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>$205,933,000</td>
<td>$21,083,000</td>
</tr>
</tbody>
</table>
For 2016, no other expenditures in this category were anticipated. To continue sustainable infrastructure program support going forward, $412,000 is included for this item in the 2017 Capital Projects Budget. Further details are included in the business case on the Sustainable Infrastructure Management Program on the District’s website. Increasing levels of funds for the Sustainable Infrastructure Management Program are included annually for each year beyond 2017, anticipating this as an annual inflation-adjusted expense.

Additional expenditures that are anticipated in 2017 for this category include: (General) Capital Budget Expenses ($103,000) and Collection System Evaluation ($180,000). The first expenditure covers general planning expenses related to development of the Capital Improvements Plan. The second item is intended for the Capital Area Regional Planning Commission to conduct an assessment of existing and future capacity needs in the District’s collection system based upon population forecasts.

**CAPITAL PROJECTS CASH FLOW SUMMARY**

Table 8 provides a summary of the District’s construction account cash flow for the period 2017 to 2022. The table includes anticipated revenue and expenditures for this six-year period. Total revenues for the period are anticipated at $115 million with total expenditures anticipated at $121 million and an ending balance of $3.6 million. Further details related to revenues are provided below, while expenditures were discussed previously as part of the Six-Year Capital Project Summary for the District’s Capital Improvements Plan (CIP).

The District’s construction account includes revenues from three sources: loan proceeds, interceptor and treatment plant connection charges, and interest received on account balances. A one-time transfer of $172,000 was made from the Operating Fund to the Capitol Projects Fund in 2017. The projection anticipates funds from each of these sources during the six-year period; $100 million from loan proceeds, $14.5 million from collection of connection charges, $0.4 million from interest, and a $172,000 contribution from the Operating Fund.

**TABLE 8 | Capital Projects Fund Cash Flow Summary 2017-2022**

<table>
<thead>
<tr>
<th>REVENUES</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLEAN WATER FUND LOANS</td>
<td>4,398,000</td>
<td>8,413,000</td>
<td>14,216,000</td>
<td>27,837,000</td>
<td>23,543,000</td>
<td>21,162,000</td>
</tr>
<tr>
<td>CONNECTION CHARGES</td>
<td>$1,800,000</td>
<td>$2,400,000</td>
<td>$2,472,000</td>
<td>$2,546,000</td>
<td>$2,622,545</td>
<td>$2,701,221</td>
</tr>
<tr>
<td>INTEREST REVENUES</td>
<td>43,000</td>
<td>63,000</td>
<td>87,000</td>
<td>71,000</td>
<td>71,000</td>
<td>71,000</td>
</tr>
<tr>
<td>CONTRIBUTION FROM OPERATING FUND</td>
<td>172,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TOTAL REVENUES</td>
<td>$6,413,000</td>
<td>$10,876,000</td>
<td>$16,775,000</td>
<td>$30,454,160</td>
<td>$26,236,545</td>
<td>$23,934,221</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EXPENDITURES</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>NINE SPRINGS WTP PROJECTS</td>
<td>$1,376,000</td>
<td>$1,849,000</td>
<td>$10,185,000</td>
<td>$17,724,000</td>
<td>$11,067,000</td>
<td>$4,817,000</td>
</tr>
<tr>
<td>INTERCEPTORS</td>
<td>4,785,000</td>
<td>8,010,000</td>
<td>3,530,000</td>
<td>5,948,000</td>
<td>5,333,000</td>
<td>17,135,000</td>
</tr>
<tr>
<td>PUMPING STATIONS AND FORCE MAINS</td>
<td>1,932,000</td>
<td>2,578,000</td>
<td>4,098,000</td>
<td>6,235,000</td>
<td>9,257,000</td>
<td>1,385,000</td>
</tr>
<tr>
<td>CAPITAL BUDGET EXPENSES</td>
<td>695,000</td>
<td>663,000</td>
<td>546,000</td>
<td>563,000</td>
<td>580,000</td>
<td>597,000</td>
</tr>
<tr>
<td>TOTAL EXPENDITURES</td>
<td>$8,788,000</td>
<td>$13,100,000</td>
<td>$18,359,000</td>
<td>$30,470,000</td>
<td>$26,237,000</td>
<td>$23,934,000</td>
</tr>
</tbody>
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</thead>
<tbody>
<tr>
<td>BEGINNING BALANCE</td>
<td>$9,768,000</td>
<td>$7,393,000</td>
<td>$5,169,000</td>
<td>$3,585,000</td>
<td>$3,569,160</td>
<td>$3,568,705</td>
</tr>
<tr>
<td>TOTAL REVENUES</td>
<td>6,413,000</td>
<td>10,876,000</td>
<td>16,775,000</td>
<td>30,454,160</td>
<td>26,236,545</td>
<td>23,934,221</td>
</tr>
<tr>
<td>TOTAL EXPENDITURES</td>
<td>8,788,000</td>
<td>13,100,000</td>
<td>18,359,000</td>
<td>30,470,000</td>
<td>26,237,000</td>
<td>23,934,000</td>
</tr>
<tr>
<td>ENDING BALANCE</td>
<td>$7,393,000</td>
<td>$5,169,000</td>
<td>$3,585,000</td>
<td>$3,569,160</td>
<td>$3,568,705</td>
<td>$3,568,926</td>
</tr>
</tbody>
</table>
Although the District can, and may, fund future projects with general obligation bonds, we anticipate continued use of the Wisconsin Clean Water Fund Loan program to fund most of our larger projects and to ensure adequate capital reserves to address any unforeseen capital costs. As of August 8, 2016, the District has borrowed $223 million from this program for the following projects:

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>MODIFICATIONS TO PUMPING STATION NO. 7</td>
<td>$1.9 million</td>
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</tbody>
</table>
The District also anticipates that it will require funding for many of the following future projects. We anticipate that many of them will be funded with Clean Water Fund Loans:

- **RIMROCK INTERCEPTOR REPLACEMENT/RELIEF** ($1.1 MILLION IN 2016)
- **REHABILITATION OF PS 15** ($4.5 MILLION 2016-2017)
- **PUMPING STATION 12 FORCE MAIN RELOCATION AT VERONA ROAD** ($2.2 MILLION IN 2016-2017)
- **WEST INTERCEPTOR – RANDALL AVENUE TO PS 2 LINING PROJECT** ($1.6 MILLION IN 2017)
- **SEI – REHAB UPSTREAM OF PS 9** ($1.0 MILLION IN 2017)
- **WEST INTERCEPTOR – PS5 TO GAMMON EXTENSION** ($0.6 MILLION IN 2018)
- **PS 17 FORCE MAIN RELIEF – PHASE 1** ($1.1 MILLION IN 2018)
- **NEI - TRUAX EXT. REHAB** ($6.7 MILLION IN 2018)
- **PUMPING STATION 10 FORCE MAIN REHAB** ($1.2 MILLION IN 2018)
- **NEI - FEI TO SEI JUNCTION LINING** ($1.7 MILLION IN 2019)
- **SOUTHWEST INTERCEPTOR – HAYWOOD EXTENSION REPLACEMENT** ($1.3 MILLION IN 2019)
- **PS 4 REHAB** ($4.6 MILLION IN 2019-2020)
- **LIQUID PROCESSING UPGRADE (LIQUID PROCESSING IMPROVEMENTS)** ($26.9 MILLION IN 2019-2021)
- **METROMIX FACILITY EXPANSION** ($2.1 MILLION IN 2020)
- **STRUVITE HARVESTING FACILITY IMPROVEMENTS** ($2.9 MILLION IN 2020)
- **WEST INTERCEPTOR – SPRING STREET RELIEF LINING** ($1.7 MILLION IN 2020)
- **PS 13 & 14 REHABS** ($12.5 MILLION IN 2020-2021)
- **WEST INT. RELIEF SEWER - WALNUT STREET TO WHITNEY WAY** ($14.2 MILLION IN 2020-2022)
- **PS 17 CAPACITY UPGRADE** ($1.3 MILLION IN 2021)
- **PS 17 FORCE MAIN RELIEF – PHASE 2** ($2.4 MILLION IN 2021)
- **PLANT ENERGY PROJECTS** ($12.1 MILLION IN 2021-2022)
- **NEI – WAUNAKEE EXTENSION RELIEF - PHASE 1** ($10.4 MILLION IN 2022)

If facilities are required for advanced nitrogen removal, the District will incur additional borrowing related to construction of these facilities. We anticipate that this additional borrowing would most likely be from the Clean Water Fund Loan program and would represent significant additional borrowing, anticipated at $78 million.
SECTION FOUR

2017 DEBT SERVICE
Debt Service

OVERVIEW

The District’s Debt Service Budget supports the District’s Capital Budget and Capital Improvements Plan (CIP) by providing funding for projects. This funding incurs additional District debt that has to be repaid through annual debt service. The District collects service charge revenues, as identified in the Operating Budget, to meet debt service obligations. By October 1 of each year, the District deposits sufficient funds from the Operating Budget into a designated Debt Service Fund to make principal and interest payments for the following year. Doing so allows the District to avoid levying a property tax to meet its debt service obligations. As part of a rate smoothing strategy, the District may deposit, in a particular year, more or less revenue in the Debt Service Fund than is needed to fund the following year’s debt service.

2017 Debt Service Budget

Table 9 provides a summary of the 2015 through 2017 Debt Service Budget details. Funds transferred from the Operating Fund provide the primary revenue source. For Clean Water Fund loans, the District pays principal payments on May 1 and interest payments on May 1 and November 1.

The amount of debt service necessary to pay the May 2017 principal and interest and November 2017 interest is $13,074,000. The amount recovered through service charges in 2017 for debt service will be $13,684,000. The District will add $638,000 to its Debt Service Fund reserves for future debt service payments.

2017 Debt Service Fund Balance

The Debt Service Fund ending balance is projected to increase by 5.2% to $19.0 million in 2017. This amount is adequate to pay the required principal and interest payments on existing and anticipated Clean Water Fund loans. The budgeted debt service balance at the end of 2017 meets the District’s policy requirement to maintain a balance sufficient to avoid levying a property tax to satisfy our debt service obligations.

<table>
<thead>
<tr>
<th>TABLE 9</th>
<th>2017 Debt Service Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>REVENUES</td>
<td>2015 Actual</td>
</tr>
<tr>
<td>Transfer from Operating Fund</td>
<td>$11,843,000</td>
</tr>
<tr>
<td>Interest</td>
<td>23,860</td>
</tr>
<tr>
<td>TOTAL REVENUES</td>
<td>$11,866,860</td>
</tr>
<tr>
<td>EXPENDITURES</td>
<td></td>
</tr>
<tr>
<td>First Half Interest</td>
<td>$1,724,816</td>
</tr>
<tr>
<td>Principal</td>
<td>8,947,401</td>
</tr>
<tr>
<td>Second Half Interest</td>
<td>1,681,838</td>
</tr>
<tr>
<td>TOTAL EXPENDITURES</td>
<td>$12,354,055</td>
</tr>
<tr>
<td>DEBT SERVICE FUND BALANCE</td>
<td></td>
</tr>
<tr>
<td>BEGINNING BALANCE</td>
<td>$18,352,582</td>
</tr>
<tr>
<td>TOTAL REVENUES</td>
<td>11,866,860</td>
</tr>
<tr>
<td>TOTAL EXPENDITURES</td>
<td>12,354,055</td>
</tr>
<tr>
<td>ENDING BALANCE</td>
<td>$17,865,387</td>
</tr>
</tbody>
</table>
Six-Year Debt Service Summary
and Debt Service Limit

In Table 10, the bottom line shows the effect future loans will have on the District’s principal amount of outstanding debt as of the first of each year 2017 through 2022. On January 1, 2017, anticipated District debt will be roughly $145 million while on January 1, 2022 it will be roughly $171 million. Although not shown in Table 10, the District’s anticipated debt at the end of the planning period, December 31, 2022, will be roughly $179 million.

Wisconsin Statutes set the District’s legal debt limit at 5% of the equalized property valuation of the District. As of January 1, 2016, the equalized property valuation was $39.9 billion. Therefore, the District’s legal debt limit as of January 1, 2016 was $2.0 billion. At the end of 2016, the District’s debt of $145 million will be 7.3% of this limit. If the debt limit does not increase, the District’s debt at the end of 2022 would be about 9% of this limit.

Although the District’s debt has increased during 2016, and the equalized property valuation has not yet been updated for 2017, it is clear from the 2016 property valuation that the District’s debt, though increasing, will not exceed its legal limit over the time-period shown in Table 10. However, local, regional, and national factors, such as EPA’s affordability criterion for wastewater services set at 2% of median household income, can and will be considered before more debt is assumed.

Table 10 also shows the resulting levels of debt service that will be collected and paid from service charge revenues during the period of 2017 to 2022. Debt service payments will increase from $13.1 million in 2017 to $18.5 million in 2022. The debt service requirements included in the District’s rates will increase from $13.7 million in 2017 to $17.2 million in 2022. The debt service requirements collected each year are stabilized by collecting more or less than needed in a given year to smooth the levels of increases over time. Further discussion of this technique is provided later in the section on Debt Stabilization.

### Table 10 | Six-Year Debt Service Summary

<table>
<thead>
<tr>
<th></th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DEBT SERVICE PAYMENTS</strong></td>
<td>$13,076,000</td>
<td>$13,504,000</td>
<td>$13,840,000</td>
<td>$14,980,000</td>
<td>$16,965,000</td>
<td>$18,533,000</td>
</tr>
<tr>
<td><strong>DEBT SERVICE COLLECTED IN RATES</strong></td>
<td>$13,093,000</td>
<td>$13,837,000</td>
<td>$14,978,000</td>
<td>$16,837,000</td>
<td>$18,392,000</td>
<td>$19,859,000</td>
</tr>
<tr>
<td><strong>DEBT SERVICE REQUIREMENTS FOR SUCCEEDING YEAR</strong></td>
<td>$13,093,000</td>
<td>$13,837,000</td>
<td>$14,978,000</td>
<td>$16,837,000</td>
<td>$18,392,000</td>
<td>$19,859,000</td>
</tr>
<tr>
<td><strong>ADDITIONS TO (USE OF) DEBT SERVICE RESERVE</strong></td>
<td>591,000</td>
<td>668,000</td>
<td>397,000</td>
<td>(770,000)</td>
<td>(1,762,000)</td>
<td>(2,648,000)</td>
</tr>
<tr>
<td><strong>DEBT SERVICE INCLUDED IN SERVICE CHARGE RATES</strong></td>
<td>$13,684,000</td>
<td>$14,505,000</td>
<td>$15,375,000</td>
<td>$16,067,000</td>
<td>$16,630,000</td>
<td>$17,211,000</td>
</tr>
<tr>
<td><strong>PRINCIPAL AMOUNT OF OUTSTANDING DEBT AT FIRST OF THE YEAR</strong></td>
<td>$145,054,500</td>
<td>$140,003,670</td>
<td>$138,757,824</td>
<td>$142,780,198</td>
<td>$159,675,825</td>
<td>$171,173,675</td>
</tr>
</tbody>
</table>
Debt Service Impacts on Customers

It is difficult to estimate service charge rates directly since they are affected by so many variables. The following discussion provides a general overview and relative impacts of debt service increases on customers.

A debt service transfer rate increase of 6.0%, could mean increases of roughly $6 to $7 more per year for a typical District household. This increase would only be used for additional debt service, and would be in addition to any increase resulting from changes in general operating expenses. Over the full six-year planning period (2017-2022), the debt service transfer rate is anticipated to increase almost 33%, which is roughly 5% per year compounded. With that level of increase, a typical household in 2022 could expect to pay about $25 per year more than they do in 2016 to help service the District’s debt.

In general, the District’s debt service impact on a typical household will increase by about $0.50 to $0.60 per million dollars of borrowed money per year. Thus, a new $10 million dollar project will increase a typical household’s share of the District’s debt service by $5 to $6 per year. Projects that do not require borrowed funds do not directly impact debt service and the debt service transfer rate; however, since those projects reduce the amount of reserve funds, they affect how soon, how often, and how much the District borrows, thereby indirectly affecting the level of debt service incurred.

Potential debt service related to different scenarios is discussed later in the section on Future Debt Service Scenarios.

Debt Service Trends

District debt service costs have been trending up for decades since the early 1980’s. This period coincides with increasing needs for investments in wastewater collection and treatment and reductions in federal grant programs. In 2005 and 2006, the annual budget increase in amounts collected for debt service was 2.0%. Table 11 shows the actual increase in amounts collected for debt service from 2005 to the present year of 2016, the proposed amount for 2017, and projected amounts for 2018 through 2024. The table shows that after peaking in 2011 at 12%, annual increases have been trending downward. While projected to continue trending downward during the planning period, actual debt service increases will depend on actual future spending. The amounts projected in Table 11 do not take into account any increases that may be required for advanced nitrogen removal facilities or the potential differences between projected and actual project costs.

The actual cash flows and costs for the projects in this summary will have significant impacts on the District’s resulting debt service. As with any projection, there is uncertainty regarding what actual project cash flows and costs will be. There is certainty, however, that the District’s debt will continue to increase given its present needs and finances. While increasing debt may appear undesirable, when managed properly, incurring additional debt, especially through the Clean Water Fund, represents one of the best options for meeting the District’s needs at affordable rates.

Funding projects through the use of debt instruments requires those using the assets to pay for those assets over a significant portion of the assets’ lives. Although our debt service costs are growing, the importance of keeping abreast of the District’s needs cannot be overstated; by doing so, the District will help prevent more significant rate increases in future years. Thus, given the present outlook, we believe and recommend that a transfer rate increase of 6.0% for 2017 is appropriate and necessary.
<table>
<thead>
<tr>
<th>YEAR</th>
<th>AMOUNT COLLECTED FOR DEBT SERVICE</th>
<th>PERCENT INCREASE OVER PREVIOUS YEAR</th>
<th>TYPE OF DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>$6,474,000</td>
<td>2.0%</td>
<td>Actual</td>
</tr>
<tr>
<td>2006</td>
<td>$6,603,480</td>
<td>2.0%</td>
<td>Actual</td>
</tr>
<tr>
<td>2007</td>
<td>$6,828,000</td>
<td>3.4%</td>
<td>Actual</td>
</tr>
<tr>
<td>2008</td>
<td>$7,060,000</td>
<td>3.4%</td>
<td>Actual</td>
</tr>
<tr>
<td>2009</td>
<td>$7,300,000</td>
<td>3.4%</td>
<td>Actual</td>
</tr>
<tr>
<td>2010</td>
<td>$7,650,400</td>
<td>4.8%</td>
<td>Actual</td>
</tr>
<tr>
<td>2011</td>
<td>$8,017,600</td>
<td>4.8%</td>
<td>Actual</td>
</tr>
<tr>
<td>2012</td>
<td>$8,980,000</td>
<td>12.0%</td>
<td>Adopted</td>
</tr>
<tr>
<td>2013</td>
<td>$9,878,000</td>
<td>10.0%</td>
<td>Projected</td>
</tr>
<tr>
<td>2014</td>
<td>$10,865,000</td>
<td>10.0%</td>
<td>Projected</td>
</tr>
<tr>
<td>2015</td>
<td>$11,843,000</td>
<td>9.0%</td>
<td>Projected</td>
</tr>
<tr>
<td>2016</td>
<td>$12,909,000</td>
<td>9.0%</td>
<td>Projected</td>
</tr>
<tr>
<td>2017</td>
<td>$13,684,000</td>
<td>6.0%</td>
<td>Projected</td>
</tr>
<tr>
<td>2018</td>
<td>$14,505,000</td>
<td>6.0%</td>
<td>Projected</td>
</tr>
<tr>
<td>2019</td>
<td>$15,375,000</td>
<td>6.0%</td>
<td>Projected</td>
</tr>
<tr>
<td>2020</td>
<td>$16,067,000</td>
<td>4.5%</td>
<td>Projected</td>
</tr>
<tr>
<td>2021</td>
<td>$16,629,000</td>
<td>3.5%</td>
<td>Projected</td>
</tr>
<tr>
<td>2022</td>
<td>$17,211,000</td>
<td>3.5%</td>
<td>Projected</td>
</tr>
<tr>
<td>2023</td>
<td>$17,814,000</td>
<td>3.5%</td>
<td>Projected</td>
</tr>
<tr>
<td>2024</td>
<td>$18,437,000</td>
<td>3.5%</td>
<td>Projected</td>
</tr>
</tbody>
</table>

Current Debt Service Schedule

Currently all debt is financed through the State of Wisconsin’s Clean Water Fund program. The District makes principal payments on its long-term debt in May of each year, and interest payments in May and November of each year. Future principal and interest due on existing long-term debt incurred as of July 31, 2016 are approximately as shown in Table 12. Note that this does not include any debt that will be incurred beyond July 31, 2016.

Future Debt Service Scenarios

The two charts following this section are intended to provide a better picture of what the District’s long-term future debt service needs might look like based upon two different scenarios. The first scenario, the base scenario, includes the projects discussed previously in the six-year capital projects plan and applies to the previous debt discussions.
This scenario contains no provisions for any advanced nutrient removal facilities. The second scenario includes provisions for advanced nitrogen removal facilities to be constructed in 2025-2026.

Both charts show annual amounts collected through service charges and used to fund capital projects or pay debt service since 1997. Each chart also provides a forecast for the next twenty years which includes:

1. The level of funds that the District is required to deposit in a debt service reserve each year to satisfy the bond ordinances.
2. Projected annual amounts the District will need to collect through service charges to address debt service.

Note that to make an accurate comparison of alternatives, the amounts in scenario 2 also include expected O&M costs for advanced nitrogen removal facilities.

The projections for each scenario are speculative in nature and contain numerous assumptions, all subject to change. The intent is merely to provide a long-term view of what might happen.

Both scenario projections include known projects through 2022 and, in some cases, beyond. In addition, beginning in 2023, expenditures are included for projects that begin in 2022 or earlier, but run past the end of the projection, as well as assumed costs for certain undefined projects.

Assumed costs for undefined future projects are based on annual expenditures of $11 million (in 2013 dollars). That amount is adjusted for inflation for each year where it is included in the projection; inflation is assumed at 3% per year. These undefined items include longer-range projects that will result from future collection system and plant asset management planning, and ongoing interceptor and plant inspection and maintenance programs. Identification and prioritization of these projects will be addressed in future budgets as specific projects are defined.

Rough costs for treatment plant additions associated with potential nitrogen limits are based upon the District’s Nutrient Removal Cost Study completed in 2012 by CH2M Hill. Scenario 2 assumes the new limits for nitrogen would require the addition of new tanks and processes at a cost of $78 million (future costs 2021-2026).

### TABLE 12 | Estimated Debt Service Payment Schedule

<table>
<thead>
<tr>
<th>YEARS ENDING DECEMBER 31</th>
<th>PRINCIPAL</th>
<th>INTEREST</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>9,175,000</td>
<td>3,362,000</td>
<td>12,537,000</td>
</tr>
<tr>
<td>2018</td>
<td>9,086,000</td>
<td>3,122,000</td>
<td>12,208,000</td>
</tr>
<tr>
<td>2019</td>
<td>9,324,000</td>
<td>2,881,000</td>
<td>12,205,000</td>
</tr>
<tr>
<td>2020</td>
<td>9,568,000</td>
<td>2,634,000</td>
<td>12,202,000</td>
</tr>
<tr>
<td>2021-2025</td>
<td>44,205,000</td>
<td>9,493,000</td>
<td>53,698,000</td>
</tr>
<tr>
<td>2026-2030</td>
<td>37,717,000</td>
<td>4,456,000</td>
<td>42,173,000</td>
</tr>
<tr>
<td>2030-2035</td>
<td>16,531,000</td>
<td>639,000</td>
<td>17,170,000</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$135,606,000</strong></td>
<td><strong>$26,587,000</strong></td>
<td><strong>$162,193,000</strong></td>
</tr>
</tbody>
</table>
Chart 1, Scenario 1, or the base scenario, shows debt service for anticipated projects, assuming no additional projects or debt for advanced nutrient removal. As discussed previously, a transfer rate increase of 6.0% is proposed for 2017 to help fund debt service associated with the Eleventh Addition, Pumping Station 18, and other near-term projects. The transfer rate is projected to increase by 6.0% in 2018 and 2019, by 4.5% in 2020, and by 3.5% thereafter.

Chart 2, Scenario 2, shows the effect of the debt and O&M costs for a $78 million plant expansion related to advanced nitrogen treatment. For purposes of this scenario, construction of such a facility is anticipated in 2025 and 2026.

The impact these facilities might have on rates is difficult to assess since many variables affect rates. However, under Scenario 2 (i.e., construction of advanced nitrogen facilities) a typical resident in 2027 might pay $13 per month in debt service versus the $7 per month they now pay in 2016. In addition, they might pay an additional $2 more per month for O&M costs related to these facilities.

While it is not possible to envision or project all possible scenarios, the intent of this analysis is to compare potential scenarios and provide our best analysis of the scope of projects we anticipate, as well as their relative timeframes, levels of cost, and the level of debt the District might incur. This analysis continually changes as better information becomes available.
Scenario includes $78 million Plant addition to construct advanced nitrogen treatment facilities—construction in 2025 and 2026. Costs to operate and maintain the new facilities have been included.
Strategic Planning

Strategic planning is the District’s process of defining its strategy or direction and making decisions on allocating its resources to pursue this strategy. Each year the District’s Executive Team, working with department staff, review the 50 Year Master Plan, Commission priorities, and operational needs to develop a short-term operational strategic plan. The strategic plan brings needs together and allows the organization to creatively find solutions, coordinate activities, focus resources, and adapt to changing conditions.

As a result of this work, programs, initiatives, and large-scale activities are categorized to Key Result Areas as shown in Figure 8. Each Key Result Area represents a shared belief.

- We see opportunities in Wastewater to recover valuable resources.
- We see solutions in the Community to engage others in meeting future challenges.
- We see success in a healthy, resilient Workforce to promote a culture of positive engagement.
- We see value in Sustainable Infrastructure to support a vibrant regional community.

These four shared beliefs represent the District’s long-term emphasis and help focus work and give direction; to help the District perform efficiently, cost-effectively, and with sound leadership and innovation.

After a Key Result Area has been assigned to an initiative (a shorter term priority), departments are assigned leadership to these strategic initiatives and planning occurs. During planning, measurable goals are established for each initiative and business cases are written using the New Initiative Proposal (NIP) form. The NIP provides information on the initiative description, purpose, SMART goals, action plan event sequence, and additional information. When a proposal is finished, it is reviewed for approval using a modified strengths, weaknesses, opportunities, and threats (SWOT) analysis called a Sustainable Action Map (SAM). The SAM integrates the concept of a SWOT analysis with sustainability measurements. These measurements include social, environmental, and financial performance measures. In addition, the SAM indicates level of risk with color coding, similar to a traffic light as shown in Figure 10. After both the New Initiative Proposal and SWOT analysis have been completed, the initiative champion seeks formal approval of the plan at an Executive Team meeting. The plan is vetted through the Executive Team on a case-by-case basis until plans are approved or denied.

As business cases are approved, financial planning for necessary funding takes place and an annual assessment of department time commitments and priorities is reviewed and adjusted to meet the District’s changing needs and environment. Strategic and financial planning occurs simultaneously at the District so that there is a cohesive relationship between funding, initiatives, and priorities.

The Departmental Information section of this budget demonstrates Key Result Initiatives that are currently underway at the District. Each Key Initiative is in addition to core work and represents only new priorities that have been identified through strategic planning. Figure 9, is the District’s Strategic Plan. It includes Key Result Areas and initiatives that are ongoing underneath each category. For more information on goal progress and future goals related to these initiatives, please see the Departmental Information section of this budget.
### SUSTAINABILITY LENS

<table>
<thead>
<tr>
<th>ENVIRONMENT</th>
<th>COMMUNITY</th>
<th>EMPLOYEES</th>
<th>FINANCIAL</th>
</tr>
</thead>
</table>

### OUR KEY RESULT AREAS

**We see Opportunities in Wastewater to recover valuable resources.**  
**Goal:** Increase recovery of resources, while meeting permit requirements.

**We see Solutions in the Community to engage others in meeting future challenges.**  
**Goal:** Improve partnerships to build and increase public support.

**We see success in a healthy, resilient Workforce to promote a culture of positive engagement.**  
**Goal:** Achieve culture of positive engagement.

**We see value in Sustainable Infrastructure to support a vibrant regional community.**  
**Goal:** Achieve expected community level of services at the lowest total cost of ownership.

### OUR KEY RESULT INITIATIVES

**O&M:**
- Solve the Air Permit Issue/Regulatory Issues
- Optimizing the Ostara Process
- Determine the Viability of Working with the City of Madison on a Digestion Process for Source Separated Organics

**ECO:**
- WDNR Approval of Chloride PMP
- WPDES Permit Re-issuance

**DLS:**
- One Water

**ENG:**
- Adaptive Management
- Intensify PPSR Outreach
- Water Center
- LEED Platinum Maintenance Facility
- External Support and Engagement
- Strategic Communications
- Yahara Watershed Academy
- Succession Planning
- ELC Development
- Strategic Planning
- Development of Purpose Centered Leaders
- Competitive Wages/Salaries
- Diverse and Inclusive Workforce
- Safety

**P&S:**
- Sustainable Infrastructure Program
- P&S: Liquid Process Facility Plan
- User Charge Billing System

**ADMIN:**
- 3-5 Year Financial Plan
- IS/GIS Strategic Plan
- Budget Software Implementation

**O&M:**
- Energy Independence

**DLS:**
- Policy Governance

**ECO:**
- Implement LIMS

*Bold green indicates highest priorities

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**OUR MISSION:** To protect public health and the environment.

**OUR VISION:** Enriching life through clean water and resource recovery.

---

**ACRONYM KEY**

- ADMIN: Administration
- DLS: District Leadership & Support
- ECO: Ecosystem Services
- ENG: Engineering Department
- O&M: Operations and Maintenance
- P&S: Department of Planning and Strategy

*Document last updated September 2016.*
FIGURE 10  |  Sustainable Action Map

S.A.M.
Sustainable Action Map

Name: ___________________________  Decision: ___________________________

<table>
<thead>
<tr>
<th>Healthy Environment</th>
<th>Strong Community</th>
<th>Vital Economy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural: How does it impact environmental health?</td>
<td>Individual: How does it directly impact the well-being of people?</td>
<td>Community: How does it impact relationships, effective government, social justice, and overall livability?</td>
</tr>
<tr>
<td>S:</td>
<td>S:</td>
<td>S:</td>
</tr>
<tr>
<td>W:</td>
<td>W:</td>
<td>W:</td>
</tr>
<tr>
<td>O:</td>
<td>O:</td>
<td>O:</td>
</tr>
<tr>
<td>T:</td>
<td>T:</td>
<td>T:</td>
</tr>
</tbody>
</table>

SWOT: S=Strengths  W=Weaknesses  O=Opportunities  T=Threats

Leadership Required  Manageable Risks  Value Delivered

Madison Metropolitan Sewerage District
SECTION SIX

DEPARTMENTAL INFORMATION
Departmental Information

The District is made up of six departments; District Leadership & Support (DLS), Engineering, Planning and Strategy, Operations and Maintenance, Administrative Services, and Ecosystem Services. Each department has provided a narrative that gives a department purpose statement, budget summary, identifies emerging trends, recaps the former year’s goals and priorities, and establishes new goals and priorities including Key Result Indicators seen in the department dashboard.

In 2016, several organizational and budgetary changes became effective January 1, 2016 and some effective July 1, 2016. These changes were made based on planned retirements and alignment with future District work. These changes include:

- Movement of the Metrogro program from Operations and Maintenance to Ecosystem Services
- Engineering expenses divided with the new budget department, Planning and Strategy
- Transferred legal services from Administrative Services to the District Leadership and Support Team

The 2016 Budget was developed and adopted prior to these changes. These changes created challenges in presenting and comparing 2016 budget to 2016 estimates and 2017 budget in the overall Department Budget Summary shown below. Amounts in the table affected by the organizational changes are marked with an asterisk. Details on the amounts are discussed in the Department Narratives.
### TABLE 13 | Departmental Budget Summary

<table>
<thead>
<tr>
<th>Department</th>
<th>2016 Adopted Budget</th>
<th>2017 Budget</th>
<th>2017 Change from 2016</th>
<th>% from 2016 Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>District Leadership &amp; Support</td>
<td>881,561*</td>
<td>1,388,663*</td>
<td>507,102</td>
<td>57.5%</td>
</tr>
<tr>
<td>Admin</td>
<td>2,370,578*</td>
<td>2,773,889*</td>
<td>403,311</td>
<td>17.0%</td>
</tr>
<tr>
<td>Engineering</td>
<td>553,823*</td>
<td>633,349*</td>
<td>79,526</td>
<td>14.4%</td>
</tr>
<tr>
<td>Ecosystem Services</td>
<td>3,786,384*</td>
<td>4,204,025*</td>
<td>417,641</td>
<td>11.0%</td>
</tr>
<tr>
<td>Operations &amp; Maintenance</td>
<td>11,739,657*</td>
<td>11,549,651*</td>
<td>(190,003)</td>
<td>-1.6%</td>
</tr>
<tr>
<td>Planning and Strategy</td>
<td>581,189*</td>
<td>922,423*</td>
<td>341,234</td>
<td>58.7%</td>
</tr>
<tr>
<td>Debt Service</td>
<td>12,909,000</td>
<td>13,684,000</td>
<td>775,000</td>
<td>6.0%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>32,822,192</strong></td>
<td><strong>35,156,000</strong></td>
<td><strong>2,333,808</strong></td>
<td><strong>7.1%</strong></td>
</tr>
<tr>
<td><strong>TOTAL WITHOUT DEBT SERVICE</strong></td>
<td><strong>19,913,192</strong></td>
<td><strong>21,472,000</strong></td>
<td><strong>1,558,808</strong></td>
<td><strong>7.8%</strong></td>
</tr>
</tbody>
</table>

**MAJOR EXPENSE CATEGORIES**

<table>
<thead>
<tr>
<th>Category</th>
<th>2016 Adopted Budget</th>
<th>2017 Budget</th>
<th>2017 Change from 2016</th>
<th>% from 2016 Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset Addition, Repair &amp; Replacement</td>
<td>14,734,555</td>
<td>15,502,545</td>
<td>767,990</td>
<td>5.2%</td>
</tr>
<tr>
<td>Personnel Services</td>
<td>9,967,345</td>
<td>10,474,520</td>
<td>507,175</td>
<td>5.1%</td>
</tr>
<tr>
<td>Contract Services</td>
<td>2,749,210</td>
<td>3,463,230</td>
<td>714,020</td>
<td>26.0%</td>
</tr>
<tr>
<td>Materials, Supplies, and Misc.</td>
<td>5,371,082</td>
<td>5,543,705</td>
<td>172,623</td>
<td>3.2%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>32,822,192</strong></td>
<td><strong>35,156,600</strong></td>
<td><strong>2,333,808</strong></td>
<td><strong>7.1%</strong></td>
</tr>
</tbody>
</table>

*Department Changes - Numbers have been restated for 2016 to match budgeting for 2017.*
The purpose of the District Leadership and Support Team is to provide human resources, safety and leadership services to the organization so that the District has a clear direction, doorways are opened, and employees are prepared to lead the way.

### KEY RESULT INDICATORS

#### MOD* RATE

* A MOD Rate is an Experience Modification Rate that is used by insurance companies to gauge both past cost of injuries and future chances of risk.

<table>
<thead>
<tr>
<th>Year</th>
<th>MOD Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>.83</td>
</tr>
<tr>
<td>2017</td>
<td>.89</td>
</tr>
</tbody>
</table>

#### DISTRICT DIVERSITY PERCENTAGES

<table>
<thead>
<tr>
<th>Category</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>18%</td>
<td>18%+</td>
</tr>
<tr>
<td>Minorities</td>
<td>3%</td>
<td>3%+</td>
</tr>
</tbody>
</table>
### BUDGET SUMMARY

#### 2016 ADOPTED BUDGET  |  TOTAL: $881,561

<table>
<thead>
<tr>
<th>Category</th>
<th>2016 Adopted Budget</th>
<th>2017 Budget</th>
<th>Change from 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel Services</td>
<td>595,911</td>
<td>776,313</td>
<td>180,402</td>
</tr>
<tr>
<td>Asset Addition, Repair and Replacement</td>
<td>22,700</td>
<td>30,000</td>
<td>7,300</td>
</tr>
<tr>
<td>Contract Services</td>
<td>178,800</td>
<td>455,700</td>
<td>276,900</td>
</tr>
<tr>
<td>Material, Supplies and Misc.</td>
<td>84,150</td>
<td>126,650</td>
<td>42,500</td>
</tr>
</tbody>
</table>

**Total:** $881,561

#### 2017 BUDGET  |  TOTAL: $1,388,663

<table>
<thead>
<tr>
<th>Category</th>
<th>2017 Budget</th>
<th>Change from 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel Services</td>
<td>776,313</td>
<td>($507,102)</td>
</tr>
<tr>
<td>Asset Addition, Repair and Replacement</td>
<td>30,000</td>
<td>($7,300)</td>
</tr>
<tr>
<td>Contract Services</td>
<td>455,700</td>
<td>($276,900)</td>
</tr>
<tr>
<td>Material, Supplies and Misc.</td>
<td>126,650</td>
<td>($42,500)</td>
</tr>
</tbody>
</table>

**Total:** $1,388,663

#### Change from 2016 budget

- Personnel Services: 30.27%
- Asset Addition, Repair and Replacement: 32.16%
- Contract Services: 154.87%
- Material, Supplies & Misc.: 50.51%

### DEPARTMENT TRENDS

- Rising public interest in water quality issues is increasing overall attention to the business of the District.
- Recruitment and retention of top talent will become more competitive as baby boomers retire and the economy recovers.
- There is increasing awareness of the racial and economic equity gap in Dane County.
- Several directors and managers are in the planning horizon for retirement.
- Employees desire meaningful involvement on issues important to their work and well-being.
DEPARTMENT UPDATE

The Department refocused its purpose in 2016 and changed its name in the process. Formerly the Chief Engineer and Director’s office, the District Leadership and Support (DLS) department drives the development of purpose centered leadership in all employees. The Department is made up of the Chief Engineer and Director, Human Resources Manager, and Health & Safety Specialist. The DLS team provides organizational leadership on policy initiatives and delivers programs that foster safety, diversity, and excellence in employees. It also supports and often leads public information, education, and engagement efforts at the District.

In 2016, a District-wide reorganization took place that impacted many departments. While there were no personnel changes that impacted the DLS budget, some significant changes have occurred, which shift expenses to the DLS budget. These changes are outlined in the next section.

CHANGES TO THE BUDGET

Personnel Services

The amount budgeted for this category has increased by approximately $180,000 or 30% relative to the 2016 adopted budget. The major changes to this category are:

• Full funding of an FTE position for strategic communications
• Increases associated with the District’s pay plan
• Increases in health insurance and fringe benefits

Asset Addition, Repair, and Replacement

The amount budgeted for this category will increase by approximately $7,300 or 32% relative to the 2016 budget. The major changes to this category are increases to the cost of safety equipment (gas detectors and fall protection).

Contract Services

The amount budgeted for this category has increased by approximately $277,000 or 155%. One of the increases in this category is due to the shift of the legal contract from Administration budget to the DLST Department budget. Other anticipated expenditures are $50,000 for a food waste digester analysis and $100,000 for continued joint sustainability work.

Material, Supplies and Misc.

The amount budgeted for in this category has increased by $42,500 or 51%. Changes to this category include required travel and conference attendance related to the Chief Engineer’s recent appointment to serve as chair for NACWA’s Climate and Resilience Committee. Other increases in this category include: an increase in the HR recruitment budget for key positions, communications and marketing expenses, and costs associated with campus small projects such as wayfinding.

The work of the DLS department focuses primarily on policy making, employee capacity building, and external relations. As a result, the Key Result Areas of greatest focus are Community and Employees. Below, you will find a summary of progress on key initiatives for the 2016 year and anticipated goals for 2017.
KEY RESULT INITIATIVES

Policy Governance

2016 Goal
District staff will develop a draft policy governance guidebook for Commission input and approval.

2016 Progress Update
The Commission endorsed the Policy Governance effort in January and established Commission workgroup to develop an RFP (request for proposal) and select a consultant. The workgroup met and recommended a consultant to the full Commission in June. Work will begin in this fall. 2017 Goal
Commission approval of a complete policy governance guidebook.

Upon completion of the policy book, training will commence for Commissioners and staff on the contents of the guidebook. Additional training will be considered from the League of Wisconsin Municipalities on the responsibilities of government officials.

2017 Measurement
Commission approval of a policy governance guidebook.

Strategic Planning

2016 Goal
Develop and create a comprehensive priorities driven budget document that connects organizational priorities to Departmental goals.

2016 Progress Update
In 2016, departments each established purpose statements for their program areas. A purpose statement explains what services the Department provides that are absolutely essential and uniquely theirs to do. The purpose statements succinctly answer three questions.
- Value. What can customers and stakeholders expect from us?
- Strengths. What do we do well?
- Vision. What responsibilities should we “own” over time?

With the collaborative development of these purpose statements, employees were engaged to be part of the process which better enabled them to directly link broad goals to departmental goals and understand their roles. In this year’s budget document, draft purpose statements are now included in the Departmental Information section, which is now aligned and integrated into a fluid reporting system that connects the CED Performance Evaluation, Budget document, and District Strategic Plan.

2017 Goal
Finalizing department purpose statements, the completion of operational plans for each department, and review and finalize any necessary changes to the Strategic Plan.

2017 Measures
- Finalization of Department purpose statements
- Completion of department operational plans
- Monitoring/edits to the Strategic Plan

ELC Development

2016 Goal
Formation of the Employee Leadership Council.

2016 Progress Update
The District formed the Employee Leadership Council in 2016. Elections were held, a group facilitator was selected, and the group convened and is working on substantive issues.

2017 Goal
The Employee Leadership Council is slated to complete the development of operating guidelines and establish a list of priorities.

2017 Measures
- Development and implementation of ELC operating guidelines
- Establishing a list of priorities and scheduling discussions and work based on these priorities
Develop Purpose Centered Leaders

2016 Goal
To develop purpose centered leaders at the District.
By developing purpose centered leaders at the District, the aim is to improve engagement, innovation, and teamwork, so that employees are empowered to deliver outstanding services to the community.

2016 Progress Update
In 2016, staff attended trainings, seminars, workshops, classes for the betterment of the District. In addition, an Affinity group was formed by an interest group and the Employee Leadership Council was formed.

2017 Goal
Build internal leadership capacity through new supervisor training, leadership development, women’s leadership development, and the Certified Public Manager program.

2017 Measures
• Development of supervisor training options
• Discussion on overall leadership development and specifically women’s leadership development
• Identify potential staff that may be interested in Certified Public Manager program

Competitive Wages And Salaries

2016 Goal
Implement the results of the employee pay survey.
The District has a policy to establish employee pay levels which will help attract and retain employees who will operate the District efficiently and effectively, and protect the best interests of the District’s customers.

2016 Progress Update
The District retained Carlson Dettmann Consulting (CDC) to provide a comprehensive competitive review of its employee pay program. This work was completed in 2016. Currently, the Executive Team is working with the Employee Leadership Council to develop an implementation recommendation that will go to the Commission 4th Quarter of 2016.

2017 Goal
Implement the new market based wages in 2017.

Diverse And Inclusive Workforce

2016 Goal
Develop a diverse and inclusive workforce.

2016 Progress Update
A diversity and inclusion consultant has been identified to work with a team of employees to develop goals and strategies for improving the diversity and inclusivity at the District.

2017 Goal
The District will complete an organizational assessment and begin implementing a long-term strategic plan to support diversity and inclusion.

2017 Measures
• Complete Organizational assessment
• Complete Strategic plan to support diversity and inclusion

Succession Planning

Due to the expected bow wave of retirements of key District staff, a robust succession planning effort is currently underway.

2016 Goal
Implementation of a multi-year strategy that includes: leadership capacity building for emerging leaders at the District, organizational restructuring, conducting a competitive pay survey, and hiring.

2016 Progress Update
A District-wide reorganization was timed and executed to coincide with Director retirements. As a result of the reorganization, there have been two internal promotions to senior management roles and recruitment efforts for two planned Director retirements.

2017 Goal
Recruit and hire key Director positions and plan for key positions close to retirement.

2017 Measures
• Director positions filled
• Planning occurring for key positions close to retirement
Safety

2016 Goal
Create a ‘Safety’ culture at the District.

2016 Progress Update
The construction of the new LEED Platinum Maintenance Facility has improved the work environment significantly through sanitary, well ventilated and properly lit work spaces. District managers have also been persistent in holding employees accountable for safe work practices. There has been increased openness in reporting safety incidents and near misses and in performing after action reviews.

2017 Goal
Protocols will be developed for how to include safety during the design phase of construction projects.

2017 Measurement
Safety protocols are developed and in place early on in construction projects.

Strategic Communications
Developing strategic communications for community based solutions. The focus of this initiative is to implement the District’s mission in a manner the Community supports. There is heavy emphasis on strategic partnerships.

New goal in 2017
Establish a Strategic Communications program, including hiring a Strategic Communications Manager.

This next year will be spent developing the District’s strategic communications program. Major District priorities that require strategic communication support in 2017 include chloride reduction efforts, Metro Mix marketing and the Regent Street sewer lining project. There will be ongoing strategic communications with adaptive management and other longer term needs include a new state requirement in the Districts Capacity, Management, Operation and Maintenance Program (CMOM) to develop protocols and procedures for notifying the public about overflow emergency responses. Also, improving the Districts social media presence, pollution prevention and source reduction efforts and new public engagement strategies that build public awareness and support.

2017 Measures
- Strategic Communications Manager hired on
- Development of Strategic Communications program and plan that identifies communication initiatives

One Water

2016 Goal
Conduct a joint meeting with the Madison Water Utility to seek out partnership opportunities.

2016 Progress Update
The Commission hosted a joint meeting with the Madison Water Utility Board in July and established a pathway for moving forward which includes developing key deliverables for a plan and guiding principles.

2017 Goal
Hire a consultant to develop a Joint Sustainability Plan with the Madison Water Utility.

2017 Measurement
Development of Joint Sustainability Plan with the Madison Water Utility.

Yahara Watershed Academy

2016 Goal
Partner with the Clean Lakes Alliance, Aldo Leopold Center, UW, and Sustain Dane to form the Yahara Watershed Academy.

2016 Progress Update
The Chief Engineer and Director facilitated the development of a learning format and curriculum.

2017 Goal
Support ongoing efforts to launch the academy and recruit participants, as well as take a lead role in developing training modules and instructing.

2017 Measurement
Academy launches first cohort.
To provide business and administrative services – procurement, financial, communications, project management, process improvement, office support, and information technology – to internal and external customers so that the District can achieve its mission of protecting public health and the environment.

**Administrative Services Department**

**15 FTES**

**KEY RESULT INDICATORS**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Audit Free of Deficiencies</td>
<td>✔️</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintain Government Finance Officers Association (GFOA) Budget Principles</td>
<td></td>
<td>✔️</td>
<td></td>
</tr>
<tr>
<td>% Complete: Development of the IT Strategic Plan</td>
<td></td>
<td></td>
<td>80%</td>
</tr>
</tbody>
</table>

- 2016: 80%
- 2017: 100%

Return to TOC
BUDGET SUMMARY

2016 ADOPTED BUDGET | TOTAL: $2,370,578

2017 BUDGET | TOTAL: $2,773,889

17.0% change from 2016 budget (+ $403,311)

Personnel Services: 20.14%
Asset Addition, Repair and Replacement: 32.6%
Contract Services: 4.53%
Material, Supplies & Miscellaneous: 14.03%

DEPARTMENT TRENDS

• Public concern about affordability is increasing as the amount it costs the District to meet stricter regulatory requirements outpaces inflation.

• A growing need to communicate with the general public and other interested stakeholders about necessary District activities and initiatives.

• The District is using increasingly complex technology and systems and demands for information technology services is increasing.
DEPARTMENT UPDATE

The Administrative Services Department gained 2 full-time employees in January of 2016 due to a District-wide reorganization of personnel. The Procurement Agent and Purchasing and Inventory Assistant transitioned to the Department from Operations and Maintenance in order to better align checks and balances related to accounting standards. The current department is made up of: Assistant Chief Engineer and Director of Administration, Comptroller/Budget Manager, Staff Accountant, Business Analyst, Accounting Assistant, Executive Coordinator, Resource Assistant, Program Resource Associate, Procurement Agent, Purchasing and Inventory Assistant, Information Systems Manager, Programmer/Analyst, Programmer I, and 2 Network Technicians.

The Department dashboard shows actual budget numbers that don’t easily reflect some changes that occurred due to the reorganization. A more descriptive narrative of these changes is included in the next section.

CHANGES TO THE BUDGET

Personnel Services

As shown in the Department Summary Table, budgeted amounts for Personnel Services in the Administration Department increase by $251,763 or 20.14%. Two purchasing positions were transferred to the department in 2016 and their salaries were not included in the 2016 department budget. The change is due to the following:

- The transfer of two positions to the department. This change accounted for $224,884 of the 2017 increase
- Market and progression increases for employees, along with increased health insurance and fringe benefits costs, account for the remainder
**Asset Addition, Repair, and Replacement**

Budgeted amounts for Asset Addition, Repair, and Replacement are projected to increase by $103,425 to $420,480. These changes are due primarily to the following:

- Two significant enhancements to the IT network hardware – a new plant security camera system for $22,000 and a new District internet firewall for $45,000
- Two significant investments in software – a $50,000 subscription for ESRI GIS software and $30,000 for new construction management software

**Contracted Services**

Budgeted amounts for Contract Services increase by $30,860 to $711,430. The change is primarily due to the following:

- The 2016 Administrative Services budget included $150,000 for legal services. For the 2017 budget this line item was transferred to the CED Office budget
- The 2017 budget includes $50,000 for a consultant to develop an implementation plan to move to a new version of Oracle WAM, one of our primary business-side applications
- The 2017 budget includes a $59,000 increase in premiums for property insurance to cover the treatment plant buildings
- The 2017 budget includes $55,000 for limited term employees and an intern
- The 2017 budget includes an additional $24,000 for enhancement to the DAR system (the Data Acquisition and Reporting Center) serving the treatment plant and pumping station process control system

**Materials, Supplies, and Miscellaneous**

Budgeted amounts for Materials, Supplies, and Miscellaneous increased by $17,263 to $140,340. The major changes are for additional smartphones for various workgroups, switching to a new mobile phone service to get better reception, and increased supplies to support new employee work areas in the Maintenance Facility and the re-modeled first floor of the Operations Building.

The Administrative Services Department carries out a wide variety of core work that may not be apparent in the next section, Key Result Initiatives. In this section, only new initiatives are discussed that have a strategic significance (insert reference to strategic pillars doc). The Administrative Services Department leads three of these key initiatives, and in the next section a progress report is given for ongoing goals in these areas.
SECTION SIX

KEY RESULT INITIATIVES

5 Year Financial Plan

2016 Goal
Begin development of a more detailed three-to-five year financial plan for the District in time to inform development of the Fiscal Year 2018 budget.

A more detailed multi-year plan will better integrate, in a proactive manner, the IT Strategic Plan other and new initiatives into our annual budgeting process. This effort will involve all District departments.

Public concern about affordability is increasing as the amount it costs the District to meet stricter regulatory requirements outpaces inflation. District obligations require a multi-year budgeting approach to ensure there are sufficient resources to meet existing and emerging needs. A three to five year financial plan will provide a means to consider the full range of District needs and think beyond the current year budget. This will assist with priority setting and provide better context for annual budget decisions. A multi-year plan could, for instance, help avoid single year, short term decisions that have cascading multi-year impacts. The current financial plan is a high level 10-year plan. In particular, a better multi-year plan is needed for the operating budget. The five year plan is a tool for identifying needs and opportunities, goals to be achieved, and the resources needed to achieve the goals.

2016 Progress Update
Major work on this goal is planned for the latter half of 2016 and through the first half of 2017. In 2016 a draft of planning principles will be presented to the Commission for their review and a consultant will be selected and retained to assist with the planning process.

2017 Goal
Complete development of a five year financial plan for the District in time to inform development of the Fiscal Year 2018 budget.

2017 Measurement
Present a draft five-year plan to the Commission by the end of July 2017.

IS/GIS Strategic Plan

2016 Goal
Develop an IT strategic plan. The Strategic Technology Plan will encompass both an overall technology strategy and a more specific Geographic Information System (GIS) roadmap. The plan will address IT governance, investments in key applications, strengthening the infrastructure, and enhancing user support. Goals and recommendations developed in this plan will span the next 5 years, with more details given to efforts recommended to occur in the years 2016-2018.
2016 Progress Update
The project began in 2015 with a discovery phase running through most of 2015 and an award of a services contract to Elert & Associates for the work in December 2016. Active work on plan development has been ongoing throughout 2016 and has involved District employees from all departments within the organization. By mid-August a first draft of the plan had been drafted. A revised draft plan was approved by the Executive Team. Review and approval of the proposed plan by the Commission is currently scheduled for 2017. The draft plan was used to inform the proposed fiscal year 2017 budget. One major recommendation in the draft report is to move our GIS to the ESRI platform.

2017 Goal
Begin implementing the IT strategic plan.

2017 Measures
• The Technology Governance teams are formed to prioritize recommendations for the plan.
• IT Policies and Standards have been created by the Information Systems Manager, and approved by the IT Steering Committee by the end of 2017.
• Network addressing scheme change is complete by the end of 2017.
• Support migration of our GIS to the ESRI GIS platform. This includes migration of data, map book, standard maps, and standard projects. (Leadership for this task rests with the Planning and Strategy Department.)

Budget Software Implementation

2016 Goal
Complete implementation of the new Questica budget application. The application will provide staff with improved budgeting and budget reporting tools.

2016 Progress Update
The application has been partially implemented in the first half of 2016. Difficulties were experienced in developing reports needed for budgeting. The mid-year and end-of-year processing requires final testing as well. In order to address these issues the recently released version of Questica will be installed in the fall of 2016. The new version will make reporting easier and also provide a better system for handling salaries in the budget. After the new version of the software is installed the needed reports will be written and all processes, including mid-year and end-of-year, will be thoroughly tested. Questica will then be ready for full use and will be utilized during preparation of the 2018 budget. Use of the new system for budget reporting is expected beginning in April 2017.

2017 Goal
Use the Questica budget software.

2017 Measures
• Complete reports needed for budget reporting and put in use by April 2017.
• Use Questica for developing the 2018 budget beginning in July 2017.
Ecosystem Services

Advance initiatives and provide support services so that treatment plant operating systems can be optimized, demand for traditional wastewater treatment infrastructure and collection services can be reduced, resources can be recovered, and environmental quality can be enhanced.

**17 FTES**

**KEY RESULT INDICATORS**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Time Laboratory Turnaround Times are Met</td>
<td>≥97%</td>
<td>≥97%</td>
</tr>
<tr>
<td>Reduction in Chloride Mass</td>
<td>8,000</td>
<td>12,000</td>
</tr>
<tr>
<td>New Lbs of Phosphorus Reduced Through Adaptive Management</td>
<td>5,000</td>
<td>4,000</td>
</tr>
<tr>
<td>Cumulative Lbs of Phosphorus Reduced Through Adaptive Management</td>
<td>15,000</td>
<td>19,000</td>
</tr>
</tbody>
</table>
BUDGET SUMMARY

2016 ADOPTED BUDGET | TOTAL: $3,786,384

2017 BUDGET | TOTAL: $4,204,025

<table>
<thead>
<tr>
<th>Department</th>
<th>2016 Adopted Budget</th>
<th>2017 Budget</th>
<th>Change from 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>PERSONNEL SERVICES</td>
<td>1,898,359</td>
<td>2,034,575</td>
<td>136,216</td>
</tr>
<tr>
<td>ASSET ADDITION, REPAIR AND REPLACEMENT</td>
<td>203,950</td>
<td>165,950</td>
<td>-38,000</td>
</tr>
<tr>
<td>CONTRACT SERVICES</td>
<td>1,249,300</td>
<td>1,514,800</td>
<td>265,500</td>
</tr>
<tr>
<td>MATERIAL, SUPPLIES AND MISC.</td>
<td>434,775</td>
<td>488,700</td>
<td>53,925</td>
</tr>
</tbody>
</table>

11.03% change from 2016 budget (+ $417,641)

Personnel Services: 7.18%
Asset Addition, Repair and Replacement: -18.63%
Contract Services: 21.25%
Material, Supplies & Misc.: 12.40%

DEPARTMENT TRENDS

- Pollution prevention and source reduction are increasingly looked to as alternatives to traditional brick and mortar solutions. Traditional District approaches to address regulatory requirements and/or meet environmental objectives have relied on adding new treatment technologies or expanding capacity at the Nine Springs Wastewater Treatment Plant. This approach is discharge focused and often results in expensive and resource intensive solutions. While there may be situations where traditional brick and mortar solutions make sense, the District will increasingly utilize Pollution Prevention/Source Reduction (PPSR) approaches to meet regulatory requirements and environmental objectives. These approaches can result in equivalent and/or improved environmental outcomes at lower overall costs.

- Increased emphasis on process and environmental monitoring. There will be an increased emphasis on environmental monitoring (physical, chemical, and biological parameters) and use of the resulting data to support decision-making or advance program initiatives.

- Growing importance of resource recovery. The District will pursue and implement resource recovery initiatives where the business case can be made, using a triple bottom line analysis that considers social, environmental, and economic factors.
DEPARTMENT UPDATE

In 2016 a District-wide reorganization took place which expanded the Ecosystem Services Department by 5 full time employees (FTE) by shifting the Metrogro Department from the Operations and Maintenance Department to Ecosystem Services. This shift recognizes a broadened scope of work for the Metrogro program with the planned diversification of the biosolids program. With this addition to the team, Ecosystem Services is up to 17 FTEs. The Department is made up of the Director of Ecosystem Services, Pretreatment Coordinator, Environmental Specialist, Pollution Prevention Specialist, Adaptive Management Coordinator (currently vacant and estimated to be filled 4th quarter of 2016), Lab Manager, Microbiologist, 5 Chemists, Metrogro Manager, 2 Diesel Truck Drivers, and 2 Mechanics.

Due to the reorganization of the Metrogro program to Ecosystem Services, budgetary shifts have been made. The department dashboard shows an accurate adjusted budget after the reorganization of Metrogro to the department. For a detailed explanation of changes within the Ecosystem Services budget, please see the next section.

CHANGES TO THE BUDGET

Personnel Services
The amount budgeted for this category has increased by approximately $136,000 or 7.18% relative to the 2016 adopted budget. The major changes to this category are:

- Full funding of an FTE position that supports implementation of Ecosystem Services projects, including adaptive management. Partial funding was included in the 2016 budget, with an anticipated 4th quarter starting date
- Increases associated with the District’s pay plan for both hourly and non-represented employees
- Increases in health insurance and fringe benefits

Asset Addition, Repair, and Replacement
The amount budgeted for this category will decrease by approximately $38,000 or minus 18.63%. Much of the decrease is due to elimination of items included in the 2016 Metrogro budget.

Contract Services
The amount budgeted for this category has increased by approximately $265,000 or 21.25%. Most of the increase is associated with the District’s increased financial obligation for adaptive management per the intergovernmental agreement for the full scale Yahara WINS project. In addition, in 2017 EPA oversite costs for our lagoon Superfund site will increase because EPA will be conducting a five year review of the site. EPA recovers these costs from the District and an additional $8,000 has been included in the 2017 budget to cover the anticipated cost increase.

Material, Supplies and Misc.
The amount budgeted for this category has decreased by approximately $54,000 or 12.40%. Much the decrease is due to elimination of source reduction projects and expected lower diesel fuel prices. Our experience implementing chloride reduction effects have helped us better refine resources needed.

The work of the Ecosystem Services Department trends largely around two focus areas of the Strategic Plan-Opportunities in Wastewater (environmental focus) and Solutions in the Community. This team is involved in several Key Result Initiatives and their core work often ties directly to the strategic priorities at hand (see Strategic doc here). In the next section, you will find a summary of progress on key initiatives for the 2016 year and anticipated goals for 2017.
KEY RESULT INITIATIVES

Adaptive Management Project

2016 Goal
Implementation of a full-scale adaptive management project:
• to achieve compliance with anticipated phosphorus discharge permit limits
• to support the transition from a pilot project to a full-scale project

2016 Progress Update
The District is leading the Yahara WINS project, a multi-stakeholder effort using a new regulatory compliance approach known as watershed adaptive management to meet phosphorus reduction requirements in the Yahara Watershed. This collaborative effort is the first and largest project in Wisconsin to utilize the adaptive management approach. An intergovernmental agreement (IGA) was developed and has been executed by municipal participants. An adaptive management plan has been developed and submitted to DNR. DNR has indicated that there are no impediments to approval, but formal approval will coincide with approval of our WPDES permit. A legal services agreement has been developed and executed, and additional service agreements (e.g. with Dane County) are under development. 2017 Yahara WINS budget development is underway.

2017 Goal
Development of additional agreements needed to support implementation of the adaptive management project. 2016 activities have focused on developing the fundamental organizational structure and basic agreements needed to support startup of the full scale adaptive management project. Moving forward, additional agreements are needed. The District, in a leadership role with Yahara WINS, will play a key role in helping to develop these agreements, including agreements aimed at expanding efforts to engage with agricultural producers in the Yahara Watershed. 2017 District expenditures related to adaptive management will increase by approximately $260,000.

2017 Measures
• Development of a long-term joint funding agreement with the United States Geological Survey to support flow and water quality monitoring activities.
• Development of a 2017 phosphorus reduction agreement with the Yahara Pride Farm Group.
WDNR Approval of the Chloride Pollutant Minimization Plan (PMP)

2016 Goal
Implementation of the first year of the Chloride Pollutant Minimization Plan (PMP).

2016 Progress Update
The District is increasingly utilizing pollution prevention/source reduction (PPSR) approaches to meet regulatory requirements and environmental objectives. Building off of the success of efforts related to mercury and phosphorus, a PPSR approach is now being advanced to address chloride. Although it was not a WPDES permit requirement, the District submitted a formal Chloride PMP to DNR in September, 2015. The PMP was prepared consistent with DNR guidance. Because PMP development was not a permit requirement, DNR has not committed the resources to formally approve the PMP. However, the District’s 2015 Chloride annual report was evaluated by DNR based on information presented in the PMP, and subsequent Chloride annual reports submitted by the District will be evaluated by DNR in a similar manner. District staff developed a five year strategic plan to reduce chloride, which was supported by the District Commission. 2016 work anticipated in the Chloride PMP and the strategic plan is moving forward. This includes advancing educational information related to chloride reductions, engagement of the broader community on chloride reduction initiatives, working with major water users to reduce chloride use, implementation chloride reduction grant and rebate programs, and related activities.

2017 Goal
Implement year 2 activities identified in the District’s five year strategic plan to reduce chloride. Incentive/rebate/grant programs will continue, as will information and education activities targeting both specific sectors (e.g. building contractors, plumbers, and major water users) and the broader community.

2017 Measurement
Develop and roll out a messaging strategy tool kit that can be used by municipal customers to support chloride reduction efforts in their community.

Implementation of a new Laboratory Information Management System (LIMS).

2016 Goal
Procure and implement a new Laboratory Information Management System (LIMS).

2016 Progress Update
The District increasingly relies on in-plant and environmental monitoring (physical, chemical and biological parameters) and use of the resulting data to support decision-making or advance program initiatives. The District laboratory plays a critical support role by providing necessary analytical services. Implementation of a new Laboratory Information System (LIMS) will allow the laboratory to more efficiently manage data, develop reports, and provide end users with improved access to data.

Work is progressing related to installation of a new LIMS system, although the complexity of the project is greater than originally anticipated. Testing of individual components of the new LIMS system is ongoing, and the “go live” goal for the new LIMS system is October, 2016.

2017 Goal
Develop reports and enhancements to the LIMS system throughout 2017 based on input from laboratory staff and other stakeholders. While the “go live” goal for the new LIMS system is October, 2016, this date targets the basic functionality of the LIMS system. There are a variety of additional functions and/or enhancements (e.g. invoicing, development of reports for non-lab staff) that will need to be worked on in 2017. The only financial impact to the 2017 budget is including approximately $10,000 for the service agreement for the LIMS system.

2017 Measurement
Develop a prioritized list of potential LIMS system enhancements based on a survey of internal customer needs and begin work on implementing the highest priority items.
WPDES Permit Re-issuance

2016 Goal
Submit and receive a reissuance of the WPDES permit.

2016 Progress Update
The District’s WPDES permit expired at the end of September, 2015. The District’s application for permit re-issuance was submitted to DNR in the spring of 2015. Discussions with DNR staff regarding permit re-issuance have been on-going. The District was informed earlier this year that DNR had held off on reissuing the permit in anticipation that the District would be advancing a full scale adaptive management project. DNR anticipates reissuing the District permit in the first quarter of 2017. In the meantime, the District will continue to engage DNR on issues relevant to permit re-issuance, including addressing thermal (temperature) requirements related to effluent return to Badfish Creek and Badger Mill Creek.

2017 Goal
Achievement of “Gold” Status in the National Association of Clean Water Agencies (NACWA) Peak Performance Program.

2017 Measurement
Obtain perfect compliance with WPDES permit requirements in 2017.

Development of the Water Center (Shop One)

2016 Goal
Seek support from the Commission on the Water Center concept and form an internal advisory team.

2016 Progress Update
The construction of the new Maintenance Facility has created an opportunity to repurpose the old shop facility into a Water Center. Called “Shop One” this center will involve renovating the old shop facility to create space that allows the District to engage the greater community in dialog around water. It will also serve as the starting point for tours. An internal advisory team has been formed to help articulate the vision for this effort and to identify specific needs. An external advisory committee will be formed to provide the broader community with a voice in how this project moves forward.

2017 Goal
Evaluate opportunities to improve public access to the Shop One Building.

Pollution Prevention/Source Reduction (PPSR) Outreach

2016 Goal
Implementation of PPSR initiatives with a District goal of a 15% reduction in effluent chloride concentration and mass by the end of the District’s current WPDES permit term.

2016 Progress Update
While primary focus of the District’s PPSR outreach efforts have focused around chloride (see initiative above), District staff has also been active in other PPSR efforts, including those associated with mercury, pharmaceuticals and fats/oil/grease. District meetings with customer communities have provided an ideal forum for discussion of PPSR activities. In addition, staff has met with representatives of dental clinics, industries that are part of the District’s pretreatment program, and others (e.g. Facilities Managers) to discuss PPSR opportunities.

2017 Goal
Implement at least one PPSR effort by the end of 2017 based on the principles of community based social marketing (CBSM).

2017 Measurement
Development of a CBSM approach focused on achieving chloride reductions from the residential sector.
The purpose of the Engineering team is to provide design and construction administration services to the Commission and advisory services to other District teams so that safe, reliable, and cost effective infrastructure is built.

### KEY RESULT INDICATORS

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td># Projects with Platinum Envision Rating*</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>% of Projects completed on time &amp; within/under budget†</td>
<td>100% (savings of $1,201,000)</td>
<td>100%</td>
</tr>
<tr>
<td>#‡ of Positive Customer &amp; Community Meetings or Communications</td>
<td>12</td>
<td>6</td>
</tr>
</tbody>
</table>

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* PS15 is the first project Envision was used on and is projected to receive Platinum status in 2017.
† From June to June, 100% of projects completed on time and came in roughly 4.5% under budget at a savings of $1,201,000.
‡ Five cities, five villages, and two towns were engaged in one on one community meetings between 2015-2016. In 2017, this work will commence with the remaining Towns.
BUDGET SUMMARY

2016 ADOPTED BUDGET | TOTAL: $553,823

2017 BUDGET | TOTAL: $634,006

14.5% change from 2016 budget (+ $80,183)

DEPARTMENT TRENDS

Overall, the Engineering Department is seeing several trends that impact the Engineering budget. These trends include:

• With the improving economy, construction contractors continue to be very busy. This reduces the competitive bidding climate for MMSD capital improvement projects and increases project costs.

• Demand for capital project engineering services also continues to be strong. This will decrease the number of engineering firms interested in performing work for MMSD and may increase project costs.

• The average age of the District’s infrastructure continues to increase (to approximately 35-40 years old). This will require increased investments for future Capital Improvement Projects.

• Adaptive management strategies will be used to meet some District discharge permit requirements. This may reduce the need for future large treatment plant additions.

• Changes in development requirements (stormwater treatment, open spaces, etc.) continue to change. This creates a condition such that the District is not recovering the full cost of the conveyance and treatment systems needed to serve these areas.

• Climate change is creating conditions where design standards are no longer constant (i.e., they are non-stationary). Extreme weather events will continue to tax the limits of the District’s infrastructure and its mission to protect public health and the environment.

• The general public continues to become more informed, engaged, and connected. This requires Project Engineers to dedicate more time to engage external stakeholders and the general public during capital improvement project design and construction.

<table>
<thead>
<tr>
<th>Category</th>
<th>2016 Adopted Budget</th>
<th>2017 Budget</th>
<th>Change from 2016</th>
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<tr>
<td>Personnel Services</td>
<td>287,423</td>
<td>344,506</td>
<td>57,083</td>
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<tr>
<td>Asset Addition, Repair and Replacement</td>
<td>186,000</td>
<td>157,000</td>
<td>-29,000</td>
</tr>
<tr>
<td>Contract Services</td>
<td>75,700</td>
<td>127,800</td>
<td>52,100</td>
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<tr>
<td>Material, Supplies and Misc.</td>
<td>4,700</td>
<td>4,700</td>
<td>0</td>
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</table>

2016 ADOPTED BUDGET: $553,823
2017 BUDGET: $634,006

Personnel Services: 19.9%
Asset Addition, Repair and Replacement: -15.6%
Contract Services: 68.8%
Material, Supplies & Misc.: 0%
DEPARTMENT UPDATE

In 2016, a District-wide reorganization was implemented, which resulted in the Engineering Department having 7 full time employees; the department director, 4 civil engineers, and 2 electrical engineers. The GIS Technician and the Engineering Technician, who were formerly in the Engineering Department, transitioned to the Planning and Strategy Department, while the Electrical Construction Manager and the Electrical Engineer positions moved to the Engineering Department (see Appendix G-memo of reorganization). Besides employee shifts, a shift of financial resources associated with this also occurred, as the Planning & Strategy Department had previously been combined with the Engineering Department budget. To outline these changes and to best discuss the changes to the 2017 budget, a summary is provided below and in the Planning & Strategy Department narrative.

CHANGES TO THE BUDGET

Personnel Services

As seen in the Department Dashboard, Personnel Services budgeted for the Engineering Department are expected to increase by 19.9% from 2016 to 2017. This is due to the following:

- The continued trend in salaries/wages shifting from capital accounts to general operating accounts. This is due to increased general administrative work and infrastructure asset management initiatives such as I/I reduction and the force main condition assessment program
- A combination of market and progression salary increases projected for 2017
- Increased health insurance and fringe benefit costs
Overall, Engineering Department workload is not expected to increase significantly in the near future, and therefore, no new positions are anticipated. However, the work split between capital and operating accounts will continue to fluctuate as major projects are initiated and completed. The overall shift of salaries to general operating accounts also includes required continuing education for Professional Engineers, outreach to customers, and involvement with the asset management program. While this shifts costs to the operating fund in the near-term, it benefits the District in the long-term, allowing staff to cost-efficiently manage assets and plan for future capital improvements.

Asset Addition, Repair, and Replacement
Budgeted Engineering Department amounts for asset addition/repair/replacement are projected to decrease from $186,000 in 2016 to $157,000 in 2017 (-15.6%). This is primarily due to:

- Reduction in the Infiltration/Inflow (I/I) reduction program (due to field surveying not being required in 2017)
- Elimination of GIS software from the Engineering Department budget

Contracted Services
Budgeted Engineering Department amounts for Contracted Services increased from $75,700 in 2016 to $127,800 in 2017 (+68.8%). This increase is due to:

- Additional contracted services for project coordination and general engineering assistance in 2017
- The bi-annual hydraulic model maintenance agreement being due in 2017
- Elimination of contracted services for hydraulic model updates (these will be done in-house).
- Grouting of pipe joints upstream of Pumping Station 10

KEY RESULT INITIATIVES

LEED Platinum Maintenance Facility

2016 Goal
Construct a sustainable building that met District needs and was user-friendly, environmentally sensitive, and cost effective, all with an eye on achieving LEED Platinum status.

2016 Progress Update
Construction of the Maintenance Facility was completed in early 2016 and staff moved into the facility in May. In August of 2016, the District received confirmation that the facility had achieved the LEED Platinum goal. Per LEED requirements, a “green tour” has been developed and will be incorporated on a routine basis moving forward.

2017 Goal
Host a ribbon-cutting ceremony in early 2017 and begin green tours for the community and other interested parties.

2017 Measures
- Host an event that showcases the LEED facility
- Launch of green tours at the Maintenance Facility
External Support and Engagement

2016 Goal
Host annual planning meetings with each of the District’s major customer communities.

The goal is to engage major customers and to discuss topics of mutual interest. These include pollution prevention/source reduction, chloride and I/I reduction initiatives, MMSD annexation and connection charge procedures, utility/project coordination, etc. The ultimate goal is to continue to build trust in each other, establish relationships, provide clear expectations, and ensure there are no “surprises”.

2016 Progress Update
Over the past two years, customer meetings have been held with all Cities (quantity of 5), five Villages, and two Towns. Since interaction with the City of Madison is extensive, meetings have been held annually. Interaction with smaller Cities, Villages and Towns is less extensive, so meetings are typically held every two years or so.

2017 Goal
Annual meetings with the City of Madison will continue. Meetings with smaller Cities, Villages and Towns will be evaluated on an as-needed basis. These may be replaced with newsletters or other methods of engagement.

2017 Measures
- Planning meeting held with the City of Madison
- Planning meeting held with remaining municipal customers and/or a newsletter or other method of engagement
Connection Charge Rate Study

2016 Goal
Form the District’s first Technical Subcommittee of customer communities and work with the Subcommittee to advise the District on how to implement new connection charge procedures, policies and guidelines.

The goal of the study is to improve the current system in a manner that is fair, equitable, easily administered, understandable, and consistent for MMSD’s customers and Staff. This includes recovering full costs, dealing with customer confusions, addressing delinquent areas, improving administrative issues, addressing open space concerns, etc.

2016 Progress Update
A technical subcommittee consisting of members from five District municipal customers was formed in early 2016 and meetings have been held approximately monthly. Issues with connection charges are being defined and recommendations are being developed.

2017 Goal
Work is expected to continue throughout 2016 and 2017, with development of new policies and procedures related to connection charges (this will require the assistance of external legal and rate-setting services). The Commission will be engaged at key points to review recommendations and determine policy.

2017 Measures
• Commission engagement on this topic (background, etc.)
• Development of recommendations from the Technical Subcommittee
• Direction from the Commission on recommendations
• Development of policies, procedures, guidelines, etc.
Planning & Strategy

6 FTES

To build sustainable pathways for the District and its stakeholders so that responsible, financially sound decisions are made that protect public health and the environment.

KEY RESULT INDICATORS

% OF INCREASE IN DEBT SERVICE IN SERVICE CHARGE RATES GENERALLY TRACKS 6-YEAR PROJECTIONS

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>YES</th>
<th>2017</th>
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APPLY MONETIZED TRIPLE-BOTTOM-LINE ANALYSIS DURING FACILITY AND/OR PROJECT PLANNING ANNUALLY TO IMPROVE THE DECISION-MAKING PROCESS

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>YES</th>
<th>2017</th>
<th>NO</th>
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</table>

PERFORM ANNUAL AUDIT ON CAPACITY, MANAGEMENT, OPERATION AND MAINTENANCE (CMOM DOCUMENT)

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>YES</th>
<th>2017</th>
<th>NO</th>
</tr>
</thead>
</table>
DEPARTMENT TRENDS

- The Sustainable Infrastructure Program will be an increasing part of the District’s planning process to ensure that assets are being managed to deliver the desired level of service at the lowest life cycle cost.
- Climate change and resource scarcity will require a different look at infrastructure planning. More flexibility and resiliency will need to be incorporated into future designs.
- While improvements to infrastructure will still be a critical part of planning, solutions that do not involve infrastructure will become more important. These solutions include behavior change and education to users of the public sewer system.
- The capabilities and uses for Geographic Information Systems (GIS) are increasing at a significant rate. The District’s GIS capabilities will need to be expanded to support the Sustainable Infrastructure Program, other District departments, and to better collaborate with other organizations.
- The District’s customer communities have requested greater transparency regarding the status of paid and unpaid areas for connection charges. Innovative solutions, such as providing on-line mapping, will be needed to satisfy this demand.
- Growth of the collection system will require additional sampling and monitoring points for sewer service charge billing. In order to control program costs and improve worker safety, new methods for sampling and monitoring will be needed that require fewer confined space entries and less staff time.

BUDGET SUMMARY

2016 ADOPTED BUDGET | TOTAL: $581,189

2017 BUDGET | TOTAL: $922,423

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<th>2016 Adopted Budget</th>
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<td>(800)</td>
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<td>CONTRACT SERVICES</td>
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<td>MATERIAL, SUPPLIES AND MISC.</td>
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<td>2,050</td>
<td>-500</td>
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<tr>
<td>TRANSFER TO CAPITAL PROJECTS</td>
<td>-</td>
<td>172,000</td>
<td>172,000</td>
</tr>
</tbody>
</table>

58.71% change from 2016 budget (+ $341,234)

Personnel Services: 9.47%
Asset Addition, Repair and Replacement: -38.10%
Contract Services: 622.69%
Material, Supplies & Misc.: -19.61%
Transfer to Capital Projects: NMF
DEPARTMENT UPDATE

The Planning and Strategy Department is the latest department to budget separately in 2017. Prior to this, the Department was combined under Engineering and O&M Department budgets. The Planning and Strategy Department includes six full-time employees; the Director of Planning and Strategy, the Sustainable Infrastructure Manager, Asset Information Specialist, the Capital Planning Engineer, the Engineering Technician, and the GIS Technician. The team’s purpose is to build sustainable pathways for the District and its stakeholders so that responsible, financially sound decisions are made that protect public health and the environment. To separate the Planning & Strategy Department from other Departments during the 2017 budget process, five staff positions from Engineering and one staff position from Operations and Maintenance were moved to the P&S department.

Members from the Engineering and Planning and Strategy Departments worked closely during the 2017 budget process to divide 2016 budget items (which were included entirely in the Engineering Department 2016 budget) between the two departments. After the 2016 budget items were divided, the Planning and Strategy department developed its own 2017 budget. To highlight the changes between the 2016 and 2017 budget, please see the below summary of changes.

CHANGES TO THE BUDGET

Personnel Services

As shown on the Department Dashboard, Personnel Services budgeted for the Planning and Strategy Department is expected to increase by 9.47% from 2016 to 2017. This is due to the following:

- The 2016 budget included a total of five full-time employees for the Department. The 2017 budget includes a total of six full-time employees and a part-time intern. The extra full-time employee is for the Asset Information Specialist position, whose salary and benefits were budgeted for in the Operations and Maintenance Department in the 2016 budget
- A combination of market and progression salary increases projected for 2016
- Increased health insurance and fringe benefit costs

Asset Addition, Repair, and Replacement

Budgeted amounts in this category decreased from $2,100 in 2016 to $1,300 in 2017 (-38%). The decreased amount of $800 is due to the fact that the GT Viewer software for GIS that was budgeted for in 2016 is now free starting in 2017.
Contracted Services

Budgeted amounts in this category increased significantly from $18,910 in 2016 to $136,600 in 2017. This increase of $117,750 is due primarily to the following:

- Dane County Aerial Photography ($10,000). The District routinely contributes to the “Fly Dane” mapping project that occurs every three to five years. The imagery obtained from these projects is used extensively by the Planning and Strategy and Engineering departments, as well as other departments throughout the District.
- CARPC Analysis of Net Developable Areas ($10,000). The Capital Area Regional Planning Commission will use GIS to study historical trends in the amount of net developable area that can be assessed connection charges under District policy. The information obtained from this study will be used to help finalize the Connection Charge Rate Study.
- GIS Implementation Project ($100,000). This project was included in the recommendations from the Information Technology Strategic Plan which was completed in 2016. This plan recommends converting the District’s GIS application from Geomedia to ESRI at an estimated total project cost of $200,000. The costs to make the conversion and move the data from Geomedia to the ESRI platform are budgeted at $100,000 in the 2017 budget, with plans to include another $100,000 in the 2018 budget.

Materials, Supplies, and Miscellaneous

Budgeted amounts in this category decreased slightly from $2,550 in 2016 to $2,050 in 2017. The difference of $500 results from the transfer of cell phones from the Planning and Strategy budget to the Information Technology budget in 2017.

The Planning and Strategy Department recognizes the following Key Result Initiatives as current initiatives that are aligned directly with the strategic priorities of the District (see strategic pillars document). While this work is important, it should be noted that there are many routine functions that are carried-out by the Department in addition to these initiatives and goals.

Transfers to Capital Project Fund

This category includes a one-time transfer of $172,000 in cash reserves from the Operating Fund to the Capital Projects Fund in 2017. There was no corresponding amount budgeted in this category in 2016.

KEY RESULT INITIATIVES

Sustainable Infrastructure Program

2016 Goal

The District will complete its Plant Asset Management Plan and other major Sustainable Infrastructure Management (SiM) Implementation Plan projects by the end of 2017.

2016 Progress Update

A number of different projects were initiated in 2016, and a summary of the progress made is summarized as follows:

- **Identify/solidify Levels of Service**
  Levels of service principles have been incorporated into the Liquid Process Facility Plan with regard to peak flow management at the treatment plant. Applying level of service criteria to the various alternatives to be considered will result in the best long-term solution that meets regulatory requirements and the needs of the District’s customers. More work is needed to fully develop and implement the District’s Level of Service Framework across the organization.

- **Create Business Risk Exposure Framework and Risk Register**
  Completed the aggregation of ten years’ worth of sewer pipe condition assessments into a comprehensive database and a GIS-based analysis of locational risk characteristics of our collection system. The District will now rank the risks and develop a risk register which will be used to support the update of the Collection System Facilities Plan.

- **Develop a Decision Support System and select related “tools”, such as software**
  Developed initial requirements for an Asset Management Decision Support System to support the development of the IT Strategic Plan.
• **Develop a Plant Asset Management Plan**
  Developed a condition assessment approach, categorized all District assets and customized assessment templates for all plant assets. The approach and templates were applied in the Liquid Process Facility Plan, building an initial foundation for the Plant Asset Management Plan.
  
• **Improve the Business Case Evaluation Process**
  Reviewed several Triple-Bottom-Line (TBL - social, economic and environmental) cost/benefit tools and developed an approach to pilot a monetized TBL for a District project. The benefits of monetized TBL accounting include added transparency and easier comparisons among inherently different projects. The pilot project will consider various options of using the District’s biogas. Completion is anticipated by the end of 2016.
  
• **Improve The District’s Asset Information and Tracking Systems**
  Continued to discover and then address data quality issues. As an example, pump runtimes are now available that will allow maintenance activities to be better targeted. Completed the requirements, specifications and overall design of the manhole inspection database and collection tool and obtained a software package that meets District needs. The District is now in a position to systematically update critical information about the physical characteristics and condition of our manholes during regularly scheduled inspections. Data collection over the next five years will result in having an up-to-date, accurate and reliable database that will allow staff to better target and track maintenance activities and plan for rehabilitations or replacements.

**2017 Goal**
The District will continue to implement the Sustainable Infrastructure Management Framework. The next implementation phase will be completed in 2017.

**2017 Measures**
• Asset condition assessment approach: Configuration in work and asset management system (OWAM) completed
• Inspection collection tool: Design and test completed
• Plant Asset Management Plan: Pilot plan completed
• Plant Asset Management Plan Request for Proposals: Complete development of RFP
• Internal asset management training: Introductory series completed
• Improve positional accuracy of force mains in GIS: Begin planning and design

Many of the key initiatives for the Sustainable Infrastructure Management Framework are outlined in GHD’s report for MMSD entitled “Final Sustainable Asset Management Framework- Implementation Plan” (August 2015). This report, prepared in collaboration with District staff, creates a roadmap to follow for the implementation of sustainable asset management practices throughout the organization. A key feature of GHD’s report is the preparation of asset management plans for the collection system and the treatment plant. Asset management plans for the collection system were prepared by District staff in 2002 and 2011 and another update is scheduled for 2018. While some preliminary work has been done on an asset management plan for the treatment plant in the last ten years, a more thorough study and plan is needed.

Given the number, complexity and connectivity of assets at the treatment plant relative to the collection system, it is envisioned that the development of a complete Plant Asset Management Plan will be completed in increments, as follows:
• Complete condition assessments and estimate remaining useful life and replacement costs for assets related to the Liquid Process Facility Plan in 2016.
• Conduct a pilot Plant Asset Management Plan in 2017. The goal is to study in detail the information that should be collected, how it will be evaluated, and how decisions will be made with regard to future maintenance or rehabilitation projects before expanding the Plan to full scale.

• Prepare a Request for Proposals to retain a consultant for the Plant Asset Management Plan in 2017. The consultant will likely be used to conduct the aforementioned pilot plan and to take the results from that plan and expand it to full scale.

Another key initiative for the 2017 Sustainable Infrastructure Management Framework is to improve the positional accuracy of force mains in the District’s Geographic Information System. The District’s force mains are critical assets and must be located with great accuracy to avoid damage from underground utility construction or other activities. With the rapid development of technologies in trenchless construction the District is seeing more and more utilities being installed by these methods near force mains. Unlike gravity sewers, force mains have very few structures at or near the ground surface which can be used to locate them.

This initiative aims to use new technologies to map force mains from the ground surface and record that information in the GIS system for future use.

Liquid Process Facility Plan

2016 Goal
Complete a Facility Plan for the Treatment Plant Liquid Process.

Increased pumping capacity in the District’s collection system requires that the hydraulic capacity of the treatment plant be examined in detail to ensure that peak flows can be safely passed through the plant. A number of different individual systems and processes must be considered in the evaluation of peak capacity improvements, including Headworks, the aeration system and the ultraviolet disinfection system, among others. This integrated analysis will help to determine whether peak flows can be routed through the treatment plant or whether diversion and storage facilities will be needed. The recommendations from this Plan will be a series of individual projects or one larger project that considers and accounts for all of the potential interactions amongst the different systems.

2016 Progress Update
In February of 2016 the District retained Strand Associates to prepare the Liquid Process Facility Plan at a cost of approximately $615,000. As of August 1, 2016 the total contract amount, including project amendments, is approximately $663,000 and the District has paid the consultant approximately $285,000 of this amount. The Plan is on schedule for completion by the end of April 2017.

2017 Goal
Complete a Facility Plan for the Treatment Plant Liquid Process.

2017 Measures
• Facility Plan fully completed and delivered
• Recommendations and preliminary cost estimates for future projects available for inclusion in the 2018 Capital Improvements Plan
• Framework developed for Plant Asset Management Plan
The 2017 Draft Capital Improvements Plan provides for total expenditures of up to $26 million for projects related to the Liquid Process Facility Plan for the time period from 2017 through 2021. A key aspect and deliverable of the Facility Plan will be the identification and prioritization of projects that are necessary for construction within the next five to six year period. This work, along with associated cost estimates, will be crucial elements for use in development of the District’s annual Capital Improvements Plan for the foreseeable future.

A key component of the Facility Plan is work regarding Asset Management. The scope of work for the consultant includes the performance of condition assessments for equipment and instrumentation which is associated with the various systems that are part of the study. Estimates of remaining useful life and replacement costs for the equipment will be provided as part of the condition assessments. This work will develop the framework for the District’s Plant Asset Management Plan, which will be fully developed in future years.

**User Charge Billing System**

**2016 Goal**
Minimize safety concerns in the Monitoring Services sampling program.

**2016 Progress Update**
Quarterly sewer service charge bills are based on flow monitoring and sampling data that is acquired by making frequent entries into confined spaces in the collection system. Beginning in 2015 different technologies were investigated that would allow for the same type of data to be collected but would not require as many confined space entries. These technologies, including flow inserts and laser flow meters, can be installed in the flow and operated from the ground surface. Nine laser meters and nine flow inserts were purchased in 2015 at a total cost of approximately $146,000 and the Monitoring Services crew has received training in their use.

Before the new flow monitoring equipment can be used in the User Charge program the data obtained from it needs to be evaluated relative to the existing data obtained from the equipment that is currently used to ensure its accuracy and integrity. In 2016, comparisons between the new equipment and existing equipment will be made for approximately half of the 70 monitoring points in the collection system. Depending on staff availability it is expected that all comparisons can be completed by the end of the second quarter of 2017. Once all testing and analysis is complete, the District will engage in a dialogue with its customers to review impacts, options and next steps.

**2017 Goal**
Complete testing of new flow monitoring equipment and begin to incorporate equipment into User Charge Program.
2017 Measures

• Comparisons completed between data from new flow metering equipment and existing equipment
• Identify locations where new sampling manholes will be required to facilitate use of new flow monitoring equipment
• Engage customers to explain operation of new flow metering equipment

For each monitoring location the data obtained from the new flow metering equipment needs to be compared to the data obtained from the existing equipment to ensure that it is reliable and accurate. It is anticipated that the new flow metering equipment may not be able to be installed at each monitoring point in the collection system due to hydraulic issues. In these instances a new sampling location may be needed or an adjustment in the billing formula may be required to facilitate use of the equipment. In some instances it may be necessary to maintain use of the existing equipment.

Assuming sufficient availability of the Monitoring Services and Planning and Strategy staff, it is expected that comparisons of the new and existing equipment can be completed for all monitoring points by the end of the second quarter in 2017. Soon thereafter the District will engage its customer communities to explain the operation of the new equipment, the results of the comparison testing and the plans to implement the new flow metering equipment in the User Charge Program in 2018.
The employees of the Operations and Maintenance Department protect human health and the environment by ensuring that all wastewater generated in the District’s service area is safely conveyed to the Nine Springs Wastewater Treatment plant where they recover the resources of clean water, biosolids, biogas, and phosphorus fertilizer.

### KEY RESULT INDICATORS

<table>
<thead>
<tr>
<th>Category</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wastewater Permit Violations</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Tons of Struvite Produced</td>
<td>1.3</td>
<td>1.5</td>
</tr>
<tr>
<td>Purchased Electricity per Gallon Treated</td>
<td>1660</td>
<td>1600</td>
</tr>
</tbody>
</table>
BUDGET SUMMARY

2016 ADOPTED BUDGET | TOTAL: $11,739,657

2017 BUDGET | TOTAL: $11,549,651

-1.62% change from 2016 budget (- $190,006)

Personnel Services: -3.17%
Asset Addition, Repair and Replacement: -4.57%
Contract Services: -5.33%
Energy: 2.02%
Material, Supplies & Misc.: -0.53%

DEPARTMENT TRENDS

- Workload issues will continue to be a concern. Facilities added with the 11th Addition, especially struvite harvesting, are demanding a significant amount of operator attention and maintenance activities. Due to the interaction between new facilities and previously existing processes, staff has to be cognizant of how changes in one process can affect other processes and equipment. It is also expected that the Liquid Processes Facility Plan will require a substantial amount of meeting and review time by department managers and supervisors in 2017.

- Development of the asset management program involved substantial time from department supervisors in 2016. As the program continues to expand into condition assessment of equipment, the need for craftsmen to become involved in the process is expected to increase.

- Resource recovery will continue to be essential to the operation of the District. Efforts will continue to increase the amount of struvite produced and to find additional ways to reuse the treated water.

- The District will continue to look into ways to reduce purchased energy. This may involve working with utility partners on green energy projects. The District will need to be ready to respond quickly to potential projects to take advantage of collaborative opportunities.

<table>
<thead>
<tr>
<th>Department</th>
<th>2016 Adopted Budget</th>
<th>2017 Budget</th>
<th>Change from 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel Services</td>
<td>5,378,147</td>
<td>5,207,731</td>
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<tr>
<td>Asset Addition, Repair and Replacement</td>
<td>1,093,750</td>
<td>1,043,815</td>
<td>-49,935</td>
</tr>
<tr>
<td>Contract Services</td>
<td>545,930</td>
<td>516,840</td>
<td>-29,090</td>
</tr>
<tr>
<td>Energy</td>
<td>3,313,605</td>
<td>3,380,450</td>
<td>66,845</td>
</tr>
<tr>
<td>Material, Supplies and Misc.</td>
<td>1,408,225</td>
<td>1,400,815</td>
<td>-7,410</td>
</tr>
</tbody>
</table>
DEPARTMENT UPDATE

In 2016, a District-wide reorganization took place that changed the face of Operations and Maintenance. The Metrogro Department shifted to Ecosystem Services, the Purchasing Department moved to the Administration Department and the Asset Information Specialist (AIS) became a member of the newly formed Planning and Strategy Department. With these changes in place, the Operations and Maintenance Department has 51 remaining FTEs. Staff that make up the current O&M Department includes: Director of Operations and Maintenance, Maintenance and Reliability Manager, Operations Manager, Assistant Operations Engineer, PCS Programmer, Process and Research Engineer, Regulatory Performance and Process Engineer, Building and Grounds Supervisor and Staff (1 Custodian and 8 Maintenance Workers), Collection System Supervisor and Staff (4 Monitoring Services/Sewer Maintenance Workers), Electrical Maintenance Supervisor and Staff (8 Electricians), Mechanical Maintenance Supervisor and Staff (8 Mechanics and 1 HVAC Technician), and the Operations Supervisor and Staff (4 Twelve Hour Operators, 4 Relief Operators, and 1 Lead Operator).

Personnel changes that occurred in 2016 were made after the existing budget had been prepared in the summer of 2015; therefore, comparing personnel costs between 2016 and 2017 is difficult. While the 2016 budgeted personnel and non-personnel Metrogro costs could easily by moved, the personnel costs for the Purchasing Section and the AIS were not moved. Although the dashboard report for the Department indicates that personnel costs will be decreasing in 2017, it is inaccurate. The decrease is due to the transfer of personnel to other sections. Personnel changes that occurred in 2016 were made after the existing budget had been prepared in the summer of 2015; therefore, comparing personnel costs between 2016 and 2017 is difficult. While the 2016 budgeted personnel and non-personnel Metrogro costs could easily by moved, the personnel costs for the Purchasing Section and the AIS were not moved. Although the dashboard report for the Department indicates that personnel costs will be decreasing in 2017, it is inaccurate. The decrease is due to the transfer of personnel to other sections.

CHANGES TO THE BUDGET

Personnel

The budget for personnel services is 5.1%, higher than the 2016 budget. The increase is due to increases in base wages, adjustments due to longevity, step raises, and mid-year performance reviews. There will be no changes in the number of employees within the department in 2017. The Director of Operations and Maintenance will be retiring at the end of February 2017. A one month overlap with a replacement director has been included in the budget.

Energy

Overall energy expenses for 2016 are expected to be about $43,000 less than budgeted. Because of the failure of the oxidation catalysts on the exhaust of two engines that use digester gas as their fuel source to turn generators, the District needed to purchase more utility electricity than expected. However, the digester gas that was not used in the engines was available to replace the purchase of natural gas. It is anticipated that both of the engines will be able to be used in 2017. Because of a proposed rate increase by Madison Gas and Electric Company, the cost of energy is budgeted to increase by about 2%.

Asset Addition, Repair, and Replacement

The 2017 budget for this category is $49,935 or 4.57% less than the 2016 budgeted amount. Included in this category are major projects and purchases. A fleet replacement fund will be developed in 2017.

Contracted Services

The contracted services accounts for 2017 have an overall decrease of $29,090 or 5.33% compared to the 2016 budgeted amount. Included in this category are major projects and purchases. A fleet replacement fund will be developed in 2017. The reasons for the increase are discussed in the following section.
Materials, Supplies, and Miscellaneous
The major expense items in this category are the chemicals that are used in the treatment processes, gasoline and diesel fuels, lubricants, and water from the Madison Water Utility. The 2017 budget for these items is being decreased by $7,410 for a total budget of $1,400,815.

The Operations and Maintenance Department (O&M) works around the clock to safely convey wastewater to the treatment plant and recover valuable resources such as clean water, biosolids, biogas, and phosphorus fertilizer. While performing this work is vital to the success of the District, there are new priorities that emerge and require attention and resources. The O&M Department has recognized the following Key Result Initiatives and their corresponding goals as strategic priorities (see pg X). Below, a progress report is given on current (2016) goals in addition to 2017 goals.

KEY RESULT INITIATIVES

Address the Air Permit Regulatory Issues

2016 Goal
Obtain a new air emissions permit.

2016 Progress Update
The goal of this initiative is to have the Department of Natural Resources by the end of 2016 issue a new air emission permit which recognizes that oxidation catalysts are not a viable Best Available Control Technology for the District’s engines. The District has asked to meet with DNR to discuss this issue at their earliest convenience. If the DNR accepts that increased maintenance frequency is the BACT for formaldehyde, there would not be any additional cost to the District. This frequency of maintenance is already being performed.

The initial measurement of success will be that a permit is received by the end of the year. A secondary measure of success will be if the permit does not require oxidation catalysts. If catalysts are required, the final measure will be if they can successfully be installed within three months of receipt of the permit.

2017 Goal
Comply with a new air emission permit.

2017 Measures
- Successfully comply with the new BACT for formaldehyde removal
- Perform the necessary stack tests
- Develop automatic population of the necessary reports required by the permit

Optimize the Ostara Process

2016 Goal
Work with Ostara, Inc. to test ways to increase the production of struvite.

2016 Progress Update
During 2016, the District’s operations engineers and operators have been working with representatives of Ostara to test various process modifications to increase production. Among other initiatives, this has included changing the manner in which flow streams are combined, changing the amount of inventory being stored in the reactors, changing the size of the seed material, and reducing the amount of fines in the feedstock by using a dissolved air flotation thickener. Recently the rate of production has increased significantly.

2017 Goal
By mid-2017 increase the rate of recovery of struvite to the levels expected at the time the process was designed.

2017 Measures
- Increase the production of struvite to two tons per day
- Keep production high while removing the pretreatment dissolved air flotation system

Determine the Viability of Working with the City Of Madison on a Digestion Process For Source Separated Organics

2016 Goal
Begin discussions with the City of Madison to determine how their interests and the District’s interests can be addressed.
2016 Progress Update
The City of Madison is interested in using the organic material that is in their municipal refuse to serve as fuel for an anaerobic digestion process. The City representatives are interested in working with the District because the District has digesters as well as land near the treatment plant that could be used for additional digesters. The District also has the need for a significant amount of electrical energy. The biogas produced in a digester could be used to fuel engines which could turn generators to supply this energy. A few preliminary meetings have been held with City representatives. By the end of 2016 the City and District representatives should develop a clear plan of how the determination of benefits and concerns will be addressed.

2017 Goal
The goal of working with the City of Madison is to determine by mid-2017 if there are economic, environmental, and social issues that could benefit from a partnership with the City on this project.

2017 Measures
- By the end of the first quarter of 2017 the working group should identify the Strengths, Weaknesses, Opportunities, and Threats of potential projects
- By July 2017 the working group should have a decision on whether the project will more forward, and if so, what the next steps will be

Strive For Energy Independence

2016 Goal
Determine the high strength waste materials that may be available locally for energy generation.

2016 Progress Update
Meeting the goal of energy independence will require that the District generate additional energy. During 2016, the District investigated the potential for some high strength wastes to increase gas production. An out-of-specification honey was tested. Because of its high viscosity existing pumps were not able to pump it. A survey of potential sources of high strength waste was conducted by an intern. That survey showed that there are several producers of high strength waste who would be interested in working with the District on acceptance of that material. Due to problems with the oxidation catalysts, one of the engines was not operated since the second quarter of the year. Most of the gas that would normally be used as fuel for that engine had to be flared. Since there was no way to use additional gas that may be produced by a high strength waste, no subsequent tests were performed with any high strength waste.

2017 Goal
Contact the companies that responded positively to the 2016 high strength waste survey.

2017 Measures
- Test the off-spec honey material as a feed source for the digesters
- Determine how much energy could be generated from the City of Madison Source Separated Organics program
- Test some of the material from the companies that responded to the survey
In this section, you will find project summaries. These summaries are intended to give a broad overview of the project, including general location, scope of work, history, schedule, and a summary of cost.

On our District website (madsewer.org) underneath Planning- Budget & Finance, you will find more detailed information on the project business cases. Project business cases provide justification for each project by including more detail than the project summary sheet and also incorporates additional information such as an analysis of alternatives, a life cycle cost estimate, and an allocation of annual costs.
Plant Energy Projects

START DATE: Present
COMPLETION DATE: 2022

<table>
<thead>
<tr>
<th>PROJECT TYPE</th>
<th>Energy related projects – use reduction/generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOCATION</td>
<td>Nine Springs Wastewater Treatment Plant</td>
</tr>
<tr>
<td>DESCRIPTION</td>
<td>These projects address items identified during the 2013 Energy Study relating to the Plant’s generation systems, and process improvements or equipment replacements that reduce Plant energy use/purchase. Cost estimates and project details will be presented as their scopes are developed. At this time, we anticipate further study of the best options for digester gas, and the availability and use of high strength wastes and sources separated organics as feed sources. Presently uncertain, the schedule assumes planning, design, and construction phases for major improvements.</td>
</tr>
</tbody>
</table>

BACKGROUND
The 2013 Energy Study provided a long-term energy road map for the District to reduce its energy consumption and increase its energy production. The intent of this item is to address plant projects identified in the energy road map. Please note that energy is an ongoing consideration in this and all MMSD projects, and this project does not cover all items in the roadmap. Projects already funded include replacement of aeration mixers and lighting with more efficient units. Staff anticipates larger project funding through the Clean Water Fund Program while smaller project funding will be from Capital Fund reserves.

<table>
<thead>
<tr>
<th>2017 EXPENDITURE ($2016)</th>
<th>$106,000</th>
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<tbody>
<tr>
<td>2017-2022 CIP ($2016)</td>
<td>$10.5 MILLION</td>
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<tr>
<td>TOTAL COST:</td>
<td>$12,500,000</td>
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</table>
### 2016 Liquid Processing Facilities Plan

**CIP ID#: A02**

**START DATE:** 2016  
**COMPLETION DATE:** Spring 2017

<table>
<thead>
<tr>
<th>PROJECT TYPE</th>
<th>Facilities Planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOCATION</td>
<td>Nine Springs Wastewater Treatment Plant</td>
</tr>
<tr>
<td>DESCRIPTION</td>
<td>This facilities plan will investigate the condition, reliability, and efficiency of the District’s aeration systems and the peak capacity of the Plant’s liquid train including the Headworks Facility, primary tanks, aeration systems, ultraviolet disinfection (UV) system, and effluent systems. Additionally, the plan will assess the condition of the District’s Headworks Facilities, UV Systems, and portions of the Plant’s electrical system.</td>
</tr>
<tr>
<td>BACKGROUND</td>
<td>Increased collection system pumping capacity requires a closer examination of the Plant’s hydraulic capacity while aging infrastructure provides an opportunity to review those Plant systems approaching end of life. Hydraulics key role in the efficiency and long-term health of the Plant requires a capacity review of the overall Plant and each system to help determine if all flows can be directed through the Plant or if diversion and storage are needed. Integrated analysis of all related systems will help ensure that all project interactions are considered and that future design and construction are coordinated.</td>
</tr>
</tbody>
</table>

### FINANCIAL ANALYSIS

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td></td>
<td>$103,000</td>
<td>$103,000</td>
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</table>

**TOTAL COST: $977,000**
CIP ID# A03

Liquid Processing Improvements

START DATE: June, 2016
COMPLETION DATE: August, 2020

<table>
<thead>
<tr>
<th>PROJECT TYPE</th>
<th>Plant Improvements</th>
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</thead>
<tbody>
<tr>
<td>LOCATION</td>
<td>Nine Springs Wastewater Treatment Plant</td>
</tr>
<tr>
<td>DESCRIPTION</td>
<td>This item provides an allowance for projects related to the 2016 Liquid Processing Facilities Plan (A02). Anticipated areas addressed in the facilities plan include the following: Plant Aeration Systems Projects (A03a), Plant Unit Substation Improvements (A03b), Plant Peak Capacity Improvements (A03c), Headworks Facility Rehab Project (A03d), and UV Disinfection System Rehab/Replacement (A03e). Further details are described in the individual summaries that follow for these separate items.</td>
</tr>
<tr>
<td>BACKGROUND</td>
<td>Staff anticipates that the 2016 Liquid Processing Facilities Plan will be completed by mid-year 2017 and that the results of that planning effort will include a schedule to address the items described above. Staff also anticipates that design related to addressing one or more of these items will begin at that time. Funding for these projects is anticipated through the Clean Water Fund Program.</td>
</tr>
</tbody>
</table>

FINANCIAL ANALYSIS

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$504,000</td>
<td>$23,300,000</td>
</tr>
</tbody>
</table>

TOTAL COST: $26,000,000
Aeration Systems Project

PROJECT TYPE: Plant improvements – Aeration Systems

LOCATION: Nine Springs Wastewater Treatment Plant

DESCRIPTION: This item provides an allowance for projects related to the Plant’s Aeration Systems resulting from the 2016 Liquid Processing Facilities Plan (A02). It is one of the Liquid Processing Improvements.

BACKGROUND: The purpose of this project is to address issues related to efficiency, replacement, and operations and maintenance of the secondary treatment system aeration-related equipment including blowers, diffusers, control systems, electrical systems, dissolved oxygen probes, and transmitters. Staff anticipates that the 2016 Liquid Processing Facilities Plan will be completed by mid-year 2017 and that the results of that planning effort will include a schedule to address the items described above.

FINANCIAL ANALYSIS

<table>
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<tbody>
<tr>
<td>$193,000</td>
<td>$8,500,000</td>
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</table>

TOTAL COST: $8,500,000
START DATE: mid-2017
COMPLETION DATE: 2021

PROJECT TYPE: Plant Improvements - Electrical Substations

LOCATION: Nine Springs Wastewater Treatment Plants

DESCRIPTION: This item provides an allowance for projects related to the Plant’s Electrical Substations resulting from the 2016 Liquid Processing Facilities Plan (A02). It is one of the Liquid Processing Improvements.

BACKGROUND: The purpose of this project is to retire three of the Plant’s unit substations and re-power the Plant loads supplied from them. Staff anticipates that the 2016 Liquid Processing Facilities Plan will be completed by mid-year 2017 and that the results of that planning effort will include a schedule to address the items described above.

FINANCIAL ANALYSIS

<table>
<thead>
<tr>
<th>2017 EXPENDITURE</th>
<th>2017-2022 CIP</th>
<th>TOTAL COST:</th>
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</thead>
<tbody>
<tr>
<td>($2016) $56,000</td>
<td>($2016) $2,600,000</td>
<td>$2,600,000</td>
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</tbody>
</table>
Plant Peak Capacity Improvements

START DATE:
mid-2017
COMPLETION DATE:
2018

PROJECT TYPE
Plant improvements – Peak Capacity

LOCATION
Nine Springs Wastewater Treatment Plant

DESCRIPTION
This item provides an allowance for projects to address the Plant’s peak capacity resulting from the 2016 Liquid Processing Facilities Plan (A02). It is one of the Liquid Processing Improvements.

BACKGROUND
The purpose of this project is to ensure that the Plant’s hydraulic capacity is capable of managing peak flow events. Staff anticipates that the 2016 Liquid Processing Facilities Plan will be completed by mid-year 2017 and that the results of that planning effort will include a schedule to address the items described above.

FINANCIAL ANALYSIS

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<th></th>
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</thead>
<tbody>
<tr>
<td>$70,000</td>
<td>$3,900,000</td>
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</table>
Headworks Rehab Project

CIP ID# A03d

PROJECT TYPE: Plant Improvements - Headworks Facility

LOCATION: Nine Springs Wastewater Treatment Plant

DESCRIPTION: This item provides an allowance for projects to address the Headworks Facility resulting from the 2016 Liquid Processing Facilities Plan (A02). It is one of the Liquid Processing Improvements.

BACKGROUND: The purpose of this project is to ensure that the condition and capacity of the Headworks Facility is adequate to address Plant flows and loadings. Staff anticipates that the 2016 Liquid Processing Facilities Plan will be completed by mid-year 2017 and that the results of that planning effort will include a schedule to address the items described above.

FINANCIAL ANALYSIS

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<tbody>
<tr>
<td>$80,000</td>
<td>$3,500,000</td>
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</table>

TOTAL COST: $3,500,000
## UV System Rehab/Replacement

**CIP ID#** A03e

### Project Information

- **Start Date:** mid-2017
- **Completion Date:** 2021

### Project Details

<table>
<thead>
<tr>
<th><strong>Project Type</strong></th>
<th>Plant improvements – UV System</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td>Nine Springs Wastewater Treatment Plant</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>This item provides an allowance for projects to address the UV System resulting from the 2016 Liquid Processing Facilities Plan (A02). It is one of the Liquid Processing Improvements.</td>
</tr>
<tr>
<td><strong>Background</strong></td>
<td>The purpose of this project is to ensure that the condition and capacity of the UV System is adequate to address Plant flows and loadings. The UV System, installed in the 1990s is obsolete and in need of major rehab or replacement. Staff anticipates that the 2016 Liquid Processing Facilities Plan will be completed by mid-year 2017 and that the results of that planning effort will include a schedule to address the items described above.</td>
</tr>
</tbody>
</table>

### Financial Analysis

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>$106,000</td>
<td>$4,700,000</td>
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</tbody>
</table>

**Total Cost:** $4,700,000
## PROJECT TYPE
Plant improvements – Struvite Harvesting/W4 System

## LOCATION
Nine Springs Wastewater Treatment Plant

## DESCRIPTION
This item provides an allowance for projects to address issues with the Struvite Harvesting System and the W4 System in the Struvite Harvesting Facility. Both systems have experienced operational problems since their installation during the Plant’s Eleventh Addition.

## BACKGROUND
The District’s Struvite Harvesting Facility recovers valuable phosphorous resources and helps protect Dane County’s waterways by reducing like amounts in the District’s biosolids. These funds provide a placeholder for improvements to the District’s Struvite Harvesting Facility and the W4 (effluent reuse) System within the new facility. Although most of the specific improvements remain unidentified, it’s clear that additional improvements will be required to optimize the new facility’s systems. Smaller allowances have been included in the near term to address imminent concerns with larger funding requirements included later – presently shown in year 2020. The plan is to fund smaller projects from reserves as possible while potentially funding any resulting larger projects with a Clean Water Fund loan.

## FINANCIAL ANALYSIS

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>2017</td>
<td>$206,000</td>
<td>$3,000,000</td>
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</tbody>
</table>

**TOTAL COST:** $3,500,000
Project Type: Plant improvements – Biosolids End Use

Location: Nine Springs Wastewater Treatment Plant

Description: The purpose of this project is to provide an expanded facility for storage, mixing, and distribution of a Class A biosolids product. This project will only be done if a market for a Class A biosolids product exists and it can be produced in a competitive manner.

Background: MMSD has been pursuing development of a Class A biosolids product to diversify its biosolids reuse program. The product, termed Metromix, will use dewatered biosolids (roughly 20%+ solids) as its base with additives to produce a nutrient-rich soil amendment. Process modifications installed during the Eleventh Addition to the Plant allowed production of Class A biosolids through a batch anaerobic digestion process meeting EPA time/temperature requirements. Staff anticipates that about 20% of these biosolids will eventually be dewatered using a centrifuge and made available for reuse. Dependent upon cost and demand for the product, the District may need to provide additional storage. Funding would be through use of the Clean Water Fund Loan program.

Financial Analysis:

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>$0</td>
<td>$1,900,000</td>
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</tbody>
</table>
**PROJECT TYPE**  
Plant improvements – Miscellaneous Capital Improvements

**LOCATION**  
Nine Springs Wastewater Treatment Plant

**DESCRIPTION**  
This summary covers three areas:  
(A06) Annual Clarifier Coating ($170,000)  
(A07) Annual Pavement Improvements ($55,000)  
(A08) Minor Capital Improvements (310,000)

**BACKGROUND**  
MMSD annually includes funds in its Capital Budget for coating of its clarifier tanks and resurfacing of roads. These funds are used to protectively coat the clarifiers and restore paved areas of the Plant where necessary. In addition, other minor capital improvements are routinely necessary and funds have been included to address these improvements on an as needed basis.

**FINANCIAL ANALYSIS**

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<tbody>
<tr>
<td>$535,000</td>
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**TOTAL COST: ONGOING**
**Metrogro Applicators & Equipment**

**CIP ID# A09**

**START DATE:** Variable

**COMPLETION DATE:** Variable

<table>
<thead>
<tr>
<th>PROJECT TYPE</th>
<th>Metrogro Applicators &amp; Equipment</th>
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<tbody>
<tr>
<td>LOCATION</td>
<td>Metrogro Program</td>
</tr>
<tr>
<td>DESCRIPTION</td>
<td>Funds have been included in 2019 and 2021 to replace aging Metrogro applicators and/or equipment.</td>
</tr>
<tr>
<td>BACKGROUND</td>
<td>The District’s Metrogro program remains the backbone of the District’s biosolids reuse program. Metrogro applicators and equipment convey and apply millions of gallons of Metrogro to regional farm fields annually. Capital funds were used to purchase a used applicator in 2015 and additional applicator or other equipment purchases are anticipated in 2019 and 2021. Staff anticipates funding via Capital Fund reserves.</td>
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**FINANCIAL ANALYSIS**

| 2017 EXPENDITURE ($2016) $0 | 2017-2022 CIP ($2016) $1,100,000 | TOTAL COST: EQUIPMENT PURCHASES |
# West Interceptor – Randall Avenue to Near PS 2 (lining project)

## CIP ID#

B01

### Start Date:

2017

### Completion Date:

ongoing

### Project Type

System Rehabilitation – Conveyance System

### Location

West Interceptor – Randall Avenue/Regent Street, City of Madison

### Description

This project will correct condition defects in the West Interceptor on Randall Avenue between Dayton Street and Regent Street, on Regent Street between Randall Avenue and East Campus Mall, and along a public easement from Regent Street to near Pump Station 2. The rehabilitation will include the insertion of a cured-in-place liner in approximately 4,400 feet of existing 24” cast iron pipe. It is anticipated that a Clean Water Fund Loan will be used to finance the project.

### Background

This section of the West Interceptor was installed in 1916 and is one of the oldest facilities in the District’s collection system. After 100 years of service the cast iron sewer is suffering from moderate to severe tuberculation throughout the length of the project. Tuberculation results from the buildup of iron precipitates on the pipe surface that are caused by chemical interactions between the pipe and the wastewater. These iron precipitates decrease the inside diameter of the sewer and increase the roughness of the pipe, thereby causing a decrease in sewer capacity. If these precipitates are not removed and/or a new liner is not provided the pipe could eventually fail. The goal of this project is to remove the tuberculation with mechanical cleaning equipment and insert a new cured-in-place liner to improve the capacity of the sewer and extend its useful life.

### Financial Analysis

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**Total Cost:** $1,610,000
NSVI – Morse Pond Extension

**CIP ID#**
B02

**START DATE:**
Spring 2017

**COMPLETION DATE:**
Spring 2018

**PROJECT TYPE**
New Capacity – Conveyance System

**LOCATION**
Nine Springs Valley Interceptor – Midtown Extension
Raymond Road/CTH PD, City of Madison

**DESCRIPTION**
This project will extend the public sanitary sewerage system to provide service for new development in the cities of Madison and Verona near the intersection of County Trunk Highway PD (CTH PD) and County Trunk Highway M (CTH M). Approximately 3,200 feet of 18” sewer will be installed along Raymond Road from MMSD’s existing Nine Springs Valley Interceptor (Midtown Extension) to the southwest corner of CTH PD and CTH M. Funding for this project will come from Capital Fund reserves. Project costs will be recovered through connection charges as new users connect to the system.

**BACKGROUND**
District policy allows for the construction of District interceptors only when that interceptor shall serve at least two municipalities. The Verona Urban Service Area was amended in February of 2016 to include approximately 274 acres of land in the City of Verona’s North Neighborhood lying south of CTH PD. The new sewer is proposed to serve these lands as well as lands lying east of Raymond Road in the City of Madison. The new sewer will be installed in conjunction with the reconstruction of CTH M by the Wisconsin Department of Transportation in 2017-2018.

**FINANCIAL ANALYSIS**

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<td>$1,370,000</td>
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**TOTAL COST:** $1,435,000
CIP ID# B03

Northend Interceptor – Sherman Avenue (lining project)

START DATE: Fall 2016
COMPLETION DATE: Winter 2017

PROJECT TYPE: System Rehabilitation – Conveyance System

LOCATION: Northend Interceptor
N. Sherman Avenue, City of Madison/Village of Maple Bluff

DESCRIPTION: This project will correct condition defects in the Northend Interceptor on Sherman Avenue from Commercial Avenue to the south approximately 1,500 feet through the installation of a new cured-in-place liner within the existing pipe. This project will be funded through Capital Fund reserves.

BACKGROUND: The Northend Interceptor was constructed between 1924 and 1927. Approximately 650 feet of 10” and 830 feet of 12” clay pipe is in need of rehabilitation due to defects such as cracked pipe and ground water infiltration at pipe joints. Lining of the pipe will extend the service life of this interceptor without the need for costly and disruptive excavation on Sherman Avenue.

FINANCIAL ANALYSIS

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TOTAL COST: $165,000
Lower Badger Mill Creek Interceptor – Phase 4

**CIP ID#**
B04

**START DATE:**
Summer 2017

**COMPLETION DATE**
Winter 2017

**PROJECT TYPE**
New Capacity – Conveyance System

**LOCATION**
Lower Badger Mill Creek Interceptor | Hubble Road to CTH PD, City of Verona

**DESCRIPTION**
This project will extend the District’s Lower Badger Mill Creek Interceptor in the City of Verona to provide service for new development in the vicinity of County Trunk Highway PD (CTH PD) and Shady Oak Lane. Approximately 3,800 feet of 30” sewer will be installed from the Epic Campus to the north to CTH PD. This project will be funded through Capital Fund reserves. Project costs will be recovered from connection charges from new users upon connection to the interceptor improvements.

**BACKGROUND**
District policy allows for the construction of District interceptors only when that interceptor shall serve at least two municipalities. Sanitary sewer service options for the Lower Badger Mill Creek drainage basin were studied by District staff in 2005. At that time it was decided that a regional interceptor sewer would be constructed in several phases as development needs dictated in order to serve the cities of Verona and Madison and the towns of Verona and Middleton.

Phase 1 of the interceptor was built in 2006 from the District’s Pump Station 17 to Edwards Street; Phase 2 was constructed in 2008 from Edwards Street to Cross County Road on the Epic Campus; and Phase 3 extended the interceptor 900 feet north of Cross Country Road. Phase 4 of the interceptor extension is needed to serve new development in the vicinity of CTH PD and Shady Oak Lane and its construction will be closely coordinated with roadway improvements to the Epic Campus in 2017.

**FINANCIAL ANALYSIS**

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<tr>
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<th>2017-2022 CIP ($2016) $940,000</th>
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**TOTAL COST:** $980,000
CIP ID# B05

NEI – Truax Extension Rehab (lining project)

START DATE:
Spring 2018

COMPLETION DATE:
Winter 2018

<table>
<thead>
<tr>
<th>PROJECT TYPE</th>
<th>System Rehabilitation – Conveyance System</th>
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</thead>
<tbody>
<tr>
<td>LOCATION</td>
<td>Northeast Interceptor – Truax Extension</td>
</tr>
<tr>
<td></td>
<td>USH 51, Rieder Road to Lien Road, City of Madison</td>
</tr>
<tr>
<td>DESCRIPTION</td>
<td>This project will correct condition defects in the Northeast Interceptor between Lien Road and the end of the Pump Station 13 force main at Rieder Road. Approximately 11,000 feet of existing 48” concrete pipe will be rehabilitated through the installation of a new cured-in-place liner within the existing pipe. It is anticipated that the project will be financed through a Clean Water Fund loan.</td>
</tr>
<tr>
<td>BACKGROUND</td>
<td>This section of the Northeast Interceptor was installed in 1969 and suffers from internal corrosion due to the presence of elevated levels of hydrogen sulfide in the wastewater. Approximately one-half of the Northeast Interceptor System between Pump Station 18 and Pump Station 14 has either been rehabilitated or replaced due to corrosion. Corrosion of the pipe reduces the capacity by increasing surface roughness and may eventually cause the pipe to fail. Installation of a cured-in-place liner can extend the service life of the interceptor if installed before the corrosion progresses too far.</td>
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FINANCIAL ANALYSIS

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<td>2017-2022 CIP ($2016)</td>
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TOTAL COST: $6,677,000
CIP ID# B06

**Southeast Interceptor – Rehab Upstream of Pump Station 9 (lining project)**

**PROJECT TYPE**
System Rehabilitation – Conveyance System

**LOCATION**
Southeast Interceptor
USH 51, Yahara River to Larson Beach Road, Village of McFarland

**DESCRIPTION**
This project will correct condition defects in the Southeast Interceptor between the Yahara River and Pump Station 9 in the Village of McFarland. Approximately 3,400 feet of existing 24” and 27” concrete pipe will be rehabilitated through the installation of a new cured-in-place liner within the existing pipe. It is anticipated that funding for the project will come from a Clean Water Fund loan.

**BACKGROUND**
The Southeast Interceptor was installed in 1961. The upstream end of the interceptor at the Yahara River receives flow from three municipal customers: Village of McFarland, Town of Dunn #3 Sanitary District and Town of Dunn-Kegonsa Sanitary District. Due to the discharge of three large flows at this location there is a large amount of hydrogen sulfide in the wastewater which is released into the sewer’s atmosphere. Elevated levels of hydrogen sulfide have led to corrosion in the District’s interceptor. Corrosion of the pipe reduces the capacity by increasing surface roughness and may eventually cause the pipe to fail. Since the worst case of pipe corrosion is located underneath the pavement of U.S. Highway 51 it is recommended that the interceptor be rehabilitated in the near term.

**FINANCIAL ANALYSIS**

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**TOTAL COST:** $1,040,000
West Interceptor – PS 5 to Gammon Extension (lining project)

START DATE:
Summer 2018
COMPLETION DATE:
Winter 2018

PROJECT TYPE: System Rehabilitation – Conveyance System

LOCATION
West Interceptor
Lake Mendota Drive, Spring Harbor Drive to Baker Avenue, City of Madison

DESCRIPTION
This project will correct condition defects in the West Interceptor from the District’s Pump Station 5 to its junction with the Gammon Extension to the West Interceptor. Approximately 3,500 feet of 18” cast iron sewer will be rehabilitated through the installation of a new cured-in-place liner within the existing pipe. It is anticipated that the project will financed through a Clean Water Fund loan.

BACKGROUND
This section of the West Interceptor was constructed in 1931 and is comprised of cast iron sewer. Due to the age of this facility and the type of pipe material, the pipeline is suffering from corrosion, or tuberculation, of the interior pipe surface above the normal waterline. Tuberculation results from the buildup of iron precipitates on the pipe surface that are caused by chemical interactions between the pipe and the wastewater. These precipitates decrease the effective diameter of the pipe and reduce its capacity as they grow. If left unchecked they may cause the pipe to fail. The precipitates can generally be removed with mechanical equipment such that the pipeline can be successfully rehabilitated with a liner.

FINANCIAL ANALYSIS

2017 EXPENDITURE (2016) $0
2017-2022 CIP (2016) $575,000
TOTAL COST: $610,000
Northeast Interceptor – Far East Int to Southeast Int (lining project)

START DATE: Summer 2019
COMPLETION DATE: Winter 2019

<table>
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<th>PROJECT TYPE</th>
<th>System Rehabilitation – Conveyance System</th>
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</thead>
<tbody>
<tr>
<td>LOCATION</td>
<td>Northeast Interceptor</td>
</tr>
<tr>
<td></td>
<td>Femrite Drive, Copps Avenue to Progress Road, City of Monona and City of Madison</td>
</tr>
<tr>
<td>DESCRIPTION</td>
<td>This project will correct condition defects in the Northeast Interceptor between its junction with the Far East Interceptor and its junction with the Southeast Interceptor. Approximately 3,300 feet of existing 48” concrete pipe will be rehabilitated through the installation of a new cured-in-place liner within the existing pipe. It is anticipated that financing of the project will be through a loan from the Clean Water Fund.</td>
</tr>
<tr>
<td>BACKGROUND</td>
<td>This section of the Northeast Interceptor was installed in 1964 and suffers from internal corrosion due to the presence of elevated levels of hydrogen sulfide in the wastewater. Approximately 2,250 feet of the Northeast Interceptor between the Far East and Southeast interceptors was abandoned in 2013 and replaced with a new sewer due to the condition of the pipe. This project will rehabilitate and extend the service lives of the remaining sewer segments that were not replaced in the 2013 project.</td>
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FINANCIAL ANALYSIS

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TOTAL COST: $1,708,000
### Southwest Interceptor – Haywood Extension Replacement

<table>
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<th>CIP ID#</th>
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**START DATE:** Spring 2019  
**COMPLETION DATE:** Fall 2019

<table>
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<tr>
<th>PROJECT TYPE</th>
<th>Capacity Improvement and System Rehabilitation – Conveyance System</th>
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<tbody>
<tr>
<td>LOCATION</td>
<td>Southwest Interceptor – Haywood Extension</td>
</tr>
<tr>
<td></td>
<td>Haywood Drive, N. Wingra Drive to West Shore Drive, City of Madison</td>
</tr>
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</table>

**DESCRIPTION**  
This project will correct condition defects in the Southwest Interceptor on Haywood Drive and also provide additional capacity so that flow can be better diverted between Pump Station 2 and Pump Station 8 during high flow and/or emergency situations. Approximately 1,500 feet of 24” cast iron sewer on Haywood Drive will be replaced with a 36” sewer as part of the improvements. Staff intends to fund this project through the Clean Water Fund program.

**BACKGROUND**  
This section of the Southwest Interceptor was constructed in 1936 and consists of 24” cast iron sewer. As with other District interceptors made of cast iron sewer with service lives in excess of 50 years, this pipeline is suffering from the effects of tuberculation. Tuberculation is a process in which iron precipitates form on the inside surface of the pipe due to chemical reactions between the cast iron sewer material and the wastewater. The precipitates in this pipeline have reduced the effective diameter of the pipeline and its carrying capacity.

This section of the Southwest Interceptor also serves as an important intertie between Pump Station 2 and Pump Station 8 and has been used on several occasions in the last fifteen years to avoid sewer backups during high flows and other emergency events. The District’s Collection System Facilities Plan Update (2011) identified a need to increase the carrying capacity of this pipeline so that more flow could be transferred between these two pump stations. The pipe replacement project involves a crossing of Park Street that will be coordinated with the City of Madison’s proposed reconstruction of Park Street in 2019.

**FINANCIAL ANALYSIS**

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</table>
CIP ID# B10

West Interceptor Relief Sewer – Walnut Street to Whitney Way

START DATE: 2020
COMPLETION DATE: 2022

PROJECT TYPE
Capacity Improvement – Conveyance System

LOCATION
West Interceptor Relief Sewer
University Avenue, Walnut Street to Whitney Way, City of Madison and Village of Shorewood

DESCRIPTION
This project will provide additional capacity to the West Interceptor system in order to convey projected flows from the west side of the District’s service area. The improvements consist of the installation of 11,500 feet of relief sewer that will be installed roughly parallel to the District’s existing sewer that runs along the University Avenue corridor between Walnut Street and Whitney Way. Due to the size and complexity of this project it is proposed that construction will occur in three phases, with construction beginning in 2020 and ending in 2022. It is anticipated that this project will be financed through the Clean Water Fund program.

BACKGROUND
Expected growth in the District’s Pump Station 15 service area, including the Bishops Bay development in the City of Middleton and the Town of Westport, has created a need for the District to add additional capacity to its West Intercepting system. In its 2009 report entitled MMSD Collection System Evaluation the Capital Area Regional Planning Commission identified several sections of the West Interceptor within the proposed project limits that required capacity relief prior to the year 2010 based on population forecasts. The District’s Collection System Facilities Plan Update (2011) included a detailed analysis of the system between Walnut Street and Whitney Way and determined that additional capacity should be provided in or around the year 2020.

FINANCIAL ANALYSIS

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TOTAL COST: $14,208,000
**CIP ID#**
B11

**West Interceptor – Spring Street Relief (lining project)**

**START DATE:**
Spring 2020

**COMPLETION DATE:**
Summer 2020

---

**PROJECT TYPE**
System Rehabilitation – Conveyance System

**LOCATION**
West Interceptor – Spring Street Relief
N. Randall Avenue/Spring Street to West Washington Avenue,
City of Madison

**DESCRIPTION**
This project will correct condition defects in the West Interceptor – Spring Street Relief along its entire length from the intersection of Randall Avenue and Spring Street to its junction with the West Interceptor at Pump Station 2. Approximately 4,600 feet of 24” cast iron sewer will be rehabilitated through the installation of a new cured-in-place liner within the existing pipe. This project also includes the rehabilitation of approximately 600 feet of 24” cast iron sewer along the West Interceptor, north of West Washington Avenue. It is anticipated that the project will be funded with a Clean Water Fund loan.

**BACKGROUND**
The West Interceptor – Spring Street Relief sewer was constructed in 1940 and is comprised of cast iron sewer. Due to the age of this facility and the type of pipe material, the pipeline is suffering from corrosion, or tuberculation, of the interior pipe surface above the normal waterline. Tuberculation results from the buildup of iron precipitates on the pipe surface that are caused by chemical interactions between the pipe and the wastewater. These precipitates decrease the effective diameter of the pipe and reduce its capacity as they grow. If left unchecked they may cause the pipe to fail. The precipitates can generally be removed with mechanical equipment such that the pipeline can be successfully rehabilitated with a liner.

**FINANCIAL ANALYSIS**

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**TOTAL COST:** $1,743,000
Lower Badger Mill Creek Interceptor (Phase 5)

**CIP ID# B12**

**START DATE:** 2022  
**COMPLETION DATE:** 2022

**PROJECT TYPE**  
New Capacity – Conveyance System

**LOCATION**  
Lower Badger Mill Creek Interceptor | CTH PD to Midtown Road, Town of Verona

**DESCRIPTION**  
This project will extend the District’s Lower Badger Mill Creek Interceptor from County Trunk Highway (CTH PD) to Midtown Road in order to provide service for new development and to relieve the City of Madison’s existing pump station at Midtown Road. Approximately 8,500 feet of new interceptor sewer will be installed as part of the proposed improvements. This project will be funded through Capital Fund reserves. Project costs will be recovered from connection charges from new users upon connection to the interceptor improvements.

**BACKGROUND**  
District policy allows for the construction of District interceptors only when that interceptor shall serve at least two municipalities. Sanitary sewer service options for the Lower Badger Mill Creek drainage basin were studied by District staff in 2005. At that time it was decided that a regional interceptor sewer would be constructed in several phases as development needs dictated in order to serve the cities of Verona and Madison and the towns of Verona and Middleton.

Phase 1 of the interceptor was built in 2006 from the District’s Pump Station 17 to Edwards Street; Phase 2 was constructed in 2008 from Edwards Street to Cross County Road on the Epic Campus; Phase 3 extended the interceptor 900 feet north of Cross Country Road; and Phase 4 of the interceptor is expected to be constructed up to CTH PD in 2017. Phase 5 of the interceptor will be constructed when the City of Madison’s Midtown Road Lift Station reaches capacity and flows require diversion to the District’s Pump Station 17 and/or when new development between CTH PD and Midtown Road dictates the need to provide service.

**FINANCIAL ANALYSIS**

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**TOTAL COST:** $3,100,000
### PROJECT TYPE
Capacity Relief – Conveyance System

### LOCATION
Northeast Interceptor – Waunakee Extension
Yahara River to Town of Westport and Village of Waunakee

### DESCRIPTION
This project will provide additional capacity to the Northeast Interceptor system in order to convey projected flows from the villages of Dane and Waunakee and the Town of Westport. The improvements consist of the installation of approximately 24,200 feet of relief sewer that will be installed parallel to the District’s existing sewer that extends from the Yahara River to the Village of Waunakee. At this time it is proposed that construction will occur in two phases, with construction of the first phase tentatively scheduled for 2022. It is anticipated that this project will be financed through the Clean Water Fund program.

### BACKGROUND
Continued growth in the Village of Waunakee and Town of Westport is expected to create a need for the District to add additional capacity to the Waunakee Extension of the Northeast Interceptor. The Capital Area Regional Planning Commission (CARPC) is projecting that capacity will be reached in the majority of the Waunakee Extension by the year 2022 based on existing population forecasts. Periodic flow monitoring performed by District staff as part of its billing program validates the existing flows used by CARPC in their analysis. This project could be postponed if development patterns in the service area change. It is included in the CIP at this time based on the best information available.

### FINANCIAL ANALYSIS

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PROJECT TYPE  System Rehabilitation – Conveyance System

LOCATION  Pump Station 15
2115 Allen Boulevard, City of Middleton

DESCRIPTION  This project provides a major rehabilitation of Pump Station 15, including the following elements: replacement of existing pumps to increase station capacity; replacement of major mechanical, electrical and control equipment; improved power system redundancy; installation of a new HVAC system; construction of a new superstructure to house and improve access for new equipment; and installation of a new station flowmeter. The project also includes several public amenities and sustainable features such as a new public restroom, facilities to remove aquatic invasive species from boats, photovoltaic cells for solar power, a green roof, storm water retention areas and permeable pavers on the path that links the regional bike path with Marshall Park. It is anticipated that this program will be funded through a Clean Water Fund loan.

BACKGROUND  Firm capacity improvements and replacement of aging equipment have been identified as primary needs for Pump Station 15. This pump station is located in popular Marshall Park. As such, the design of the station has been closely coordinated with the neighborhood and general public. Many public amenities and sustainable elements have been included in the project to address a variety of social and environmental issues.

FINANCIAL ANALYSIS

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<th>2017-2022 CIP ($2016)</th>
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TOTAL COST: $4,683,000
### PROJECT TYPE
Facility Relocation – Conveyance System

### LOCATION
Pump Station 12 Force Main and Nine Springs Valley Interceptor/Mineral Point Extension - Military Ridge State Trail, CTH PD to south 2,300 feet, City of Fitchburg

### DESCRIPTION
This project will relocate a portion of the Pump Station 12 force main and abandon a portion of the Nine Springs Valley Interceptor/Mineral Point Extension to accommodate roadway improvements to Verona Road near its intersection with County Trunk Highway PD (CTH PD). The work will involve the relocation of approximately 2,300 feet of 36” force main from the Verona Road right-of-way to the Military Ridge State Trail. It is anticipated that this project will be funded with a Clean Water Fund loan.

### BACKGROUND
The Wisconsin Department of Transportation (WDOT) has proposed major roadway improvements to Verona Road between CTH PD and the Beltline highway. The WDOT is proposing to improve the intersection of Verona Road and CTH PD such that Verona Road will pass over CTH PD. The proposed improvements will result in additional fill being placed over the District’s facilities and will increase the amount of vehicular traffic around them.

Additional fill over the Pump Station 12 force main will cause it to become overloaded in some locations. Similarly, the interceptor sewer within the Verona Road right-of-way is suffering from severe corrosion due to its proximity to the force main and will reach capacity in approximately the year 2030. Given these needs and the difficulty in maintaining the existing facilities along a major highway, it has been determined that the force main should be relocated to the Military Ridge State Trail corridor in advance of the WDOT project.

### FINANCIAL ANALYSIS
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Pump Station 17 Force Main Relief – Phase 1

START DATE: Spring 2018
COMPLETION DATE: Winter 2018

CIP ID# C03

PROJECT TYPE Capacity Improvement – Conveyance System

LOCATION Pump Station 17 Force Main
Badger Mill Creek, CTH M to north 4,600 feet, City of Verona

DESCRIPTION This project will add a relief force main to the existing 16” force main that will provide additional capacity for wastewater which is pumped from Pump Station 17 in the City of Verona. Approximately 4,600 feet of 16” force main will be installed in the first phase of construction and 9,400 feet in the second phase, doubling the capacity of the force main system from 7.2 mgd to 14.4 mgd. It is anticipated that this project will be funded through reserves from the Capital Fund.

BACKGROUND At this time the Pump Station 17 force main serves only areas within the City of Verona. It is projected that the Pump Station 17 force main has enough capacity to serve lands within the City of Verona until approximately the year 2027. It is expected, however, that additional flow from the City of Madison, and possibly the Town of Verona, will drain to Pump Station 17 in or about 2022 when the final phase of the Lower Badger Mill Creek Interceptor is constructed up to Midtown Road and the City of Madison abandons their pump station in this location. Capacity relief will be needed for both Pump Station 17 and its force main system when this occurs. Relief for the force main system has been separated into two construction phases to coordinate with a City of Verona public works project. The City is contemplating construction of a new gravity sewer along the proposed route of the District’s relief force main in 2018. The District is proposing to construct phase one of the relief force main as a joint project with the City in 2018 to reduce costs and inconvenience to the general public.

FINANCIAL ANALYSIS

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TOTAL COST: $1,100,000
PROJECT TYPE  System Rehabilitation – Conveyance System

LOCATION  Pump Station 10 Force Main
Wisconsin Southern Railroad corridor, Buckeye Road to north 1,500 feet, City of Madison

DESCRIPTION  This project will correct condition defects in a portion of the Pump Station 10 force main. Approximately 1,500 feet of cured-in-place liner will be installed in the existing 36” concrete force main just north of Buckeye Road in the City of Madison. It is anticipated that funding for the project will come from a Clean Water Fund loan.

BACKGROUND  The Pump Station 10 force main was installed in 1964 as part of the Northeast intercepting system. Like other parts of the Northeast system the discharge end of the force main is suffering from corrosion due to high levels of hydrogen sulfide. Inspection of the force main by television inspection in 2015 revealed that approximately 1,500 feet of the pipe is in need of rehabilitation where the pipe does not normally flow full.

This project carries some unique challenges. The Pump Station 10 force main conveys an average flow of approximately 8 million gallons per day and is a critical facility for the District. This flow will need to be bypassed continuously throughout construction with an engineered bypass system. Another challenge involves inserting a cured-in-place liner within a force main that has no access points. The section to be lined will need to be cut apart in smaller segments to allow for access and then repaired upon insertion of the liner.

FINANCIAL ANALYSIS

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>$50,000</td>
<td>$1,100,000</td>
</tr>
</tbody>
</table>

TOTAL COST: $1,166,000
Pump Station 4 Rehabilitation

PROJECT TYPE
System Rehabilitation – Conveyance System

LOCATION
Pump Station 4
620 John Nolen Drive, City of Madison

DESCRIPTION
This project provides for a major rehabilitation of Pump Station 4. Improvements to the station are expected to include the following: replacement of all three pumps due to age and lack of adequate capacity; provision of variable frequency drives to improve operational performance; improvements to the power system to achieve greater redundancy, including provision of an on-site generator; replacement of aging electrical and control equipment; and a new HVAC system. It is anticipated that this program will be funded through a Clean Water Fund loan.

BACKGROUND
Pump Station 4 was placed into service in 1967 and pumps flow directly to the Nine Springs Wastewater Treatment Plant through a parallel force main system with Pump Stations 2 and 3. Most of the equipment in the station has not been replaced or upgraded since the station was started up in 1967. As a result it is recommended that the major electrical equipment and associated controls be replaced to ensure that the station operates reliably. In addition it is recommended that the pumping units be replaced and optimized so that the station is able to work in concert with the pumps from Pump Stations 2 and 3.

FINANCIAL ANALYSIS

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>$0</td>
<td>$4,200,000</td>
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</tbody>
</table>

TOTAL COST: $4,600,000
### PROJECT TYPE
System Rehabilitation – Conveyance System

### LOCATION
- Pump Station 13  |  3634 Amelia Earhart Drive, City of Madison
- Pump Station 14  |  5000 School Road, City of Madison

### DESCRIPTION
This project provides for major rehabilitations at Pump Stations 13 and 14. Improvements to these stations will include the following features: replacement of one or more pumps to increase capacity; improvements to the power systems to achieve the desired level of redundancy; replacement of aging electrical and control equipment; new HVAC systems; installation of flow meters; and possible enlargement of the existing building footprints to house new equipment. It is anticipated that this project will be funded through a Clean Water Fund loan.

### BACKGROUND
Table 5.1 of the District’s Collection System Facilities Plan Update (2011) included a capacity and condition assessment for each of its 17 pumping stations across six categories. This table was updated in April of 2016 to reflect current conditions, including the construction of Pump Station 18. Firm capacity improvements and replacement of aging equipment have been identified as the primary needs at Pump Stations 13 and 14. Overall Pump Stations 13 and 14 received the first and second highest priority rankings, respectively, among the 18 pumping stations with regard to the need for future rehabilitation.

### FINANCIAL ANALYSIS

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>$0</td>
<td>$9,000,000</td>
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</tbody>
</table>

TOTAL COST: $10,200,000
## Pump Station 17 Capacity Upgrade

**START DATE:**
Spring 2021  
**COMPLETION DATE:**
Winter 2021

### PROJECT TYPE
Capacity Improvement – Conveyance System

### LOCATION
Pump Station 17  |  407 Bruce Street, City of Verona

### DESCRIPTION
This project will add capacity at Pump Station 17 through modifications to the existing pumping units. Firm pumping capacity will increase from 4.6 million gallons per day to approximately 6.6 million gallons per day. The capacity increase will be achieved by installing larger motors and variable frequency drives to each pump and operating them at higher speeds. It is anticipated that this project will be funded through a loan from the Clean Water Fund.

### BACKGROUND
At this time Pump Station 17 serves only areas within the City of Verona. It is projected that Pump Station 17 has enough capacity to serve lands within the City of Verona until approximately the year 2027. It is expected, however, that additional flow from the City of Madison, and possibly the Town of Verona, will drain to Pump Station 17 in or about 2022 when the final phase of the Lower Badger Mill Creek Interceptor is constructed up to Midtown Road and the City of Madison abandons their pump station in this location. A capacity upgrade will be needed for Pump Station 17 when this occurs.

### FINANCIAL ANALYSIS

<table>
<thead>
<tr>
<th>2017 EXPENDITURE ($2016)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0</td>
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</table>

<table>
<thead>
<tr>
<th>2017–2022 CIP ($2016)</th>
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</thead>
<tbody>
<tr>
<td>$1,100,000</td>
</tr>
</tbody>
</table>

**TOTAL COST:** $1,275,000
Pump Station 7 Improvements

**PROJECT TYPE**  
System Rehabilitation – Conveyance System

**LOCATION**  
Pump Station 7 | 6300 Metropolitan Lane, City of Monona

**DESCRIPTION**  
This project provides for various improvements to Pump Station 7 that are needed following the start-up of Pump Station 18 to ensure that the station continues to operate effectively and reliably. The following is a list of potential improvements that will be considered for further study as the design year approaches:
- replacement of existing controllers and control system;
- replacement of electrical switchgear (including outdoor transformers and utility equipment);
- installation of an odor control system;
- replacement or modifications to the HVAC system;
- installation of screenings removal and compaction equipment;
- separation of control room space from garage and screen room;
- installation of variable speed drive(s) to optimize pumping operations;
- increase in station pumping capacity; and
- replacement of manual valves with electrically actuated valves.

It is anticipated that this project will be funded with a loan from the Clean Water Fund.

**BACKGROUND**  
Prior to Pump Station 18 being placed into service in 2015, Pump Station 7 pumped roughly 40% of the District’s wastewater to the treatment plant each day. The facility is in excess of 60 years old and was last rehabilitated in 1992. Given the age of the station, the time that has elapsed since the last rehabilitation, and the complexities of operating Pump Station 7 in tandem with Pump Station 18, District staff have recommended a number of potential improvements at Pump Station 7 that are needed to keep this critical facility operating in an efficient and effective manner. The most pressing need at this time is to replace the controllers and control system. Other improvements to be included in the project will be identified during future planning and preliminary design.

**FINANCIAL ANALYSIS**

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<tbody>
<tr>
<td>$0</td>
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</table>

**TOTAL COST:** $2,950,000
**CIP ID# C09**

**Pump Station 17 Force Main Relief – Phase 2**

**PROJECT TYPE**  
Capacity Improvement – Conveyance System

**LOCATION**  
Pump Station 17 Force Main  
Badger Mill Creek, Bruce Street to Maple Grove Drive, City of Verona and Town of Verona

**DESCRIPTION**  
This project will add a relief force main to the existing 16” force main and will provide additional capacity for wastewater which is pumped from Pump Station 17 in the City of Verona. Approximately 4,600 feet of 16” force main will be installed in the first phase of construction and 9,400 feet in the second phase. It is anticipated that this project will be funded through a loan from the Clean Water Fund.

**BACKGROUND**  
It is projected that the Pump Station 17 force main has enough capacity to serve lands within the City of Verona until approximately the year 2027. It is expected, however, that additional flow will drain to Pump Station 17 in or about 2022 when the final phase of the Lower Badger Mill Creek Interceptor is constructed up to Midtown Road and the City of Madison abandons their pump station in this location. Capacity relief will be needed for both Pump Station 17 and its force main system when this occurs.

Relief for the force main system has been separated into two construction phases to coordinate with a City of Verona public works project. The District is proposing to construct phase one of the relief force main as a joint project with the City in 2018 to reduce costs and inconvenience to the general public. Phase two of the project will occur in or about 2021, just prior to completion of the final phase of the Lower Badger Mill Creek Interceptor project.

**FINANCIAL ANALYSIS**

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<tbody>
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<td>$0</td>
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</table>

**TOTAL COST: $2,400,000**

**START DATE:**  
Spring 2021

**COMPLETION DATE:**  
Winter 2021
CIP ID# D01

Capital Budget Expenses

START DATE: Ongoing
COMPLETION DATE: Ongoing

PROJECT TYPE Capital Budget Expenses

LOCATION District-wide

DESCRIPTION General capital budget expenses – Annual funds for smaller planning, study, and expenses required to update and implement the Capital Improvements Plan (CIP)

BACKGROUND Development of the District’s Capital Improvements Plan and Capital Budget requires almost continual study and planning. Often, internal resources are not available to conduct studies or planning in desirable timeframes and external resources are necessary. This budget item provides funds to cover expenditures for smaller studies or planning efforts.

FINANCIAL ANALYSIS

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>$100,000</td>
<td>$600,000</td>
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TOTAL COST: ONGOING
CIP ID# D02

Sustainable Infrastructure Program

START DATE: Ongoing
COMPLETION DATE: Ongoing

<table>
<thead>
<tr>
<th>PROJECT TYPE</th>
<th>Capital Budget Expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOCATION</td>
<td>District-wide</td>
</tr>
<tr>
<td>DESCRIPTION</td>
<td>Sustainable Infrastructure Program – Annual funds to support the District’s ongoing sustainable infrastructure program (a.k.a. asset management program)</td>
</tr>
<tr>
<td>BACKGROUND</td>
<td>Sustainable infrastructure (asset) management is a systematic, best appropriate practice approach to managing infrastructure more cost effectively while maintaining levels of service and managing risk (the likelihood of failure and the consequence of such failure). The purpose of this program is to develop an integrated program that will achieve those objectives.</td>
</tr>
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FINANCIAL ANALYSIS

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<tbody>
<tr>
<td>$515,000</td>
<td>$3,090,000</td>
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TOTAL COST: ONGOING
PROJECT TYPE: Capital Budget Expenses

LOCATION: Collection System

DESCRIPTION: MMSD Collection System Evaluation (2017) – Periodic system evaluation conducted by the Capital Area Regional Planning Commission (CARPC) in conjunction with MMSD.

BACKGROUND: The basic purpose of this collection system evaluation is to update the 2008 collection system evaluation in order to anticipate future capacity problems and identify needs for expansion or improvement of sections within the MMSD collection system. The final report will allow MMSD to continue planning its collection system improvements in an adequate manner consistent with plans of the regional planning agency. MMSD's collection system facilities planning update will follow completion of this evaluation effort.

FINANCIAL ANALYSIS:

<table>
<thead>
<tr>
<th>2017 EXPENDITURE ($2016)</th>
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</thead>
<tbody>
<tr>
<td>2017-2022 CIP ($2016)</td>
<td>$175,000</td>
</tr>
<tr>
<td>TOTAL COST:</td>
<td>$180,000</td>
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</tbody>
</table>
Collection System Facilities Plan Update

CIP ID# D04

PROJECT TYPE: Capital Budget Expenses

LOCATION: Collection System

DESCRIPTION: MMSD Collection System Facilities Plan (2018) – One of MMSD’s key planning documents that is periodically updated based upon updated CARPC projections.

BACKGROUND: The purpose of this Collection System Facilities Plan is to update and revise the Collection System Facilities Plan (CSFP) conducted in 2011. As with the original CSFP (2002), the 2011 update reviewed and assessed the adequacy and condition of MMSD’s collection system to identify and recommend future collection system projects. Since plan adoption, MMSD has completed many of the recommended projects. However, following the Capital Area Regional Planning Commission’s update of the MMSD Collection System Evaluation in 2017, it will be time to review those projects remaining on the list and identify additional future projects that may be required to sustain and/or enhance the integrity of MMSD’s collection system.

FINANCIAL ANALYSIS

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<tbody>
<tr>
<td>$0</td>
<td>$125,000</td>
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</table>

TOTAL COST: $133,000
2015 PROJECT COMPLETIONS

**Engine Stacks & Oxidation Catalysts (for Air Permit)**
As part of the District’s air permit, stacks were added to the District’s combustion engines and boilers in 2013. In addition, an oxidation catalyst was added to Engine Generator 1. Over winter 2014 to 2015, two additional oxidation catalysts were installed on the remaining two combustion engines. Total project cost is roughly $255,000 funded from Capital Fund reserves.

**NEI - Rehab West of Airport (lining project) - Phase 1**
Lining of this section of northeast interceptor west of the Dane County Regional Airport was substantially completed in 2014, although final project closeout did not occur until the end of 2015. The total final project cost of roughly $1.1 million was funded from Capital Fund reserves.

**Pumping Station 18 Construction**
Pumping Station 18, located just off East Broadway in the City of Monona, was completed and placed on line in the first half of 2015. The new pumping facility provides capacity relief and redundancy for Pumping Station 7 and a major portion of the Southeast Interceptor. The final project cost of $14.5 million was funded with a Clean Water Fund loan.

**PS 18 Force Main Construction**
The Pumping Station 18 force main was installed and tested by the end of year 2014. Follow-up work, consisting primarily of landscaping and project clean-up, was completed in the first half of 2015. The final project cost of $11.6 million was funded with a Clean Water Fund loan.

**PS 16 Ventilation Modifications**
Ventilation modifications to Pumping Station 16 began in the spring of 2015. The changes included upgrading and improving the pumping station’s existing ventilation system and adding an odor control system. The project was completed in 2015 at a cost of roughly $191,000, funded from Capital Fund reserves.

**Annual Clarifier Coating**
The District coated Gravity Thickeners 1 and 2 in 2015 as part of an ongoing project to upgrade and extend the life of the District’s tanks and mechanisms. The cost to coat these two thickener tanks was about $56,000, funded from Capital Fund reserves.
Annual Pavement Improvements
As part of its annual efforts to upgrade worn pavement areas, the District repaved areas near the East Blower Building in 2015 following repair of underground aeration piping. The pavement had been worn in this area and the project provided an opportunity to repair the piping as well as replace worn pavement. Pavement improvements of roughly $32,000 were funded through use of Capital Fund reserves. The piping repairs were funded from the Operating Budget.

Metrogro Applicator
The District purchased a used applicator in the summer of 2015. The District is finding it more difficult to replace its aging Metrogro applicators and the purchase represented a good time to enhance its fleet. The applicator including delivery, repairs, and enhancements cost roughly $191,000, funded from Capital Fund Reserves.

2016 PROJECT COMPLETIONS/ANTICIPATED COMPLETIONS

COMPLETED

Process Control System Upgrade
The District’s new process control system replaced a system that was installed in 1996 as part of the Ninth Addition to the Plant. Although fully functional, parts of the old system were obsolete and in need of new computers, software upgrades, and controller replacements. Facility planning took place during 2010 and 2011 with design beginning in late 2011 and implementation commencing in the fall of 2012. Implementation included replacement of the operations reporting system, purchase of a new development system, and construction to replace the process control system hardware and software. The installation contract was completed in December 2015 with final project completion in February 2016. Total project costs of $4.3 million were financed through use of a Clean Water Fund loan.

ANTICIPATED

Rimrock Int. Replacement/Relief
The District televised the Rimrock Interceptor in 2009, finding a variety of deficiencies that included areas with root intrusion, sags, and infiltration. The interceptor was also in need of capacity relief. The project was substantially completed in early 2016 with final completion anticipated in summer 2016. Total project costs, estimated at $1.1 million, have been funded with a Clean Water Fund loan.

PS 11 &12 Rehab
The District identified many of its pumping facilities as needing rehabilitation and improvements to bring them up to the proper standards. The rehabs were prioritized in the District’s Collection System Facilities Plan Update (approved by WDNR July 2012). The Plan determined that Pumping Stations 11 and 12 both needed rehabilitation and required scrutiny of their long-term capacity needs. Construction began in February 2015 and should be completed by fall 2016. Total project cost, estimated at $10.7 million, is being financed with a Clean Water Fund loan.
Maintenance Facility
In August 2012, the District hired Bray Architects to conduct a space needs analysis for its existing maintenance facilities and operations space in order to help determine the best long-term facilities solution for its maintenance and operational needs. The study led to the design and construction of a new maintenance facility and minor space needs improvements to the existing Maintenance Shop 1 and Operations Building. The new maintenance facility provides District staff with a safe working environment and the necessary tools and equipment to address maintenance needs well into the future. The project will be complete in 2016 at an anticipated total project cost of roughly $12 million and will be financed with a Clean Water Fund loan.

Capital City Recreational Trail Relocation at Vehicle Loading Bldg.
The Capital City Recreational Trail provides valuable recreation to the community and presently routes directly in front of the District’s Vehicle Loading Building along South Towne Drive and along Moorland Road. The Moorland Road gate provides the entrance for Metrogro vehicles to the Vehicle Loading Building while the South Towne gate provides the exit from the facility. During the hauling season, a significant amount of vehicle traffic crosses the bike path on a routine basis raising numerous safety concerns. The District plans to relocate the bike path behind the Vehicle Loading Building to reduce safety concerns and provide a better overall route. The project should be completed in 2016 at an estimated cost of $116,000, funded with Capital Fund reserves.

Annual Clarifier Coating
The District will coat Final Clarifiers 13 and 15 in 2016. The budgeted cost to coat these two clarifiers is $175,000 and is part of an ongoing project to upgrade and extend the life of the District’s tanks and mechanisms.
RETAINERS

The District often includes maintenance or performance retainers within its contracts. The retainers are typically released to the contractor at the end of one year (in some cases contracts include longer performance periods) following completion of the contract and assuming satisfactory performance. The following are retainers that the District has released or the District is presently withholding:

**NEI - Far East Int. to Southeast Int. Junction**
The District withheld a $20,000 1-year maintenance retainer upon final project closeout. The retainer, scheduled for release to Merryman Excavation in July 2015, is still being withheld due to unsatisfactory performance.

**West Int. Extension and West Point Extension (lining project)**
The District withheld a $5,000 1-year maintenance retainer upon final project closeout. The retainer was released to Terra Engineering & Construction Corporation in November 2015.

**NEI - Rehab West of Airport (lining project) - Phase 1**
The District withheld a $10,000 1-year maintenance retainer upon final project closeout. The retainer will be released to Ric-Man Construction, Inc. in December 2016 pending satisfactory performance.

**Pumping Station 18 Construction**
The District withheld a $20,000 1-year maintenance retainer upon final project closeout. The retainer will be released to CD Smith Construction, Inc. in September 2016 pending satisfactory performance.

**PS 18 Force Main Construction**
The District withheld a $30,000 1-year maintenance retainer upon final project closeout. The retainer will be released to S.J. Louis Construction, Inc. in September 2016 pending satisfactory performance.

**Rimrock Interceptor Rehab/Replacement**
The District will withhold a $10,000 1-year maintenance retainer upon final project closeout. The retainer will be released 1 year after project closeout to E&N Hughes Co., Inc. pending satisfactory performance.

**Pumping Station 11 & 12 Rehab**
The District will withhold a $20,000 3-year special maintenance retainer upon final project closeout. The retainer will be released 3 years after project closeout to J.F. Ahern Co. pending satisfactory performance. $10,000 is for satisfactory performance of the pumps and motors, and $10,000 is for satisfactory performance of the adjustable frequency drives.

**New Maintenance Facility/ Space Needs Improvements**
The District will withhold a $20,000 1-year maintenance retainer upon final project closeout. The retainer will be released 1 year after project closeout to CD Smith Construction, Inc. pending satisfactory performance.
## APPENDIX C: BUDGET SUMMARIES

### 2017 OPERATING BUDGET

#### REVENUES

<table>
<thead>
<tr>
<th>Revenue Category</th>
<th>2016 Thru June</th>
<th>Estimated 2016 Total</th>
<th>2016 Budget</th>
<th>2017 Budget</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewer Service Charges</td>
<td>$16,391,042</td>
<td>$33,300,000</td>
<td>$31,990,000</td>
<td>$33,132,000</td>
<td>4.88%</td>
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<tr>
<td>Servicing Pumping Stations</td>
<td>127,439</td>
<td>280,000</td>
<td>260,000</td>
<td>320,000</td>
<td>23.08%</td>
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<tr>
<td>Rent</td>
<td>37,606</td>
<td>71,000</td>
<td>71,000</td>
<td>71,000</td>
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<tr>
<td>Interest</td>
<td>9,529</td>
<td>16,000</td>
<td>13,000</td>
<td>15,000</td>
<td>15.38%</td>
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<tr>
<td>Annexation and Plan Review Fees</td>
<td>35,250</td>
<td>57,000</td>
<td>65,000</td>
<td>61,000</td>
<td>-6.15%</td>
</tr>
<tr>
<td>Miscellaneous Income</td>
<td>60,305</td>
<td>84,000</td>
<td>55,000</td>
<td>46,000</td>
<td>-16.36%</td>
</tr>
<tr>
<td>Septage Disposal Revenue</td>
<td>186,987</td>
<td>506,000</td>
<td>430,000</td>
<td>555,000</td>
<td>29.07%</td>
</tr>
<tr>
<td>Pretreatment Monitoring</td>
<td>-</td>
<td>20,000</td>
<td>18,000</td>
<td>20,000</td>
<td>11.11%</td>
</tr>
<tr>
<td>Struvite Fertilizer Sales</td>
<td>48,022</td>
<td>135,000</td>
<td>140,000</td>
<td>140,000</td>
<td>0.00%</td>
</tr>
<tr>
<td>Cash Reserves</td>
<td>-</td>
<td>-</td>
<td>180,000</td>
<td>796,000</td>
<td>342.22%</td>
</tr>
<tr>
<td><strong>TOTAL REVENUES</strong></td>
<td><strong>$16,896,180</strong></td>
<td><strong>$34,469,000</strong></td>
<td><strong>$32,822,000</strong></td>
<td><strong>$35,156,000</strong></td>
<td><strong>7.11%</strong></td>
</tr>
</tbody>
</table>

#### EXPENDITURES

<table>
<thead>
<tr>
<th>Expenditure Category</th>
<th>2016 Thru June</th>
<th>Estimated 2016 Total</th>
<th>2016 Budget</th>
<th>2017 Budget</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration, Engineering, and Planning</td>
<td>$2,018,440</td>
<td>$4,114,000</td>
<td>$3,901,000</td>
<td>$5,236,000</td>
<td>34.22%</td>
</tr>
<tr>
<td>User Charge &amp; Pretreatment Program</td>
<td>284,299</td>
<td>703,000</td>
<td>726,000</td>
<td>758,000</td>
<td>4.41%</td>
</tr>
<tr>
<td>Wastewater Collection</td>
<td>858,239</td>
<td>2,383,000</td>
<td>2,334,000</td>
<td>2,360,000</td>
<td>1.11%</td>
</tr>
<tr>
<td>Wastewater Treatment</td>
<td>4,618,256</td>
<td>10,117,000</td>
<td>10,710,000</td>
<td>10,671,000</td>
<td>-0.36%</td>
</tr>
<tr>
<td>Effluent Diversion</td>
<td>53,432</td>
<td>117,000</td>
<td>116,000</td>
<td>102,000</td>
<td>-12.07%</td>
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<tr>
<td>Metrogro Biosolids Reuse Program</td>
<td>520,301</td>
<td>1,431,000</td>
<td>1,516,000</td>
<td>1,533,000</td>
<td>1.12%</td>
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<td>Capital Outlay</td>
<td>126,996</td>
<td>436,000</td>
<td>275,000</td>
<td>220,000</td>
<td>-20.00%</td>
</tr>
<tr>
<td>Servicing Pumping Stations Owned by Others</td>
<td>106,134</td>
<td>280,000</td>
<td>260,000</td>
<td>320,000</td>
<td>23.08%</td>
</tr>
<tr>
<td>Contribution to Capital Projects Fund</td>
<td>-</td>
<td>75,000</td>
<td>75,000</td>
<td>172,000</td>
<td>NMF</td>
</tr>
<tr>
<td>Contribution to Equipment Replacement Fund</td>
<td>-</td>
<td>-</td>
<td>100,000</td>
<td>13,684,000</td>
<td>33.33%</td>
</tr>
<tr>
<td>Transfer to Debt Service Fund</td>
<td>12,909,000</td>
<td>12,909,000</td>
<td>13,684,000</td>
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</tr>
<tr>
<td><strong>TOTAL EXPENDITURES</strong></td>
<td><strong>$8,586,097</strong></td>
<td><strong>$32,565,000</strong></td>
<td><strong>$32,822,000</strong></td>
<td><strong>$35,156,000</strong></td>
<td><strong>7.11%</strong></td>
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</tbody>
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#### OPERATING RESERVE BALANCE

<table>
<thead>
<tr>
<th>Operating Reserves</th>
<th>2016 Thru June</th>
<th>Estimated 2016 Total</th>
<th>2016 Budget</th>
<th>2017 Budget</th>
<th>Percent Change</th>
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</thead>
<tbody>
<tr>
<td>Beginning Balance</td>
<td>$13,509,203</td>
<td>$13,509,203</td>
<td>$13,351,000</td>
<td>$15,488,000</td>
<td>16.01%</td>
</tr>
<tr>
<td>Ending Balance</td>
<td>$21,819,286</td>
<td>$15,488,000</td>
<td>$13,246,000</td>
<td>$14,792,000</td>
<td>11.67%</td>
</tr>
</tbody>
</table>
## 2017 CAPITAL PROJECTS BUDGET

### REVENUES

<table>
<thead>
<tr>
<th>Project</th>
<th>Revenue Source</th>
<th>2016 Thru June</th>
<th>Estimated 2016 Total</th>
<th>2016 Budgeted Amount</th>
<th>2017 Budgeted Amount</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEI - Rehab West of Airport (lining project) - Phase I</td>
<td>CWF Loan - Process Control System Upgrades</td>
<td>203,531</td>
<td>204,000</td>
<td>-</td>
<td>-</td>
<td>NMF</td>
</tr>
<tr>
<td></td>
<td>CWF Loan - Maintenance Facility/Space Needs Improvements</td>
<td>1,667,604</td>
<td>3,176,000</td>
<td>2,095,000</td>
<td>-</td>
<td>-100.00%</td>
</tr>
<tr>
<td></td>
<td>CWF Loan - PS 11 &amp; 12 Rehab</td>
<td>1,935,382</td>
<td>4,105,000</td>
<td>3,643,000</td>
<td>-</td>
<td>-100.00%</td>
</tr>
<tr>
<td></td>
<td>CWF Loan - Rimrock Int. Replacement/Relief</td>
<td>-</td>
<td>1,040,000</td>
<td>572,000</td>
<td>-</td>
<td>-100.00%</td>
</tr>
<tr>
<td></td>
<td>CWF Loan - Pumping Station 15 Rehabilitation</td>
<td>-</td>
<td>2,065,000</td>
<td>2,065,000</td>
<td>1,678,000</td>
<td>-43.79%</td>
</tr>
<tr>
<td></td>
<td>CWF Loan - PS 12 Force Main Relocation at Verona Road</td>
<td>-</td>
<td>3,300,000</td>
<td>2,554,000</td>
<td>1,000,000</td>
<td>-96.09%</td>
</tr>
<tr>
<td></td>
<td>CWF Loan - West Int. - West Randall to Near PS 2 (lining project)</td>
<td>-</td>
<td>-</td>
<td>1,372,000</td>
<td>1,500,000</td>
<td>15.89%</td>
</tr>
<tr>
<td></td>
<td>CWF Loan - Southeast Intercepter Rehab Upstream of PS 9</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1,030,000</td>
<td>NMF</td>
</tr>
<tr>
<td></td>
<td>CONNECTION CHARGE REVENUES</td>
<td>687,355</td>
<td>1,050,000</td>
<td>1,050,000</td>
<td>1,800,000</td>
<td>71.43%</td>
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<tr>
<td></td>
<td>INTEREST ON INVESTMENTS &amp; MISC. INCOME</td>
<td>37,770</td>
<td>38,000</td>
<td>38,000</td>
<td>43,000</td>
<td>13.16%</td>
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<tr>
<td></td>
<td>CONTRIBUTION FROM OPERATING FUND</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>172,000</td>
<td>NMF</td>
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<tr>
<td><strong>TOTAL SOURCES OF FUNDS</strong></td>
<td></td>
<td><strong>4,531,641</strong></td>
<td><strong>14,898,000</strong></td>
<td><strong>14,309,000</strong></td>
<td><strong>6,413,000</strong></td>
<td><strong>-55.18%</strong></td>
</tr>
</tbody>
</table>

### EXPENDITURES

<table>
<thead>
<tr>
<th>Project</th>
<th>Project</th>
<th>2016 Thru June</th>
<th>Estimated 2016 Total</th>
<th>2016 Budgeted Amount</th>
<th>2017 Budgeted Amount</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>NINE SPRINGS WASTEWATER TREATMENT PLANT PROJECTS</td>
<td>Process Control System Upgrade</td>
<td>9,038</td>
<td>20,000</td>
<td>-</td>
<td>-</td>
<td>NMF</td>
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<tr>
<td></td>
<td>New Maintenance Facility/Space Needs Improvements</td>
<td>1,033,607</td>
<td>2,228,000</td>
<td>1,633,000</td>
<td>-</td>
<td>-100.00%</td>
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<tr>
<td></td>
<td>Plant Energy Projects</td>
<td>2,227</td>
<td>103,000</td>
<td>103,000</td>
<td>109,000</td>
<td>5.83%</td>
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<tr>
<td></td>
<td>Liquid Processing Facilities Plan</td>
<td>197,856</td>
<td>833,000</td>
<td>927,000</td>
<td>100,000</td>
<td>-89.21%</td>
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<tr>
<td></td>
<td>Liquid Processing Improvements</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>519,000</td>
<td>NMF</td>
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<tr>
<td></td>
<td>Struvite Harvesting Facility &amp; W4 System Improvements</td>
<td>-</td>
<td>155,000</td>
<td>155,000</td>
<td>212,000</td>
<td>36.77%</td>
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<tr>
<td></td>
<td>Metromix Facility Expansion</td>
<td>-</td>
<td>-</td>
<td>52,000</td>
<td>-</td>
<td>-100.00%</td>
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<tr>
<td></td>
<td>Capital City Recreational Trail Relocation at Vehicle Loading Bldg.</td>
<td>965</td>
<td>116,000</td>
<td>116,000</td>
<td>-</td>
<td>-100.00%</td>
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<tr>
<td></td>
<td>Annual Clarifier Coating</td>
<td>241</td>
<td>170,000</td>
<td>170,000</td>
<td>175,000</td>
<td>2.94%</td>
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<tr>
<td></td>
<td>Annual Pavement Improvements</td>
<td>-</td>
<td>53,000</td>
<td>53,000</td>
<td>55,000</td>
<td>3.77%</td>
</tr>
<tr>
<td></td>
<td>Minor Capital Improvements</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>206,000</td>
<td>NMF</td>
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<td>INTERCEPTORS</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NEI - Rehab West of Airport (lining project) - Phase I</td>
<td>-</td>
<td>-</td>
<td>10,000</td>
<td>-</td>
<td>-100.00%</td>
</tr>
<tr>
<td></td>
<td>West Int. - Randall Avenue to Near PS 2 (lining project)</td>
<td>41,441</td>
<td>60,000</td>
<td>1,131,000</td>
<td>1,522,000</td>
<td>15.92%</td>
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<tr>
<td></td>
<td>Rimrock Int. Replacement/Relief</td>
<td>824,562</td>
<td>946,000</td>
<td>572,000</td>
<td>-</td>
<td>-100.00%</td>
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<tr>
<td></td>
<td>NSVI-Morse Pond Extension</td>
<td>3,749</td>
<td>55,000</td>
<td>958,000</td>
<td>1,030,000</td>
<td>7.52%</td>
</tr>
<tr>
<td></td>
<td>NSVI - Mineral Pt. Ext. - Relocation at CTH PD (see PS 12 FM)*</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>NMF</td>
</tr>
<tr>
<td></td>
<td>Northend Int. - Sherman Avenue (lining project)</td>
<td>-</td>
<td>125,000</td>
<td>149,000</td>
<td>40,000</td>
<td>-73.15%</td>
</tr>
<tr>
<td></td>
<td>Lower Badger Mill Creek Int. - Phase 4</td>
<td>-</td>
<td>35,000</td>
<td>129,000</td>
<td>942,000</td>
<td>630.23%</td>
</tr>
<tr>
<td></td>
<td>NEI - Trux Extension Rehab (lining project)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>211,000</td>
<td>NMF</td>
</tr>
<tr>
<td></td>
<td>SEI - Rehab upstream of PS 9 (lining project)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1,040,000</td>
<td>NMF</td>
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<tr>
<td>PUMPING STATIONS AND FORCE MAINS</td>
<td>PS 18 Construction</td>
<td>119</td>
<td>20,000</td>
<td>-</td>
<td>-</td>
<td>-100.00%</td>
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<tr>
<td></td>
<td>PS 18 Force Main Construction</td>
<td>7,626</td>
<td>30,000</td>
<td>-</td>
<td>-</td>
<td>-100.00%</td>
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<tr>
<td></td>
<td>PS 11 &amp; 12 Rehab</td>
<td>1,970,385</td>
<td>3,815,000</td>
<td>3,022,000</td>
<td>-</td>
<td>-100.00%</td>
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<tr>
<td></td>
<td>PS 15 Rehab</td>
<td>54,863</td>
<td>2,142,000</td>
<td>2,421,000</td>
<td>1,698,000</td>
<td>-29.86%</td>
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<tr>
<td></td>
<td>PS 12 FM Relocation at Verona Road</td>
<td>22,920</td>
<td>2,248,000</td>
<td>2,539,000</td>
<td>1,000,000</td>
<td>-96.06%</td>
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<tr>
<td></td>
<td>PS 17 Force Main Relief - Phase 1</td>
<td>-</td>
<td>62,000</td>
<td>82,000</td>
<td>32.26%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PS 10 Force Main Rehab</td>
<td>-</td>
<td>-</td>
<td>52,000</td>
<td>-</td>
<td>NMF</td>
</tr>
<tr>
<td>CAPITAL BUDGET EXPENSES</td>
<td>Capital Budget Expenses</td>
<td>9,293</td>
<td>-</td>
<td>-</td>
<td>103,000</td>
<td>NMF</td>
</tr>
<tr>
<td></td>
<td>Sustainable Infrastructure Management Program</td>
<td>45,879</td>
<td>515,000</td>
<td>515,000</td>
<td>412,000</td>
<td>-20.00%</td>
</tr>
<tr>
<td></td>
<td>PS 14 Service Area I/I Study</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>NMF</td>
</tr>
<tr>
<td></td>
<td>Chloride Study</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>NMF</td>
</tr>
<tr>
<td></td>
<td>Collection System Evaluation</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>180,000</td>
<td>NMF</td>
</tr>
<tr>
<td><strong>TOTAL EXPENDITURES</strong></td>
<td></td>
<td><strong>4,224,772</strong></td>
<td><strong>13,969,000</strong></td>
<td><strong>14,949,000</strong></td>
<td><strong>8,788,000</strong></td>
<td><strong>-41.21%</strong></td>
</tr>
</tbody>
</table>

### CAPITAL PROJECTS RESERVE BALANCE

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning Reserve Balance</td>
<td>$8,838,971</td>
<td>$8,839,000</td>
<td>$8,027,000</td>
<td>$9,768,000</td>
<td>21.69%</td>
</tr>
<tr>
<td>Ending Reserve Balance</td>
<td>$9,145,841</td>
<td>$9,768,000</td>
<td>$7,387,000</td>
<td>$7,393,000</td>
<td>0.08%</td>
</tr>
</tbody>
</table>
## 2017 Debt Service Budget

### Revenues

<table>
<thead>
<tr>
<th>Revenue Category</th>
<th>2016 Thru June</th>
<th>Estimated 2016 Total</th>
<th>2016 Budget</th>
<th>2017 Budget</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer From Operating Fund</td>
<td>$0</td>
<td>$12,909,000</td>
<td>$12,909,000</td>
<td>$13,684,000</td>
<td>6.00%</td>
</tr>
<tr>
<td>Interest</td>
<td>-</td>
<td>57,000</td>
<td>26,000</td>
<td>28,000</td>
<td>7.69%</td>
</tr>
<tr>
<td><strong>TOTAL REVENUES</strong></td>
<td><strong>$0</strong></td>
<td><strong>$12,966,000</strong></td>
<td><strong>$12,935,000</strong></td>
<td><strong>$13,712,000</strong></td>
<td><strong>6.01%</strong></td>
</tr>
</tbody>
</table>

### Expenditures

<table>
<thead>
<tr>
<th>Expenditure Category</th>
<th>2016 Thru June</th>
<th>Estimated 2016 Total</th>
<th>2016 Budget</th>
<th>2017 Budget</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>First half Interest</td>
<td>$1,724,816</td>
<td>$1,724,816</td>
<td>$1,852,000</td>
<td>$1,858,000</td>
<td>0.32%</td>
</tr>
<tr>
<td>Principal</td>
<td>8,947,401</td>
<td>8,947,401</td>
<td>9,012,000</td>
<td>9,449,000</td>
<td>4.85%</td>
</tr>
<tr>
<td>Second Half Interest</td>
<td></td>
<td>1,771,000</td>
<td>1,852,000</td>
<td>1,767,000</td>
<td>-4.59%</td>
</tr>
<tr>
<td><strong>TOTAL EXPENDITURES</strong></td>
<td><strong>$10,672,217</strong></td>
<td><strong>$12,443,000</strong></td>
<td><strong>$12,716,000</strong></td>
<td><strong>$13,074,000</strong></td>
<td><strong>2.82%</strong></td>
</tr>
</tbody>
</table>

### Debt Service Reserve Balance

<table>
<thead>
<tr>
<th>Debt Service Reserve Balance</th>
<th>2016 Thru June</th>
<th>Estimated 2016 Total</th>
<th>2016 Budget</th>
<th>2017 Budget</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning Balance</td>
<td>$17,865,387</td>
<td>$17,865,387</td>
<td>$17,870,000</td>
<td>$18,388,000</td>
<td>2.90%</td>
</tr>
<tr>
<td>Ending Balance</td>
<td>$7,193,170</td>
<td>$18,388,000</td>
<td>$18,089,000</td>
<td>$19,026,000</td>
<td>5.18%</td>
</tr>
</tbody>
</table>

### Schedule of Principal Amount of Indebtedness

<table>
<thead>
<tr>
<th>Sewerage System Improvement Bonds</th>
<th>January 2016</th>
<th>January 2017</th>
<th>January 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series 1997 Badger Mill Creek Effluent Return</td>
<td>631,078</td>
<td>320,424</td>
<td>-</td>
</tr>
<tr>
<td>Series 2000 P.S. No. 2 Force Main Replacement - Phase 1</td>
<td>578,838</td>
<td>470,251</td>
<td>358,186</td>
</tr>
<tr>
<td>Series 2001 P.S. No. 2 Force Main Replacement - Phase 2</td>
<td>758,337</td>
<td>641,693</td>
<td>521,315</td>
</tr>
<tr>
<td>Series 2003A P.S.'s 1, 2 and 10 Rehabilitation</td>
<td>3,740,120</td>
<td>3,316,885</td>
<td>2,881,699</td>
</tr>
<tr>
<td>Series 2003B Tenth Addition</td>
<td>18,110,042</td>
<td>16,058,662</td>
<td>13,949,925</td>
</tr>
<tr>
<td>Series 2005 P.S.’s 1, 2 and 10 Rehabilitation</td>
<td>159,110</td>
<td>144,861</td>
<td>130,266</td>
</tr>
<tr>
<td>Series 2006 Effluent Equalization Projects and AT's 1-6</td>
<td>1,052,242</td>
<td>967,367</td>
<td>880,484</td>
</tr>
<tr>
<td>Series 2007 West In Ext and PS 13-14 Projects</td>
<td>1,801,816</td>
<td>1,671,613</td>
<td>1,539,083</td>
</tr>
<tr>
<td>Series 2008 P.S.’s 6-8 Rehabilitation and NEI Truax Ext Liner</td>
<td>6,413,837</td>
<td>5,986,741</td>
<td>5,549,531</td>
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<tr>
<td>Series 2010A NEI-PS 10 to Lien Rd</td>
<td>7,042,003</td>
<td>6,645,537</td>
<td>6,239,679</td>
</tr>
<tr>
<td>Series 2012A Nine Springs Eleventh Addition</td>
<td>45,268,826</td>
<td>42,936,290</td>
<td>40,545,020</td>
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<tr>
<td>Series 2012B Operations Building HVAC Rehab</td>
<td>2,626,484</td>
<td>2,505,790</td>
<td>2,381,476</td>
</tr>
<tr>
<td>Series 2013A NEI-SEI to FEI - Replacement Project</td>
<td>7,404,229</td>
<td>7,082,113</td>
<td>6,750,993</td>
</tr>
<tr>
<td>Series 2013B Pumping Station No. 18</td>
<td>13,852,476</td>
<td>13,241,554</td>
<td>12,614,486</td>
</tr>
<tr>
<td>Series 2013C Process Control System Upgrade</td>
<td>4,072,976</td>
<td>4,087,601</td>
<td>3,893,735</td>
</tr>
<tr>
<td>Series 2014A Pumping Station No. 18 Force Main</td>
<td>11,110,409</td>
<td>10,623,616</td>
<td>10,123,602</td>
</tr>
<tr>
<td>Series 2015A PS 11 &amp; 12 Rehabilitation</td>
<td>6,538,334</td>
<td>10,349,000</td>
<td>9,877,000</td>
</tr>
<tr>
<td>Series 2015B Maintenance Facility Expansion</td>
<td>8,919,198</td>
<td>11,679,000</td>
<td>11,180,000</td>
</tr>
<tr>
<td>Series 2016A Rimrock Interceptor Replacement/Relief</td>
<td>-</td>
<td>1,040,000</td>
<td>999,000</td>
</tr>
<tr>
<td>Series 2016B PS 12 FM Relocation at Verona Rd.</td>
<td>-</td>
<td>2,300,000</td>
<td>2,306,000</td>
</tr>
<tr>
<td>Series 2016C PS 15 Rehabilitation</td>
<td>-</td>
<td>2,985,000</td>
<td>4,883,000</td>
</tr>
<tr>
<td>Series 2017A West Interceptor-Randall St. to Near PS2</td>
<td>-</td>
<td>-</td>
<td>1,500,000</td>
</tr>
<tr>
<td>Series 2017B SEI Rehab. Upstream of PS 9</td>
<td>-</td>
<td>-</td>
<td>1,030,000</td>
</tr>
</tbody>
</table>

## Overall Budget Summary, Net of Transfers

<table>
<thead>
<tr>
<th>Summarized Budget Items</th>
<th>2016 Thru June</th>
<th>Estimated 2016 Total</th>
<th>2016 Budget</th>
<th>2017 Budget</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Revenues</td>
<td>$21,427,821</td>
<td>$49,424,000</td>
<td>$46,977,000</td>
<td>$40,629,000</td>
<td>-13.5%</td>
</tr>
<tr>
<td>Total Expenditures</td>
<td>$23,483,086</td>
<td>45,993,000</td>
<td>47,503,000</td>
<td>43,062,000</td>
<td>-9.3%</td>
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<tr>
<td>Beginning Reserve Balance</td>
<td>$40,213,561</td>
<td>$40,213,561</td>
<td>$38,861,000</td>
<td>$43,645,000</td>
<td>12.3%</td>
</tr>
<tr>
<td>Ending Reserve Balance</td>
<td>$38,158,297</td>
<td>$43,645,000</td>
<td>$38,335,000</td>
<td>$41,212,000</td>
<td>7.5%</td>
</tr>
</tbody>
</table>

### SCHEDULE OF PRINCIPAL AMOUNT OF INDEBTEDNESS

| Total Indebtedness                      | $140,080,355   | $145,054,000         | $140,003,000 |

## Overall Budget Summary, Net of Transfers

<table>
<thead>
<tr>
<th>Summarized Budget Items</th>
<th>2016 Thru June</th>
<th>Estimated 2016 Total</th>
<th>2016 Budget</th>
<th>2017 Budget</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Revenues</td>
<td>$21,427,821</td>
<td>$49,424,000</td>
<td>$46,977,000</td>
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<td>Total Expenditures</td>
<td>$23,483,086</td>
<td>45,993,000</td>
<td>47,503,000</td>
<td>43,062,000</td>
<td>-9.3%</td>
</tr>
<tr>
<td>Beginning Reserve Balance</td>
<td>$40,213,561</td>
<td>$40,213,561</td>
<td>$38,861,000</td>
<td>$43,645,000</td>
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<td>Ending Reserve Balance</td>
<td>$38,158,297</td>
<td>$43,645,000</td>
<td>$38,335,000</td>
<td>$41,212,000</td>
<td>7.5%</td>
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</table>
### 2016 Wage Schedule for Hourly Employees

The schedules below represent 2016 wages. The District has completed a wage survey to determine competitive wage rates. The ELC, Executive Team and Commission will collaborate into the 4th Quarter of 2016 and first quarter of 2017 to determine how the wage survey results will be implemented in 2017.

<table>
<thead>
<tr>
<th>Classification</th>
<th>Range</th>
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<th>2</th>
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<tr>
<td>Custodian &amp; Grounds Worker</td>
<td>Bi-Weekly</td>
<td>1,379.35</td>
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<td>17.2419</td>
<td>17.7589</td>
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<td>18.8319</td>
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<td>Administrative Secretary</td>
<td>Bi-Weekly</td>
<td>1,466.05</td>
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<td>Bi-Weekly</td>
<td>1,797.24</td>
<td>1,842.74</td>
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<tr>
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<td>22.4655</td>
<td>23.0343</td>
<td>23.7914</td>
<td>24.5488</td>
<td>25.2828</td>
</tr>
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<td>Sr. Custodian &amp; Grounds Worker</td>
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<td>1,842.74</td>
<td>1,903.31</td>
<td>1,963.91</td>
<td>2,018.37</td>
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<td>23.0343</td>
<td>23.7914</td>
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<td>25.9494</td>
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<td>Monitoring Services Helper; Utility II; Reuse Diesel Truck Driver I; Sr. Building &amp; Grounds Worker</td>
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<td>2,018.37</td>
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<td>24.5488</td>
<td>25.2296</td>
<td>25.9494</td>
<td>26.5179</td>
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<td>Station Maintenance Worker, Relief Oper I; Oper I; Apprentice Mech; Asst MetroGro Mech; Apprentice Electrician; Reuse Diesel Truck Driver II; Reuse Relief Diesel Truck Driver; MS/SM Work I</td>
<td>Bi-Weekly</td>
<td>2,018.37</td>
<td>2,075.95</td>
<td>2,121.43</td>
<td>2,175.88</td>
<td>2,239.51</td>
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<tr>
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<td>Hourly</td>
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<td>25.9494</td>
<td>26.5179</td>
<td>27.1984</td>
<td>27.9939</td>
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<td>Building &amp; Grounds Crew Leader; Apprentice Mech II; Apprentice Elec II; Oper II; Relief Oper II, MS/SM Worker II</td>
<td>Bi-Weekly</td>
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<td>2,121.43</td>
<td>2,175.88</td>
<td>2,239.51</td>
<td>2,297.05</td>
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<td>29.4704</td>
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<tr>
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<td>Bi-Weekly</td>
<td>2,175.88</td>
<td>2,239.51</td>
<td>2,297.05</td>
<td>2,357.63</td>
<td>2,448.49</td>
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<td>27.9939</td>
<td>28.7131</td>
<td>29.4704</td>
<td>30.6061</td>
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<tr>
<td>Sr. Journeyman Mech II; Sr. Journeyman Elect II; Sr. Mech (Diesel &amp; HE); Purchasing/Inventory Asst</td>
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<td>2,297.05</td>
<td>2,357.63</td>
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<td>MIN $</td>
<td>MID $</td>
<td>MAX $</td>
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</tbody>
</table>

The schedules above represent 2016 wages. The District has completed a wage survey to determine competitive wage rates. The ELC, Executive Team and Commission will collaborate into the 4th Quarter of 2016 and first quarter of 2017 to determine how the wage survey results will be implemented in 2017.
Governance

Madison Metropolitan Sewerage District (the District) is a body corporate with the powers of a municipal corporation for the purpose of carrying out the provisions of Sections 200.01 to 200.15 of the State of Wisconsin statutes. It was created by judgment of the County Court for Dane County, entered on the 8th day of February, 1930. Its existence was validated and confirmed by Chapter 132 of the Laws of 1969, effective August 2, 1969. The constitutionality of that Law was sustained by the Wisconsin Supreme Court in Madison Metropolitan Sewerage District vs. Stein, 47 Wis. 2nd 349, 177 N.W. 2nd 131 (1969).

The District is governed by nine Commissioners serving staggered terms: five Commissioners are appointed by the Mayor of the City of Madison, three are appointed by an executive council made up of elected officials from District cities and villages, and one is appointed by an executive council made up of by town-elected officials. The Commissioners meet once or twice each month at the District. Special meetings are held as required upon call of any member of the Commission.

Service Area

The District services 14.8% of the entire county by area and 71.8% of the county population (Figure 11). Areas served include the Cities of Madison, Fitchburg, Middleton, Monona and Verona as well as the Villages of Cottage Grove, Dane, De Forest, Maple Bluff, McFarland, Shorewood Hills, Waunakee and the Towns of Blooming Grove, Dunn, Madison, Middleton, Pleasant Springs, Verona, Vienna, Westport and Windsor (Figure 13).

A complete list of District customer communities and their estimated wastewater contributions is shown in Table 14. The largest taxpayers and employers in the county are shown in Tables 15 and 16, respectively. The equalized property tax valuation for the District is shown in Figure 12.

Additional information regarding Dane County and the City of Madison can be found at: www.countyofdane.com and www.cityofmadison.com.
FIGURE 11 | Dane County and District Data

**DANE COUNTY**

- Estimated Population: 516,284
- Total Square Miles: 1,238
- Avg. Daily Influent Flow in Gallons: 39M
- Personal Income Per Capita: $33,712

**THE DISTRICT**

- Estimated Population: 370,800
- Total Square Miles: 182.52
- TID Out Values in Billions:
  - 2005: $30.14
  - 2006: $34.80
  - 2007: $36.70
  - 2008: $36.69
  - 2009: $34.87
  - 2010: $35.56
  - 2011: $36.69
  - 2012: $35.69
  - 2013: $34.70
  - 2014: $32.83
  - 2015: $37.61
  - 2016: $39.95

FIGURE 12 | Equalized Property Valuation for the District

*TID Out Values in Billions*
<table>
<thead>
<tr>
<th>Community</th>
<th>Volume (gpd)</th>
<th>CBOD (lbs/day)</th>
<th>Solids (lbs/day)</th>
<th>Nitrogen (lbs/day)</th>
<th>Phosphorus (lbs/day)</th>
<th>Equivalent Meters</th>
<th>Actual Customers</th>
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<td>105</td>
<td>8,280</td>
<td>6,000</td>
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<td>24,850,000</td>
<td>45,500</td>
<td>53,000</td>
<td>10,100</td>
<td>1,340</td>
<td>85,700</td>
<td>65,900</td>
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<td>Middleton</td>
<td>1,850,000</td>
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<td>750</td>
<td>95</td>
<td>8,335</td>
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<td>5,470</td>
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<tr>
<td>Windsor- Oak Springs S.D.</td>
<td>30,000</td>
<td>42</td>
<td>48</td>
<td>12</td>
<td>1</td>
<td>147</td>
<td>147</td>
</tr>
</tbody>
</table>

| Interceptor Infiltration          | 1,913,000    |                |                  |                    |                     |                    |                  |
| Daily Nine Springs Loadings      | 37,974,000   | 69,700         | 73,600           | 14,600             | 1,900               | 138,246            | 106,487          |
| **ESTIMATED 2015 TOTAL Loadings(Units)** | 13,861 | 25,440,500      | 26,864,000       | 5,329,000          | 693,500             | 138,246            | 106,487          |
### TABLE 15 | Dane County Principal Taxpayers (Budget Year 2016)

<table>
<thead>
<tr>
<th>TAXPAYER</th>
<th>TYPE OF BUSINESS</th>
<th>2015 EQUALIZED ASSESSED VALUE</th>
<th>PERCENTAGE OF TOTAL EQUALIZED ASSESSED VALUATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epic Systems Corp.</td>
<td>Medical Software</td>
<td>$789,292,014</td>
<td>1.54%</td>
</tr>
<tr>
<td>Madison Joint Venture</td>
<td>Shopping Centers</td>
<td>$184,919,566</td>
<td>0.36%</td>
</tr>
<tr>
<td>American Family Insurance</td>
<td>Insurance</td>
<td>$147,591,637</td>
<td>0.29%</td>
</tr>
<tr>
<td>Greenway Office Center</td>
<td>Property Management</td>
<td>$121,706,872</td>
<td>0.24%</td>
</tr>
<tr>
<td>Promega Corporation</td>
<td>Manufacturing/Biotechnology</td>
<td>$104,429,740</td>
<td>0.20%</td>
</tr>
<tr>
<td>Covance Laboratories</td>
<td>Research</td>
<td>$82,174,497</td>
<td>0.16%</td>
</tr>
<tr>
<td>University Research Park Inc.</td>
<td>Research &amp; Technology Park</td>
<td>$75,959,009</td>
<td>0.15%</td>
</tr>
<tr>
<td>777 University Ave</td>
<td>Property Management</td>
<td>$56,250,903</td>
<td>0.11%</td>
</tr>
<tr>
<td>CMG Life Insurance Co</td>
<td>Insurance</td>
<td>$54,307,176</td>
<td>0.11%</td>
</tr>
<tr>
<td>University Research Park</td>
<td>Property Management</td>
<td>$51,846,877</td>
<td>0.10%</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td></td>
<td>$1,668,478,291</td>
<td>3.25%</td>
</tr>
</tbody>
</table>

### TABLE 16 | Dane County Largest Employers

1. *Source: Comprehensive Annual Financial Reports - MATC*

<table>
<thead>
<tr>
<th>EMPLOYER</th>
<th>TYPE OF ORGANIZATION</th>
<th>EMPLOYEES</th>
</tr>
</thead>
<tbody>
<tr>
<td>State of Wisconsin</td>
<td>State Government</td>
<td>36,043</td>
</tr>
<tr>
<td>University of Wisconsin-Madison</td>
<td>University/College</td>
<td>14,464</td>
</tr>
<tr>
<td>EPIC Systems</td>
<td>Software Services</td>
<td>7,400</td>
</tr>
<tr>
<td>UW Hospital &amp; Clinics Authority</td>
<td>Healthcare</td>
<td>5,000</td>
</tr>
<tr>
<td>Oscar Meyer Foods (Kraft Food)</td>
<td>Food Packaging Company</td>
<td>5,000</td>
</tr>
<tr>
<td>Madison Metropolitan School District</td>
<td>Education</td>
<td>3,903</td>
</tr>
<tr>
<td>Wisconsin Physicians Service Insurance</td>
<td>Health Benefits/Insurance</td>
<td>3,500</td>
</tr>
<tr>
<td>Meriter Health Services</td>
<td>Hospital/healthcare</td>
<td>3,000</td>
</tr>
<tr>
<td>St. Mary’s Hospital</td>
<td>Hospital</td>
<td>2,800</td>
</tr>
<tr>
<td>American Family Insurance</td>
<td>Insurance</td>
<td>2,000</td>
</tr>
</tbody>
</table>
Below is a summary of organizational changes that have occurred over the past year. These changes occurred based on planned retirements that coincided with major District work efforts.

**ADMINISTRATION**

1. **The Director of Administration is promoted to Assistant Chief Engineer and Director of Administration**
   - *Completed*
   - The Director of Administration was promoted for his extensive knowledge of the District and his strong detail orientation, which he effectively translates into approaches that work for the organization.
   - Lead and facilitate the implementation of organizational priorities and change initiatives.
   - Serve as custodian of the Sewer Use Ordinance. This role involves providing interpretations and making recommendations to the CED, keeping the SUO current and ahead of emerging trends.
   - Represent the CED on the Employee Leadership Council and in the CED’s absence.

2. **Controller/Office Manager becomes Comptroller/Budget Manager**
   - *Completed*
   - Reflect the Controller’s leadership role for centralized budget development function and the quality of accounting and financial reporting.

3. **Purchasing moves to Administrative Services**
   - *Completed*
   - Enhances checks and balances and develops District wide purchasing standards and efficiencies.
   - The Comptroller/Budget Manager is positioned to lead the development of this program.
4. **CIP financial elements transition to Administration**  
*Completed*  
- This work is a strength in Administration and there needs to be a single voice who can explain and incorporate critical financial issues.  
- With the current Assistant Chief Engineer and Director of Planning retiring, it is a good time to make the transition.

5. **Executive Coordinator to supervise Resource Team**  
*Completed*  
- Streamline communication and lines of responsibility.  
- Free up capacity for the Comptroller/Budget Manager, so that she can supervise the purchasing program.

**ECOSYSTEM SERVICES**

6. **Metrogro Program (Resource Recovery Program) moves to Ecosystem Services**  
*Completed*  
- The Metrogro program’s scope will be broadened to include resource recovery beyond Metrogro. With the planned diversification of the biosolids program, this group will seek out opportunities for a balanced portfolio of District recovered resources.  
- Closer relationship between field activities and lab activities.  
- The Resource Recovery Manager will report to the Director of Ecosystem Services.

7. **Resource Recovery Manager’s responsibilities broadened**  
*Completed*  
- Aligns with Ecosystem Services focus on external relationships and programmatic emphasis.  
- Utilize the Resource Recovery Manager’s strong agricultural producer relationships for the adaptive management program.  
- The District will need the Director of Operations and Maintenance and the Director of Ecosystem Service’s knowledge and experience to help usher this transition in a smooth and effective way before they retire.
8. **Lead worker role of Field Operations Team Lead established.**  
   *Completed*  
   • Provides transition of the Resource Recovery Manager’s critical field coordination responsibilities before he retires and provides capacity for the Resource Recovery Manager to take on other resource recovery priorities.

9. **Hire an additional Pollution Prevention Specialist**  
   *Completed*  
   • Provides additional support for pollution prevention and source reduction initiatives undertaken by the District.

**OPERATIONS & MAINTENANCE**  

10. **Operations Engineer to Operations Manager**  
    *Completed*  
    • Name change that reflects management responsibilities.

11. **Reliability Engineer to Maintenance and Reliability Manager**  
    *Completed*  
    • Reflects importance of management responsibilities.

12. **Hire a new Regulatory Engineer**  
    *Completed*  
    • Regulatory Compliance is a major area of need, particularly as it relates to the air permit.  
    • There is a need to have somebody manage small plant related projects.  
    • There is a need to support workload increases in Operations expected when the Director of Operations and Maintenance and the Operations Manager retire.  
    • Direct report to the Operations Manager.
PLANNING

13. Formally create an independent Planning Department

_Completed_
- Core functions include master planning, facility and capital planning, sustainable infrastructure management, long range studies and strategic implementation plans, demand analysis/development activity (user charge system, sewer extensions, and annexations).
- Focused on preparing the organization for the future, creative thinking, strategic decision making, quadrant #2.

14. Collection System Engineer becomes Capital Planning Engineer

_Completed_
- To recognize the current Collection System Engineer’s increasing role in the CIP development process.
- Broader scope that will include collection system and treatment system CIP elements and finding ways to coordinate between the two.

15. Move Engineering Technician to Planning and Strategy Department.

_Completed_
- A better distribution of direct reports between Director of Engineering and Director of Planning.
- Provides a closer reporting/working relationship between the Capital Planning Engineer and the Engineering Technician.
- Development activity is a planning function.
- Engineering Technician to report to the Capital Planning Engineer.

16. Asset Information Specialist moves to Asset Management Program

_Completed_
- More direct coordination of asset management system priorities.
- Asset Information Specialist reports to the Sustainable Infrastructure Manager.
17. Move GIS to Planning

*Completed*
- GIS is intended for strategic decision making, which best fits in the area of Planning.
- Balances the workload between the Director of Engineering and the Director of Planning.
- Complete move before the beginning of IT Strategic Planning.
- GIS Technician reports to the Director of Planning.

ENGINEERING

18. Electrical Engineers formally report to Director of Engineering

*Completed*
- Electrical engineering services fit more closely with the project work undertaken by the Engineering Department.
- Will continue to report to the current Assistant Chief Engineer and Director of Planning until his retirement.

DISTRICT LEADERSHIP AND SUPPORT

19. Hire a new Strategic Communication Manager

*Spring 2017*
- Adds new capacity and expertise to improve external communications.
- Will support District and department priorities.
- Reports to Chief Engineer and Director.
COMMON ACRONYMS

CARPC- Capital Area Regional Planning Commission
CIP- Capital Improvements Plan
CMMS- Computerized Maintenance Management System
CWF- Clean Water Fund (loan program for wastewater facilities)
DNR- Department of Natural Resources
FEI- Far East Interceptor
FOG- Fats, Oils, and Grease
MH- Manhole
MMSD- Madison Metropolitan Sewerage District
NACWA- National Association of Clean Water Agencies
NEI- Northeast Interceptor
NSVI- Nine Springs Valley Interceptor
O&M- Operations and Maintenance
PCS- Process Control System
PS- Pumping Station
SEI- Southeast Interceptor
WAM- Work and Asset Management (MMSD’s CMMS software)
WPDES- Wisconsin Pollutant Discharge Elimination System (District permit)
WRS- Wisconsin Retirement System

GLOSSARY

MMSD DEFINITIONS

Adaptive Management- Watershed approach developed to comply with stringent phosphorus limits.

Additions (9th, 10th, 11th, etc.)- Major Construction related additions, alterations, conversions, reconstruction, renovations, rehabilitations and replacements at the Nine Springs Wastewater Treatment Plant.

Anaerobic Digestion- Under this process the organic sludge is treated in the absence of oxygen to reduce both the quantity and odor of sludges by breaking down the organic matter and producing methane and carbon dioxide.

Acid Digestion- One of the primary steps of the anaerobic digestion process in which soluble products are fermented to acids and alcohols of lower molecular weight.

Annexation- The process whereby a city, village, town, or other unit of government (e.g., MMSD) expands its boundaries to include a specific geographic area.

Asset Management- The strategic management of physical assets during their life in the organization.

Billing Parameters- MMSD billing parameters include: carbonaceous biochemical oxygen demand (CBOD), Total suspended solids (TSS), Total phosphorus (TP), Total Kjehldahl nitrogen (TKN), volume, equivalent meters and actual customers.

Biosolids- The soil-like residue of materials removed from sewage during the treatment process.
**Capital Projects Fund**- Fund that accounts for financial resources used for the acquisition, construction or rehabilitation of major capital facilities. The budget for this fund is often referred to as the Capital Projects Budget or Capital Budget.

**Class “A” Products (Biosolids)**- Refers to sludge that contains minute levels of pathogens (disease causing organisms). To achieve Class A certification, biosolids must undergo heating, composting, digestion or increased pH that reduces pathogens to below detectable levels. Once these goals are achieved, Class A biosolids can be land-applied without any pathogen-related restrictions at the site.

**Class “B” Products (Biosolids)**- Refers to sludge that has undergone treatment that has reduced but not eliminated pathogens. Class B biosolids have less stringent standards for treatment and contain small but compliant amounts of pathogens. Class B requirements ensure that pathogens in biosolids have been reduced to levels that protect public health and the environment and include certain restrictions for crop harvesting, grazing animals and public contact. As is true of their Class A counterpart, Class B biosolids are treated in a wastewater treatment facility and undergo heating, composting, digestion or increased pH processes before leaving the plant.

**CMOM/SSO Regulations**- Refers to a Capacity, Management, Operation, and Maintenance Program (CMOM) that focuses on sewer collection systems with a goal of eliminating sanitary sewer overflows (SSO).

**Collection System**- A system of pipes and pumping facilities carrying sewage for disposal.

**Collection System Facilities Plan (CSFP)**- An overall assessment of the condition and capacity of the key components that comprise the District’s wastewater collection system. The Plan identifies the scope and timing of required projects over the next 20 years so that the infrastructure continues to provide a high level of service to the District’s customers while also addressing environmental concerns and regulatory requirements.

**Commission**- A group appointed pursuant to law to conduct certain government business; MMSD has five appointed Commissioners.

**Connection Charges**- Charges related to connecting with MMSD sewers.

**Conveyance System**- Synonymous with collection system.

**Debt Service Fund**- A fund established by a government agency or business for the purpose of reducing debt by repaying or purchasing outstanding loans and securities held against the entity. MMSD transfers a portion of its collected service charges to this fund to pay for its debt service.

**Effluent**- Wastewater, treated or untreated, that flows out of a treatment plant or sewer outfall. The Nine Springs Wastewater Treatment Plant returns treated effluent to the environment.

**Executive Team**- Refers to the Executive team at MMSD made up of the Chief Engineer and Director, Assistant Chief Engineer and Director of Planning, Director of Engineering, Director of Operations and Maintenance, Director of Ecosystem Services, Director of Administration, HR Manager and the Executive Coordinator.

**Force Main**- The discharge pipeline of a pumping station.

**Interceptor Connection Charge (ICC)**- ICC represents the users “fair share” of collection system investments MMSD has made to install interceptor sewers and pump stations.

**Influent**- Water or wastewater entering a physical structure or process such as a treatment plant, pumping station or tank.

**Interceptor**- Large sewer lines that convey the flow of sewage to a pumping station or treatment plant by gravity.

**Lining**- A rehabilitation process in which a coating material is introduced to extend the life of the existing sewer.

**Master Plan**- MMSD’s 50-year blueprint for the future.
**Metrogro** - A program that recycles liquid biosolids to agricultural land as fertilizer and soil conditioner.

**Metromix** - a “soil like” material created by MMSD that combines biosolids with amendments such as sand, sawdust and/or bulking agents. Metromix is intended for use in landscaping, turf production, general gardening, and other similar applications.

**Nine Springs Wastewater Treatment Plant (NSWTP)** - Wastewater treatment plant originally constructed in the late 1920s in Madison, WI. Since then, the plant has experienced numerous changes and additions. The plant presently serves 40 communities in the Madison area.

**Nutrient Removal** - The removal of phosphorus and nitrogen from wastewater. MMSD uses a process called Biological Nutrient Removal (BNR) that removes nitrogen and phosphorus from wastewater by using specific groups of micro-organisms and providing suitable conditions for their growth.

**OnBase** - OnBase is a software application that electronically captures, stores and manages documents generated or received by a company.

**Operating Fund** - In government accounting, fund used to account for all assets and liabilities of a nonprofit entity except those particularly assigned for other purposes in another more specialized fund. The cost of normal operations is expended from this fund.

**Ostara** - A process to recover phosphorus-containing fertilizer (struvite) as a natural byproduct of wastewater treatment.

**Plan Review Fee** - Customer communities pay sewer plan review fees for MMSD’s plan review of modifications or additions to their sewer systems.

**Pretreatment** - Processes used by industrial or commercial customers to reduce or eliminate the contaminants in non-domestic wastewater to alter its nature, before discharging it into the collection system.

**Pumping Stations** - Also called lift stations, are normally designed to handle raw sewage that is fed from underground gravity pipelines (pipes that are laid at an angle so that a liquid can flow in one direction by gravity). Sewage is fed into and stored in an underground pit, commonly known as a wet well. The well is equipped with instruments to detect the level of sewage present. When the sewage level rises to a predetermined point, a pump will start and lift the sewage upward through a pressurized pipe system called a sewer force main. The sewage discharges into another gravity sewer or its final destination—a treatment plant.

**Relief Sewer** - A sewer built to carry the flows in excess of the capacity of an existing sewer; generally in parallel with the existing sewer.

**Septage** - The waste content found in a septic tank.

**Service Charges** - Annual amounts collected through customer rates that are used to fund MMSD’s ongoing operations and debt service.

**Sewer Extension Permit** - Refers to a required permit for an extension, addition, or modification to the sanitary sewer collection system.

**Struvite** - A phosphate mineral (magnesium ammonium phosphate).

**Televising** - A method using video camera(s) to assess the condition of a sewer line in real time. It can reveal blockages from debris, roots, or grease; show cracks, breaks or deterioration of a pipe. It allows detailed diagnosis without the need for excavation, saving time and money.

**Thermal Requirements** - Potential regulatory requirements to meet particular thermal temperatures in effluent receiving streams.

**Treatment Plant Connection Charge (TPCC)** - Represents a new users fair-share of the debt service for excess capacity at the wastewater treatment plant.

**User Charge** - Service charge based on wastewater flow and loadings data for a specific customer. The wastewater flow and loadings are used to develop customer bills (see also Billing Parameters).
BUDGET TEAM

Michael Mucha - Chief Engineer and Director
Todd Gebert - Capital Planning Engineer
Shirley Fox - Comptroller and Budget Manager
Janelle Werner - Executive Coordinator
Paul Nehm - Director of Operations and Maintenance
Lynn Kruchten - Program Resource Associate
Bruce Borelli - Director of Engineering
Stephanie Calkins - Staff Accountant
Laurie Dunn - Information Systems Manager
Jeff Brochtrup - Assistant Chief Engineer and Director of Administration
Dave Taylor - Director of Ecosystems

Missing from Photo Jen Scholte - Strategic Communications Specialist