

# 2018 BUDGET DOCUMENT



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## METROPOLITAN SEWERAGE DISTRICT OF BUNCOMBE COUNTY, NORTH CAROLINA

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*"to provide wastewater collection and treatment to its users which promotes the health and safety of affected citizens in the most effective and efficient manner possible today and in the future"*

# 2017-2018

## Budget Document

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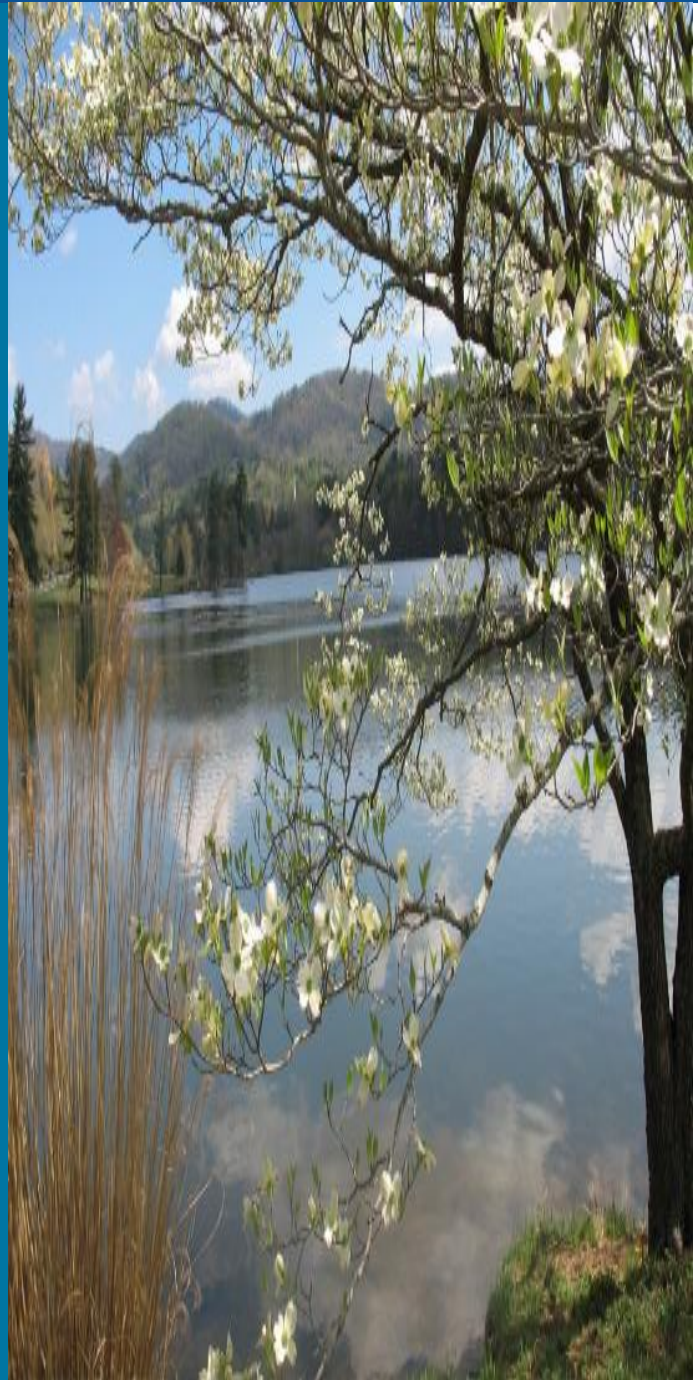
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## Certificate of Achievement

The Government Finance Officers Association of the United States and Canada (GFOA) presented a Distinguished Budget Presentation Award to the Metropolitan Sewerage District of Buncombe County, North Carolina (MSD) for its annual budget for the fiscal year beginning July 1, 2016. This is the twentieth consecutive year that the MSD has received this award.

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 communication device.

This award is valid for a period on one year only. We believe our FY2018 budget continues to conform to the program requirements, and we are submitting it to the GFOA to determine its eligibility for another award.





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# INTRODUCTION





# Metropolitan Sewerage District

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## OF BUNCOMBE COUNTY, NORTH CAROLINA

June 14, 2017

Members of the Board

Metropolitan Sewerage District of Buncombe County, North Carolina

W. H. Mull Building

2028 Riverside Drive

Asheville, North Carolina 28804

**Subject:** FY18 Budget and Proposed Sewer Rates

Dear Members of the Board,

We respectfully present the FY18 Budget for the Metropolitan Sewerage District of Buncombe County, North Carolina. The budget incorporates staff recommendations presented to and accepted by the Personnel Committee, which met on April 25, 2017, the Capital Improvement Program Committee, which met on April 27, 2017, and the Finance Committee, which met on May 4, 2017.

We have developed the FY18 Budget to advance the organization's mission "*to provide wastewater collection and treatment to its users which promotes the health and safety of affected citizens in the most effective and efficient manner possible today and in the future*". The following Operational and Capital budget is designed to provide services meeting or exceeding all state regulations and Bond Order covenants with which the District must comply, with any rate changes to be at the lowest responsible level.

### Current Year Highlights

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In FY17, the District's domestic and industrial revenue is expected to meet budgeted projections. The District continues to achieve growth in the number of residential customers.

By effectively controlling the increase in operating expenditures and strategically planning the timing of CIP projects, the District has been able to limit the proposed rate increase to 2.5% for the upcoming year. Additionally, the District's long-range business plan incorporates these changes and projects that future rate increases will approximate 2.5% for the remaining nine (9) years.

This budget continues several recent initiatives to maintain the District's overall strategy of keeping collection lines and the plant functioning effectively while rehabilitating significant portions of aging infrastructure. The most important goal remains meeting all regulatory permit requirements.



The SS Construction Department continues to expand its participation in sewerline rehabilitation and replacement efforts to minimize SSOs. Goals for FY18 include utilizing Infrastructure Rehabilitation System (IRS) lining, pipe bursting, and dig-and-replacement construction to rehabilitate and replace at least 20,000 linear feet, while providing preventative maintenance for approximately 500,000 linear feet of the system by employing in-house jet wash cleaning and both chemical and mechanical root control. In addition, the SS Maintenance Department will manage the District's Right-of-Way maintenance program whereby easements will be periodically cleared or mowed.

The Wastewater Treatment Plant is continuing systematic improvements as part of the District's detailed Facilities Plan. In FY17, the District began the construction phase of the \$9.6 million Headworks project. This project includes installing new bar screens and grit removal systems along with fine screens and a surge system for peak flows.

## Operating Budget

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The proposed \$16.6 million Operating Budget represents routine expenditures and capital equipment acquisitions needed for the day-to-day operations of the District. Highlights of significant components and changes include:

- ▲ **Compensation and Benefits**—The staff and employees considered salary and health insurance increases together as part of a comprehensive compensation package.
  - A 3.0% salary adjustment—CPI increased 2.0% for the last twelve-month period; Division Directors in conjunction with Employee Advisory Committee have requested a cost of living increase to keep pace with industry salary increases as well as to encourage retention of valued employees. The Personnel Committee has recommended a wage increase, which has a \$203,000 net impact on current year expenditures.
  - A 5.4% increase in funding for North Carolina retirement cost—In 2016, the Local Governmental Employees' Retirement Systems (LGERS) adopted a rate stabilization policy to allow for predictability and stability in the contribution rates, while continuing to keep the local retirement system one of the best-funded systems in the country. Subsequently, LGERS raised the District's contribution rate from 6.67% to 7.50% of total salary and wages. Over the next five years, contribution rates are projected to increase to an amount slightly over 8.75%. This has a \$34,484 impact on current year expenditures.
  - A 7.5% increase in funding for Self-Insured Medical Plan—During FY16, staff worked with its consultant and initiated a top to bottom review of our medical insurance plan. The effort was to insure the District has a medical plan in line with our sister agencies as well as to limit certain benefits and increase cost sharing by employees in the amount of \$175,000. These changes have been endorsed by the Employee Advisory Committee. The two groups continue to work on a long-term strategic plan to address controllable medical

issues. The 7.5% increase in the employer contribution is in line with medical and prescription trend and has a \$143,147 impact on current year expenditures.

- Funding for Post-Employment Health Benefit—Starting in FY09, GASB 45 required recognition of cost for Post-Employment Health Benefits. An actuarial study was done in the current year, which stated that FY18 funding should be \$249,500. Current funding has been implemented into the proposed FY18 budget and the current business plan and represents 1.5% of total operations.

- ▲ **Materials, Supplies, and Service expenditures increased 1.94% over prior year—**  
The District has made a concerted effort to hold materials, supplies, and services cost close to the prior year's level, taking into account inflationary cost increases. The District has increased specific line items to address regulatory and operational needs (i.e. Title V Air Permit). Discretionary expenditures have been limited where practicable. This has a \$123,894 impact on current year expenditures.

## Capital Improvement Program

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The District prepares a ten-year Capital Improvement Program as required by its State Collection System Permit and the Consolidation Agreements. The estimated construction expenditure for FY18 is \$28.3 million, which is comprised of an estimated \$27.0 million in construction, \$266,000 of reimbursement and \$1 million in contingency. A detailed list of individual projects and planned expenditures by year was presented at the April 27, 2017 CIP meeting.

The Board has consistently financed its Capital Improvement Program through revenue bonds and pay-as-you-go moneys. As of June 30, 2017, the District will have \$90.04 million in outstanding revenue bond debt, with total debt service of \$9.79 million due before the end of the fiscal year. Unlike counties and cities, the District does not have a legally mandated debt limit. However, the District does have a rate covenant. The covenant requires the District to set rates and charges so that income available for debt service will not be less than 120% of fiscal year debt service requirement.

### ◀ **Collection System Capital Improvements:**

MSD initiated and maintains an aggressive program to rehabilitate its Wastewater Collection System. This program will conform to the North Carolina Department of Environmental and Natural Resources (NCDENR) Collection System Permit requirements and will improve the operational performance and extend the life of the collection system. The estimated cost over a 10-year period is approximately \$191.9 million out of a total CIP budget of \$226.8 million. In the previous decade, efforts had been directed to expediting completion of certain projects identified by the member agencies and assumed by the District during the consolidation process. For example, construction of the 23.8-mile North Swannanoa Interceptor begun in 1993 was completed during FY2004 at a cost in excess of \$44 million. Now that most of these “consolidation” projects have been completed, our focus has been redirected to rehabilitation

of the State-mandated 250,000 feet of sewerline every five (5) years and other projects identified in the Master Plan.

This rehabilitation has been made more cost-effective by the development of the Pipe Rating Program. Pipe Rating is a proactive planning tool, which utilizes Closed Circuit Television (CCTV) information, a GIS database, and actual maintenance history to view, rate, and computer-score pipe segments based on a number of factors.

These factors, for any given manhole-to-manhole segment, include maintenance work order history, number, and severity of defects, and record of overflows on that segment, and are combined to yield a rating useful for prioritizing rehabilitation efforts.

Pipe Rating minimizes costs by helping the District focus rehabilitation dollars where they are needed most, rather than the previous replacement of collector lines throughout an entire basin. In recognition of this innovative program, the Association of Metropolitan Sewerage Agencies (AMSA) awarded the District one of only two 2003 National Environmental Achievement Awards.

Major projects for FY18 include the \$1,703,000 South French Broad Lining Project Ph. 1 with approximately 6,631 linear feet, \$1,429,800 Elkwood Avenue with over 4,736 linear feet, \$1,473,669 Hendersonville Road at Rosscraggon with over 4,163 linear feet, \$1,036,000 Sutton Avenue, with over 3,700 linear feet, and \$850,018 Jonestown Road with over 3,415 linear feet. In FY18, Treatment Plant Headworks improvements are scheduled to cost \$7.1 million. These are in addition to numerous smaller projects completed throughout the collection system. Further details are available in the CIP section of the budget document.

The District's Collection System Master Plan addresses the orderly extension of the District's collection system into future service areas. The plan has been prepared in close cooperation with the District's member agencies and regional stakeholders. The land use policies and zoning regulations of each agency were used for land usage, growth projections/densities, and line locations. For areas outside of corporate or jurisdictional limits, Buncombe County's Zoning Ordinance has played an integral role in defining future service areas.

The plan will serve as a basis to ensure that the sewer system will be extended in an orderly fashion, and is done so in accordance with the planning policies of the various local governments within the District's service area.

◀ **Wastewater Treatment Plant Capital Improvements:**

During FY15, the Treatment Facilities Plan was updated for the Water Reclamation Facility. This plan provides short, medium, and long-term recommendations for each specific process and facility



This update primarily expanded on several of the original plan's longer term recommendations. It focused specifically on improvements to the WRF Headwork's (i.e. bar screens, influent pumping station, and the problematic grit & grease removal system), including surge control for short-term peak flows. It also investigated in detail the installation of a primary clarification process; and has evaluated alternatives for the biological treatment process.

Another key aspect of the Facility Plan Update was to gain a solid understanding of regulatory issues that may impact future treatment requirements and identify long-term biological treatment alternatives to comply with anticipated future regulation changes.

Near-term and mid-term project recommendations from the plan include:

- **Plant Headworks Project:** This \$9.6 million project spans 2 years and consists of a new grit removal system to replace the existing problematic system, a fine screening facility which will supplement the WRF's existing bar screens, and storage at the plant using existing decommissioned tanks to provide more effective treatment during peak flow events. In addition, by removing more grit than the current process, it will help to better protect downstream processes within the plant. Construction of the Plant Headworks Project began in early April 2017 and will be completed in 18 months.
- **High Rate Primary Treatment Project:** This \$14.4 million project will provide primary clarification by removing solids before the biological treatment stage. This will provide a more effective treatment and will help the Rotating Biological Contactors (RBC's) to better perform. During high flow (storm) events, this treatment can be ramped-up in order to match the higher flows. Design began in FY17 and construction is planned to begin in FY19.

Long-term alternatives focused on the biological treatment aspect (currently RBC's). Specific alternatives will be evaluated if and when future regulatory requirements change over time. The two projects noted above allow for flexibility among the viable options for biological treatment.

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## Impact of CIP on Operations

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For most municipal and county governments, capital improvements often result in higher operating costs. For example, larger buildings increase utility expenses, and new facilities such as libraries or swimming pools involve hiring additional staff. The opposite holds true for the District. Through major rehabilitation projects to the sewer collection system, the District is expected to realize a modest cost reduction in wastewater treatment operations by reducing infiltration of groundwater and inflow of surface water into the sewer system. Mud and grit, which accompany infiltration/inflow, will also be reduced, thereby increasing the life of pumps and other treatment equipment adversely effected by abrasion.

Other savings are realized from capital expenditures as new or rehabilitated sewer lines also require less maintenance and are not as susceptible to frequent blockages and overflows as older and smaller lines.

The District's major environmental responsibility is reduction of Sewer System Overflows (SSOs). Staff has estimated the average cost of responding to an SSO to be approximately \$2,175. During FY 2000, the District experienced more than 289 SSOs, which have been reduced to less than 30 in recent years. Thus, the District has been able to focus approximately \$500,000 additional dollars annually on preventative maintenance as opposed to responding to spill events.

Moreover, the North Carolina Department of Environment and Natural Resources has the discretion to levy fines up to \$25,000 per day per SSO if the District does not follow through on renovations and rehabilitations planned for areas identified as requiring capital improvements. Therefore, the CIP has a positive impact on operations by reducing repair and replacement while avoiding environmental penalties.

## **Sewer Rate Increase**

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Staff recommends a 2.5% increase in domestic sewer rates and meter fees for FY18, including a previously approved plan to achieve flow rate parity between industrial and domestic users. This amount is in line with past increases. We believe this rate increase is prudent under the current economic situation and is necessary to provide for the following District responsibilities and objectives:

- Meet current and future regulations at the Water Reclamation Facility and for the Collection System
- Replace and rehabilitate approximately 50,000 linear feet of sewer mains a year
- Debt coverage ratio attractive to investors and rating agencies
- Support of the pay-as-you-go element of the CIP in addition to bonds
- Continue with goal of periodic smaller rate increases in lieu of large increase in future years
- Adequate current funding and maintenance of prudent reserves for Self-Insured Medical and Dental Plan

In the past, the MSD Board has endeavored to keep rate increases to a minimum. The District's Bond Order requires sewer rates be set to ensure that the excess of revenues over current expenditures is at least 120% of debt service. Additionally, the Board balances the bond order requirements while maintaining all regulatory and fiduciary responsibilities.

Domestic sewer rates for the past five years as well as FY18 are shown below:

	FY13	FY14	FY15	FY16	FY17	FY18
Rate Increase %	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Meter, Maintenance & Billing Fees	\$8.34	\$8.53	\$8.73	\$8.90	\$9.08	\$9.30
Flow Rate (per ccf)	\$3.98	\$4.08	\$4.18	\$4.28	\$4.39	\$4.50
Avg. Monthly Bill (5ccf)	\$27.14	\$27.81	\$28.49	\$29.15	\$29.88	\$30.62

## Distinguished Budget Award

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The Government Finance Officers Association of the United States and Canada (GFOA) presented a Distinguished Budget Presentation Award to the Metropolitan Sewerage District of Buncombe County, North Carolina for its annual budget for the fiscal year beginning July 1, 2016. This is the twentieth consecutive year that the MSD has received this award. 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 communication device.

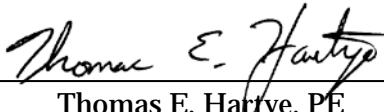
This award is valid for a period of one year only. We believe our FY18 budget continues to conform to program requirements, and we are submitting it to GFOA to determine its eligibility for another award.

## In Closing

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The Budget represents the combined efforts and guidance of the Board, its Committees and staff. A special thanks to Teresa Gilbert for assembling the budget documents, Jim Hemphill, HR Director, Ed Bradford, CIP Director, and Cheryl Rice for assembling the CIP Section of the Budget. We look forward to working with you, staff, and our ratepayers as we implement this financial plan and policy document.

Respectfully submitted,

  
Thomas E. Hartye, PE  
**General Manager**

  
W. Scott Powell, CLGFO  
**Director of Finance**



## About MSD, City of Asheville & Buncombe County

### About MSD

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The MSD is a public body and body politic and corporate of the State of North Carolina, exercising public and essential governmental functions and organized under the provisions of the North Carolina Metropolitan Sewerage Districts Act, being Article 5, Chapter 162A of the General Statutes of North Carolina, as amended. The District was established in 1962 by the North Carolina State Stream Sanitation Committee to construct and operate facilities for sewage treatment for municipalities and sanitary districts within Buncombe County.

In 1967, the District completed the construction of a 25 million gallon per day (MGD) wastewater treatment plant adjacent to the French Broad River. Nineteen miles of interceptor sewer were initially built, connecting the collector sewer systems located within the municipalities and other political subdivisions, which comprised the District. Then, in the late 1980's, the District expanded the capacity of the Water Reclamation Facility to its current capacity of 40 MGD, rehabilitated the hydroelectric dam and powerhouse to mitigate energy costs, and built a thermal converter for sludge disposal.

In July 1990, the political subdivisions comprising the District transferred their respective sewerage systems to the District. These systems had been previously owned, operated, and maintained separately by each political subdivision. The purpose of this sewer consolidation was to create a consolidated sewerage system in the urbanized portion of Buncombe County with ownership of all components of the system and responsibility for their operation, maintenance, and capital improvement centralized with the District. Before the sewer consolidation, the District had little control over the condition, operation, and maintenance of individual collector systems, which significantly affect the operational efficiency of the wastewater plant.

Buncombe County is located in the Blue Ridge Mountains of Western North Carolina. The District is comprised of the following political subdivisions located within Buncombe County:

City of Asheville	Fairview Sanitary Sewer District
Town of Montreat	Skyland Sanitary Sewer District
Town of Biltmore Forest	Busbee Sanitary Sewer District
Town of Black Mountain	Swannanoa Water & Sewer District
Town of Weaverville	Caney Valley Sanitary Sewer District
Town of Woodfin	Woodfin Sanitary Water & Sewer District
Beaverdam Water & Sewer District	Crescent Hill Sanitary Sewer District
Enka-Candler Water & Sewer District	Venable Sanitary District

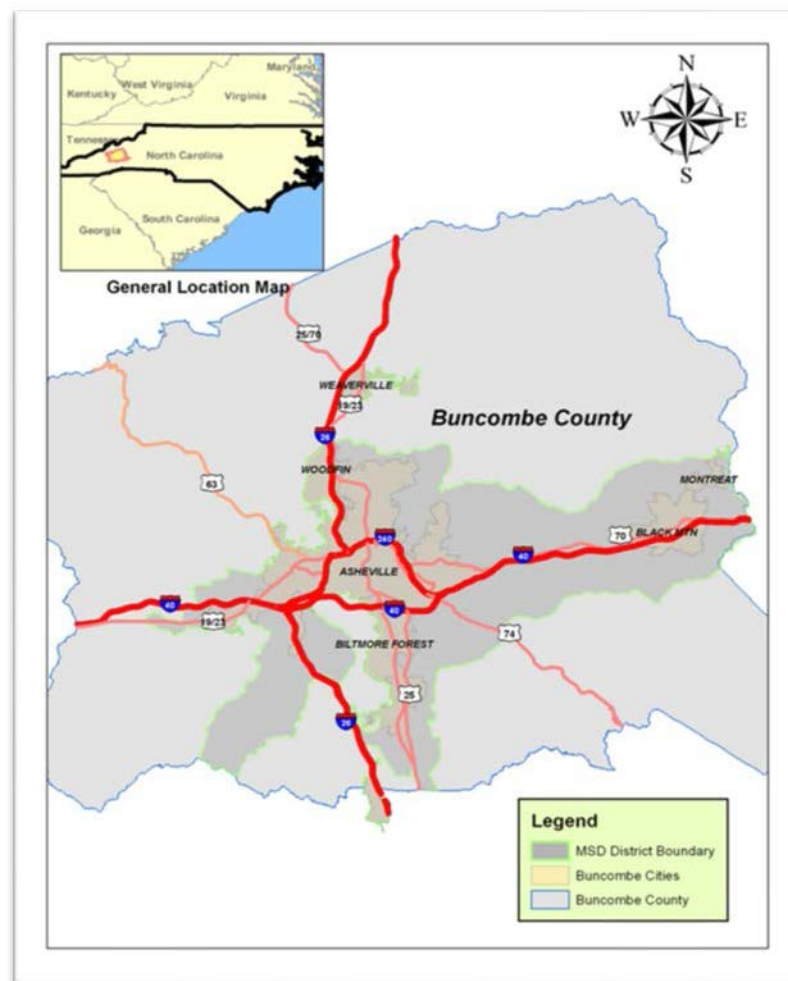
## About MSD, City of Asheville & Buncombe County (continued)

### About MSD (continued)

The District Board consists of twelve appointed members. Three (3) from the County of Buncombe, three (3) from the City of Asheville, and one (1) each from the Woodfin Sanitary Water & Sewer District, and the Towns of Biltmore Forest, Black Mountain, Montreat, Woodfin, and Weaverville.

Under the North Carolina Metropolitan Sewerage Districts Act, the District is authorized, among other things, to: (a) acquire, lease, construct, reconstruct, improve, extend, enlarge, equip, repair, maintain, and operate any sewerage system or part thereof (including facilities for the generation and transmission of electric power and energy) within or without the District; (b) to issue revenue bonds to pay the costs of any of the foregoing; and (c) to fix and revise from time to time and collect rents, rates, fees and other charges for the use of or the services and facilities furnished by any sewerage system.

### District Boundary Map



## About MSD, City of Asheville & Buncombe County (continued)

### Population and Growth Statistics

Population growth in Buncombe County has occurred largely in a linear fashion along major transportation routes, which is reflected in the configuration of the District's service area. The District is approximately a 180 square mile service area, comprising nearly 25% of the total land area of Buncombe County. The District's service area corresponds generally with the urbanized core of Buncombe County, and includes small portions of northern Henderson County.

The population of the area has steadily increased, as illustrated in the following chart:

Year	Buncombe County	Henderson County
<b>1970</b>	145,056	42,804
<b>1980</b>	160,897	58,580
<b>1990</b>	174,727	69,378
<b>2000</b>	206,316	89,173
<b>2010</b>	238,318	106,740
<b>2015</b>	247,336	109,719
<b>2016</b>	256,088	114,209

Located in approximately the geographic center of Buncombe County, the City of Asheville is the major population center in the District. About 35% of the County's residents live in Asheville. Five (5) incorporated towns in Buncombe County—Black Mountain, Biltmore Forest, Weaverville, Woodfin, and Montreat—are included in the District's service area. Weaverville and Woodfin are north of Asheville, Black Mountain and Montreat are located in eastern Buncombe County, and Biltmore Forest is contiguous to the City of Asheville on its southern boundary. Approximately seven percent (7%) of the county's population lives in these five towns.



Buncombe County's topography ranges from fertile valleys to rugged mountains. Mt. Mitchell, the highest point in eastern North America (6,684 feet), is located 35 miles northeast of the City of Asheville in adjacent Yancey County. The topography of Buncombe County's urbanized core is, however, a



## About MSD, City of Asheville & Buncombe County (continued)

### Population and Growth Statistics (continued)

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long flat plain, which has allowed Buncombe County to develop differently from the more mountainous counties of Western North Carolina. The plain, with an elevation of 2,000 feet, averages about 45 miles in width. It is bisected from south to north by the French Broad River and from east to west by the Swannanoa River and Hominy Creek, two major tributaries of the French Broad. Because of extremes in elevation, the climate varies significantly from one section of Buncombe County to another. The mean elevation of the City of Asheville is about 2,300 feet, and the summers are cool and the winters are moderate with small amounts of snow. The higher elevations in Buncombe County receive considerable amounts of snow and the summers are cooler. The average January temperature is 47° for the City of Asheville and the average temperature in July is 84°. The City of Asheville receives an average of 46 inches of rainfall a year.

However, because the City of Asheville is located within a “rain shadow” caused by the shielding effect of the nearby mountain barriers, other areas of Buncombe County, especially to the south and southwest, receive significantly higher amounts of rainfall.

### Employment and Major Industries

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Buncombe County serves as a regional economic center for Western North Carolina. Its diverse commercial and industrial base includes manufacturing, distribution, travel and tourism, retail trade, health care and governmental services. According to the North Carolina Employment Security Commission, 132,181 people were employed in Buncombe County as of April 2017. The number of persons in the labor force has increased by 2,570 over the previous year.

Buncombe County's economy has been expanding and becoming more diverse. Recognizing that textile industries no longer dominate the manufacturing base, the public and private sectors in Buncombe County have been working together to encourage the relocation and development of new industries and other economic endeavors. In addition, the Buncombe County Tourism Development Authority works to foster the continued growth of tourism and convention business. Downtown redevelopment efforts by the City of Asheville have also provided additional office, retail shop, and parking space.

Employment in the service sector is increasing, but manufacturing remains a significant part of the local economy. The diverse products manufactured include food, textiles, apparel, wood products, printing and publishing, rubber and plastic products, fabricated metal products, industrial machinery and equipment, electrical equipment, and transportation equipment. Health care, retail sales, education, and government services are the principal employers in the growing service sector of Buncombe County's labor force. Buncombe County serves as a regional

## About MSD, City of Asheville & Buncombe County (continued)

### Employment and Major Industries (continued)

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medical center for most of western North Carolina. There are two major hospital complexes located in Buncombe County: *Mission Health System & Hospital*, an acute care medical center licensed for more than 735 beds on (2) two adjoining campuses, *Memorial and St. Joseph*, and the federally funded Veteran's Administration Medical Center, *Charles George VA Medical Center* consisting of a 119-bed acute care hospital and 120-bed nursing facility serving veterans from a 19-county area in Western North Carolina, parts of Eastern Tennessee, and upstate South Carolina and Georgia.

Also located in Buncombe County is *CarePartners Rehabilitation Hospital*, a private, nonprofit 80-bed facility for the rehabilitation and treatment of stroke and ambulation dysfunction victims, traumatic brain/head injuries, and amputation.

Tourism and the hospitality industry also constitute major segments of employment in the service sector and are projected to increase significantly. The impact of tourism is multi-dimensional and includes conventioners, commercial visitors, and tourists taking advantage of the mountain scenery, moderate climate, and craft skills of persons living in the area. Closely related to the tourism industry is the growth of discount malls and outlet stores. The seasonal influx of persons from outside the region is strengthening Buncombe County's position as the primary regional retail center for area and tourist commerce. To provide a source of funds for promoting the recreational, cultural, and other attractions of the area, Buncombe County has imposed an occupancy tax on hotel and motel rooms in Buncombe County. The revenues from this tax are used by Buncombe County's Tourism Development Authority to promote the growth of tourism and convention business.

Western North Carolina is known as a recreational area, which makes tourism and the hospitality industry a major contributing force to the economic vitality of Buncombe County. The Great Smoky Mountains National Park is located 70 miles west of the City of Asheville. Approximately 160 miles of the Blue Ridge Parkway are in western North Carolina, and the Parkway bisects Buncombe County from east to west. Two national forests, Pisgah and Nantahala, are located within an easy drive of the City of Asheville. These outdoor recreational resources attract thousands of visitors each year to the area for such activities as camping, hiking, canoeing, white-water rafting, fishing, and hunting. Also, immediately south of the City of Asheville is the 255-room "chateau" known as the *Biltmore House*. Constructed from 1889 to 1895 by George Vanderbilt, the Biltmore House is one of North Carolina's most visited tourist attractions, which includes self-guided tours of the House & Gardens, Antler Hill Village, featuring the Winery, The Biltmore Legacy, Village Green, and Farm. Another attraction is the *Grove Park Inn* with 510 guest rooms, 42 meeting rooms, an 18-hole, 6,720 yard, par 70 Donald

## About MSD, City of Asheville & Buncombe County (continued)

### Employment and Major Industries (continued)

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Ross designed golf course, a 43,000 square-foot spa with 31 treatment rooms and over 60 treatment selections which has augmented its appeal to the tourism and hospitality industry.

This favorable economic environment has resulted in lower unemployment rates for Buncombe County than across the state and nation. In addition, median household income has increased by 2.2% in Buncombe County and 10.0% in the City of Asheville since 2010. According to the U. S. Census Bureau, for the year 2015, median household income in the City of Asheville was \$43,334 and in Buncombe County was \$45,167. This compares with \$46,858 for the State of North Carolina and \$53,889 for the nation as a whole.

### Education

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Buncombe County has two public school systems: the Asheville City Administrative Unit, which serves about 3,996 students, consisting of (5) elementary schools and (3) secondary (high schools) and the Buncombe County Administrative Unit, which serves approximately 25,597 students, consisting of (23) elementary schools, (17) secondary schools (high schools) and (2) combined schools.

Asheville-Buncombe Technical Community College is a public, two-year college, serving more than 8,900 students in a variety of business, technical, and health care curricula. In addition, community enrichment classes, such as art, languages, and practical skills are offered year-round at each campus location throughout the College's service area.

Warren Wilson College is a private, four-year liberal arts college with an enrollment of about 900 students offering academics with work for the school (15 hours per week) and service to the community (100 hours over four years).

Montreat College is a private four-year liberal arts college with an enrollment of about 1,100 students at the (4) campuses which strives to be Christ-centered, student-focused, and service-driven. In addition, Montreat College offers accelerated programs for adult students, including graduate, professional, and online degree programs.

The University of North Carolina at Asheville ("UNCA") is an undergraduate, state-supported liberal arts college with an enrollment of about 3,800 students from 38 states and 24 countries. UNCA is one of the nation's top public liberal arts universities and one of the (17) institutions in the University of North Carolina system offering more than 30 majors.

## About MSD, City of Asheville & Buncombe County (continued)

### Transportation

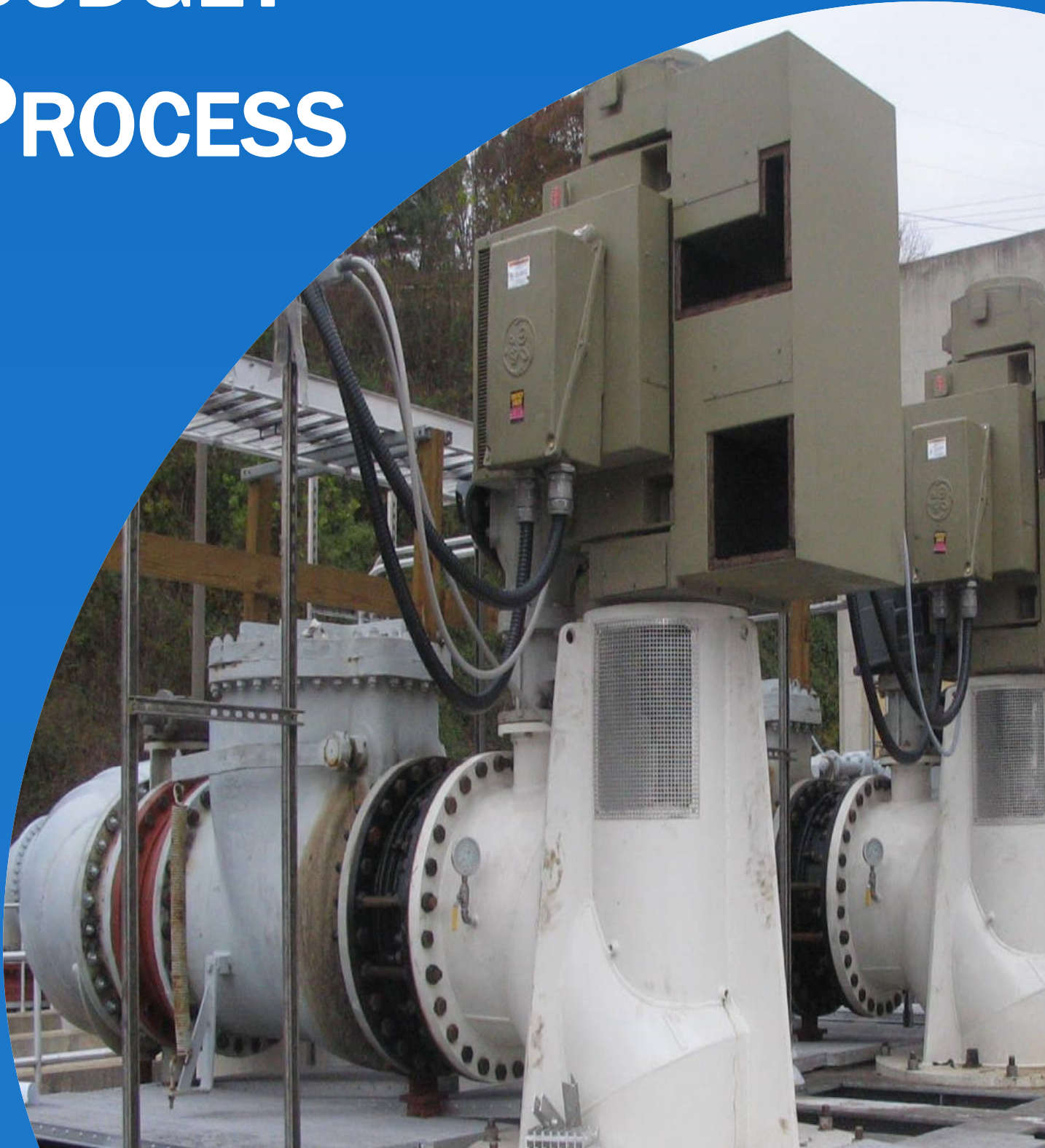
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An integrated network of highway, rail, and air services serves Buncombe County. Interstate Highway 40, Interstate Highway 26, Interstate 240 (Billy Graham Freeway), U.S. Highway 19-23 and U.S. Highway 74 link Buncombe County to the Piedmont area of North Carolina (including the cities of Charlotte, Greensboro, Raleigh, and Winston-Salem), the Piedmont area of South Carolina (including the cities of Greenville and Spartanburg), and the Tennessee-Ohio Valley area.

Rail service to Buncombe County is served by the Norfolk Southern Railroad Corporation providing rail lines through Knoxville, Tennessee to the west and Greenville, South Carolina to the south. To the east, rail lines adjoin North Carolina's 3,600-mile rail network approximately an hour away in Greer, South Carolina.

Major air passenger and cargo services are available through the Asheville Regional Airport and served by Allegiant, Delta, United, and American/US Airways. These carriers offer approximately 30 daily non-stop flights to 10 popular destinations and enplaned 827,000 passengers as of calendar year to date ending December 2016.

# POLICIES & BUDGET PROCESS





## Financial Plan

### Guide to the Budget Document

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This Budget presentation has four major objectives:

- ★ **Policy Document**—To show how resources have been allocated in response to the mission statement and supporting goals/objectives set forth by the Board of Directors.
- ★ **Financial Plan**—To present the District's Financial Plan for the fiscal year, showing where the money will come from and how it will be spent.
- ★ **Operations Guide**—To describe services provided along with goals and objectives for each unit within the District, and a method for measuring progress towards the District's mission of providing cost-effective and efficient wastewater collection and treatment. In addition, a Budget is a required management tool for compliance with state wastewater management licensure and local government fiscal control regulations.
- ★ **Communications Device**—To explain the District budgetary procedures and interactions with other District planning processes and within the larger context of local and regional economic and environmental conditions.

This document has been divided into sections as follows to assist the reader's understanding and ability to easily locate information:

- ▲ **Introduction**—The transmittal letter provides current year trends and highlights.
- ▲ **Policies & Budget Process**—Presents the policies forming the basis for all management decisions, a narrative of the overall budget process, the underlying fund structure, and a discussion of revenue.
- ▲ **Operation & Maintenance Fund**—Provides detail of departmental expenditure budgets including underlying goals and objectives, as well as accomplishments and performance measures.
- ▲ **Insurance Funds**—Describes internal service-type funds used to allocate premiums and associated expenses among various departments.
- ▲ **Replacement Funds**—Provides funding status of various replacement and reserve funds.
- ▲ **CIP Program**—Details the Capital Improvement Program, including budgetary process, current year highlights, and summarizes planned projects for the upcoming 10 years.

## Financial Plan (continued)

### Guide to the Budget Document (continued)

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- ▲ **Debt Financing**—Provides further detail on debt philosophy and management, including current and future debt service.
- ▲ **Statistical Information**—Includes historical summaries of District financial information, plant operational data, and local demographic and economic statistics.
- ▲ **Appendix**—Provides a description of the line item accounts that are currently used and staffing information for the previous (4) years plus the upcoming budget year.
- ▲ **Glossary**—Definitions of technical terms and acronyms.

### Background of Entity

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The Metropolitan Sewerage District of Buncombe County, North Carolina (the District), established under an act of the state legislature, is a local governmental agency providing wastewater collection and treatment services to approximately 50,000 residences and businesses located in several municipalities and certain unincorporated areas in Buncombe County. The governing board is comprised of twelve members appointed by eight local governments who serve three-year overlapping terms.

The District owns a 40 million gallon per day (MGD) wastewater treatment plant and the associated collection network of approximately 977 miles of collector sewers, 29,000 manholes, and 31 pump stations. The District is responsible for current operation and maintenance of this infrastructure, as well as for planning for future operations and capacity. An expanded section on the history and composition of the District along with an overview of the regional economy is located in the Appendix.

### Mission Statement and Goals

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The budgetary process starts with the mission statement promulgated by the District Board. To achieve the purpose articulated in the mission statement, staff is charged with developing long-term goals and the short-term objectives designed to achieve these goals. Using this framework, annual operating and construction budgets are proposed to fulfill these short-term objectives and thus meet or reach toward long-term goals.

Therefore, an understanding of the mission statement and the underlying goals and objectives provide a context for the decisions made in developing the annual budget. Each departmental

## Financial Plan (continued)

### Mission Statement and Goals (continued)

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goal and objective is tied to one or more of the non-financial or financial policies to coordinate and prioritize the District's focus, initiatives, and efforts.

**Mission Statement**—To provide wastewater collection and treatment to its users which promotes the health and safety of affected citizens in the most effective and efficient manner possible today and in the future.

**Long-Term Goals**—Staff has developed four goals to be pursued in support of the Mission Statement adopted by the Board:

1. Protection of health, safety, and the environment
2. Excellence in customer service
3. Cost-effectiveness
4. Continuous improvement

Managers and employees use these goals to determine appropriateness of and to enhance coordination and consistency of decisions, activities, and initiatives throughout the District.

**Short-Term Objectives**—Objectives are specific achievements or strategies, which support or lead to long-term goals and are used to determine how resources are allocated in this budget.

1. Maintain Collection System Permit. (Goal #1)
2. Maintain Discharge Permit to French Broad River for Water Reclamation Facility. (Goal #1)
3. Maintain a qualified and motivated workforce. (Goals #1-4)
4. Coordinate, to the extent practicable, with other governmental and private entities for cooperative provision of sewer service to gain optimum economies of scale, reduced capital cost, and improved efficiency. (Goals #1-4)
5. Participate in two-way communications with customers, elected officials, and other stakeholders in matters of mutual concern such as regulations, policies, and fees. (Goals #1-4)
6. Provision of information and education concerning stewardship of water resources. (Goals #1-4)

Authority for the District's first goal of protection of health, safety, and the environment is received from the Collection System and Discharge Permits issued by the North Carolina Department of Environment and Natural Resources, Division of Water Quality. Therefore, the major emphasis of the District's activities is to fulfill or comply with the terms of these permits.

## Financial Plan (continued)

### Mission Statement and Goals (continued)

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In addition to specifying certain measures of water quality and minimum standards for maintenance of lines, the permits expect steady progress towards rehabilitation of aged lines and planned replacement of plant assets.

The remaining four objectives are strategies designed to complement the efforts to fulfill the requirements of the permits in achieving the District's goals. Obviously, a competent, well-trained, and committed workforce will not only be technically accomplished, but will also provide excellent customer service, and will explore ways to do the job better and at less cost. Similarly, leveraging resources with others can improve service delivery and reduce costs.

Finally, communication with and education of stakeholders is designed result in wide-ranging improvements to service delivery, customer relations, and cost containment.

Using key objectives identified as critical to the District's mission, Departments develop their individual initiatives and objectives, and the performance measures by which to assess progress. As the budgets for each division or department are presented in the next section, each departmental goal will reference the number of the overall District's goal, objective, or the fiscal policy supported. In this way, each department establishes its accountability and demonstrates the linkage between activities and the achievement of the District's objectives.

The Systems Services Division bears responsibility for maintaining the Collection System Permit (Objective #1) and the Water Reclamation Facility for maintaining the Discharge Permit (Objective #2). Details of the requirements of these permits and related performance measurements may be found in these respective departmental budgets behind the "Operation & Maintenance Fund" tab. The other objectives have no legal or regulatory basis, but are underlying principles of how the Board intends the District to carry out the primary mission, and are referenced as appropriate in the departmental goals and objectives.

## Rate Projections & Budgetary Forecast

The District is required by its Bond Order to set rates at such a level that the excess of revenues over current expenditures equals at least 120% of debt service. The Board established a revenue policy that the goal for debt coverage ratio be 150% or 1.5, and sufficient to meet all operating and capital needs with modest level increases.

The Board has also established a budget policy that calls for a ten-year projected operating budget and capital improvement program for long-term planning purposes. Revenue and expenditure projections are integrated with anticipated capital expenditures to anticipate rate increases and timing of debt issuance based on cash flow levels and debt coverage ratios.

Consumer revenue projections are based on consumption rates, growth in number of taps during the previous year, and projected rate increase. Industrial revenue is developed from anticipated fees of actual individual companies, since there are relatively few industrial customers and the charges are determined by effluent strength, as well as volume, which may vary greatly depending on the particular entity. As there are a limited number of large customers, any major change to a particular facility such as announced layoffs or closings, may be immediately factored into the industrial revenue computation.

Operating expenditures are anticipated to increase at the regional cost of living rate, and capital expenditures at the general inflation rate. Future debt service is projected to be issued at slightly above prevailing rates. As this forecast is updated at least semiannually, management is able to adjust timing of capital projects and discuss in advance with Board members proposed timing and levels of rate increases.

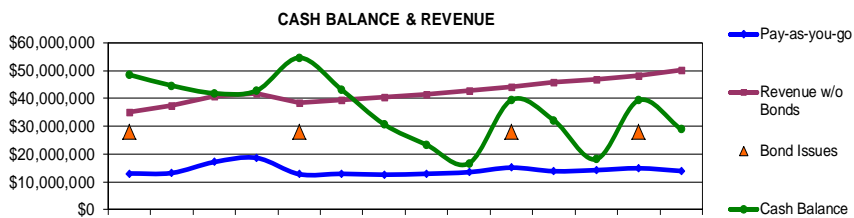
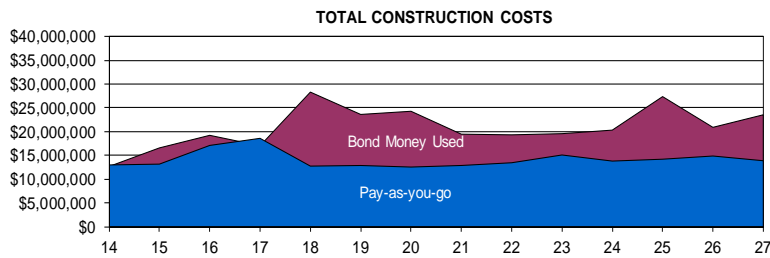
Using consumption data projected from the recent historical population growth statistics within the Asheville-Buncombe County area, the District anticipates annual rate increases of 2.5% for the next ten years. Construction costs are fairly level reflecting the District's Master Plan to consistently rehabilitate approximately 50,000 linear feet of pipe per year. The CIP expenditure forecast for FY18 reflects a continuation of a major rehabilitation project at the Wastewater Treatment Plant.

This long-range budgetary projection also shows how the District plans to finance these projects with a combination of bond proceeds and pay-as-you-go funding from sewer revenues. Overall, the ten-year projection indicates the District's continuing ability to provide wastewater collection and treatment for customers, infrastructure maintenance in accordance with state regulations, and debt service in compliance with Bond Order, all with minimal, uniform rate increases.



# Budgetary Forecast Based on Current Business Plan

Business Plan FY18	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	Sewer Rate Increase
	\$27.81	\$28.49	\$29.15	\$29.88	\$30.62	\$31.39	\$32.17	\$32.97	\$33.80	\$34.64	\$35.51	\$36.40	\$37.31	\$38.24	Average Monthly Bill
	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	Assumptions
July 1- Available for Construction	20,669,346	48,486,528	44,585,099	41,839,146	42,775,947	54,583,607	43,137,636	30,701,020	23,332,880	16,673,975	39,397,150	32,090,011	18,142,969	39,315,545	Minimum of 365 Days Cash on Hands
<b>REVENUE:</b>															
Domestic Users	26,913,949	28,154,062	29,581,170	30,181,277	31,169,273	32,173,552	33,253,110	34,350,422	35,465,802	36,599,575	37,812,558	39,045,509	40,498,785	41,834,609	Consumption and Account Growth
Industrial Users (No growth)	2,656,078	3,725,584	3,344,074	3,683,426	3,347,294	3,313,144	3,419,021	3,499,496	3,581,983	3,666,533	3,753,196	3,842,026	3,733,077	3,826,404	
Billing and Collections (User Fee)	717,413	738,239	754,317	776,946	800,255	824,262	848,990	874,460	900,694	927,714	955,546	984,212	1,013,739	1,044,151	
Tap Fees	373,800	389,090	526,415	475,000	175,000	175,000	175,000	175,000	175,000	175,000	175,000	175,000	175,000	175,000	
Facility Fees	4,056,675	3,922,165	5,798,181	6,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	
Interest & Non-operating Revenues	121,357	180,162	207,246	339,964	730,197	732,909	553,790	405,254	400,069	560,711	714,872	502,330	574,585	1,022,776	
City of Asheville (annex-Enka)	37,126	37,167	37,146	37,000	37,000	37,000	37,000	37,000	37,000	37,000	37,000	0	0	0	
Rental Income	71,081	71,226	78,925	71,399	71,641	71,641	71,641	71,641	71,641	71,641	71,641	71,641	71,641	71,641	
Transfer from Reserves (to / from)	(261,683)	(116,059)	425,149	0	0	0	0	0	0	0	0	0	0	0	
Miscellaneous	225,275	177,248	170,897	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	
<b>Total Revenues</b>	34,911,071	37,278,884	40,923,520	41,705,013	38,470,660	39,467,508	40,498,552	41,553,273	42,772,189	44,178,174	45,659,813	46,760,718	48,206,827	50,114,580	Bond Issues figured at: 4.25% yield FY18 5.5% yield FY23 5.5% yield FY26
State and Federal (EPA) Grants															
Revenue Bonds/Stimulus	28,000,000				28,000,000				28,000,000				28,000,000		
<b>Total Funds Available</b>	83,580,417	85,765,412	85,508,619	83,544,159	109,246,607	94,051,115	83,636,188	72,254,293	66,105,069	88,852,149	85,056,963	78,850,729	94,349,796	89,430,125	
<b>EXPENSES:</b>															
Operations & Maintenance	13,483,913	13,901,595	14,804,769	15,144,285	15,904,818	16,787,671	17,703,961	18,429,744	19,088,969	19,790,892	20,524,921	21,265,771	22,040,850	22,852,033	3% inflation in O & M, Replacement Funds and Engineering Force Account
Replacement Funds (WRF & Fleet)	500,000	500,000	625,000	625,000	660,000	730,000	730,000	800,000	800,000	805,000	810,000	810,000	810,000	810,000	
Debt Service	8,408,166	10,184,160	9,003,519	7,956,840	9,790,466	9,776,221	10,217,273	10,215,588	10,203,649	9,277,517	11,303,123	11,270,466	11,271,869	13,357,208	
<b>CIP (including Bond Projects)</b>	12,701,810	16,594,558	19,236,185	17,042,087	28,307,716	23,619,588	24,283,934	19,476,082	19,338,476	19,581,590	20,328,908	27,361,523	20,911,533	23,541,391	ENR 10-year Construction Index @ 2.92%
<b>Total Expenses</b>	35,093,889	41,180,313	43,669,473	40,768,212	54,663,000	50,913,480	52,935,168	48,921,414	49,431,094	49,454,999	52,966,952	60,707,760	55,034,252	60,560,632	
Pay-as-you-go (Current Revenue only)	13,018,992	13,193,129	17,115,232	18,603,888	12,775,376	12,903,617	12,577,318	12,907,942	13,479,571	15,109,765	13,831,769	14,224,481	14,894,108	13,905,339	General Sewer Rehab to cover 50,000 lineal ft / year
Debt Coverage (User Fees only)	2.0	1.8	2.1	2.4	2.0	2.0	1.9	2.0	2.0	2.3	1.9	2.0	2.1	1.8	
Debt Coverage with Total Revenue	2.5	2.3	2.9	3.3	2.3	2.3	2.2	2.2	2.3	2.6	2.2	2.2	2.3	2.0	
<b>April 19, 2017</b>															No growth in Industries - Rate Parity for Flow in 2020
<b>Active Plan CIP</b>	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	
Interceptor/Wet Weather Rehabilitation	634,790	5,480	618,050	760,970	1,726,500	2,204,919	2,855,819	2,688,391	4,484,979	4,689,582	6,486,231	16,736,777	3,377,796	0	
General Sewer Rehabilitation	8,154,663	11,317,853	9,079,883	8,859,631	13,213,448	9,572,130	11,468,691	11,850,019	11,562,830	11,683,020	10,560,231	7,265,533	12,806,812	15,905,263	District 10yr CIP \$226.8 Million
Private Sewer Rehabilitation	40,700	34,000	2,000	646,000	51,200	57,121	901,212	0	1,122	1,155	0	0	0	186,060	District total 10yr Budget \$535.6Million
Treatment Plant / Pump Stations	1,579,600	3,028,300	7,181,959	4,129,000	9,569,000	9,036,891	6,293,020	2,110,594	398,877	251,742	259,093	266,658	1,533,365	4,169,501	
Engineering Force Account	2,292,057	2,208,925	2,254,293	2,546,486	2,481,568	2,598,527	2,665,192	2,727,078	2,790,668	2,856,091	2,923,353	2,992,555	3,093,560	3,180,567	
Reimbursements	0	0	100,000	100,000	266,000	150,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	
Contingency	0	0	0	0	1,000,000										
<b>Capital Improvement Program Totals</b>	12,701,810	16,594,558	19,236,185	17,042,087	28,307,716	23,619,588	24,283,934	19,476,082	19,338,476	19,581,590	20,328,908	27,361,523	20,911,533	23,541,391	



## Fiscal Policy

### Overview

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The Metropolitan Sewerage District of Buncombe County, North Carolina (the District) fiscal policies compiled below comprises the basic framework for the overall financial management of the District. These policies assist Board and Management decision-making and provide guidelines for evaluating both current and long-range activities and programs. They are reviewed annually in conjunction with the budgetary process to verify continued applicability and benefit to the District.

The primary objectives of these policies are ❶to ensure that moderate rate increases will be adequate to provide current and future funds to support the District's mission and goals; and ❷to provide accountability for cost-effective stewardship of ratepayer's funds to stakeholders through fairly presented financial information supported by full disclosures.

### Revenue Policy

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- 1. Revenue Recognition**—Revenues shall be recorded on the full accrual basis in accordance with Generally Accepted Accounting Principles (GAAP) for proprietary governmental entities.
- 2. Setting User Charges**—Charges for domestic and industrial sewer users shall be set at such a level to provide sufficient revenues to cover all annual operating and debt service expenditures, to accumulate funds for timely acquisition and replacement of capital equipment and facilities, and to finance the pay-as-you-go portion of the long-term Capital Improvement Plan as approved by the Board.
- 3. Revenue Projections**—To assist in setting annual user rate charges, District staff will prepare projections of revenues and expenditures for a minimum of five years.
- 4. Daily Deposits**—In accordance with NC General Statutes Section 159-32, the Board shall require daily deposits of receipts only when the moneys on hand amount to at least two hundred fifty dollars (\$250.00). Any funds not immediately deposited shall be appropriately safeguarded.
- 5. Monitoring Revenue**—District staff shall monitor revenues as billed and collected by participating entities for reasonableness and completeness and shall report to the Board no less than quarterly.
- 6. Direct Billing**—For those users who are billed directly by District staff, such bills shall be computed accurately, recorded properly, and distributed in a timely manner.

## Fiscal Policy (continued)

### Revenue Policy (continued)

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**7. Billing Adjustments**—The Billing Coordinator shall be authorized to create and post credit memoranda for adequately documented adjustments incurred by customers billed directly by the District. The Billing Coordinator may also make adjustments of up to \$10 to correct errors or remove disputed charges.

**8. Bad Debt**—The District shall consider as bad debt any domestic revenue for customers when written off by the member agencies who provide collection services. All delinquent customer accounts billed directly by the District shall be subject to reasonable collection efforts.

After such efforts have been exhausted, writing off uncollectible accounts shall be authorized as follows: the Billing Coordinator may write off amounts up to \$10, the Director of Finance amounts up to \$1,000, and the General Manager amounts over \$1,000. The Director of Finance shall prepare an annual reporting of bad debts to be submitted to the Finance Committee.

**9. Authority for Revenue Procedures**—The Director of Finance shall be responsible for designing, implementing, monitoring, and amending as necessary, accounting procedures, including internal controls, for the billing, recording, and reporting of all revenues of the District in compliance with GAAP and State law. Any changes to revenue procedures will be reported to the Finance Committee at their next meeting.

### Operating Budget Policy

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**1. Funding**—Debt or bond financing will not be used to finance current expenditures.

**2. Service Efforts and Accomplishments**—The District will integrate performance measures and productivity indicators into its budgetary process.

**3. Planning**—The District will prepare a ten-year operating budget projection, which will include projections of annual growth plus allowances for operating costs of new capital facilities.

**4. Risk Management**—The District will utilize a risk management program to protect against loss and reduce exposure to liability. A comprehensive safety program shall be an integral component and will investigate property damage and workers' compensation incidents to minimize liability and take proactive measures to reduce the number and severity of future claims.

## Fiscal Policy (continued)

### Operating Budget Policy (continued)

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5. **Authority for Budget Procedures**—The District will prepare the budget in accordance with GAAP and the Local Government Budget and Fiscal Control Act (LGBFCA) established by the state legislature.
6. **Periodic Reporting**—The Finance Department shall submit quarterly budget to actual financial reports to the Board of Directors and monthly to Division Heads.
7. **Balanced Budget**—The District shall submit a balanced budget wherein budgeted expenditures shall equal budgeted revenues. Budgeted revenues may include transfers from another fund, reserves, or fund equity (available funds) defined as the excess of revenues over expenditures accumulated from prior years that are present in the form of cash at the beginning of the fiscal year.

### Asset Management Policy

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1. **Planning for Operational and Maintenance Assets**—The District shall utilize an Equipment Replacement Review Committee to plan major operational and maintenance asset acquisitions on a systematic, comprehensive, and entity-wide basis.
2. **Asset Condition**—The District will maintain all assets at a level adequate to comply with all regulatory requirements and to minimize future replacement and maintenance costs. This process will be coordinated with the planning in the Capital Improvement Program.

### Capital Improvement Policy

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1. **Planning**—The District will annually update and re-adopt a ten-year Capital Improvement Program, identifying and describing each capital project along with the estimated cost and funding source, in accordance with requirements of the State of North Carolina Collection System Permit.
2. **Capitalization**—The District will charge engineering division salaries and related costs used to plan for and oversee construction of major infrastructure to the Capital Improvement Program.
3. **Reporting**—The District will provide annual reports of expenditures by project to the Capital Improvement Program Committee.
4. **Funding**—The District will fund the construction program from revenue bonds and current revenues including grants as available.



## Fiscal Policy (continued)

### Accounting Policy

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1. **Authority for Accounting Procedures**—The District will establish and maintain the accounting system according to the North Carolina Local Government Budget and Fiscal Control Act (LGBFCA), generally accepted accounting principles (GAAP) for governments, and in compliance with applicable provisions in the Bond Order.
2. **Annual Audit**—An annual audit will be performed by an independent public accounting firm, which will issue an official opinion on the annual financial statements, and a management letter indicating any suggestions for improvement or areas of concern.
3. **Transparency**—Full disclosure will be provided in the financial statements and bond representations.
4. **Due Diligence**—The District will monitor the audited financial statements of member agencies and compare with reports of revenues remitted to the District and accounts receivable billed by member governments.
5. **Financial Reporting**—The District shall prepare a comprehensive annual financial report (CAFR) upon completion of the financial audit, which will be submitted to the Government Finance Officers' Association (GFOA) for the Certificate of Achievement for Excellence in Financial Reporting award.
6. **Written Accounting Procedures**—The District will maintain currently updated written accounting procedures.

### Debt Policy

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1. **Duration**—Capital projects financed through the issuance of bonds shall be financed for a period not to exceed the lesser of the expected useful life of the project or thirty years.
2. **Capitalization**—Interest, operating, and/or maintenance expenses will be capitalized only for facilities of enterprise activities and will be strictly limited to those expenses incurred prior to actual operation of the facilities.
3. **Ratings**—The District will endeavor to maintain its financial condition at no lower than Moody's "A1" and Standard & Poor's "AA-" bond rating.
4. **Unfunded Liabilities**—The District's debt policy extends beyond capital financing and includes not knowingly entering into any contracts creating significant unfunded liabilities.

## Fiscal Policy (continued)

### Debt Policy (continued)

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5. **Coverage Ratio**—The District shall prepare an annual budget to maintain a debt ratio (coverage) of at least 1.5 net revenues to bonded debt. This exceeds the minimum 1.2 ratio as set forth in the Bond Order.
6. **Compliance**—The District shall follow terms and conditions of its Bond Order and any requirements of the Local Government Commission.

### Cash Management and Investment Policy

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1. **Written Policy**—The District Board's investment policy, written to be in compliance with NC General Statutes and its Bond Order, shall be reviewed on an annual basis by the Board's Finance Committee.
2. **Objectives**—The primary objectives of investment activities, in priority order, shall be preservation of principal, liquidity, and yield.
3. **Periodic Reporting**—The District shall provide monthly investment reports to its Board and submit semi-annual reports to the North Carolina Local Government Commission.
4. **Treasury Services**—The District shall consider the advisability of preparing a Request for Proposal (RFP) for banking services every three (3) years.

### Reserve Policy

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1. **Capital Reserves**—The District shall maintain a Capital Reserve Fund in the amount of 6% of current expenses in the adopted annual Operation & Maintenance Fund Budget as set forth in the Bond Order. This fund may be used only for debt service payments in the event of inadequate revenues or for unusual and extraordinary repair and maintenance expenses.
2. **Fleet & Heavy Equipment**—The District shall maintain a Fleet & Heavy Equipment Fund for vehicles and rolling stock with a value greater than \$10,000. Periodic budgeted transfers from the operating fund along with proceeds from sale of equipment shall be deposited in said fund along with interest earnings to provide funding to replace vehicles on a systematic basis as required.
3. **Plant Equipment**—The District shall maintain a Wastewater Treatment Equipment Replacement Fund for capital expenditures of \$10,000 or more with a useful life of at least (3) years. Periodic budgeted transfers from operations are intended to stabilize rate increases by planning funding for major repairs and rehabilitations.

## Fiscal Policy (continued)

### Purchasing Policy

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1. **Authority for Purchasing Procedures**—The District will follow procedures and guidelines as prescribed by North Carolina General Statutes and Board approved resolutions.
2. **Centralized Procurement**—The District shall operate centralized purchase and warehouse functions to obtain materials, supplies, and services in the most cost-efficient manner for the District.

## Budget Process

### Budgetary Adoption

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The District budget process must comply with North Carolina General Statutes and the MSD Revenue Bond Order as amended to date. The Bond Order requires that the District adopt its final budget on or before June 15 of each year. North Carolina General Statutes mandate an annual balanced budget ordinance based upon expected revenues, along with a budget message, to be presented to the governing board no later than June 1 and mandates a public hearing be held. The Bond Order calls for a preliminary budget hearing 30 days prior to adoption if requested by a certain percentage of bondholders. The budget calendar is designed to provide for input by all stakeholders into a systematic and deliberate process.

For the Operations and Maintenance Budget, the process begins with the mission statement as approved by the Board. Each Division or section of the District develops a specific mission statement setting forth its role in supporting the overall mission of the District. Next, key responsibilities are defined for each unit, with associated goals and objectives. To evaluate progress, performance measures are identified and tracked for the previous three years. Once the District staff develops the operational activities required to implement the mission-directed strategies, necessary resources can be quantified and presented in a budgetary format.

Because payroll and benefits represent such a large proportion of expenditures, and because an experienced and appropriately compensated, well-trained staff is necessary to accomplish the District's mission, extra effort is made to ensure salaries and benefits are competitive without being excessive. To this end, a human resources consultant prepares a salary survey every three to five years that compares District pay scales with other utilities and governmental entities in the area. During those years a consultant is not retained, the Human Resources Director and other staff take surveys among regional governments and wastewater utilities of intended increases and types/levels of benefits considered. After reviewing comparative data, the Finance and Personnel Committees take an active role in ratifying increases of cost of living and merit pay, as well as contributions to health insurance and other employee benefit programs. Before approval of any new positions, the Board must be convinced of the cost-benefit, efficiency, and programmatic benefit.

The Capital Budget incorporates short-term improvements mandated by the State-issued Collection System Permit with long-term needs identified and prioritized by the 20-year Wastewater System Master Plan to handle wet-weather flow conditions, to improve the performance at the wastewater treatment plant, and to prepare the system to handle expected future wastewater flows. Engineering staff prepare annual estimates of expenditures over the life of projects in a proposed timetable for construction in a 10-year Capital Improvement Plan (CIP).



## **Budget Process** (continued)

### **Budgetary Adoption** (continued)

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Meanwhile, Administrative staff prepares an update of the District's ten-year financial forecast based on estimated revenues, expenditures, and debt issuance, which is integrated with the 10-year CIP, along with projections for fleet and wastewater plant replacement funds.

The effect of current expenditures on cash flows and debt coverage ratios are verified for adequacy, and any indicated adjustments to expenditures are made to sustain services within the desired user rate levels, which are set annually in connection with budget adoption.

### **Budget Administration**

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The Budget Resolution is adopted at the fund level and allows for the carry forward of encumbered contracts and purchase orders from the previous fiscal year. This budget book illustrates the initial allocations among departments and between line items for authorized expenditures not including carryover amounts. Authority for modifying these allocations varies.

The General Manager has the authority to transfer amounts between departments within a fund without limitation. Division Directors may transfer amounts between line items and sections within their departments without limitation.

The entire allocation is available at the beginning of the year, and the unexpended balance will remain available during the year, unless otherwise limited by the General Manager and Director of Finance due to cash flow considerations.

Several strategies are used to monitor expenditures throughout the year. The General Manager and Division Directors receive monthly expenditure reports, which compare actual to budgeted amounts for the period and for the year to date. In addition, the procurement software is designed to require approval from the General Manager or Director of Finance if the line item has insufficient funds to cover the requisition or if the expenditure is over a certain amount. Purchasing staff make periodic reviews of outstanding inventory levels, requisitions, and purchase orders to update available line item balances.

### **Budget Amendment**

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Budget Amendments require approval by the Board of Directors and as such are submitted through the agenda process for consideration at a regularly scheduled Board meeting.

## Budget Calendar

April							D A T E	T I M E	S U B J E C T
S	M	T	W	T	F	S			
						1	<b>April 25</b>	<b>9:00 a.m.</b>	<b>Personnel Committee Meeting</b>
2	3	4	5	6	7	8			▪ Cost of Living & Merit Pay
9	10	11	12	13	14	15			▪ Benefit Allocations
6	17	18	19	20	21	22	<b>April 27</b>	<b>8:30 a.m.</b>	<b>CIP Committee Meeting</b>
23	24	25	26	27	28	29			▪ Update of Ten-Year Capital Improvement Program
30									▪ Update Construction Program Financing
									▪ 2017-2018 Construction Fund Budget
May									
S	M	T	W	T	F	S			
	1	2	3	4	5	6			
7	8	9	10	11	12	13			
14	15	16	17	18	19	20	<b>May 4</b>	<b>9:00 a.m.</b>	<b>Finance Committee Meeting</b>
21	22	23	24	25	26	27			▪ Nine Month Revenue/Expenditure Report
28	29	30	31						▪ Self-Funded Medical & Dental Program
									▪ Proposed FY18 Construction Fund Budget
									▪ Proposed FY18 Operating Budget & Sewer Rates
June									
S	M	T	W	T	F	S			
				1	2	3			
4	5	6	7	8	9	10			
11	12	13	14	15	16	17	<b>May 17</b>	<b>2:00 p.m.</b>	<b>Board Meeting</b>
18	19	20	21	22	23	24			▪ Preliminary FY18 Budgets & Sewer Rates
25	26	27	28	29	30				
July									
S	M	T	W	T	F	S	<b>June 14</b>	<b>2:00 p.m.</b>	<b>Board Meeting</b>
						1			▪ Public Hearing
2	3	4	5	6	7	8			▪ Adoption of FY18 Budgets & Sewer Rates
9	10	11	12	13	14	15			
16	17	18	19	20	21	22			
23	24	25	26	27	28	29			
30	31						<b>July 1</b>		<b>Start of Fiscal Year 2017-2018</b>

## Budgetary Basis of Accounting

The District accounts for its activities as an Enterprise Fund, which is similar to that of a private business where the costs of providing wastewater collection and treatment on a continuing basis are recovered primarily from user charges. Therefore, the accrual basis of accounting is used for financial reporting purposes, where revenues are recognized as soon as they are earned and expenses at the time the liability is incurred.

However, state law requires local governments to budget on the modified accrual basis, wherein revenues are only recognized to the degree that they are available to finance expenditures of the current period. Similarly, debt service payments and other liabilities are recognized when payment is due because it is only at that time that they normally are liquidated with expendable available financial resources.

There are no significant differences between the full and modified accrual basis of budgeting for District revenues, because the majority of revenues are collected shortly after billing, and as such, are available to pay period liabilities. The major difference resulting from the modified accrual method is noted in budgeting debt service and capital expenditures.

The Bond Order requires the District to have remitted all debt service to the Trustee at least one business day prior to the payment date, so that in the event of default, the Trustee will have time to secure payment for the bondholders from the Debt Service Reserve Fund for payment on the due date. Therefore, the District budgets for the amount of principal due on July 1 of the subsequent fiscal year, but reports the principal reduction paid on July 1 of the current year as reducing loans payable in the audited financial statements.

Capital outlays, which are defined as equipment or construction with an acquisition value over \$1,000 and a useful life of three years or longer, are budgeted as an expense in the year incurred, but depreciation is not budgeted, as it does not involve expenditure of cash. In the audited financial statements, buildings and equipment over \$15,000 are capitalized and depreciated over future years. The District does not budget for barter transactions such as the exchange of building space for laboratory services, but the fair market value of such transactions are reflected as income and expense in the audited financial statements in accordance with generally accepted accounting principles.

The ten-year Capital Improvement Plan presented in this budget manual documents the District's long-term asset management strategy to achieve and maintain compliance with state environmental permit conditions, but does not authorize expenditures for any years beyond the current budget year. The Capital Improvement Plan identifies specific projects with anticipated expenditures broken down by each year, but based on the best estimates of the District. The General Manager is authorized to accelerate or postpone the start date of any particular project

## Budgetary Basis of Accounting (continued)

and to authorize the encumbrance of funds for projects continuing into a future fiscal year, provided that the total amount of funds expended and encumbered for any one year does not exceed the total appropriation in the Construction Fund for that fiscal year.

However, any projects included in a Capital Projects Ordinance may have expenditures authorized for the entire project crossing fiscal years, regardless of when contracts are signed or costs are incurred or paid.

In accordance with the District's Bond Order, separate accounts for debt service and extraordinary maintenance reserves have been established. The District utilizes other reserve accounts to minimize or moderate the effect of unanticipated large expenditures and substantial equipment replacement on rate increases.

## Fund Structure

For financial statement purposes, all the District's transactions are reported in one enterprise fund. However, to be in compliance with the District's Bond Order, which prescribes certain procedures for financial planning and budgetary process, the enterprise fund is divided into several funds. Appropriated major funds whose expenditures exceed 10% of the budget include: ❶the Revenue Fund from which operational and maintenance expenditures are made, ❷the General Fund that transfers pay-as-you-go funding authorized for construction, ❸the Construction Fund that incorporates CIP expenditures, ❹the Insurance Funds that provides funding for Self-funded Employee Medical, General Liability, Worker's Compensation, and Post-Employment, ❺the Replacement Funds that provides funding for Fleet/Heavy Equipment, WRF equipment, and Pump Maintenance❻the Debt Service Funds.

Financial plans are prepared for other non-appropriated funds whose expenditures are determined by external parties and contractual agreements, namely the insurance funds, debt reserve, and the capital reserve fund.

- 1 **Revenue Fund**—The Bond Order requires all revenues from user charges to be deposited to a revenue fund. The first order of payments is current expenses, defined as the costs of controlling, operating, managing, and maintaining the sewerage system and wastewater treatment plant, which are paid directly from the revenue fund. Remaining revenues may be transferred as budgeted to other
- 1 **General Fund**—The District may use funds from the General Fund for any lawful purpose. Due to the provisions of the 1985 and 1999 Bond Orders, the former which provided that operating expenses were to be paid from the O&M fund, and the latter which calls for current expenditures to be paid from the Revenue Fund, the General Fund has been used primarily to accumulate pay-as-you-go financing for construction.
- 1 **Construction Fund**—This fund was established in accordance with the bond order to account for construction projects funded by sewer revenue bonds. The fund is currently used to record expenditures of capital construction, regardless of funding source.
- 1 **Insurance Funds**—Financial plans for the four insurance funds—Self-Funded Employee Medical, General Liability, Worker's Compensation, and Post Employment are included in the FY18 budget document. Each Department and Section budget is charged a proportionate share of employer insurance costs based upon the number of covered employees. Separate funds are maintained to track the excess or deficit of actual expenses over estimated cost. To ameliorate the effect of large unanticipated losses on the annual rate setting process, any excess of cost assessed over claims paid is retained by the fund as designated for any deficit in future years. There are no trust documents or other legal



## Fund Structure (continued)

restrictions on these funds, and they are combined with other funds and accounts into one enterprise fund for financial reporting purposes.

A brief discussion of each follows.

- k Self-Funded Employee Medical**—Revenues consist of both employee and employer contributions. Expenditures include charges for stop-loss and aggregate premiums, third party administration of claims, as well as medical, dental, and prescription claims. Employer contributions are currently based on actuarially determined expected funding, which is approximately 80% of potential maximum cost if stop-loss and aggregate limits are reached. Prudent management of reserves should provide adequate funding for claims in excess of those anticipated, as well as for claims incurred during the year but paid after the year-end outside of the aggregate coverage.
- k General Liability**—The District purchases commercial coverage for Automobile, General Liability, Public Officials Liability, and Employee Blanket Bond. Each year, the Engineer of Record reviews the adequacies of the Districts' insurance coverage to comply with the District's Bond Order. Reimbursement for each loss is reduced by the amount of the particular coverage deductible, so the budgeted expenditure includes both contractual premiums and an estimate of the potential liability to be incurred from paying the deductible amount on each claim. Any excess of amounts transferred from the Operations and Maintenance Fund over premiums and deductibles expense is retained in the fund to be appropriated in a future year with unanticipated losses.
- k Worker's Compensation**—The District purchases commercial insurance coverage for Worker's Compensation. This policy also includes provisions for deductible amounts for each claim; so similarly, budgeted insurance expense includes both contractual premium and an estimate of deductible amounts. Any excess is retained in the fund to be appropriated in a future year in the event of unanticipated losses.
- k Post-Employment**—The District has established a post-employment insurance fund to accumulate funds now, which will reduce future operational expenditures when retirees begin taking advantage of this benefit. The District will annually fund the equivalent of the annual required contribution less expenses as determined by an actuarial study as required by GASB45.
- s Equipment Replacement Funds**—Three (3) equipment replacement funds are included with the budget. Responsible departments are assessed proportional amounts to provide planned funding for the systematic replacement of assets and to moderate the impact in any one year on sewer rates from major capital acquisitions.

## Fund Structure (continued)

Any excess of revenues over expenditures are retained in fund equity to provide for large future capital expenditures, and for replacement or repair of any mission-critical equipment resulting from an accident, natural disaster, or other unforeseeable event.

- w Fleet & Heavy Equipment**—The District owns a variety of vehicles including pickup trucks, specialized vans, dump trucks, tankers, and excavating equipment, some costing up to \$250,000. The Fleet Supervisor and WRF Director are responsible for maintaining an inventory of all equipment including anticipated replacement dates and cost for all items. Departments are assessed determined amounts in the annual budget, which are estimated to provide funding for new vehicles when those in their use may no longer be efficiently maintained.
- w Wastewater Treatment Plant**—Various specialized machinery require replacement from time to time, usually at costs well in excess of what may be budgeted as routine maintenance. The WRF Director prepares a schedule by year of anticipated major projects needed to refurbish or replace obsolete equipment. The plant maintenance department is assessed amounts in the annual operations budget estimated to provide adequate funding for these projects when needed in the future.
- w Pump Maintenance**—Various large pumps require replacement from time to time, usually at costs well in excess of what may be budgeted as routine maintenance. The SS Maintenance Director prepares a schedule by year of anticipated major projects needed to refurbish or replace obsolete equipment.
- x Debt Service Funds**—These funds are required under the District’s Bond Order to accumulate and transmit all District debt service payments.
- d Revenue Bond Fund**—This fund is used to accumulate periodic deposits from the revenue fund to pay principal and interest as scheduled.
- d Capital Reserve Fund**—While technically not a debt service fund, this fund is mandated by the Bond Order to contain six percent (6%) or such greater percentage, as may be determined from time to time by the Board, of the amount shown by the annual budget to be necessary for current expenses for the current fiscal year. As this fund is to be kept for unusual and unforeseen expenditures, none is included in the financial plan as coming from this account.



## Budget Summary

The District utilizes a fund structure developed to accommodate mandates of the District's Bond Order with generally accepted accounting principles for proprietary governments. Appropriated funds, which are those funds that must have a board-approved budget, include ❶ the Revenue Fund from which operational and maintenance expenditures are made, ❷ the General Fund that transfers pay-as-you-go funding authorized for construction, ❸ the Construction Fund that incorporates CIP expenditures, ❹ the Replacement Funds providing funding for Fleet, WRF, and Pump Stations equipment, and ❺ Debt Service Funds.

Financial plans are approved for those other funds whose expenditures are determined by external parties or contractual agreements such as the insurance, debt reserve, and capital reserve funds.

The budget summary chart below shows total activity for all funds and consolidates the effect of transfers between funds.

	FY 2016 Actual Total	FY 2017 Budget	FY 2018 Proposed Budget	Increase (Decrease)	% Change
<b>REVENUES &amp; FINANCING SOURCES</b>					
Domestic User Fees	\$ 29,719,714	\$ 29,922,929	\$ 31,169,273	\$ 1,246,344	4.17%
Industrial User Fees	3,344,074	2,943,043	3,347,294	404,251	13.74%
Billing and Collection	754,316	772,500	800,255	27,755	3.59%
Facility and Tap Fees	6,324,596	1,700,000	2,175,000	475,000	27.94%
Interest and Misc. Income	886,461	599,032	836,652	237,620	39.67%
Rental Income	78,925	71,399	71,641	242	0.34%
City of Asheville (Enka Bonds)	37,146	37,000	37,000	-	0.00%
Employee Contributions to Health Fund	-	415,000	402,700	(12,300)	-2.96%
Proceeds from Revenue Bonds	-	-	28,000,000	28,000,000	N/A
Use of (Contributions to) Available Funds	3,085,070	10,548,760	(11,520,447)	(22,069,207)	-209.21%
<b>Total Revenues &amp; Financing Sources</b>	<b>\$ 44,230,302</b>	<b>\$ 47,009,663</b>	<b>\$ 55,319,368</b>	<b>\$ 8,309,705</b>	<b>17.68%</b>
<b>EXPENDITURES</b>					
Operations and Maintenance	\$ 15,429,769	\$ 16,038,288	\$ 16,234,866	\$ 196,578	1.23%
Construction	19,259,020	22,042,087	28,307,716	6,265,629	28.43%
Capital Equipment	465,961	972,448	986,320	13,872	1.43%
Bond Principal and Interest	9,075,552	7,956,840	9,790,466	1,833,626	23.04%
<b>Total Expenditures</b>	<b>\$ 44,230,302</b>	<b>\$ 47,009,663</b>	<b>\$ 55,319,368</b>	<b>\$ 8,309,705</b>	<b>17.68%</b>

**NOTE:** Both Operation and Maintenance and Capital Equipment expenditures represent actual amounts to be spent in the respective reserve funds. These amounts do not include current year reserve funds funding request.

## Component Fund Chart

The following chart shows revenues, expenditures, and transfers by individual fund and provides the detail supporting the summary amounts.

	Operating and Construction			Equipment Replacement			Debt Services	Appropriated Funds
	Revenue/O&M	General	Construction	Fleet & Heavy Reserve	WWTP Reserve	Pump Station Reserve	Bond Service	
<b>Projected Net Position at 6/30/17</b>	<b>41,373,827</b>	<b>799,399</b>	<b>290,000</b>	<b>454,248</b>	<b>403,003</b>	<b>45,345</b>	<b>5,623,843</b>	<b>48,989,665</b>
<b>Revenues and Other Financing Sources:</b>								
Domestic User Charges	31,169,273	-	-	-	-	-	-	31,169,273
Industrial User Charges	3,347,294	-	-	-	-	-	-	3,347,294
Billing and Collection Fees	800,255	-	-	-	-	-	-	800,255
Facility and tap fees	-	2,175,000	-	-	-	-	-	2,175,000
Proceeds from Revenue Bonds	-	-	28,000,000	-	-	-	-	28,000,000
Sale of Surplus Property	-	-	-	76,080	-	-	-	76,080
Capital Contributions	-	-	-	-	-	-	-	-
Investment interest & misc.	428,670	11,000	290,527	4,542	4,030	453	50	739,272
City of Asheville for Enka Bond	37,000	-	-	-	-	-	-	37,000
Rental Income	71,641	-	-	-	-	-	-	71,641
Employee/Retirees Medical Contributions	-	-	-	-	-	-	-	-
<b>Total Revenues and Fin. Sources</b>	<b>35,854,133</b>	<b>2,186,000</b>	<b>28,290,527</b>	<b>80,622</b>	<b>4,030</b>	<b>453</b>	<b>50</b>	<b>66,415,815</b>
<b>Expenditures and Other Financing Uses</b>								
Operating Expenses	(12,680,527)	-	-	-	-	-	-	(12,680,527)
Debt--Principal	-	-	-	-	-	-	(5,135,831)	(5,135,831)
Debt--Interest	-	-	-	-	-	-	(4,654,635)	(4,654,635)
Construction	-	-	(28,307,716)	-	-	-	-	(28,307,716)
Capitalized Equipment Expenditures	(102,270.00)	-	-	(634,000)	(180,000)	(70,050)	-	(986,320)
<b>Total Expenditures and Other Financing Uses</b>	<b>(12,782,797)</b>	<b>-</b>	<b>(28,307,716)</b>	<b>(634,000)</b>	<b>(180,000)</b>	<b>(70,050)</b>	<b>(9,790,466)</b>	<b>(51,765,029)</b>
<b>Interfund/account transfers</b>	<b>(13,572,487)</b>	<b>(2,000,000)</b>	<b>2,000,000</b>	<b>460,000</b>	<b>50,000</b>	<b>150,000</b>	<b>9,790,466</b>	<b>(3,122,021)</b>
<b>Excess (Deficit) of Revenues over Expenditures</b>	<b>9,498,849</b>	<b>186,000</b>	<b>1,982,811</b>	<b>(93,378)</b>	<b>(125,970)</b>	<b>80,403</b>	<b>50</b>	<b>11,528,765</b>
<b>Projected Net Position at 06/30/18</b>	<b>50,872,676</b>	<b>985,399</b>	<b>2,272,811</b>	<b>360,870</b>	<b>277,033</b>	<b>125,748</b>	<b>5,623,893</b>	<b>60,518,430</b>

Funding comes primarily from the Revenue Fund, from which Operations and Maintenance expenditures are paid. Revenues are transferred to other funds, including construction, insurance internal funds, debt service and replacement reserve funds. Infrastructure over \$15,000 is capitalized and budgeted through the Construction Fund. Capitalized equipment such as trucks and rolling stock are budgeted through the Fleet Replacement Fund and capitalized equipment such as pumps and plant machinery are budgeted through the Water Reclamation Facility Replacement Fund. While the O&M budget contains line items entitled "Capital Equipment," while such expenditures are below the capitalization threshold, they are in excess of \$1,000 and budgeted and tracked internally for managerial purposes.



## Component Fund Chart (continued)

The following chart shows revenues, expenditures, and transfers by individual fund and provides the detail supporting the summary amounts.

	Designated for Insurance				Bond Covenant Requirement	Non- Appropriated	Budget Summary
	Insurance Medical	Insurance Post Employment	Insurance Prop & Liab	Insurance Work Comp	Capital Reserve		District Totals
<b>Projected Net Position at 6/30/17</b>	<b>891,978</b>	<b>188,670</b>	<b>560,303</b>	<b>296,996</b>	<b>963,906</b>	<b>2,901,853</b>	<b>51,891,518</b>
<b>Revenues and Other Financing Sources:</b>							
Domestic User Charges	-	-	-	-	-	-	31,169,273
Industrial User Charges	-	-	-	-	-	-	3,347,294
Billing and Collection Fees	-	-	-	-	-	-	800,255
Facility and tap fees	-	-	-	-	-	-	2,175,000
Proceeds from Revenue Bonds	-	-	-	-	-	-	28,000,000
Sale of Surplus Property	-	-	-	-	-	-	76,080
Capital Contributions	-	-	-	-	-	-	-
Investment interest & misc.	2,500	9,000	2,300	1,000	6,500	21,300	760,572
City of Asheville for Enka Bond	-	-	-	-	-	-	37,000
Rental Income	-	-	-	-	-	-	71,641
Employee/Retirees Medical Contributions	382,700	20,000	-	-	-	402,700	402,700
<b>Total Revenues and Fin. Sources</b>	<b>385,200</b>	<b>29,000</b>	<b>2,300</b>	<b>1,000</b>	<b>6,500</b>	<b>424,000</b>	<b>66,839,815</b>
<b>Expenditures and Other Financing Uses</b>							
Operating Expenses	(2,682,649)	(69,800)	(578,890)	(223,000)	-	(3,554,339)	(16,234,866)
Debt--Principal	-	-	-	-	-	-	(5,135,831)
Debt--Interest	-	-	-	-	-	-	(4,654,635)
Construction	-	-	-	-	-	-	(28,307,716)
Capitalized Equipment Expenditures	-	-	-	-	-	-	(986,320)
<b>Total Expenditures and Other Financing Uses</b>	<b>(2,682,649)</b>	<b>(69,800)</b>	<b>(578,890)</b>	<b>(223,000)</b>	<b>-</b>	<b>(3,554,339)</b>	<b>(55,319,368)</b>
<b>Interfund/account transfers</b>	<b>2,276,775</b>	<b>74,500</b>	<b>547,746</b>	<b>223,000</b>	<b>-</b>	<b>3,122,021</b>	<b>-</b>
<b>Excess (Deficit) of Revenues over Expenditures</b>	<b>(20,674)</b>	<b>33,700</b>	<b>(28,844)</b>	<b>1,000</b>	<b>6,500</b>	<b>(8,318)</b>	<b>11,520,447</b>
<b>Projected Net Position at 06/30/18</b>	<b>871,304</b>	<b>222,370</b>	<b>531,459</b>	<b>297,996</b>	<b>970,406</b>	<b>2,893,535</b>	<b>63,411,965</b>

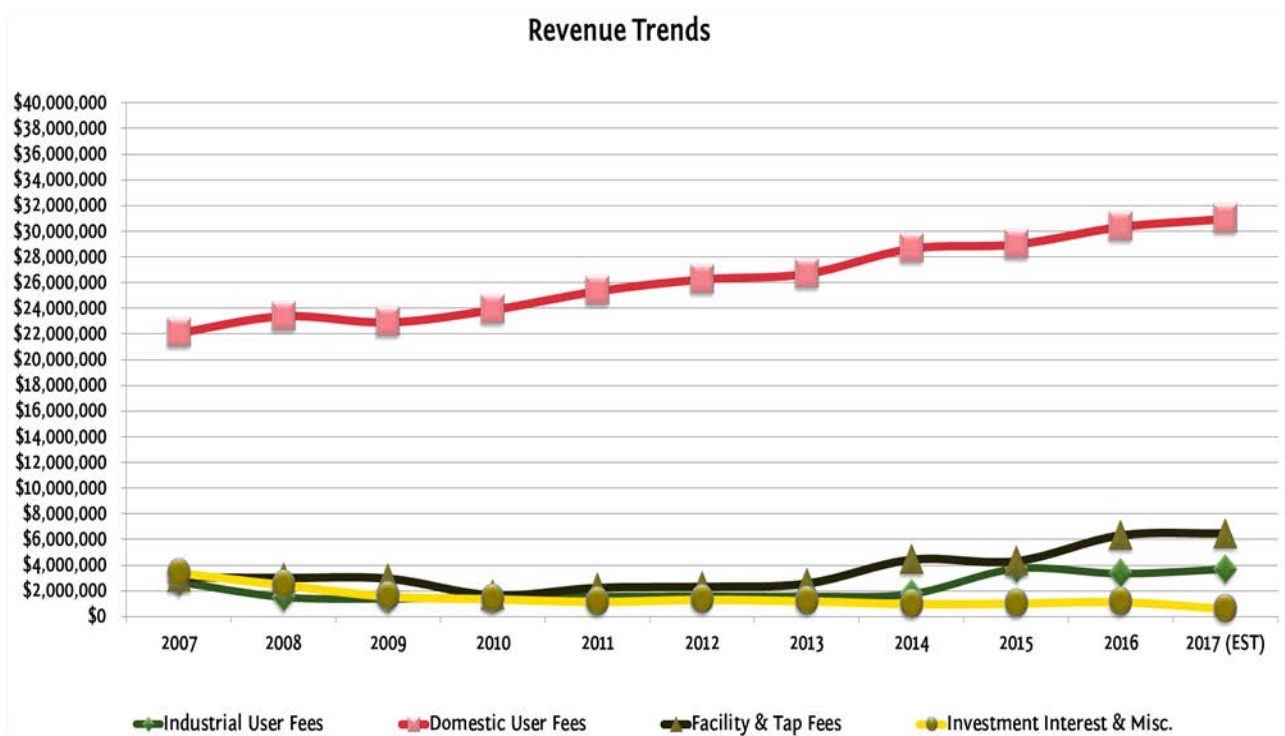
Now that the Districts' financial overview has been presented, we will examine revenues and various expenditures in detail.

## Revenue

### Overview

The District has the authority to establish rates and charges for service to be approved by a budget resolution of the District Board of Directors. The District has established separate rates for domestic and industrial customers, adopted a schedule of facility and sewer connection fees applying to new customers, and receives minor amounts of income from rental of real property and investment of surplus cash. The various types of revenues and other financing sources are described in detail on the following page.

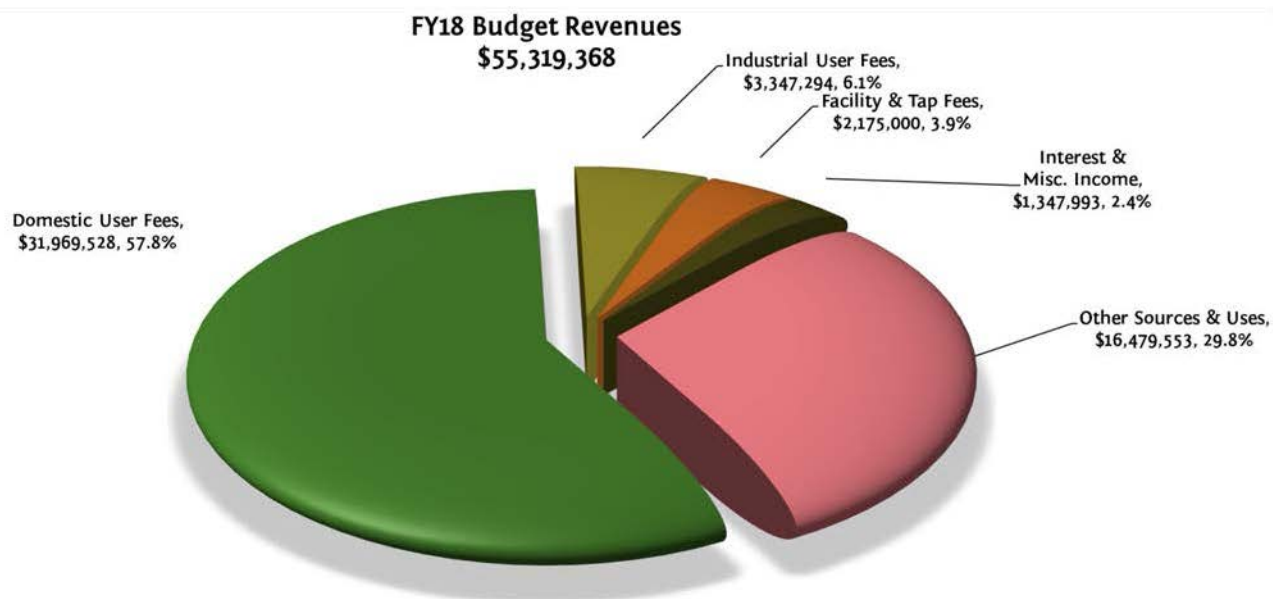
A graph of historical revenues by type reveals the overwhelming percentage of the District's income derives from domestic (residential & commercial) customers and has increased for the past ten consecutive years. Industrial user fees clearly show the effect of the shrinking textile industry in Buncombe County and are diminishing as larger industries wind down and are replaced with smaller new enterprises. Facility and tap fees testify to the growth fueled by population in-migration and expansion of non-industrial type businesses. Overall, income for FY17 is estimated to be slightly higher than in FY16.



## Revenue (continued)

### Revenue Summary

When projecting FY18 revenues, a 2.5% domestic customer rate increase was considered in conjunction with a projected .75% increase in domestic consumption. In addition, the budget reflects no growth in industrial users. Conservative assumptions based on recent income trends underlie other budgeted income amounts as explained below.



### Domestic User Charges

The primary source of District revenues are domestic charges. The District has approximately 54,000 accounts. The District direct bills approximately 500 of these domestic users all of which are on private well systems but are connected to MSD's sewer collector system. Billing and collection of the remainder of District domestic customers is performed by the member agencies providing water, who charge a fee for this service, which is added to the monthly bill and paid by MSD customers.

Domestic sewer rate increases for the past five years are shown below:

2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
2.5%	2.5%	2.5%	2.5%	2.5%	2.5%

## Revenue (continued)

### Industrial User Charges

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Prior to FY 2001, industrial users were charged decreasing tiered rates based on total volume so that actual rates charged were considerably below those paid by residential consumers. In FY 2001, the Board approved a plan to achieve rate parity between industrial and residential customers over the upcoming twenty years. The annual increases from this parity plan are incorporated in adopted rates.

Fortunately, the number of new residential customers continues to increase which is anticipated to mitigate the impact from the decline of industrial revenue.

### Investment Interest

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This revenue source reflects interest earned on public funds held by the District and the Revenue Bond Trustee. Investment income is determined by interest rates and cash balances available for investment. Interest rates decreased rapidly during the current year due to adverse economic conditions. The projected yield for the current fiscal year will be 1.5%.

All MSD investments conform to its Bond Order and the North Carolina General Statutes governing investments, and due to the minimum acceptable level of risk, produce fairly conservative rates of return.

### Sewer Facility Fees

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This revenue source represents the buying of equity in completed wastewater facilities paid by consumers who are added to the sewer collection system. In June 2006, the actual cost was determined to be significantly greater than the fee charged. To moderate the impact on customers, the board determined to implement 20% of this increase over each of the subsequent five years.

In FY10, the District instituted a one-year moratorium on the five-year sewer facility fee parity plan due to the recession. As of the end of FY12, the District has completed the aforementioned plan. Effective in FY18, sewer facility fees ranged from \$670 to \$2,500 for residential users based on size of structure, and from \$2,500 to \$237,500 for nonresidential customers based on meter size.

## **Revenue** (continued)

### **Sewer Connection Fees**

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This revenue source represents the cost of physically installing new connections to the sewer system. Sewer Connection Fees were last changed in June of 2011. The cost for installing a tap is \$650, with additional charges up to \$2,200 if pavement disturbance is involved.

The Sewer Connection Fee will apply to new home construction, as well as existing homes, which have been demolished or remodeled, and sewer service is reinstated under new property ownership. MSD reserves the right to require that a licensed utility contractor install any sewer connection, and such connections will be subject to MSD inspection. Sewer connections in excess of 75 feet will be evaluated on a case-by-case basis. If constructed by MSD, they will be billed at cost. If constructed by MSD, they will be billed at cost. Property owners may choose to utilize a licensed utility contractor, which will be subject to MSD inspection.

### **Billings & Collections**

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The District will pay the municipalities \$2.36 per customer bill for meter reading, billing, and collection services.

### **Rental Income**

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Buncombe County Partnership for Children has entered into a lease to utilize the District's former Administration Building. The District also leases land to a private company for a cell tower.

### **City of Asheville (Enka Bonds Annexation)**

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In the Consolidation Agreements, MSD agreed to assume debt service on the \$1,500,000 sanitary sewer bond issued by the Enka-Candler Water and Sewer District. This debt was used to pay a part of constructing the sewer system in Enka-Candler, which at that time was located in an unincorporated area of western Buncombe County. After the consolidation, the City of Asheville annexed a portion of the Enka-Candler Sewer District, so the City of Asheville reimburses the District for its proportionate amount (41%) of the annual principal and interest payment.

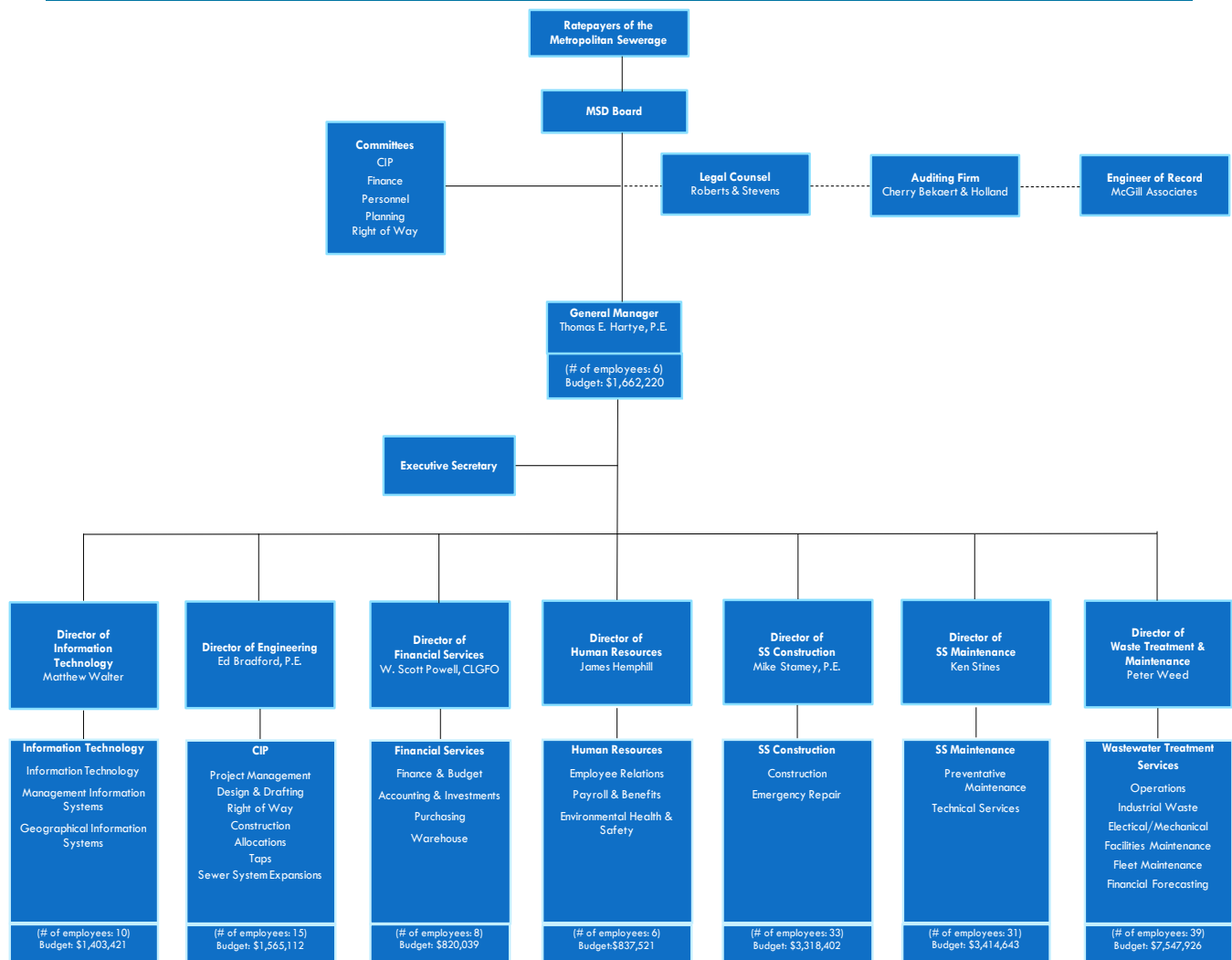


# OPERATION & MAINTENANCE FUND



# Operation & Maintenance Fund

## Organizational Chart



## Operation & Maintenance Fund (continued)

### Overview

The Operation & Maintenance Fund budget finances the program and administrative activities for the wastewater treatment plant, pump stations, and collection system. The FY18 Operation & Maintenance Fund budget totals \$16,564,818. This represents a 2.85% increase over the previous year. The District budgets to the Departmental level and are as follows:

Office of the General Manager	\$ 1,662,220
Human Resources	\$ 837,521
Information Technology	\$ 1,403,421
Financial Services	\$ 820,039
Wastewater Treatment Plant	\$ 7,547,926
SS Maintenance	\$ 3,409,780
SS Construction	\$ 3,414,643
Engineering	\$ 1,565,112
Total Expenditures	\$20,660,662
Less: Capitalized in Construction Funds	(4,095,844)
Net Operation & Maintenance Fund	\$16,564,818

	ACTUAL 2015-2016	APPROVED 2016-2017 BUDGET	ESTIMATED 2016-2017 ACTUAL	PROPOSED 2017-2018 BUDGET	INC(DEC) OVER PRIOR YR BUDGET
<b>SALARIES &amp; WAGES</b>	\$ 8,395,294	\$ 8,645,077	\$ 8,633,851	\$ 8,826,272	2.10%
<b>BENEFITS</b>	\$ 3,749,366	\$ 4,197,072	\$ 4,194,668	\$ 4,377,033	4.29%
<b>MATERIALS, SUPPLIES &amp; SERVICES</b>	\$ 5,489,645	\$ 6,384,843	\$ 6,059,934	\$ 6,508,737	1.94%
<b>REPLACEMENT FUNDS &amp; TRANSFERS</b>	\$ 813,362	\$ 827,217	\$ 827,000	\$ 846,350	2.31%
<b>CAPITAL EQUIPMENT</b>	\$ 172,563	\$ 89,964	\$ 70,165	\$ 102,270	13.68%
<b>SUB-TOTAL O&amp;M FUND</b>	<b>\$ 18,620,229</b>	<b>\$ 20,144,173</b>	<b>\$ 19,785,618</b>	<b>\$ 20,660,662</b>	<b>2.56%</b>
<b>LESS:</b>					
<b>Capitalized Construction Expenses</b>	\$ (3,684,049)	\$ (4,037,683)	\$ (4,016,333)	\$ (4,095,844)	1.44%
<b>NET OPERATION &amp; MAINTENANCE FUND</b>	<b>\$ 14,936,180</b>	<b>\$ 16,106,490</b>	<b>\$ 15,769,285</b>	<b>\$ 16,564,818</b>	<b>2.85%</b>

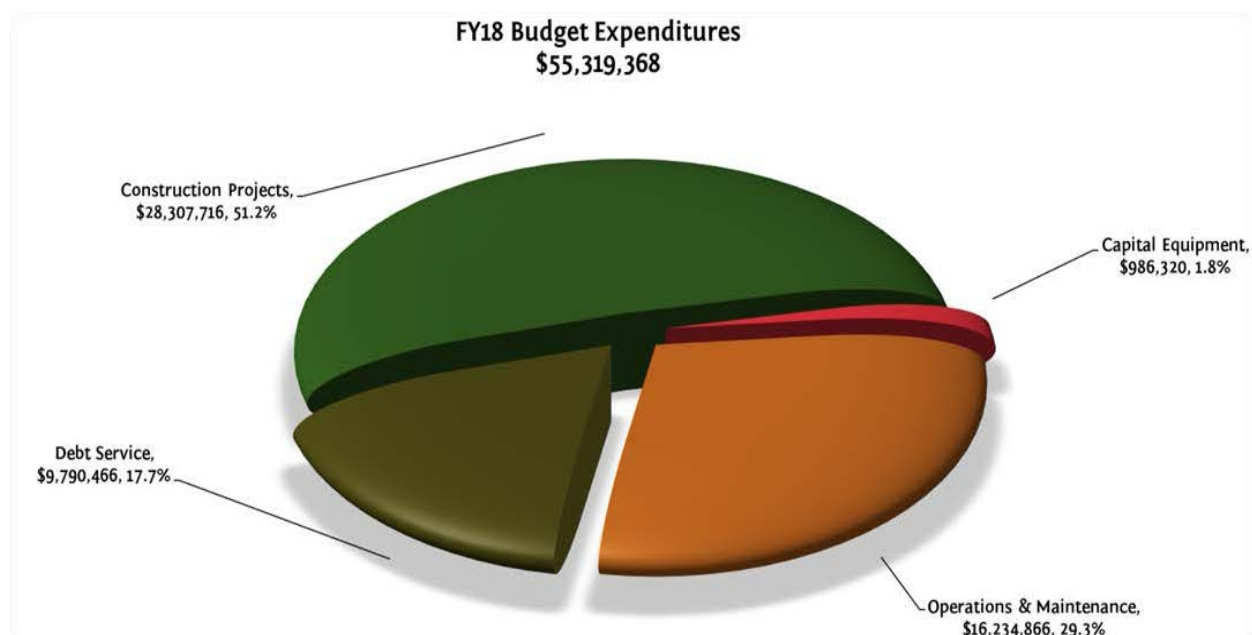
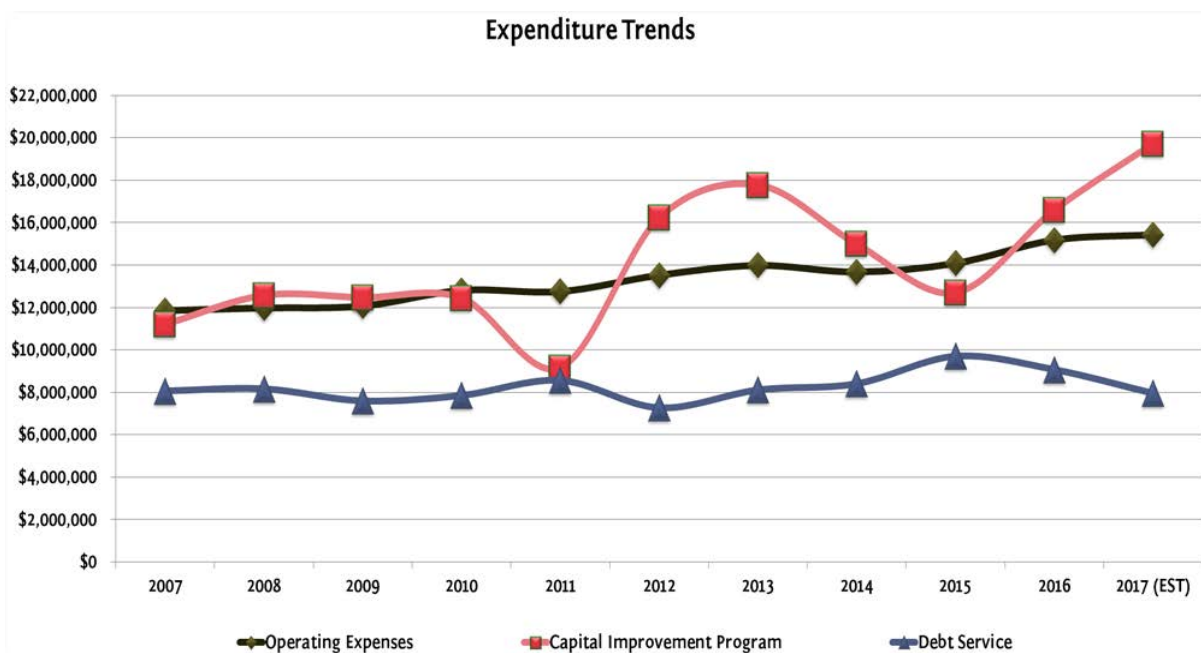
The major factors that impact our operating and maintenance budget include:

- Repairs and Maintenance**—A majority of the Districts' approximately 1,000 miles of collection lines are between thirty and one hundred years old. While many capital projects are planned and in process, these aging facilities often require frequent repairs and maintenance costs prior to commencement of a major rehabilitation funded in the CIP. The Asset Management Plan calls for periodic maintenance and repairs. The District has budgeted significant amounts for maintenance of equipment, buildings, and grounds as well as for in-house sewer line repair and maintenance.



## Operation & Maintenance Fund (continued)

2. **Salaries and Benefits**—A 3.0% salary adjustment as well as a 7.5% increase for the Self-Funded Health Insurance Plan. Personnel costs represent over 64% of the Operating and Maintenance budget.
3. **Post-Employment Health Benefit**—Starting in FY09, GASB45 requires the recognition of cost for Post-Employment Health Benefits. Current funding represents 1.5% of total operations.



# FY18 Budget – All Departments Summary

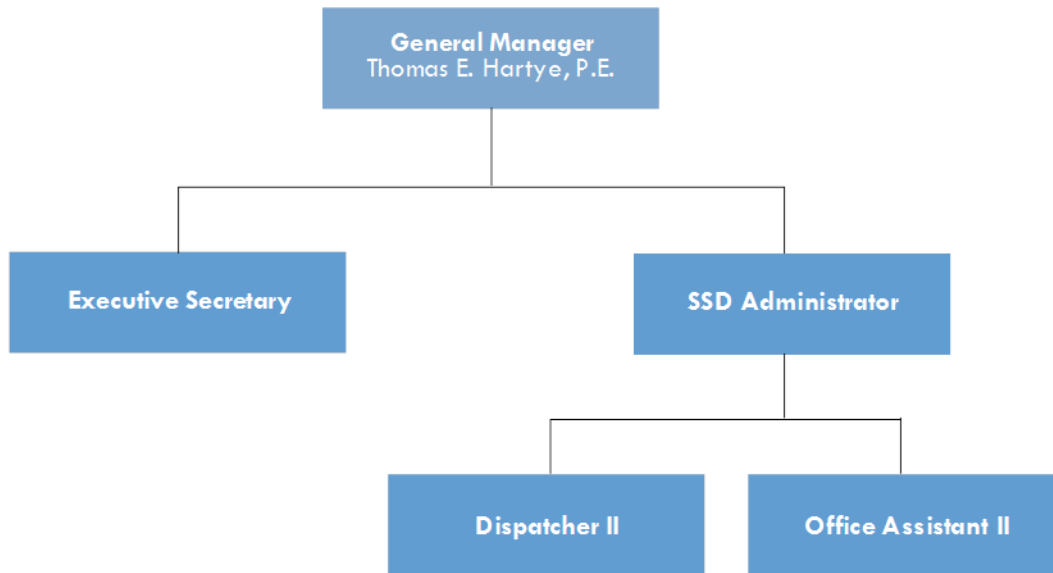
No.	Name	Actual 2013-2014	Actual 2014-2015	Actual 2015-2016	Approved 2016-2017 Budget	Estimated Actual 6/30/2017	Percent Expended To Total Budget	Proposed 2017-2018 Budget	Inc (Dec) Over Prior Year
<b>Salaries &amp; Wages</b>									
51100	Salaries & Wages	\$ 7,511,808.67	\$ 7,822,788.68	\$ 8,114,221.40	\$ 8,343,977.00	\$ 8,335,351.00	99.9%	\$ 8,523,272.00	2.15%
51150	Overtime	\$ 355,457.78	\$ 249,885.92	\$ 281,072.44	\$ 301,100.00	\$ 298,500.00	99.1%	\$ 303,000.00	0.63%
<b>Total Salaries &amp; Wages</b>		\$ 7,867,266.45	\$ 8,072,674.60	\$ 8,395,293.84	\$ 8,645,077.00	\$ 8,633,851.00	99.9%	\$ 8,826,272.00	2.10%
<b>Benefits</b>									
51200	North Carolina Retirement	\$ 558,541.37	\$ 569,223.92	\$ 564,384.10	\$ 634,548.00	\$ 633,725.00	99.9%	\$ 669,032.00	5.43%
51250	Payroll Taxes	\$ 569,105.17	\$ 584,714.82	\$ 607,735.77	\$ 661,346.00	\$ 660,488.00	99.9%	\$ 675,210.00	2.10%
51300	Medical, Dental & Life	\$ 1,833,116.00	\$ 2,045,496.63	\$ 1,805,519.85	\$ 1,908,628.00	\$ 1,908,628.00	100.0%	\$ 2,051,775.00	7.50%
51325	Post Retirement Insurance	\$ 156,800.00	\$ 77,100.00	\$ 191,096.15	\$ 270,000.00	\$ 270,000.00	100.0%	\$ 249,500.00	-7.59%
51350	Worker's Compensation	\$ 215,312.00	\$ 201,145.36	\$ 215,312.00	\$ 273,000.00	\$ 273,000.00	100.0%	\$ 273,000.00	0.00%
51360	State Unemployment Benefits	\$ 48,039.49	\$ 23,962.99	\$ 6,220.43	\$ 32,340.00	\$ 32,340.00	100.0%	\$ 32,340.00	0.00%
51500	401-K/457 Plan	\$ 310,161.48	\$ 339,055.67	\$ 359,097.20	\$ 417,210.00	\$ 416,487.00	99.8%	\$ 426,176.00	2.15%
<b>Total Benefits</b>		\$ 3,691,075.51	\$ 3,840,699.39	\$ 3,749,365.50	\$ 4,197,072.00	\$ 4,194,668.00	99.9%	\$ 4,377,033.00	4.29%
<b>Total Salaries, Wages &amp; Benefits</b>		\$ 11,558,341.96	\$ 11,913,373.99	\$ 12,144,659.34	\$ 12,842,149.00	\$ 12,828,519.00	99.9%	\$ 13,203,305.00	2.81%
<b>Materials, Supplies &amp; Services</b>									
52010	Advertising	\$ 21,019.18	\$ 25,523.03	\$ 23,047.57	\$ 25,367.50	\$ 25,367.50	100.0%	\$ 35,250.00	38.96%
52050	Dues & Subscriptions	\$ 35,067.94	\$ 46,092.18	\$ 44,742.89	\$ 54,752.22	\$ 54,566.73	99.7%	\$ 55,280.00	0.96%
52100	Postage	\$ 11,195.11	\$ 9,452.22	\$ 8,508.75	\$ 11,000.00	\$ 11,000.00	100.0%	\$ 11,000.00	0.00%
52150	Travel, Mtgs & Training	\$ 114,203.86	\$ 119,837.27	\$ 132,443.65	\$ 145,521.18	\$ 142,147.00	97.7%	\$ 161,292.00	10.84%
52160	Tuition Assistance	\$ 1,822.38	\$ 4,229.42	\$ 3,407.16	\$ 7,000.00	\$ 6,850.00	97.9%	\$ 7,000.00	0.00%
52170	Directors Fees & Expenses	\$ 22,620.01	\$ 22,791.28	\$ 21,412.12	\$ 35,000.00	\$ 28,000.00	80.0%	\$ 35,000.00	0.00%
52180	Liability Insurance	\$ 605,434.00	\$ 497,820.01	\$ 605,434.00	\$ 547,746.00	\$ 547,746.00	100.0%	\$ 547,746.00	0.00%
52200	Telephone/Telefax	\$ 32,231.84	\$ 30,645.80	\$ 29,427.21	\$ 31,800.00	\$ 31,600.00	99.4%	\$ 34,000.00	6.92%
52210	Communications	\$ 88,223.00	\$ 93,518.10	\$ 89,900.00	\$ 115,894.83	\$ 115,065.00	99.3%	\$ 128,060.00	10.50%
52240	Uniforms	\$ 66,863.89	\$ 62,640.92	\$ 58,905.42	\$ 82,575.82	\$ 81,397.82	98.6%	\$ 84,850.00	2.75%
52250	Office Supplies	\$ 25,199.60	\$ 18,892.49	\$ 20,633.94	\$ 30,365.93	\$ 27,655.00	91.1%	\$ 28,150.00	-7.30%
52260	Special Dept Supplies	\$ 399,078.28	\$ 407,240.20	\$ 402,558.34	\$ 432,544.25	\$ 428,891.00	99.2%	\$ 450,440.00	4.14%
52270	Safety Equip/Supplies	\$ 58,885.91	\$ 60,727.31	\$ 66,747.80	\$ 72,450.00	\$ 70,595.00	97.4%	\$ 71,400.00	-1.45%
52280	Maint Supp/Small Tools	\$ 119,168.81	\$ 109,319.52	\$ 103,879.67	\$ 127,000.00	\$ 126,500.00	99.6%	\$ 127,100.00	0.08%
52290	Chemical Supplies	\$ 421,393.22	\$ 388,293.43	\$ 429,656.28	\$ 531,900.00	\$ 526,900.00	99.1%	\$ 531,500.00	-0.08%
52300	Line Cleaning Supplies	\$ 43,272.40	\$ 53,527.63	\$ 56,533.42	\$ 53,750.00	\$ 53,750.00	100.0%	\$ 53,750.00	0.00%
52330	Legal Fees	\$ 49,270.37	\$ 35,412.41	\$ 46,971.49	\$ 56,419.50	\$ 41,308.50	73.2%	\$ 47,000.00	-16.70%
52350	Prof/Contractual Svcs	\$ 407,042.69	\$ 420,368.31	\$ 404,790.52	\$ 588,292.77	\$ 570,075.00	96.9%	\$ 645,050.00	9.65%
52410	Maint-Buildings & Grounds	\$ 125,264.57	\$ 125,999.81	\$ 121,118.94	\$ 140,700.00	\$ 139,400.00	99.1%	\$ 150,500.00	6.97%
52420	Maintenance-Equipment	\$ 435,585.13	\$ 468,576.15	\$ 544,123.53	\$ 456,934.43	\$ 456,934.00	100.0%	\$ 464,800.00	1.72%
52430	Landscape Restoration	\$ 14,858.44	\$ 9,180.32	\$ 13,513.62	\$ 17,000.00	\$ 17,000.00	100.0%	\$ 17,000.00	0.00%
52440	Pump Maintenance	\$ 42,718.44	\$ 33,951.84	\$ 63,764.14	\$ 86,194.45	\$ 86,194.45	100.0%	\$ 90,000.00	4.42%
52450	Equipment Rental	\$ 4,500.76	\$ 5,922.50	\$ 7,451.30	\$ 24,500.00	\$ 23,500.00	95.9%	\$ 24,000.00	-2.04%
52460	Motor Fuel & Lubricants	\$ 234,550.21	\$ 176,658.06	\$ 128,263.06	\$ 262,000.00	\$ 200,000.00	76.3%	\$ 225,000.00	-14.12%
52470	Outside Vehicle Maint	\$ 5,877.23	\$ 9,368.84	\$ 12,483.16	\$ 15,000.00	\$ 14,000.00	93.3%	\$ 14,000.00	-6.67%
52500	Rents/Leases	\$ 34,432.92	\$ 37,393.63	\$ 38,994.18	\$ 49,500.00	\$ 49,500.00	100.0%	\$ 49,500.00	0.00%
52510	Permits/Fees/Software Licenses	\$ 98,452.80	\$ 189,637.60	\$ 232,009.87	\$ 241,654.00	\$ 233,669.00	96.7%	\$ 247,870.00	2.57%
52650	Utilities	\$ 946,729.40	\$ 1,026,485.57	\$ 943,331.54	\$ 1,243,000.00	\$ 1,063,000.00	85.5%	\$ 1,247,000.00	0.32%
52690	Freight	\$ 4,756.12	\$ 6,737.82	\$ 4,861.58	\$ 5,000.00	\$ 5,000.00	100.0%	\$ 5,000.00	0.00%
52715	Safety Incentive Program	\$ 1,228.64	\$ 1,845.91	\$ 1,846.44	\$ 2,500.00	\$ 2,500.00	100.0%	\$ 2,500.00	0.00%
52725	Wellness Program	\$ 8,010.44	\$ 4,592.67	\$ 6,730.67	\$ 8,000.00	\$ 8,000.00	100.0%	\$ 8,000.00	0.00%
52730	Employee Asst Program	\$ 4,255.00	\$ 4,255.00	\$ 4,355.00	\$ 4,500.00	\$ 4,500.00	100.0%	\$ 4,500.00	0.00%
52900	Other Operating Expenses	\$ 1,286.28	\$ 467.94	\$ 1,222.53	\$ 4,000.00	\$ 4,000.00	100.0%	\$ 4,000.00	0.00%
52910	Non-Capital Equipment	\$ 88,938.23	\$ 140,310.15	\$ 62,258.25	\$ 97,480.55	\$ 90,822.26	93.2%	\$ 95,944.00	-1.58%
52915	Copiers Printers & Faxes	\$ -	\$ 60.41	\$ -	\$ 5,000.00	\$ -	0.0%	\$ 5,000.00	0.00%
52920	Billing & Collections	\$ 717,412.77	\$ 738,238.51	\$ 754,316.76	\$ 772,500.00	\$ 772,500.00	100.0%	\$ 800,255.00	3.59%
<b>Total Materials, Supplies &amp; Services</b>		\$ 5,290,849.87	\$ 5,386,014.26	\$ 5,489,644.80	\$ 6,384,843.43	\$ 6,059,934.26	94.9%	\$ 6,508,737.00	1.94%
<b>Interfund Transfers</b>									
52340	Debt Administration Expenses	\$ 220,782.82	\$ 191,223.71	\$ 188,362.16	\$ 202,217.00	\$ 202,000.00	99.9%	\$ 186,350.00	-7.85%
53040	Fleet Replacement Charges	\$ 400,000.00	\$ 400,000.00	\$ 425,000.00	\$ 425,000.00	\$ 425,000.00	100.0%	\$ 460,000.00	8.24%
53050	Wwtp Replacement Charges	\$ 100,000.00	\$ 100,000.00	\$ 200,000.00	\$ 200,000.00	\$ 200,000.00	100.0%	\$ 200,000.00	0.00%
<b>Total Interfund Transfers</b>		\$ 720,782.82	\$ 691,223.71	\$ 813,362.16	\$ 827,217.00	\$ 827,000.00	100.0%	\$ 846,350.00	2.31%
<b>Capital Outlay</b>									
54010	Capital Equipment - New	\$ 36,871.65	\$ 57,871.48	\$ 79,321.14	\$ 23,115.57	\$ 21,115.00	91.3%	\$ 35,170.00	52.15%
54020	Capital Equip-Software	\$ 23,404.39	\$ 11,250.00	\$ 18,353.88	\$ 13,248.00	\$ 12,900.00	97.4%	\$ 17,500.00	32.10%
54030	Capital Equip - Replacement	\$ 233,361.46	\$ 77,559.66	\$ 74,888.05	\$ 53,600.00	\$ 36,150.00	67.4%	\$ 49,600.00	-7.46%
<b>Total Capital Outlay</b>		\$ 293,637.50	\$ 146,681.14	\$ 172,563.07	\$ 89,963.57	\$ 70,165.00	78.0%	\$ 102,270.00	13.68%
<b>Sub-Total O&amp;M Fund</b>		\$ 17,863,612.15	\$ 18,137,293.10	\$ 18,620,229.37	\$ 20,144,173.00	\$ 19,785,618.26	98.2%	\$ 20,660,662.00	2.56%
59200	LESS:								
	Chargebacks to General Fund for CIP	\$ (2,292,057.23)	\$ (2,293,656.56)	\$ (2,295,944.89)	\$ (2,498,272.00)	\$ (2,476,921.82)	99.1%	\$ (2,475,836.00)	-0.90%
	Chargebacks to General Fund for SSD	\$ (1,279,053.00)	\$ (1,309,983.00)	\$ (1,388,104.00)	\$ (1,539,411.00)	\$ (1,539,411.00)	100.0%	\$ (1,620,008.00)	5.24%
<b>Net Operation &amp; Maintenance Fund</b>		\$ 14,292,501.92	\$ 14,533,653.54	\$ 14,936,180.48	\$ 16,106,490.00	\$ 15,769,285.44	97.9%	\$ 16,564,818.00	2.85%



## Office of the General Manager

### Organizational Chart

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## Office of the General Manager (continued)

### Mission Statement

The mission of Office of the General Manager is to provide overall direction, leadership and coordination of the District and Department activities to ensure that the most efficient and effective services possible are provided within the policies established by the District's Board of Directors and the resources authorized.

### Key Responsibilities

Carry out policies and directives of the Board. Monitor and control resources to ensure that the District is operated in a responsible and cost-efficient manner. Operate and maintain a reliable wastewater, collection, and treatment system. Maintain effective communications and relationships with member agencies and the public. Maintain positive media relations through news releases and prompt, accurate responses to media inquiries. Represent MSD in various meetings, forums, and special events. Oversee intermediate and long-range planning. Review and submit the board and committee agenda items; prepare minutes for board meetings; coordinate travel arrangements for board members and staff; provide public relations assistance.

### Staffing History

Division & Position	Approved Positions 15-16	Approved Positions 16-17	Budgeted Positions 17-18
<b>Department of Office of the General Manager</b>			
General Manager	1	1	1
<b>Total General Manager</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Office Support:</b>			
Executive Secretary GM/Board	1	1	1
<b>Total Office Support</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Total – Office of the General Manager Department</b>	<b>2</b>	<b>2</b>	<b>2</b>

### Accomplishments for FY 2016-2017

1. Finished design and started construction on the Plant Headworks Project

## Office of the General Manager (continued)

### Accomplishments for FY 2016-2017 (continued)

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2. Completed heat exchange, multi-venturi, and new membrane technology for the Incinerator and Air Emissions System
3. Incorporated \$35 million of Treatment Plant improvements within 10-year CIP
4. Replaced or rehabbed 50,000 feet of sewer line
5. Completed 6,200 feet of lining on the 36" interceptor adjacent to the Biltmore Estate
6. Kept response time to all customer calls to less than 38 minutes
7. Awarded (NACWA) 2017 National Environmental Achievement Award for air emissions project
8. ISO Recertification for entire organization

### Budget Highlights/Changes for FY 2017-2018

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1. Keep rate increases low and consistent based on long-term financial model
2. Includes completing Capital Improvements of approximately \$28 Million
3. Reflects 7.5% increase in medical plan costs, plus plan adjustments
4. A 3.0% salary adjustment
5. Increase GASB45 requirements and increase to LGERS contribution

### Goals & Objectives

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- **Goal:** Oversee compliance with all State & Federal requirements for collection, treatment, and disposal of wastewater. (MSD Objectives 1& 2)
- **Goal:** Manage District in a financially sound manner. (MSD Goal 3)
- **Goal:** Implement District programs in accordance with Board approved schedules, as modified from time to time as appropriate to provide project flexibility and accommodate ongoing changes in the community. (MSD Goal 4)
- **Goal:** Manage community relations and education efforts. (MSD Objective 5)
- **Goal:** Establish departmental goals & objectives. (MSD Goal 4)

## Office of the General Manager (continued)

### Performance Measures

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1. Oversight of compliance matters—see performance measures for Systems Services and Water Reclamation facility departments
2. Fiscal management—see performance measures for Finance Department

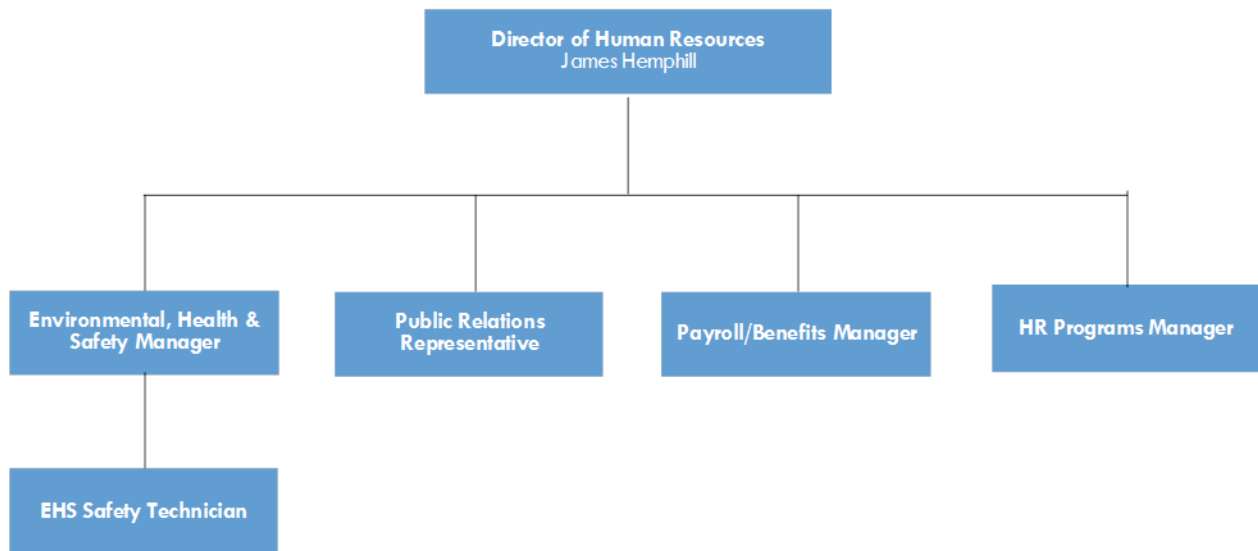
# FY18 Budget – Office of the General Manager

No.	Name	Actual 2013-2014	Actual 2014-2015	Actual 2015-2016	Approved 2016-2017 Budget	Estimated Actual 6/30/2017	Percent Expended To Total Budget	Proposed 2017-2018 Budget	Inc (Dec) Over Prior Year
<b>Salaries &amp; Wages</b>									
51100	Salaries & Wages	\$ 221,127.17	\$ 237,055.57	\$ 247,838.46	\$ 243,626.00	\$ 235,000.00	96.5%	\$ 250,935.00	3.00%
<b>Total Salaries &amp; Wages</b>		<b>\$ 221,127.17</b>	<b>\$ 237,055.57</b>	<b>\$ 247,838.46</b>	<b>\$ 243,626.00</b>	<b>\$ 235,000.00</b>	<b>96.5%</b>	<b>\$ 250,935.00</b>	<b>3.00%</b>
<b>Benefits</b>									
51200	North Carolina Retirement	\$ 15,663.24	\$ 16,737.26	\$ 16,738.95	\$ 17,882.00	\$ 17,249.00	96.5%	\$ 19,021.00	6.37%
51250	Payroll Taxes	\$ 13,000.36	\$ 14,255.65	\$ 17,095.96	\$ 18,637.00	\$ 17,978.00	96.5%	\$ 19,197.00	3.00%
51300	Medical, Dental & Life	\$ 24,605.00	\$ 27,829.86	\$ 24,564.87	\$ 25,792.00	\$ 25,792.00	100.0%	\$ 27,727.00	7.50%
51325	Post Retirement Insurance	\$ 2,105.00	\$ 1,048.99	\$ 2,600.13	\$ 3,649.00	\$ 3,649.00	100.0%	\$ 3,372.00	-7.59%
51350	Worker's Compensation	\$ 2,890.00	\$ 2,736.28	\$ 2,929.00	\$ 3,689.00	\$ 3,689.00	100.0%	\$ 3,689.00	0.00%
51360	State Unemployment Benefits	\$ 428.00	\$ 326.03	\$ 84.63	\$ 440.00	\$ 440.00	100.0%	\$ 440.00	0.00%
51500	401K/457 Plan	\$ 7,975.13	\$ 8,545.50	\$ 9,019.22	\$ 12,182.00	\$ 11,750.00	96.5%	\$ 12,547.00	3.00%
<b>Total Benefits</b>		<b>\$ 66,666.73</b>	<b>\$ 71,479.57</b>	<b>\$ 73,032.76</b>	<b>\$ 82,271.00</b>	<b>\$ 80,547.00</b>	<b>97.9%</b>	<b>\$ 85,993.00</b>	<b>4.52%</b>
<b>Total Salaries, Wages &amp; Benefits</b>		<b>\$ 287,793.90</b>	<b>\$ 308,535.14</b>	<b>\$ 320,871.22</b>	<b>\$ 325,897.00</b>	<b>\$ 315,547.00</b>	<b>96.8%</b>	<b>\$ 336,928.00</b>	<b>3.38%</b>
<b>Materials, Supplies &amp; Services</b>									
52010	Advertising	\$ 11,816.63	\$ 12,241.81	\$ 12,831.24	\$ 12,500.00	\$ 12,500.00	100.0%	\$ 12,500.00	0.00%
52050	Dues & Subscriptions	\$ 10,791.90	\$ 11,391.47	\$ 11,525.07	\$ 12,000.00	\$ 12,000.00	100.0%	\$ 12,000.00	0.00%
52100	Postage	\$ 11,195.11	\$ 9,452.22	\$ 8,508.75	\$ 11,000.00	\$ 11,000.00	100.0%	\$ 11,000.00	0.00%
52150	Travel, Mtgs & Training	\$ 4,828.47	\$ 7,244.85	\$ 5,152.50	\$ 7,000.00	\$ 7,000.00	100.0%	\$ 8,000.00	14.29%
52170	Directors Fees & Expenses	\$ 22,620.01	\$ 22,791.28	\$ 21,412.12	\$ 35,000.00	\$ 28,000.00	80.0%	\$ 35,000.00	0.00%
52180	Liability Insurance	\$ 116,167.00	\$ 95,518.68	\$ 116,167.00	\$ 105,099.00	\$ 105,099.00	100.0%	\$ 105,099.00	0.00%
52210	Communications	\$ 1,854.26	\$ 2,510.77	\$ 1,750.59	\$ 3,000.00	\$ 3,000.00	100.0%	\$ 3,000.00	0.00%
52250	Office Supplies	\$ 568.70	\$ 270.99	\$ 587.17	\$ 700.00	\$ 650.00	92.9%	\$ 650.00	-7.14%
52260	Special Dept Supplies	\$ 921.50	\$ 618.41	\$ 497.31	\$ 700.00	\$ 700.00	100.0%	\$ 700.00	0.00%
52330	Legal Fees	\$ 45,918.92	\$ 33,019.00	\$ 44,577.15	\$ 50,000.00	\$ 35,000.00	70.0%	\$ 40,000.00	-20.00%
52350	Prof/Contractual Svcs	\$ 17,363.08	\$ 11,660.87	\$ 12,938.63	\$ 20,000.00	\$ 20,000.00	100.0%	\$ 24,000.00	20.00%
52410	Maint-Buildings & Grounds	\$ 113,538.60	\$ 117,581.30	\$ 113,535.39	\$ 121,400.00	\$ 121,400.00	100.0%	\$ 128,000.00	5.44%
52420	Maintenance-Equipment	\$ 243.31	\$ 230.00	\$ -	\$ 400.00	\$ 400.00	100.0%	\$ 400.00	0.00%
52500	Rents/Leases	\$ 4,391.48	\$ 3,346.99	\$ 3,711.62	\$ 5,500.00	\$ 5,500.00	100.0%	\$ 5,500.00	0.00%
52510	Permits/Fees/Software Licenses	\$ 140.00	\$ 168.00	\$ 148.00	\$ 170.00	\$ 170.00	100.0%	\$ 170.00	0.00%
52650	Utilities	\$ 101,862.29	\$ 103,639.47	\$ 88,535.34	\$ 118,000.00	\$ 118,000.00	100.0%	\$ 122,000.00	3.39%
52690	Freight	\$ 4,756.12	\$ 6,737.82	\$ 4,861.58	\$ 5,000.00	\$ 5,000.00	100.0%	\$ 5,000.00	0.00%
52900	Other Operating Expenses	\$ 1,286.28	\$ 467.94	\$ 1,222.53	\$ 4,000.00	\$ 4,000.00	100.0%	\$ 4,000.00	0.00%
52920	Billing & Collections	\$ 717,412.77	\$ 738,238.51	\$ 754,316.76	\$ 772,500.00	\$ 772,500.00	100.0%	\$ 800,255.00	3.59%
<b>Total Materials, Supplies &amp; Services</b>		<b>\$ 1,187,676.43</b>	<b>\$ 1,177,869.13</b>	<b>\$ 1,202,278.75</b>	<b>\$ 1,283,969.00</b>	<b>\$ 1,261,919.00</b>	<b>98.3%</b>	<b>\$ 1,317,274.00</b>	<b>2.59%</b>
<b>Interfund Transfers</b>									
53040	Fleet Replacement Charges	\$ 7,546.00	\$ 7,546.00	\$ 8,018.00	\$ 8,018.00	\$ 8,018.00	100.0%	\$ 8,018.00	0.00%
<b>Total Interfund Transfers</b>		<b>\$ 7,546.00</b>	<b>\$ 7,546.00</b>	<b>\$ 8,018.00</b>	<b>\$ 8,018.00</b>	<b>\$ 8,018.00</b>	<b>100.0%</b>	<b>\$ 8,018.00</b>	<b>0.00%</b>
<b>Sub-Total O&amp;M Fund</b>		<b>\$ 1,483,016.33</b>	<b>\$ 1,495,493.27</b>	<b>\$ 1,531,167.97</b>	<b>\$ 1,617,884.00</b>	<b>\$ 1,585,484.00</b>	<b>98.0%</b>	<b>\$ 1,662,220.00</b>	<b>2.74%</b>
<b>Net Operation &amp; Maintenance Fund</b>		<b>\$ 1,483,016.33</b>	<b>\$ 1,495,493.27</b>	<b>\$ 1,531,167.97</b>	<b>\$ 1,617,884.00</b>	<b>\$ 1,585,484.00</b>	<b>98.0%</b>	<b>\$ 1,662,220.00</b>	<b>2.74%</b>

## Human Resources

### Organizational Chart

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## Human Resources (continued)

### Mission Statement

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The mission of the Human Resource Management Division is to develop and implement a comprehensive, consistent program of human resource activities and maintain a qualified, diverse, career-oriented work force.

The mission of the Payroll and Employee Benefits Division is to process bi-weekly payroll for the District employees and to provide an attractive employee benefits package at a reasonable cost to the District and employees.

The mission of the Environmental Safety Division is to eliminate avoidable personal injuries and accidents through compliance with applicable federal, state, local and MSD rules and regulations governing environmental health and safety.

### Key Responsibilities

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**Human Resources**—Includes compliance with all Federal/State regulations and MSD Personnel Policies; coordinate recruitment process and new employee orientation; coordinate employee six-month and annual evaluations; maintain employee personnel files; coordinate updates to personnel pay plan & job descriptions; maintain positive employer-employee relations and develop training program for supervisors.

**Payroll & Benefits**—Includes bi-weekly processing of payroll and related reports; administering the following benefits: group medical, dental and life insurance; social security, North Carolina Retirement Defined Benefit Plan, 401(k) and 457 Defined Contribution Plans, Section 125 Cafeteria Plan, and voluntary employee deductions such as cancer, disability and life insurance.

**Environmental Safety**—To ensure District compliance with laws of regulatory agencies such as OSHA, the North Carolina Department of Transportation, and EPA; to reduce losses to the District such as high worker's compensation premiums, lost production time, damage to property, etc.; and to promote awareness of and participation in environmental, health and safety among all employees.

## Human Resources (continued)

### Staffing History

Division & Position	Approved Positions 15-16	Approved Positions 16-17	Budgeted Positions 17-18
<b>Department of Human Resources</b>			
<b>Management:</b>			
Director of Human Resources	1	1	1
<b>Total Management</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Human Resources:</b>			
Public Relations Representative	1	1	1
HR Programs Manager	1	1	1
Payroll/Benefits Manager	1	1	1
<b>Total Human Resources</b>	<b>3</b>	<b>3</b>	<b>3</b>
<b>Environmental, Health &amp; Safety:</b>			
EHS Safety Technician	1	1	1
Environmental, Health & Safety Manager	1	1	1
<b>Total Environmental, Health &amp; Safety</b>	<b>2</b>	<b>2</b>	<b>2</b>
<b>Total – Human Resources Department</b>	<b>6</b>	<b>6</b>	<b>6</b>

### Accomplishments for FY 2016-2017

1. Negotiated discount contract with Park Ridge Hospital, resulting in significantly lower costs for employees
2. Researched new Pharmacy Benefits Manager
3. Continued Wellness activities and monthly newsletter
4. Implemented plan design changes in medical insurance tiers
5. Increased employee co-insurance & deductible amounts
6. Coordinated retirement and replacements activities
7. Identified, provided training, and promoted people as part of the Succession Plan
8. Began using GIS for road closures

## Human Resources (continued)

### Accomplishments for FY 2016-2017 (continued)

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9. Implemented procedures for safer ductile iron cutting and grinding
10. Implemented diamond wheel/side grinder use in several applications
11. Implementing AED units on trucks for electrical workers
12. Rewrote employee Safety Manual and are in process of training employees
13. Provided more options for our prescription safety glass program
14. Researched and facilitated acquiring NFPA correct “arc flash” clothing

### Budget Highlights/Changes for FY 2017-2018

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1. Funds allocated for Wage survey
2. Funds allocated for additional atmosphere monitors
3. Funds allocated for Arc Flash training

### Goals & Objectives

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- **Goal:** Provide supervisory leadership development training (MSD Objective 3)
  - *Objective:* Provide appropriate training sessions for employees
- **Goal:** Train supervisors in improving employee relations and managing employee personnel issues (MSD Objective 3)
- **Goal:** Maintain consistency throughout District on disciplinary actions (MSD Objective 3)
  - *Objective:* Train supervisors to keep personnel informed/involved in all dealings leading up to a disciplinary step
- **Goal:** Improve the pool of applicants to reflect the diversified community (MSD Objective 3)
- **Goal:** Promote District employment opportunities at community job fairs (MSD Objective 3)
  - *Objective:* Attend at least one job fair annually in Buncombe and Madison Counties
- **Goal:** Ongoing review of new position classifications or positions with added responsibilities (MSD Objective 3)
  - *Objective:* Review Labor Grade of new & existing positions as necessary

## Human Resources (continued)

### Goals & Objectives (continued)

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- **Goal:** Keep personnel policies up to date (MSD Objective 3)
  - *Objective:* Review 20% of policies per year
- **Goal:** Keep job descriptions up to date (MSD Objective 3)
  - *Objective:* Review 20% of job descriptions per year
- **Goal:** Promote Wellness Program. (MSD Objective 3)
  - *Objective:* Have at least 75% of employees participate in Health Fair
- **Goal:** Minimize time positions are vacant (MSD Goals 1 & 2)
  - *Objective:* Have positions filled within 20 days
- **Goal:** Minimize cost to fill vacancies (MSD Goal 3)
  - *Objective:* Limit average cost to \$400
- **Goal:** Process payroll in a timely and accurate manner (MSD Objective 3)
  - *Objective:* No errors in paychecks
- **Goal:** Promote efficient utilization of employee benefits (MSD Objective 3)
  - *Objective:* Provide quarterly education or updates to employees concerning different types of benefits or other personal financial issues
- **Goal:** Promote efficient utilization of employee benefits (MSD Objective 3)
  - *Objective:* Resolve employee payroll and benefit concerns within two business days
- **Goal:** To guard the occupational health and safety of MSD's workforce (MSD Goal #1)
  - *Objective:* Maintain an "Incident Rate" below industry standards of 5.30 per 100 employees.
  - *Objective:* Promote safety by focusing on training and compliance inspections
  - *Objective:* Maintain health focus including disease prevention and workers compensation
  - *Objective:* Continuously evaluate current safety practices and improve/change as needed.
  - *Objective:* Manage safety related contractual efforts including Drug Testing, Hoist Testing, Fire Protection, and Hearing Conservation

## Human Resources (continued)

### Goals & Objectives (continued)

- **Goal:** Maintain full compliance with all applicable legal requirements and governmental standards.
  - **Objective:** Have zero (0) OSHA violations
  - **Objective:** Stay abreast of changes and regulations and how they apply to the District

### Performance Measures

Task		14-15	15-16	16-17 <sup>est</sup>
1.	Monitor and evaluate Skill Based Pay System	Yes	Yes	Yes
2.	Assist in the administration of the Employee Wellness Program	Yes	Yes	Yes
3.	# of external vacancies	6	6	6
4.	Avg. # of days to fill vacancies	25	30	30
5.	Avg. advertising cost per vacancy	\$380	\$400	\$400
6.	Percentage of paychecks reissued or modified	<.1%	<.01%	<.1%
7.	Percentage of payroll tax and benefit withholdings timely remitted	100%	100%	100%
8.	Number of employee benefit education sessions	11	0	8
9.	Percentage of employee payroll and benefit concerns resolved within two business days	99%	99%	99%
10.	Number of Injuries (calendar year)	5	5	5
11.	Number of Lost Time Injuries (calendar year)	1	1	1
12.	Incident Rate NAICS (calendar year)	3.48	3.48	3.48
13.	Inspections/Audits (calendar year)	23		33/100+
14.	Random Alcohol and Drug Tests for CDL drivers (calendar year)	30	33	33
15.	EHS Training classes conducted (calendar year)	78	53	53

# FY18 Budget – Human Resources

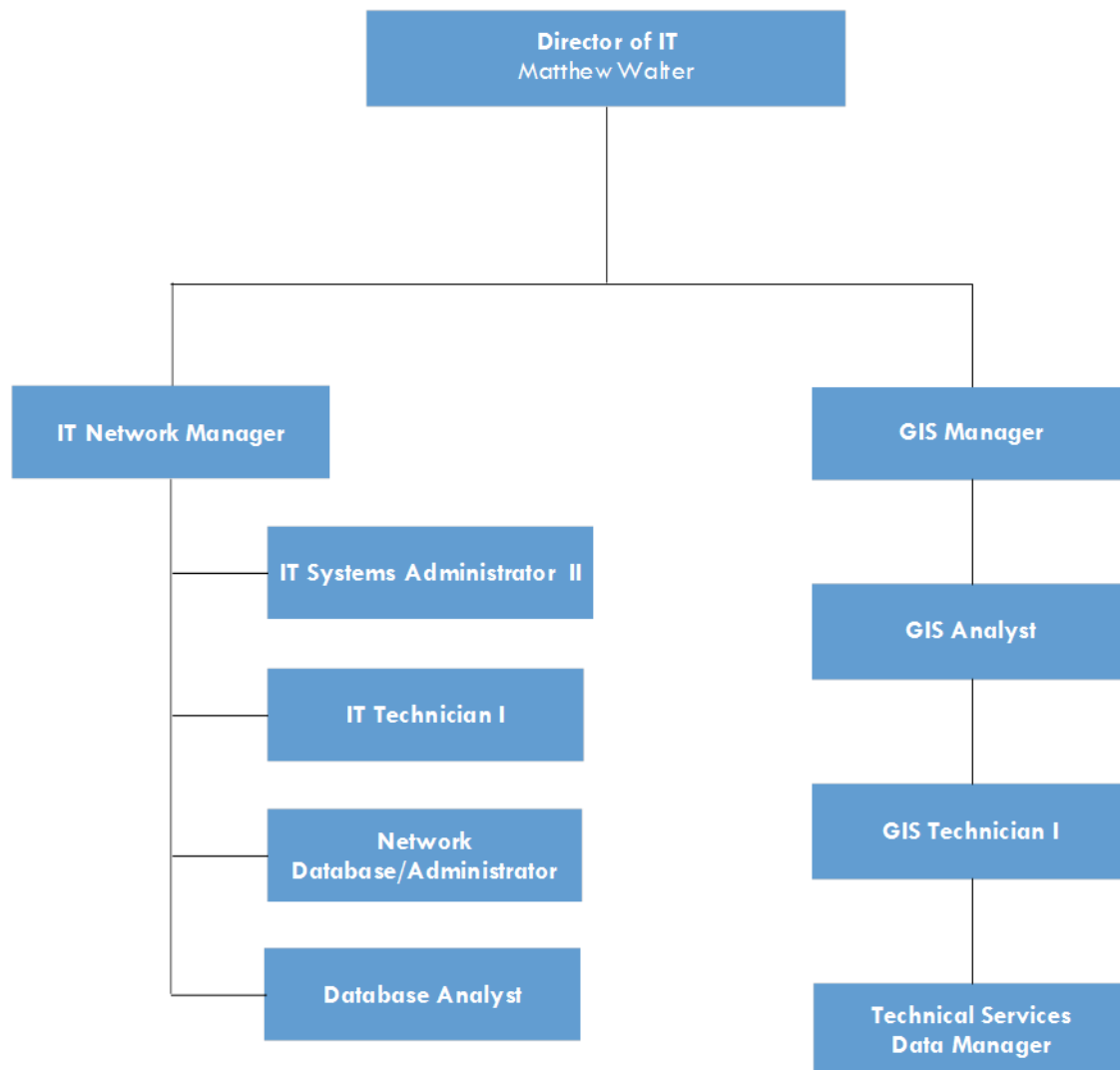
No.	Name	Actual 2013-2014	Actual 2014-2015	Actual 2015-2016	Approved 2016-2017 Budget	Estimated Actual 6/30/2017	Percent Expended To Total Budget	Proposed 2017-2018 Budget	Inc (Dec) Over Prior Year
<b>Salaries &amp; Wages</b>									
51100	Salaries & Wages	\$ 352,525.71	\$ 365,870.22	\$ 380,165.24	\$ 427,776.00	\$ 427,776.00	100.0%	\$ 438,416.00	2.49%
51150	Overtime	\$ 310.93	\$ 138.78	\$ -	\$ 250.00	\$ -	0.0%	\$ -	-100.00%
<b>Total Salaries &amp; Wages</b>		\$ 352,836.64	\$ 366,009.00	\$ 380,165.24	\$ 428,026.00	\$ 427,776.00	99.9%	\$ 438,416.00	2.43%
<b>Benefits</b>									
51200	North Carolina Retirement	\$ 25,016.54	\$ 25,845.65	\$ 25,615.38	\$ 31,417.00	\$ 31,399.00	99.9%	\$ 33,232.00	5.78%
51250	Payroll Taxes	\$ 27,326.22	\$ 28,506.74	\$ 27,688.23	\$ 32,744.00	\$ 32,725.00	99.9%	\$ 33,539.00	2.43%
51300	Medical, Dental & Life	\$ 73,816.00	\$ 83,489.58	\$ 73,694.62	\$ 77,377.00	\$ 77,377.00	100.0%	\$ 83,180.00	7.50%
51325	Post Retirement Insurance	\$ 6,314.00	\$ 3,146.97	\$ 7,800.38	\$ 10,946.00	\$ 10,946.00	100.0%	\$ 10,115.00	-7.59%
51350	Worker's Compensation	\$ 8,670.00	\$ 8,209.78	\$ 8,788.00	\$ 11,067.00	\$ 11,067.00	100.0%	\$ 11,067.00	0.00%
51360	State Unemployment Benefits	\$ 1,281.96	\$ 978.08	\$ 253.90	\$ 1,320.00	\$ 1,320.00	100.0%	\$ 1,320.00	0.00%
51500	401-K/457 Plan	\$ 17,306.22	\$ 18,173.41	\$ 18,955.14	\$ 21,390.00	\$ 21,200.00	99.1%	\$ 21,923.00	2.49%
<b>Total Benefits</b>		\$ 159,730.94	\$ 168,350.21	\$ 162,795.65	\$ 186,261.00	\$ 186,034.00	99.9%	\$ 194,376.00	4.36%
<b>Total Salaries, Wages &amp; Benefits</b>		\$ 512,567.58	\$ 534,359.21	\$ 542,960.89	\$ 614,287.00	\$ 613,810.00	99.9%	\$ 632,792.00	3.01%
<b>Materials, Supplies &amp; Services</b>									
52010	Advertising	\$ 3,700.54	\$ 1,788.14	\$ 4,200.82	\$ 4,000.00	\$ 4,000.00	100.0%	\$ 6,000.00	50.00%
52050	Dues & Subscriptions	\$ 6,644.39	\$ 5,684.44	\$ 5,261.89	\$ 6,100.00	\$ 6,100.00	100.0%	\$ 6,100.00	0.00%
52150	Travel, Mtgs & Training	\$ 18,305.76	\$ 18,687.99	\$ 22,252.80	\$ 25,150.00	\$ 25,150.00	100.0%	\$ 35,150.00	39.76%
52160	Tuition Assistance	\$ 1,822.38	\$ 4,229.42	\$ 3,407.16	\$ 7,000.00	\$ 6,850.00	97.9%	\$ 7,000.00	0.00%
52180	Liability Insurance	\$ 1,873.00	\$ 1,540.08	\$ 1,873.00	\$ 1,695.00	\$ 1,695.00	100.0%	\$ 1,695.00	0.00%
52210	Communications	\$ 2,189.29	\$ 2,643.55	\$ 3,383.80	\$ 5,310.00	\$ 5,310.00	100.0%	\$ 5,310.00	0.00%
52240	Uniforms	\$ 900.70	\$ 839.52	\$ 696.92	\$ 1,300.00	\$ 1,300.00	100.0%	\$ 1,300.00	0.00%
52250	Office Supplies	\$ 3,402.57	\$ 2,929.53	\$ 3,947.80	\$ 3,700.00	\$ 3,695.00	99.9%	\$ 3,700.00	0.00%
52260	Special Dept Supplies	\$ 606.19	\$ 1,455.54	\$ 3,186.32	\$ 7,300.00	\$ 7,225.00	99.0%	\$ 7,300.00	0.00%
52270	Safety Equip/Supplies	\$ 6,363.31	\$ 11,453.54	\$ 16,675.08	\$ 11,000.00	\$ 11,000.00	100.0%	\$ 11,000.00	0.00%
52330	Legal Fees	\$ 3,103.45	\$ 2,393.41	\$ 2,394.34	\$ 4,000.00	\$ 3,900.00	97.5%	\$ 4,000.00	0.00%
52350	Prof/Contractual Svcs	\$ 36,890.97	\$ 48,920.68	\$ 47,509.34	\$ 68,450.00	\$ 68,450.00	100.0%	\$ 79,750.00	16.51%
52410	Maint-Buildings & Grounds	\$ 4,687.99	\$ 673.37	\$ -	\$ 1,000.00	\$ 1,000.00	100.0%	\$ 1,500.00	50.00%
52420	Maintenance-Equipment	\$ -	\$ -	\$ -	\$ 2,000.00	\$ 2,000.00	100.0%	\$ 2,000.00	0.00%
52510	Permits/Fees/Software Licenses	\$ 2,542.27	\$ 1,799.58	\$ 2,166.54	\$ 2,850.00	\$ 2,775.00	97.4%	\$ 2,850.00	0.00%
52715	Safety Incentive Program	\$ 1,228.64	\$ 1,845.91	\$ 1,846.44	\$ 2,500.00	\$ 2,500.00	100.0%	\$ 2,500.00	0.00%
52725	Wellness Program	\$ 8,010.44	\$ 4,592.67	\$ 6,730.67	\$ 8,000.00	\$ 8,000.00	100.0%	\$ 8,000.00	0.00%
52730	Employee Asst Program	\$ 4,255.00	\$ 4,255.00	\$ 4,355.00	\$ 4,500.00	\$ 4,500.00	100.0%	\$ 4,500.00	0.00%
52910	Non-Capital Equipment	\$ 10,046.08	\$ 19,977.58	\$ 16,816.04	\$ 12,800.00	\$ 12,800.00	100.0%	\$ 13,000.00	1.56%
<b>Total Materials, Supplies &amp; Services</b>		\$ 116,572.97	\$ 135,709.95	\$ 146,703.96	\$ 178,655.00	\$ 178,250.00	99.8%	\$ 202,655.00	13.43%
<b>Interfund Transfers</b>									
53040	Fleet Replacement Charges	\$ 1,952.00	\$ 1,952.00	\$ 2,074.00	\$ 2,074.00	\$ 2,074.00	100.0%	\$ 2,074.00	0.00%
<b>Total Interfund Transfers</b>		\$ 1,952.00	\$ 1,952.00	\$ 2,074.00	\$ 2,074.00	\$ 2,074.00	100.0%	\$ 2,074.00	0.00%
<b>Capital Outlay</b>									
54010	Capital Equipment - New	\$ 2,047.42	\$ 5,490.00	\$ -	\$ -	\$ -	-	\$ -	-
<b>Total Capital Outlay</b>		\$ 2,047.42	\$ 5,490.00	\$ -	\$ -	\$ -	-	\$ -	-
<b>Sub-Total O&amp;M Fund</b>		\$ 633,139.97	\$ 677,511.16	\$ 691,738.85	\$ 795,016.00	\$ 794,134.00	99.9%	\$ 837,521.00	5.35%
<b>Net Operation &amp; Maintenance Fund</b>		\$ 633,139.97	\$ 677,511.16	\$ 691,738.85	\$ 795,016.00	\$ 794,134.00	99.9%	\$ 837,521.00	5.35%



## Information Technology

### Organizational Chart

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## Information Technology (continued)

### Mission Statement

To provide information technology support, training, management, and development that will benefit the District divisions by ❶facilitating completion of work objectives, ❷improving communication, and ❸creating better and easier access to information.

### Key Responsibilities

**Information Technology (IT)**—Support new systems development based on the plans of the District divisions. Provide ongoing support and enhancements to major on-line operational and administrative systems. Maintain the existing computer equipment and data communications network. Plan and manage the acquisition and installation of new computer equipment, software, and peripherals. Provide computer equipment support, including installations, moving and troubleshooting. Develop new software applications to meet specific MSD needs. Provide daily operations and product support. Develop long-range goals for computer systems development. Support responsibilities also include the telephone system, radio system, and process control equipment at the Plant. Offer computer software training programs for District staff. All IT work done 100% in-house. No vendor or contractors used for IT support.

**Geographical Information Systems (GIS)**—Develop, manage and maintain data sets and digital maps related to the operations of the District. Provide data access and data analysis services for all divisions. Coordinate the acquisition of updated information from the field, external sources (such as other governmental agencies), and the Engineering Division and incorporate it into the GIS data sets. Develop, maintain, and train others in the use of tools for accessing spatial information to support all District activities.

### Staffing History

Division & Position	Approved Positions 15-16	Approved Positions 16-17	Budgeted Positions 17-18
<b>Department of Information Technology</b>			
<b>Management:</b>			
Director of IT	1	1	1
<b>Total Management</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Information Systems (IT):</b>			
IT Technician I	1	1	1
IT Systems Administrator II	1	1	1
IT Network Manager	1	1	1

## Information Technology (continued)

### Staffing History (continued)

Division & Position	Approved Positions 15-16	Approved Positions 16-17	Budgeted Positions 17-18
<b><i>Information Systems (IT):</i></b>			
Database Analyst	1	1	1
Network Database Administrator	1	1	1
<b><i>Total IT</i></b>	<b>5</b>	<b>5</b>	<b>5</b>
<b><i>Geographic Information Systems (GIS):</i></b>			
Technical Services Data Manager	1	1	1
GIS Analyst	1	1	1
GIS Technician II	1	1	1
GIS Manager	1	1	1
<b><i>Total GIS</i></b>	<b>4</b>	<b>4</b>	<b>4</b>
<b><i>Total – Information Technology Department</i></b>	<b>10</b>	<b>10</b>	<b>10</b>

### Accomplishments for FY 2016-2017

1. New Permits Licensing and Land module on CityWorks for engineering that allows MSD customers to request service online through the Public Portal.
2. Dozens of custom reports on CityWorks and software customizations for MSD.
3. Implemented Freeance Mobile for CityWorks on iPads for offsite Field Operations.
4. Installed new Dell blade server to replace the Finance server and upgraded to the latest Navision software.
5. Increased Wi-Fi coverage on MSD campus from the Plant to the Warehouse.
6. Upgraded emissions monitoring PC and software for the Thermal Converter building.
7. Configuration and installation of 11 new SCADA PCs/servers to monitor systems at the Plant.
8. Rolled out over 10+ laptop replacements/installations, 30+ desktop replacements/installations for MSD users.
9. All MSD users have been migrated from Windows XP to Windows 7 or 10.

## Information Technology (continued)

### Accomplishments for FY 2016-2017 (continued)

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10. Ten (10) new scanner/copiers installed MSD wide.
11. Security gates/card readers installed at Fleet and Wash Bay.
12. Temperature monitors installed in three (3) IT server rooms with email alerts.
13. Improved road maintenance layer, depicting agencies of contact throughout the district
14. Produced a GIS layer capturing changes in parcel ownership and boundaries for assistance in tracking right-of-way transfers
15. Improved GIS video layers, reducing the number of pipe video re-inspections
16. Improved mobile navigation, reducing the amount of time to find assets in the field
17. Improved security of MSD GIS websites
18. Developed a GIS application and data layer to capture active projects being inspected, who is inspecting them, and show them on a common map
19. Developed a prototype GIS application and data layer to track underground utilities and obstructions affecting sewer pipes
20. Completed mobile and tablet application development and implementation. It is now a popular, stable product
21. Completion of custom GIS websites for P&D and Finance
22. Improved GIS desktop support and training for Engineering and System Services users
23. Training and supervision of Cane Creek Water and Sewer District staff to update their sewer GIS layer
24. Improvements to SL Rat inspection application, including improving the speed and accuracy of data entry and inspection query functions
25. Successful transfer from FLEX to HTML-based GIS websites
26. Production of Upstream Trace, Downstream Trace, and Flow Monitor custom widgets for HTML-based GIS website
27. Produced and maintain a data layer depicting gated communities, deployed on AR for Truck

## Information Technology (continued)

### Accomplishments for FY 2016-2017 (continued)

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28. Completed a first phase mapping of gravity mains and manholes in the Water Reclamation Facility
29. Developed a clickable GIS data layer of scanned as-builts, from which a user can quickly view as-built plans and see past projects
30. Tested and troubleshooting ArcGIS in the Windows 10 environment
31. Begun the improvement of right-of-way easements mapping and tracking

### Goals & Objectives

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- **Goal:** Provide all MSD staff with outstanding customer service
- **Goal:** Begin system-wide accuracy verification and improvement project
- **Goal:** Implement tighter quality control measures on existing data as well as research and correct any errors found through these tighter controls
- **Goal:** To provide on-going training, support, and application customization to all divisions
  - *Objective:* Continue implementation and support of CityWorks software into all divisions
  - *Objective:* Continue user support for MSD Web, Mobile, and Desktop GIS users
  - *Objective:* Expand web and mobile solutions to help streamline field navigation and workflows where needed
  - *Objective:* Staff training to improve quality of field locates and determination of inaccurately mapped sewer infrastructure
  - *Objective:* Staff training to enable GIS work order submittal through CityWorks (things like field edits and tap map requests; this has been an underutilized possibility since CityWorks was in use)
- **Goal:** Improve Granite product visualization
  - *Objective:* Conversion of video inspection from Granite XP to Granite NET
- **Goal:** To input geospatial data changes as requested by users
  - *Objective:* Continue application and geospatial data support for CityWorks, Granite XP, Flex, ArcGIS Desktop, and AR for Trucks software and processes

## Information Technology (continued)

### Goals & Objectives (continued)

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- **Goal:** Maintain the servers, network, email, websites, public map access, phones, copiers, fax machines, printers, and security systems
  - *Objective:* Replace aging servers and desktop hardware as needed
  - *Objective:* Continue testing and researching in preparation for upgrades, including Windows, Server, Cloud Computing, and Storage
  - *Objective:* New gas pumps (server, network, and related items) installation and setup
  - *Objective:* Implement a VPN network through Verizon for SCADA monitors in the field
  - *Objective:* Increase security camera coverage across the MSD campus
- **Goal:** Develop GIS web applications for additional environments
  - *Objective:* Develop desktop GIS applications to meet user needs that cannot be met by web and mobile GIS applications
  - *Objective:* Application development of HTML site widgets, to provide more tools to WebGIS users
- **Goal:** Update the Granite pipe video recording system (server, database, trucks, and desktops) to the latest version.
  - *Objective:* Conduct pipe scoring on legacy video that has not been re-inspected by Granite or slated for capital improvement
- **Goal:** Improve reporting structure for existing CityWorks implementation
  - *Objective:* Continue implementing mobile solution for CityWorks to aid in paper reduction as well expanding use of Flex/ESRI Mapping systems.
- **Goal:** Begin conversion from FLEX web mapping to HTML. ESRI no longer supports new development options for FLEX and plans to stop supporting the product in the future
  - *Objective:* Complete transfers of all FLEX-based GIS websites to HTML-based GIS websites
- **Goal:** Addition of GIS layers to expand usability of CityWorks (New layers that can be linked to work orders, for instance)
  - *Objective:* Development of GIS layers and applications to assist WRF staff to more quickly locate illicit chemical dumping and anticipate travel times of planned industrial discharges



## Information Technology (continued)

### Goals & Objectives (continued)

- **Goal:** Processing of map requests and customer data inquiries
  - *Objective:* Implement Local Government Information Model for Water Utilities maps and apps as well as utilizing ArcGIS Online environment
  - *Objective:* Map Wastewater Reclamation Facility structures as they are changed and exposed by construction projects
  - *Objective:* Assessment of MSD hardcopy maps, survey, and standalone digital data that have not been entered into the GIS system
- **Goal:** Data entry of as-built sewer maps
  - *Objective:* Quantify existing data sources such as As-Builts to ensure they have been entered into the GIS system and scanned for digital copies. Field edits and tap maps should already be archived through Granite XP and/or CityWorks software and attachments available in CityWorks.

### Performance Measures

Task		14-15	15-16	16-17 <sup>est</sup>
1.	In-house direct labor (except fiber optic repairs)	100%	100%	100%
2.	Same day turnaround on user issues/assistance	95%	95%	94%

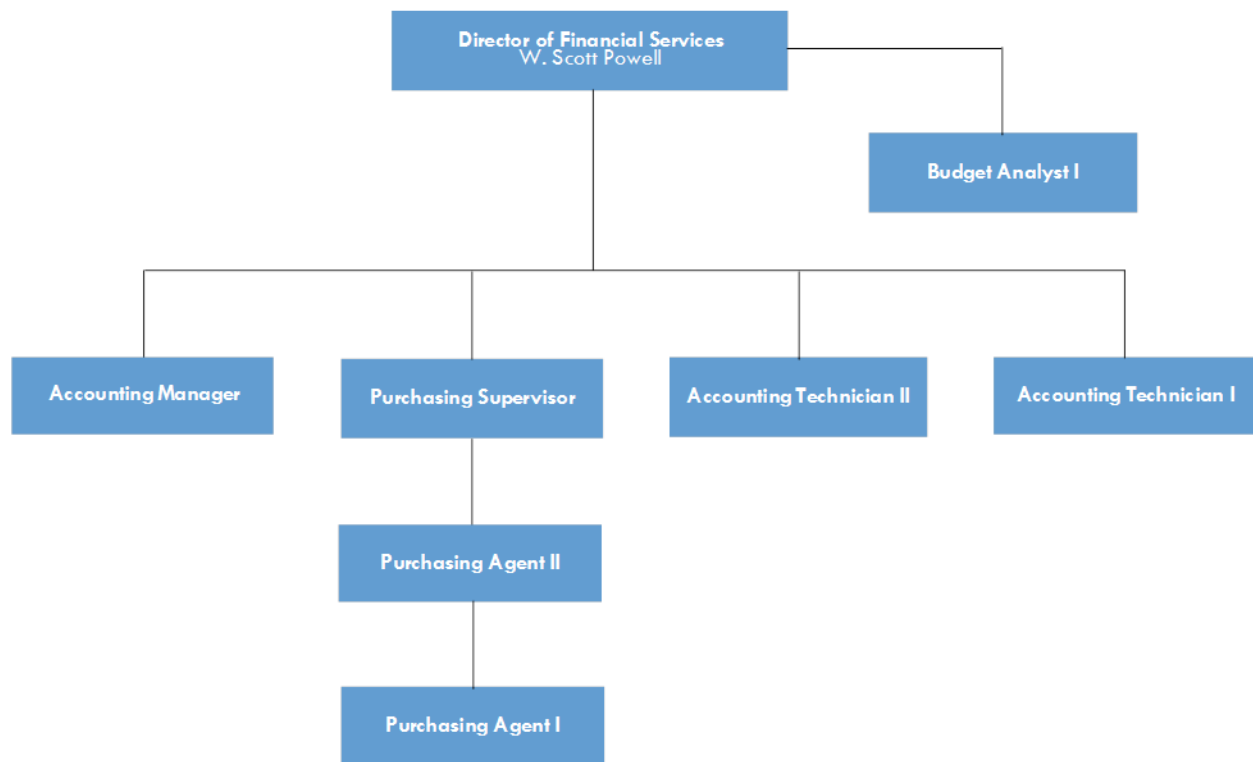
# FY18 Budget – Information Technology

No.	Name	Actual 2013-2014	Actual 2014-2015	Actual 2015-2016	Approved 2016-2017 Budget	Estimated Actual 6/30/2017	Percent Expended To Total Budget	Proposed 2017-2018 Budget	Inc (Dec) Over Prior Year
Salaries & Wages									
51100	Salaries & Wages	\$ 547,024.17	\$ 622,852.62	\$ 645,005.83	\$ 654,765.00	\$ 654,765.00	100.0%	\$ 688,187.00	5.10%
51150	Overtime	\$ 188.50	\$ -	\$ -	\$ -	\$ -	-	\$ -	-
Total Salaries & Wages		\$ 547,212.67	\$ 622,852.62	\$ 645,005.83	\$ 654,765.00	\$ 654,765.00	100.0%	\$ 688,187.00	5.10%
Benefits									
51200	North Carolina Retirement	\$ 38,806.61	\$ 43,988.92	\$ 43,467.58	\$ 48,060.00	\$ 48,060.00	100.0%	\$ 52,164.00	8.54%
51250	Payroll Taxes	\$ 39,498.51	\$ 45,255.70	\$ 46,845.70	\$ 50,089.00	\$ 50,089.00	100.0%	\$ 52,646.00	5.10%
51300	Medical, Dental & Life	\$ 123,027.00	\$ 139,149.31	\$ 122,824.37	\$ 128,962.00	\$ 128,962.00	100.0%	\$ 138,633.00	7.50%
51325	Post Retirement Insurance	\$ 10,523.00	\$ 5,244.95	\$ 13,000.63	\$ 18,243.00	\$ 18,243.00	100.0%	\$ 16,858.00	-7.59%
51350	Worker's Compensation	\$ 14,450.00	\$ 13,683.29	\$ 14,647.00	\$ 18,445.00	\$ 18,445.00	100.0%	\$ 18,445.00	0.00%
51360	State Unemployment Benefits	\$ 15,770.67	\$ 1,630.13	\$ 423.16	\$ 2,200.00	\$ 2,200.00	100.0%	\$ 2,200.00	0.00%
51500	401K/457 Plan	\$ 16,886.60	\$ 25,100.28	\$ 26,411.03	\$ 32,739.00	\$ 32,638.00	99.7%	\$ 34,411.00	5.11%
Total Benefits		\$ 258,962.39	\$ 274,052.58	\$ 267,619.47	\$ 298,738.00	\$ 298,637.00	100.0%	\$ 315,357.00	5.56%
Total Salaries, Wages & Benefits		\$ 806,175.06	\$ 896,905.20	\$ 912,625.30	\$ 953,503.00	\$ 953,402.00	100.0%	\$ 1,003,544.00	5.25%
Materials, Supplies & Services									
52050	Dues & Subscriptions	\$ 129.00	\$ 377.00	\$ 298.94	\$ 497.23	\$ 497.23	100.0%	\$ 480.00	-3.47%
52150	Travel, Mtgs & Training	\$ 1,023.35	\$ 2,272.00	\$ 413.55	\$ 3,450.00	\$ 3,450.00	100.0%	\$ 3,000.00	-13.04%
52180	Liability Insurance	\$ 11,670.00	\$ 9,595.69	\$ 11,670.00	\$ 10,557.00	\$ 10,557.00	100.0%	\$ 10,557.00	0.00%
52200	Telephone/Telefax	\$ 29,506.09	\$ 28,692.57	\$ 29,427.21	\$ 31,600.00	\$ 31,600.00	100.0%	\$ 34,000.00	7.59%
52210	Communications	\$ 2,639.09	\$ 2,899.47	\$ 3,967.35	\$ 3,500.00	\$ 3,500.00	100.0%	\$ 5,500.00	57.14%
52240	Uniforms	\$ 101.54	\$ -	\$ 184.19	\$ 800.00	\$ 800.00	100.0%	\$ 500.00	-37.50%
52250	Office Supplies	\$ 440.34	\$ 93.41	\$ 111.14	\$ 700.00	\$ 700.00	100.0%	\$ 550.00	-21.43%
52260	Special Dept Supplies	\$ 57.23	\$ 51.39	\$ 462.58	\$ 500.00	\$ 500.00	100.0%	\$ 2,540.00	408.00%
52270	Safety Equip/Supplies	\$ 84.07	\$ 77.28	\$ 34.59	\$ 200.00	\$ 200.00	100.0%	\$ 200.00	0.00%
52350	Prof/Contractual Svcs	\$ 7,372.33	\$ 17,345.05	\$ 1,883.54	\$ 12,492.77	\$ 12,475.00	99.9%	\$ 12,500.00	0.06%
52500	Rents/Leases	\$ 30,041.44	\$ 34,046.64	\$ 35,282.56	\$ 44,000.00	\$ 44,000.00	100.0%	\$ 44,000.00	0.00%
52510	Permits/Fees/Software Licenses	\$ 55,604.00	\$ 140,882.76	\$ 175,063.58	\$ 179,800.00	\$ 179,000.00	99.6%	\$ 179,000.00	-0.44%
52910	Non-Capital Equipment	\$ 54,225.16	\$ 68,416.01	\$ 13,868.52	\$ 55,000.00	\$ 55,000.00	100.0%	\$ 55,000.00	0.00%
52915	Copiers Printers & Faxes	\$ -	\$ 60.41	\$ -	\$ 5,000.00	\$ -	0.0%	\$ 5,000.00	0.00%
Total Materials, Supplies & Services		\$ 192,893.64	\$ 304,809.68	\$ 272,667.75	\$ 348,097.00	\$ 342,279.23	98.3%	\$ 352,827.00	1.36%
Capital Outlay									
54010	Capital Equipment - New	\$ -	\$ 3,055.26	\$ 45,958.49	\$ 5,950.00	\$ 5,950.00	100.0%	\$ 9,550.00	60.50%
54020	Capital Equip-Software	\$ 23,404.39	\$ 11,250.00	\$ 18,353.88	\$ 13,248.00	\$ 12,900.00	97.4%	\$ 17,500.00	32.10%
54030	Capital Equip - Replacement	\$ 66,688.27	\$ 40,732.62	\$ 31,455.25	\$ 16,800.00	\$ 16,800.00	100.0%	\$ 20,000.00	19.05%
Total Capital Outlay		\$ 90,092.66	\$ 55,037.88	\$ 95,767.62	\$ 35,998.00	\$ 35,650.00	99.0%	\$ 47,050.00	30.70%
Sub-Total O&M Fund		\$ 1,089,161.36	\$ 1,256,752.76	\$ 1,281,060.67	\$ 1,337,598.00	\$ 1,331,331.23	99.5%	\$ 1,403,421.00	4.92%
59200	LESS:								
	Chargebacks to General Fund for CIP	\$ (239,081.92)	\$ (278,052.43)	\$ (286,819.52)	\$ (299,284.00)	\$ (299,284.00)	100.0%	\$ (321,926.00)	7.57%
Net Operation & Maintenance Fund		\$ 850,079.44	\$ 978,700.33	\$ 994,241.15	\$ 1,038,314.00	\$ 1,032,047.23	99.4%	\$ 1,081,495.00	4.16%

## Financial Services

### Organizational Chart

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## Financial Services (continued)

### Mission Statement

The mission of the Finance, Accounting, and Budget Division is to provide timely, useful, and accurate financial data to all internal and external customers including but not limited to staff, division directors, Board, investors, and the public and to assure prudent control of District cash and investments.

The mission of the Purchasing and Warehouse Division is to provide procurement services to District Departments in the timeliest and cost-effective manner in compliance with all requirements of the District's Purchasing Policy and NC General Statutes while maintaining a complete and sufficient supply of parts and materials required for District operations and asset maintenance.

### Key Responsibilities

**Finance, Accounting, and Budget**—Coordinates and manages the District's Operating and Capital budget preparation; monitors the annual budget through pre-audit of purchase orders and invoice payment; prepares monthly operation and capital projects financial reports for management and the Board; assists in financial analysis as directed by the General Manager or Board; monitors all debt financing obligations for timely payment and reporting; coordinates issuance of debt with professional advisors; oversees the Insurance Programs; prepares billing for industries and customers using well water.

**Purchasing and Warehouse**—To provide a proper system of internal control for all District acquisitions; to ensure compliance with the North Carolina General Statutes and the Board-approved District Purchasing Policy; to assist and train division requisitioners as required; to effect timely acquisitions and disposals of property.

### Staffing History

Division & Position	Approved Positions 15-16	Approved Positions 16-17	Budgeted Positions 17-18
<b>Department of Financial Services</b>			
<b>Management</b>			
Director of Financial Services	1	1	1
<b>Total Management</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Finance &amp; Budget:</b>			
Budget Analyst	1	1	1
<b>Total Finance &amp; Budget</b>	<b>1</b>	<b>1</b>	<b>1</b>

## Financial Services (continued)

### Staffing History (continued)

Division & Position	Approved Positions 15-16	Approved Positions 16-17	Budgeted Positions 17-18
<b><i>Accounting, Investments &amp; Cash Flow</i></b>			
Accounting Technician I	2	1	1
Accounting Technician II	1	1	1
Accounting Manager	1	1	1
<b><i>Total Acct., Investments &amp; Cash Flow Management</i></b>	<b>4</b>	<b>3</b>	<b>3</b>
<b><i>Purchasing &amp; Warehouse:</i></b>			
Purchasing Agent I	1	1	1
Purchasing Agent II	1	1	1
Purchasing Supervisor	1	1	1
<b><i>Total Purchasing &amp; Warehouse</i></b>	<b>3</b>	<b>3</b>	<b>3</b>
<b><i>Total – Financial Services Department</i></b>	<b>9</b>	<b>8</b>	<b>8</b>

### Accomplishments for FY 2016-2017

1. Received the GFOA “Excellence in Financial Reporting” award for the Comprehensive Annual Financial Report (CAFR) for FY ending June 30, 2016.
2. Received the GFOA “Distinguished Budget” award for the Budget Document prepared for FY ending June 30, 2017.
3. Continue to offer high level of Customer Service to all customers internal and external to the District.
4. Purchasing and Finance Team continue to implement and enhance its E-Payables program with Bank of America.
5. Successfully auctioned MSD surplus materials.
6. Enhanced paper reduction initiative by scanning and attaching receipts, quotations, emails, and other pertinent information and documentation to purchase orders and the vendor database. Also increased use of email and pdf for Request for Quotations (RFQ) and other communications with vendors.

## Financial Services (continued)

### Goals & Objectives

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- **Goal:** Prepare and administer budget, which effectively meets the short and long-term needs of the District (Operating Budget Policy #6)
  - *Objective:* Obtain outside verification of the effectiveness of the budget document as a policy, operations, and communications guide by earning GFOA Distinguished Award for Budget Document
  - *Objective:* Maximize accuracy of budgeted revenues and expenditures by striving for variances between budget and actual amounts of less than 5%
  - *Objective:* Maintain affordability of rate increases by limiting rate increase to southern urban cost of living percentage
- **Goal:** Prepare CAFR and other financial information, which effectively meet manager, investor, regulator, and other user needs
  - *Objective:* Obtain outside verification of the effectiveness of the CAFR by earning Government Finance Officers' Association Award of Excellence
  - *Objective:* Maximize availability of financial information to all users by offering CAFR and budget documents on District Website
- **Goal:** Manage the District's debt rating to obtain the lowest cost of borrowing (Debt Policy #3)
  - *Objective:* Achieve compliance with all provisions of Bond Order (Debt Policy #6)
  - *Objective:* Maintain or improve District's debt rating
  - *Objective:* Make efficient use of district funds used for debt service
- **Goal:** Manage District's investments to maximize rate of return while maintaining safety and meeting cash flow needs
  - *Objective:* Achieve a total rate of return at least that of a 6-Month T-bill
- **Goal:** Prepare sewage treatment bills, which are accurate and collected in a timely manner
  - *Objective:* Limit rebilling due to errors to less than 1% of total bills
  - *Objective:* Collect a minimum of 98% of all residential fees and 90% of industrial fees billed
- **Goal:** Pay for all services rendered and goods delivered to the District in a timely and accurate manner
  - *Objective:* Not be assessed any late charges on any District accounts
  - *Objective:* Limit voided accounts payable checks to 10% of total checks written



## Financial Services (continued)

### Goals & Objectives (continued)

- **Goal:** Operate Finance Department in an efficient manner
  - **Objective:** Minimize finance department expenditures in relation to total expenditures
- **Goal:** Provide services and supplies in a timely manner (LT6 and Purchasing Policy #2)
  - **Objective:** Place purchase orders within three business days of requisition
  - **Objective:** Bid capital equipment within two weeks of requisition
- **Goal:** Maintain cost-effective and sufficient inventory levels
  - **Objective:** To maintain an inventory loss level below 3% (Purchasing Policy #2)
  - **Objective:** To minimize emergency purchases

### Performance Measures

Task		14-15	15-16	16-17 <sup>est</sup>
1.	Receive the Distinguished Budget Presentation Award	yes	yes	yes
2.	Receipt of GFOA Excellence in Financial Reporting Award for CAFR	yes	yes	yes
3.	CAFR and budget document available on website	yes	yes	yes
4.	District debt rating Moody's/Standard & Poor's/ Fitch Ratings	Aa2/AA+/ A+	Aa2/AA+/ AA+	Aa1/AA+/ AA+
5.	Compliance with all provisions of bond order	yes	yes	yes
6.	Southern Urban COL % increase	1.60%	0.50%	2.00%
7.	MSD rate increase	2.50%	2.50%	2.50%
Comments: Assesses affordability of sewer rate increases when compared to overall regional price increases.				
8.	Ratio of actual to budgeted sewer revenues	105.48%	116.78%	115.36%
9.	Ratio of operating and maintenance total expenditures actual to budgeted	93.57%	97.83%	97.79%
Comments: These illustrate the accuracy of financial projections and adequacy of revenues to meet expenditures.				
10.	Interest and debt management costs as a percentage of outstanding debt	3.71%	3.81%	3.82%
11.	MSD Investment Yield	0.59%	0.68%	0.95%
12.	NC Cash Management Trust (Money Market)	0.04%	0.33%	0.51%

## Financial Services (continued)

### Performance Measures (continued)

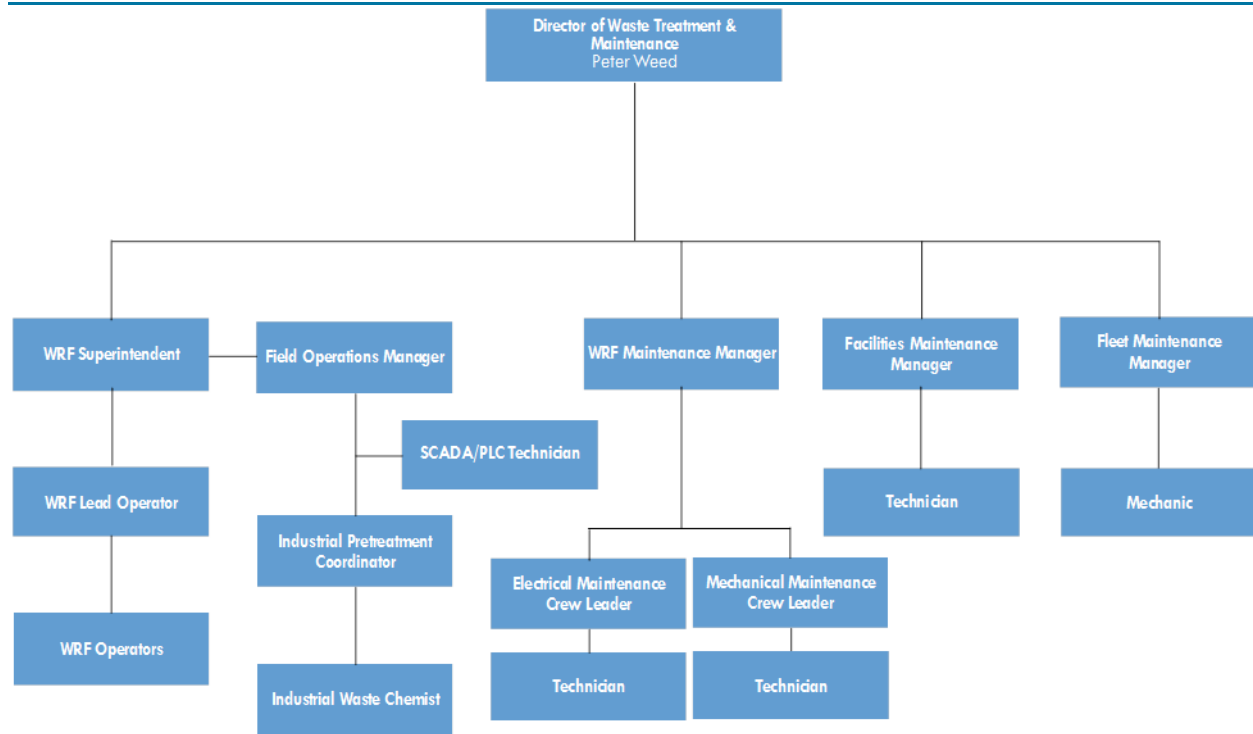
Task	14-15	15-16	16-17 <sup>est</sup>
<b>13.</b> 6-Month T-Bill Secondary Market (Calendar)	0.09%	0.40%	0.87%
Comments: Rates of return reflect overall declining interest rates in the fixed income market.			
<b>14.</b> Collection of internally billed residential accounts	95.00%	95.25%	95.00%
<b>15.</b> Collection of internally billed industrial accounts	100.00%	100.00%	100.00%
<b>16.</b> Percentage of voided accounts payable checks	0.01%	0.01%	0.01%
Comments: This ratio illustrates the effectiveness of the cash disbursement process.			
<b>17.</b> Percentage of total O&M costs expended on Finance function	5.45%	5.16%	5.04%
<b>18.</b> Purchase orders placed within 3 business days	99%	99%	99%
<b>19.</b> Requisitions for capital equipment to be bid within two (2) weeks from receipt of detailed specifications from	98.5%	98.5%	98.5%
<b>20.</b> Maintain loss of inventory at Warehouse below 3% in value (Goal 2)	2.50%	2.59%	1.00%
<b>21.</b> Obtain the 12% goal for purchases with minority owned/operated businesses	11.50%	11.50%	11.00%

## FY18 Budget – Financial Services

No.	Name	Actual 2013-2014	Actual 2014-2015	Actual 2015-2016	Approved 2016-2017 Budget	Estimated Actual 6/30/2017	Percent Expended To Total Budget	Proposed 2017-2018 Budget	Inc (Dec) Over Prior Year
<b>Salaries &amp; Wages</b>									
51100	Salaries & Wages	\$ 472,515.70	\$ 488,785.88	\$ 483,672.21	\$ 486,971.00	\$ 486,971.00	100.0%	\$ 501,606.00	3.01%
51150	Overtime	\$ 100.62	\$ -	\$ 121.38	\$ 500.00	\$ 500.00	100.0%	\$ 500.00	0.00%
<b>Total Salaries &amp; Wages</b>		<b>\$ 472,616.32</b>	<b>\$ 488,785.88</b>	<b>\$ 483,793.59</b>	<b>\$ 487,471.00</b>	<b>\$ 487,471.00</b>	<b>100.0%</b>	<b>\$ 502,106.00</b>	<b>3.00%</b>
<b>Benefits</b>									
51200	North Carolina Retirement	\$ 33,569.24	\$ 34,518.19	\$ 32,562.46	\$ 35,780.00	\$ 35,780.00	100.0%	\$ 38,060.00	6.37%
51250	Payroll Taxes	\$ 33,759.69	\$ 35,216.81	\$ 34,905.00	\$ 37,292.00	\$ 37,292.00	100.0%	\$ 38,411.00	3.00%
51300	Medical, Dental & Life	\$ 110,730.00	\$ 125,234.97	\$ 110,542.46	\$ 103,169.00	\$ 103,169.00	100.0%	\$ 110,907.00	7.50%
51325	Post Retirement Insurance	\$ 9,471.00	\$ 4,720.31	\$ 11,699.54	\$ 14,594.00	\$ 14,594.00	100.0%	\$ 13,486.00	-7.59%
51350	Worker's Compensation	\$ 13,008.00	\$ 12,315.61	\$ 13,183.00	\$ 14,757.00	\$ 14,757.00	100.0%	\$ 14,757.00	0.00%
51360	State Unemployment Benefits	\$ 1,883.89	\$ 1,467.12	\$ 380.84	\$ 1,760.00	\$ 1,760.00	100.0%	\$ 1,760.00	0.00%
51500	401-K/457 Plan	\$ 21,643.47	\$ 21,984.34	\$ 23,844.83	\$ 24,349.00	\$ 24,349.00	100.0%	\$ 25,079.00	3.00%
<b>Total Benefits</b>		<b>\$ 224,065.29</b>	<b>\$ 235,457.35</b>	<b>\$ 227,188.13</b>	<b>\$ 231,701.00</b>	<b>\$ 231,701.00</b>	<b>100.0%</b>	<b>\$ 242,460.00</b>	<b>4.64%</b>
<b>Total Salaries, Wages &amp; Benefits</b>		<b>\$ 696,681.61</b>	<b>\$ 724,243.23</b>	<b>\$ 710,981.72</b>	<b>\$ 719,172.00</b>	<b>\$ 719,172.00</b>	<b>100.0%</b>	<b>\$ 744,566.00</b>	<b>3.53%</b>
<b>Materials, Supplies &amp; Services</b>									
52050	Dues & Subscriptions	\$ 1,863.95	\$ 1,715.00	\$ 1,740.00	\$ 1,800.00	\$ 1,800.00	100.0%	\$ 1,800.00	0.00%
52150	Travel, Mtgs & Training	\$ 6,129.72	\$ 6,051.70	\$ 4,209.61	\$ 12,173.00	\$ 12,000.00	98.6%	\$ 12,173.00	0.00%
52210	Communications	\$ 1,158.25	\$ 2,244.69	\$ 2,438.47	\$ 2,600.00	\$ 2,525.00	97.1%	\$ 2,600.00	0.00%
52240	Uniforms	\$ 674.08	\$ 561.12	\$ 474.37	\$ 1,450.00	\$ 1,325.00	91.4%	\$ 1,450.00	0.00%
52250	Office Supplies	\$ 2,780.02	\$ 2,100.88	\$ 1,719.48	\$ 3,000.00	3000	100.0%	\$ 3,000.00	0.00%
52260	Special Dept Supplies	\$ 1,422.49	\$ 1,069.28	\$ 1,407.88	\$ 1,066.00	\$ 1,066.00	100.0%	\$ 1,100.00	3.19%
52350	Prof/Contractual Svcs	\$ 49,408.31	\$ 54,150.39	\$ 47,905.38	\$ 52,000.00	\$ 52,000.00	100.0%	\$ 52,000.00	0.00%
52510	Permits/Fees/Software Licenses	\$ -	\$ -	\$ -	\$ 134.00	\$ 134.00	100.0%	\$ 150.00	11.94%
52910	Non-Capital Equipment	\$ 1,481.13	\$ 630.45	\$ 359.99	\$ 2,000.00	\$ 1,950.00	97.5%	\$ 1,200.00	-40.00%
<b>Total Materials, Supplies &amp; Services</b>		<b>\$ 64,917.95</b>	<b>\$ 68,523.51</b>	<b>\$ 60,255.18</b>	<b>\$ 76,223.00</b>	<b>\$ 75,800.00</b>	<b>99.4%</b>	<b>\$ 75,473.00</b>	<b>-0.98%</b>
<b>Sub-Total O&amp;M Fund</b>		<b>\$ 761,599.56</b>	<b>\$ 792,766.74</b>	<b>\$ 771,166.90</b>	<b>\$ 795,395.00</b>	<b>\$ 794,972.00</b>	<b>99.9%</b>	<b>\$ 820,039.00</b>	<b>3.10%</b>
<b>Net Operation &amp; Maintenance Fund</b>		<b>\$ 761,599.56</b>	<b>\$ 792,766.74</b>	<b>\$ 771,166.90</b>	<b>\$ 795,395.00</b>	<b>\$ 794,972.00</b>	<b>99.9%</b>	<b>\$ 820,039.00</b>	<b>3.10%</b>

# Wastewater Treatment Plant

## Organizational Chart



## Wastewater Treatment Plant (continued)

### Mission Statement

The mission of the Wastewater Treatment Facility Division is to maintain the highest level of wastewater quality by meeting Federal and State environment regulations; operating and maintaining facilities in a productive and cost effective manner; and above all to protect the environment.

The mission of the Fleet Maintenance Division is to oversee the maintenance of all District rolling stock in a timely and cost efficient manner.

### Key Responsibilities

Include the operation of the District's regional water reclamation facility and 32 remote pump stations; maintain 24 hour shift operation and emergency response; assure that all treated wastewater meets all discharge requirements; maintain all mechanical, electrical, pneumatic equipment and instrumentation; maintain a preventive & proactive maintenance program; assure that residuals management program complies with Federal and State regulations; operate and maintain the Craggy Dam Hydro Electric Power Generation facility.

Provide fleet maintenance and management; coordinate Fleet Replacement; write specifications for new and replacement vehicles and equipment; manage fueling facilities; inspections at District owned facilities; maintain fleet inventory; service vehicles on a regular basis.

### Staffing History

Division & Position	Approved Positions 15-16	Approved Positions 16-17	Budgeted Positions 17-18
<b>Department of Water Reclamation Facility</b>			
<b>Management:</b>			
Director of Waste Treatment & Maintenance Facility	1	1	1
<b>Total Management</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Office Support:</b>			
WWTP Office Manager	1	1	1
<b>Total Office Support</b>	<b>1</b>	<b>1</b>	<b>1</b>

## Wastewater Treatment Plant (continued)

### Staffing History (continued)

Division & Position	Approved Positions 15-16	Approved Positions 16-17	Budgeted Positions 17-18
<b><i>Plant Operations:</i></b>			
Lead Operator	2	2	2
Operations Manager	1	1	1
WWTP Operator	8	8	8
<b><i>Total Plant Operations</i></b>	<b>11</b>	<b>11</b>	<b>11</b>
<b><i>Fleet Maintenance:</i></b>			
Fleet Mechanic III	3	3	3
Fleet/Mechanical Maintenance Supervisor	1	1	1
<b><i>Total Fleet Maintenance</i></b>	<b>4</b>	<b>4</b>	<b>4</b>
<b><i>Mechanical/Electrical Maintenance:</i></b>			
Electrical Maintenance Crew Leader	1	1	1
Electrical IV/Specialist	1	1	1
Mechanic II	2	2	2
Mechanical Maintenance Crew Leader	1	1	1
Mechanical Specialist	1	1	1
Senior Electrician	2	2	2
Senior Mechanic	2	2	2
Electrical Maintenance Manager	1	1	1
<b><i>Total Mechanical/Electrical Maintenance</i></b>	<b>11</b>	<b>11</b>	<b>11</b>
<b><i>Industrial Waste:</i></b>			
Industrial Waste Chemist	1	1	1
Industrial Pretreatment Coordinator	1	1	1
SCADA/PLC Technician	2	2	2
Field Operations Manager	1	1	1
<b><i>Total Industrial Waste</i></b>	<b>5</b>	<b>5</b>	<b>5</b>
<b><i>Facilities Maintenance:</i></b>			
Facility Maintenance Technician	5	5	5
Facilities Maintenance Manager	1	1	1
<b><i>Total Structural Maintenance</i></b>	<b>6</b>	<b>6</b>	<b>6</b>
<b><i>Total – Wastewater Treatment Plant Department</i></b>	<b>39</b>	<b>39</b>	<b>39</b>



## Wastewater Treatment Plant (continued)

### Accomplishments for FY 2016-2017

---

1. Maintained full compliance with all National Pollution Discharge Elimination Systems (NPDES) and WNC & EPA Air Quality permits and standards during 2016.
2. Recognized for a Peak Performance Award by the National Association of Clean Water Agencies (NACWA) at the highest level – Platinum Level Award. This award recognizes 100% compliance for the past five years in the treatment of wastewater.
3. Recovery of over \$320,000 in electric power savings from the Hydroelectric Power facility.
4. Replacement of all Carrier Bridge PS pumps and upgrade to 125hp motors and drives.
5. With the completion of WRF Headworks plan for fine-screening, dual-train vortex grit removal system, and replacement of the influent gates and  $\frac{3}{4}$ " bar screens; construction has begun in late spring of 2017. Targeted completion is in the fall of 2018.
6. Replacement of third Influent Pump (last in series) and replace impeller on first replacement; net result will be the complete restoration on all influent pumps for 8 additional feet of vertical lift.
7. WRF staff employees completed over 1,300 work orders for treatment plant maintenance, building asset maintenance, and in maintaining the motor fleet. Highlights include the rebuild of all five (5) 450hp RBC blower motors; two (2) 250hp Incinerator fluidized air blowers, rehab of belt filter presses and Schwing biosolids cake pumps.
8. Treatment plant staff conducted over 30 guided tours of the facility averaging over 15 participants and with approximately 450 individuals.

### Goals & Objectives

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- **Goal:** Operate the Water Reclamation Facility in the most efficient and effective manner and in compliance with all requirements of the Discharge Permit (NPDES) (Objective #2)
  - **Objective:** Achieve a carbonaceous biochemical oxygen demand (CBOD) removal efficiency of at least 85%
  - **Objective:** Achieve a total suspended solids (TSS) removal efficiency of 85%
  - **Objective:** Have NPDES permit non-compliance occurrence of zero (0)
  - **Objective:** Limit odor complaints by maintaining dissolved hydrogen sulfide (H<sub>2</sub>S) levels below 0.5 mg/L

## Wastewater Treatment Plant (continued)

### Goals & Objectives (continued)

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- **Goal:** Timely and cost-efficient maintenance and rehabilitation of plant buildings and equipment (Goals # 1 and 3)
  - *Objective:* Maintain annual rehab and replacement of key Building systems according to long-range plan (roofs, HVAC systems, Mechanical systems, exteriors, etc.)
  - *Objective:* Maintain a preventative to corrective maintenance ratio of at least 60/40
  - *Objective:* Maintain an equipment availability ratio of at least >95%
  - *Objective:* Maintain treatment costs (cost/MG) at/below NACWA average
- **Goal:** Continual improvement of operations (Goal #4)
  - *Objective:* Effectively manage divisional objective(s) identified in the ISO 14001 Environmental Management System
  - *Objective:* Continual development of WRF SCADA—integration of controls, reviews of standard operating procedures affecting Operations and Maintenance
- **Goal:** For the MSD fleet to have minimal environmental impact to the service area (Goal #1)
  - *Objective:* Monitor all vehicles use of biodiesel (B20) and ethanol (E10) for any fuel related problems or repairs
- **Goal:** Provide high level of quality of service and proficiency
  - *Objective:* Continuous improvement and training on software upgrades, diesel engine maintenance, and repairs
- **Goal:** Maintain and replace only vehicles and equipment required for efficient and effective operation
  - *Objective:* With System Services, continue to evaluate heavy-duty vehicles essential for sewer line preventative maintenance

### Budget Highlights/Changes for FY 2017-2018

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1. Continue to maintain full compliance with all National Pollution Discharge Elimination Systems (NPDES) and WNC & EPA Air Quality permits and standards during 2017.
2. Continue to fine tune performance of new Incinerator air emission control systems and perform quarterly mercury sorbent trap testing for meeting air quality standards.
3. Replace the aged Chlorine storage tanks and piping.

## Wastewater Treatment Plant (continued)

### Budget Highlights/Changes for FY 2017-2018

4. Complete design for replacing Primary Microscreens with High-rate Primaries (Actiflo system).
5. Continue construction on new Headworks project including replacement bar screens, influent flow meter, new fine-screens, vortex grit removal system, storm surge pumping and storage tanks, and new splitter-box for eventual use to lead water towards new primaries.
6. Continue with planned roof replacements & structural rehab projects at WRF, Mull Building, & remote Pump Stations.
7. Maintain adequate capital purchases of replacement vehicles assuring maximum efficiency and effectiveness of service.

### Performance Measures

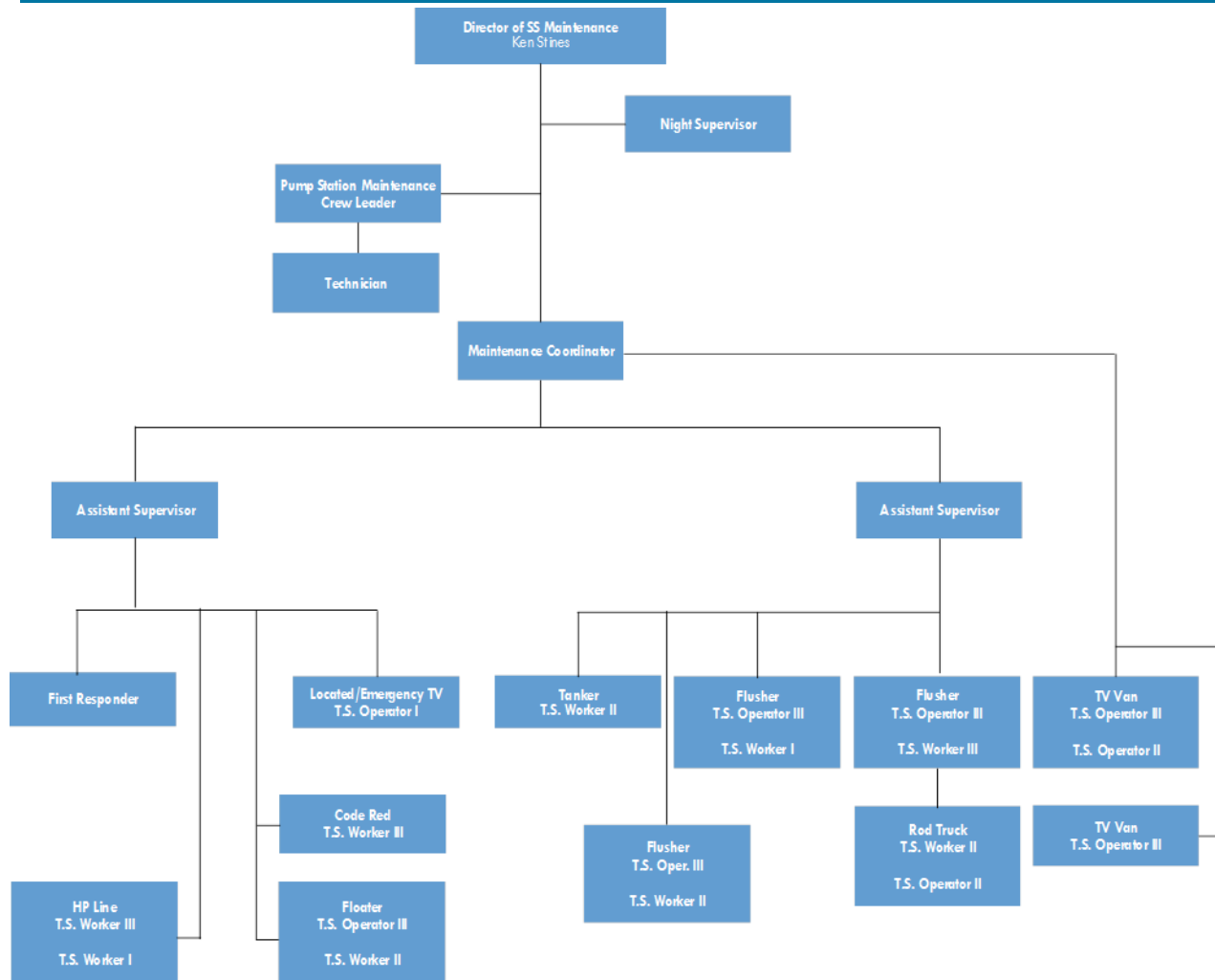
Task		14-15	15-16	16-17 <sup>est</sup>
1.	Daily (average) flow, treated MGD	19.1	21.3	18.5
2.	Maximum daily flow treated, MGD	39.0	67.1	39.5
3.	Dry tons of bio-solids processed	5,886	6,096	6,350
4.	Cost per million gallons (MG), treated	\$735	\$696	\$822
5.	Energy costs per MG, treated	\$115	\$93	\$119
6.	CBOD removal efficiency, %	92%	94%	94%
7.	TSS removal efficiency, %	97%	97%	97%
8.	Number of NPDES permit non-compliance	0	0	0
9.	Preventative to corrective maintenance ratio	35/65	30/70	30/70
10.	Equipment availability percentage	>95%	>95%	>95%

# FY18 Budget – Wastewater Treatment Plant

No.	Name	Actual 2013-2014	Actual 2014-2015	Actual 2015-2016	Approved 2016-2017 Budget	Estimated Actual 6/30/2017 Budget	Percent Expended To Total Budget	Proposed 2017-2018 Budget	Inc (Dec) Over Prior Year
<b>Salaries &amp; Wages</b>									
51100	Salaries & Wages	\$ 2,309,119.86	\$ 2,365,781.08	\$ 2,454,271.47	\$ 2,346,690.00	\$ 2,346,690.00	100.0%	\$ 2,438,997.00	3.93%
51150	Overtime	\$ 144,696.33	\$ 113,250.91	\$ 135,018.87	\$ 105,000.00	\$ 103,000.00	98.1%	\$ 102,500.00	-2.38%
<b>Total Salaries &amp; Wages</b>		\$ 2,453,816.19	\$ 2,479,031.99	\$ 2,589,290.34	\$ 2,451,690.00	\$ 2,449,690.00	99.9%	\$ 2,541,497.00	3.66%
<b>Benefits</b>									
51200	North Carolina Retirement	\$ 174,212.36	\$ 174,084.23	\$ 174,344.54	\$ 179,954.00	\$ 179,807.00	99.9%	\$ 192,646.00	7.05%
51250	Payroll Taxes	\$ 178,235.58	\$ 180,452.56	\$ 187,539.40	\$ 187,553.00	\$ 187,400.00	99.9%	\$ 194,424.00	3.66%
51300	Medical, Dental & Life	\$ 516,716.00	\$ 584,428.28	\$ 515,863.40	\$ 502,949.00	\$ 502,949.00	100.0%	\$ 554,534.00	10.26%
51325	Post Retirement Insurance	\$ 44,199.00	\$ 22,028.21	\$ 54,597.60	\$ 71,148.00	\$ 71,148.00	100.0%	\$ 67,433.00	-5.22%
51350	Worker's Compensation	\$ 60,691.00	\$ 57,470.37	\$ 61,518.00	\$ 71,940.00	\$ 71,940.00	100.0%	\$ 71,940.00	0.00%
51360	State Unemployment Benefits	\$ 9,285.27	\$ 6,846.56	\$ 1,777.26	\$ 8,580.00	\$ 8,580.00	100.0%	\$ 8,580.00	0.00%
51500	401-K/457 Plan	\$ 97,031.68	\$ 101,066.56	\$ 105,632.18	\$ 117,338.00	\$ 117,338.00	100.0%	\$ 121,954.00	3.93%
<b>Total Benefits</b>		\$ 1,080,370.89	\$ 1,126,376.77	\$ 1,101,272.38	\$ 1,139,462.00	\$ 1,139,162.00	100.0%	\$ 1,211,511.00	6.32%
<b>Total Salaries, Wages &amp; Benefits</b>		\$ 3,534,187.08	\$ 3,605,408.76	\$ 3,690,562.72	\$ 3,591,152.00	\$ 3,588,852.00	99.9%	\$ 3,753,008.00	4.51%
<b>Materials, Supplies &amp; Services</b>									
52010	Advertising	\$ 2,474.93	\$ 6,101.58	\$ 2,303.00	\$ 3,367.50	\$ 3,367.50	100.0%	\$ 9,250.00	174.68%
52050	Dues & Subscriptions	\$ 5,054.44	\$ 15,859.78	\$ 14,392.04	\$ 19,260.49	\$ 19,200.00	99.7%	\$ 19,600.00	1.76%
52150	Travel, Mtgs & Training	\$ 15,544.27	\$ 20,506.02	\$ 24,030.55	\$ 21,037.18	\$ 17,836.00	84.8%	\$ 16,990.00	-19.24%
52180	Liability Insurance	\$ 258,200.00	\$ 212,305.77	\$ 258,200.00	\$ 233,598.00	\$ 233,598.00	100.0%	\$ 233,598.00	0.00%
52210	Communications	\$ 42,408.21	\$ 40,108.14	\$ 38,180.21	\$ 46,054.83	\$ 45,300.00	98.4%	\$ 45,900.00	-0.34%
52240	Uniforms	\$ 23,569.19	\$ 23,236.85	\$ 18,289.73	\$ 26,650.00	\$ 25,650.00	96.2%	\$ 27,100.00	1.69%
52250	Office Supplies	\$ 5,309.78	\$ 3,576.10	\$ 3,943.98	\$ 5,350.00	\$ 3,450.00	64.5%	\$ 3,550.00	-33.64%
52260	Special Dept Supplies	\$ 387,586.89	\$ 396,951.61	\$ 392,926.83	\$ 414,500.00	\$ 413,750.00	99.8%	\$ 433,000.00	4.46%
52270	Safety Equip/Supplies	\$ 11,939.78	\$ 10,161.26	\$ 10,177.47	\$ 12,750.00	\$ 10,950.00	85.9%	\$ 11,700.00	-8.24%
52280	Maint Supp/Small Tools	\$ 33,782.93	\$ 21,482.24	\$ 20,017.01	\$ 36,250.00	\$ 35,750.00	98.6%	\$ 36,350.00	0.28%
52290	Chemical Supplies	\$ 421,393.22	\$ 388,293.43	\$ 429,656.28	\$ 529,900.00	\$ 524,900.00	99.1%	\$ 529,500.00	-0.08%
52350	Prof/Contractual Svcs	\$ 245,670.45	\$ 216,760.24	\$ 237,028.41	\$ 305,400.00	\$ 304,700.00	99.8%	\$ 343,850.00	12.59%
52410	Maint-Buildings & Grounds	\$ 6,584.98	\$ 7,745.14	\$ 7,583.55	\$ 16,300.00	\$ 15,000.00	92.0%	\$ 15,000.00	-7.98%
52420	Maintenance-Equipment	\$ 387,656.57	\$ 411,674.72	\$ 479,700.29	\$ 392,334.43	\$ 392,334.00	100.0%	\$ 400,000.00	1.95%
52440	Pump Maintenance	\$ 42,718.44	\$ 33,951.84	\$ 63,764.14	\$ -	\$ -	-	\$ -	-
52450	Equipment Rental	\$ 220.00	\$ 2,144.75	\$ 5,479.31	\$ 2,000.00	\$ 1,000.00	50.0%	\$ 1,500.00	-25.00%
52460	Motor Fuel & Lubricants	\$ 234,550.21	\$ 176,658.06	\$ 128,263.06	\$ 262,000.00	\$ 200,000.00	76.3%	\$ 225,000.00	-14.12%
52470	Outside Vehicle Maint	\$ 5,877.23	\$ 9,368.84	\$ 12,483.16	\$ 15,000.00	\$ 14,000.00	93.3%	\$ 14,000.00	-6.67%
52510	Permits/Fees/Software Licenses	\$ 14,972.00	\$ 15,125.35	\$ 23,019.14	\$ 21,400.00	\$ 20,550.00	96.0%	\$ 25,900.00	21.03%
52650	Utilities	\$ 844,867.11	\$ 922,846.10	\$ 854,796.20	\$ 1,125,000.00	\$ 945,000.00	84.0%	\$ 1,125,000.00	0.00%
52910	Non-Capital Equipment	\$ 3,803.89	\$ 36,934.46	\$ 17,269.88	\$ 12,055.55	\$ 10,750.00	89.2%	\$ 6,894.00	-42.81%
<b>Total Materials, Supplies &amp; Services</b>		\$ 2,994,184.52	\$ 2,971,792.28	\$ 3,041,504.24	\$ 3,500,207.98	\$ 3,237,085.50	92.5%	\$ 3,523,682.00	0.67%
<b>Interfund Transfers</b>									
53040	Fleet Replacement Charges	\$ 60,815.00	\$ 60,815.00	\$ 64,616.00	\$ 64,616.00	\$ 64,616.00	100.0%	\$ 64,616.00	0.00%
53050	Wwtp Replacement Charges	\$ 100,000.00	\$ 100,000.00	\$ 200,000.00	\$ 200,000.00	\$ 200,000.00	100.0%	\$ 200,000.00	0.00%
<b>Total Interfund Transfers</b>		\$ 160,815.00	\$ 160,815.00	\$ 264,616.00	\$ 264,616.00	\$ 264,616.00	100.0%	\$ 264,616.00	0.00%
<b>Capital Outlay</b>									
54010	Capital Equipment - New	\$ 8,191.12	\$ 26,740.05	\$ 18,633.65	\$ 4,665.57	\$ 2,665.00	57.1%	\$ 6,620.00	41.89%
54030	Capital Equip - Replacement	\$ 137,979.52	\$ -	\$ 16,530.50	\$ 7,850.00	\$ 7,500.00	95.5%	\$ -	-100.00%
<b>Total Capital Outlay</b>		\$ 146,170.64	\$ 26,740.05	\$ 35,164.15	\$ 12,515.57	\$ 10,165.00	81.2%	\$ 6,620.00	-47.11%
<b>Sub-Total O&amp;M Fund</b>		\$ 6,835,357.24	\$ 6,764,756.09	\$ 7,031,847.11	\$ 7,368,491.55	\$ 7,100,718.50	96.4%	\$ 7,547,926.00	2.44%
<b>Net Operation &amp; Maintenance Fund</b>		\$ 6,835,357.24	\$ 6,764,756.09	\$ 7,031,847.11	\$ 7,368,491.55	\$ 7,100,718.50	96.4%	\$ 7,547,926.00	2.44%

## SS Maintenance

### Organizational Chart



## SS Maintenance (continued)

### Mission Statement

The mission of the System Services Collection System Maintenance Division is to maintain MSD's Collection System in a way to convey all wastewater to MSD's Water Reclamation Facility without any stoppages, discharges, or spills of wastewater. In short, our mission is to "Keep it in the Pipe" while maintaining the highest level of customer service both internally and externally, to be continuous "Stewards of the Environment", and provide exceptional service to the rate payers of the District.

### Key Responsibilities

Include preventive maintenance and inspection of over 1,000 miles of sanitary sewer lines and 31 pump stations; provide customer services and emergency response 24 hours/day, 365 days/year; maintain compliance with our Collection System Permit; work closely with MSD's System Services Construction Division and Water Reclamation Facility Maintenance Department in achieving departmental goals.

### Staffing History

Division & Position	Approved Positions 15-16	Approved Positions 16-17	Budgeted Positions 17-18
<b>Department of System Services - Maintenance</b>			
<b>Management:</b>			
Director of SS Maintenance	1	1	1
<b>Total Management</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Office Support:</b>			
Dispatcher II	1	1	1
Office Assistant II	2	2	2
SSD Administrator	1	1	1
<b>Total Office Support</b>	<b>4</b>	<b>4</b>	<b>4</b>
<b>Pump Station Maintenance:</b>			
Crew Leader	1	1	1
Technicians	2	2	2
<b>Total Pump Station Maintenance</b>	<b>3</b>	<b>3</b>	<b>3</b>



## SS Maintenance (continued)

### Staffing History (continued)

Division & Position	Approved Positions 15-16	Approved Positions 16-17	Budgeted Positions 17-18
<b><i>Maintenance:</i></b>			
First Responder	2	3	2
Technical Services Worker I	2	2	1
Technical Services Worker II	4	4	6
Technical Services Worker III	2	4	6
Technical Services Operator I	1	1	1
Technical Services Operator II	3	2	2
Technical Services Operator III	7	7	5
Night Supervisor	0	1	1
Assistant Supervisor - SS Maintenance	2	0	0
Collection System Maintenance Supervisor	2	2	3
Maintenance Coordinator	0	1	1
<b><i>Total Maintenance</i></b>	<b>25</b>	<b>28</b>	<b>28</b>
<b><i>Total - SS Maintenance Department</i></b>	<b>33</b>	<b>36</b>	<b>36</b>

### Accomplishments for FY 2016-2017

1. Cleaned over 810,000 LF of pipeline with in-house crews.
2. CCTV'd over 226,000 LF of sanitary sewer lines.
3. Mechanically rodded over 110,000 lf of pipeline for root removal.
4. Achieved one-hour response time goal during working hours, nights, and weekends.
5. Performed over 178,000 LF of acoustic inspection on the Collection System.
6. Smoke tested over 233,000 LF of Collection System. Continuing to decrease I & I along with assisting Engineering in flow monitoring studies.
7. Performed routine maintenance of pump station wet wells and treatment plant.
8. Inspected over 700,000 LF of High Priority/Creek Crossings.
9. Continue public awareness education/FOG by handing out information packets to all customer service calls. Increase awareness of problem with disposable wipes through public education.

## SS Maintenance (continued)

### Accomplishments for FY 2016-2017 (continued)

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10. Cleaned all lines in (9) nine basins throughout the District.
11. Pump station crews brought onto CityWorks.
12. Rebuilt South Ridge, Biltmore Lake 1, Ridgefield 1, and Carrier Bridge pump stations.
13. Replaced pumps at Lake Julian, Haywood Church, Salem Acres, Erwin Hills, Mountain View, and Biltmore #2.
14. Added a generator to Mountain View pump station for back-up power.
15. Increased weekly pump station inspections by 55%.

### Budget Highlights/Changes for FY 2017-2018

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1. Replacement of rod truck.
2. Purchase emergency pump station by-pass pump.

### Goals & Objectives

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- **Goal:** Promote safety first (Goals #1 - 4)
  - **Objective:** Training
    - Personal Protective Equipment
    - Traffic Control
    - Confined Space
    - Vehicle/Equipment Operation
- **Goal:** Reduce number of Sanitary Sewer Overflows (Goals #1 - 4)
  - **Objective:** Continue to identify areas with heavy Inflow and Infiltration
    - Flow Monitoring Investigation
    - Smoke testing Investigation
    - Identify major/minor sources of I & I
  - **Objective:** Continue implementation of Work Order Management System (CityWorks)
    - Extend installation of CityWorks to next tier of employees
    - Continue education on CityWorks to better utilize more of the program features
  - **Objective:** Maintain an aggressive Preventive Maintenance Program
    - Clean 600,000 LF of sanitary sewer lines
    - Utilize SL-RAT to help strengthen impact of lines cleaned

## SS Maintenance (continued)

### Goals & Objectives (continued)

- **Goal:** Reduce number of Sanitary Sewer Overflows (Goals #1 - 4)
  - **Objective:** Maintain an aggressive Preventive Maintenance Program
    - Increase hydraulic root removal by utilizing new technology cleaning nozzles (Blue 100)
    - Complete high priority system inspection
  - **Objective:** Evaluate/update priorities for increased preventive maintenance areas and recommendations of areas for rehabilitation
    - CCTV Inspection/score 400,000 LF sewer pipeline
    - Continue to expand pipe rating program
    - Utilize SL-RAT to prioritize preventive maintenance program to gain optimal performance and save resources
    - Completion of CCTViing and re-scoring of all current CIP lines in Collection System into new PACP format
- **Goal:** Provide excellent customer service internal/external (Goals #1 – 4)
  - **Objective:** Maintain on call status 24 hours/day, 7 days/week
  - **Objective:** Respond to all customer service requests within one hour
  - **Objective:** Cross train to promote positive employee relationships and teamwork
  - **Objective:** Maintain great relationship with outside entities and internal divisions

### Performance Measures

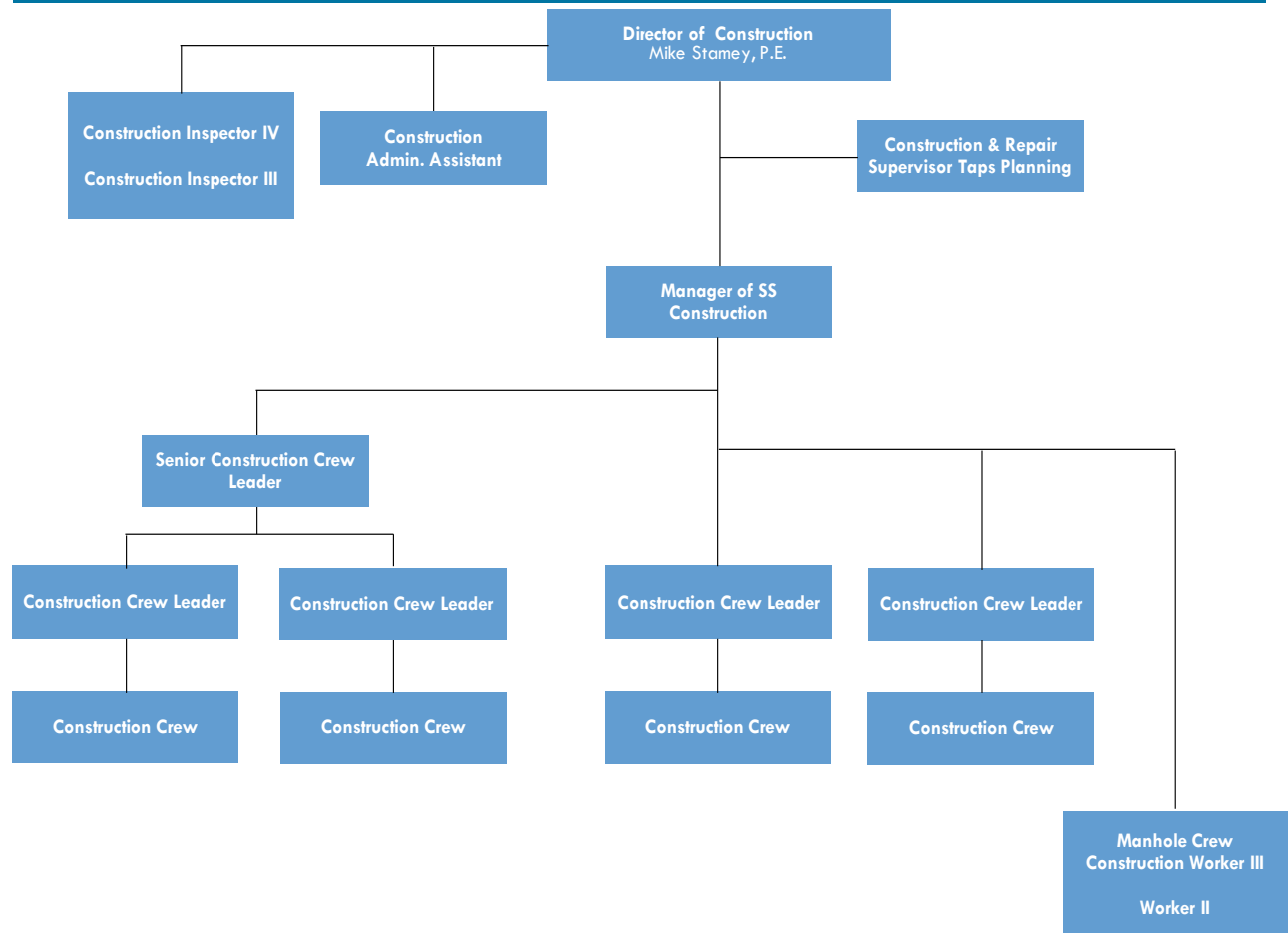
	Task	14-15	15-16	16-17 <sup>est</sup>
1.	Customer Service Response calls during normal working hours	1,242	1,371	1,330
2.	Average Response Time	0.55	0.52	0.48
3.	Customer Service Request calls (after hours & holidays)	870	706	750
4.	Average Response Time (after hours & holidays)	0.70	0.55	0.64
5.	Lines Washed (lineal feet)	729,451	695,825	810,000
6.	Root Control chemical & rod (lineal feet)	65,403	97,481	110,000
7.	TV Report (lineal feet)	329,935	332,088	226,000
8.	Sanitary Sewer Overflow Totals	37	53	30
9.	Smoke Testing	23,153	80,993	233,000
10.	SL Rat Testing	190,433	173,274	178,000

# FY18 Budget – SS Maintenance

No.	Name	Actual 2013-2014	Actual 2014-2015	Actual 2015-2016	Approved 2016-2017 Budget	Estimated Actual 6/30/2017	Percent Expended To Total Budget	Proposed 2017-2018 Budget	Inc (Dec) Over Prior Year
<b>Salaries &amp; Wages</b>									
51100	Salaries & Wages	\$ 1,227,513.09	\$ 1,248,264.54	\$ 1,321,449.06	\$ 1,543,631.00	\$ 1,543,631.00	100.0%	\$ 1,535,719.00	-0.51%
51150	Overtime	\$ 119,144.39	\$ 90,811.15	\$ 94,513.39	\$ 125,000.00	\$ 125,000.00	100.0%	\$ 130,000.00	4.00%
<b>Total Salaries &amp; Wages</b>		\$ 1,346,657.48	\$ 1,339,075.69	\$ 1,415,962.45	\$ 1,668,631.00	\$ 1,668,631.00	100.0%	\$ 1,665,719.00	-0.17%
<b>Benefits</b>									
51200	North Carolina Retirement	\$ 93,848.70	\$ 92,920.02	\$ 92,805.07	\$ 122,478.00	\$ 122,478.00	100.0%	\$ 126,262.00	3.09%
51250	Payroll Taxes	\$ 94,917.30	\$ 94,211.24	\$ 100,125.20	\$ 127,650.00	\$ 127,650.00	100.0%	\$ 127,428.00	-0.17%
51300	Medical, Dental & Life	\$ 344,478.00	\$ 389,618.08	\$ 343,908.27	\$ 425,572.00	\$ 425,572.00	100.0%	\$ 457,490.00	7.50%
51325	Post Retirement Insurance	\$ 29,466.00	\$ 14,685.85	\$ 36,399.73	\$ 60,203.00	\$ 60,203.00	100.0%	\$ 55,632.00	-7.59%
51350	Worker's Compensation	\$ 40,461.00	\$ 38,313.60	\$ 41,012.00	\$ 60,872.00	\$ 60,872.00	100.0%	\$ 60,872.00	0.00%
51360	State Unemployment Benefits	\$ 8,675.48	\$ 4,564.40	\$ 1,184.84	\$ 7,040.00	\$ 7,040.00	100.0%	\$ 7,040.00	0.00%
51500	401K/457 Plan	\$ 50,994.16	\$ 55,301.81	\$ 58,532.89	\$ 77,183.00	\$ 77,183.00	100.0%	\$ 76,787.00	-0.51%
<b>Total Benefits</b>		\$ 662,840.64	\$ 689,615.00	\$ 673,968.00	\$ 880,998.00	\$ 880,998.00	100.0%	\$ 911,511.00	3.46%
<b>Total Salaries, Wages &amp; Benefits</b>		\$ 2,009,498.12	\$ 2,028,690.69	\$ 2,089,930.45	\$ 2,549,629.00	\$ 2,549,629.00	100.0%	\$ 2,577,230.00	1.08%
<b>Materials, Supplies &amp; Services</b>									
52010	Advertising	\$ 2,527.08	\$ 4,816.65	\$ 3,329.18	\$ 5,000.00	\$ 5,000.00	100.0%	\$ 7,000.00	40.00%
52050	Dues & Subscriptions	\$ 3,315.70	\$ 2,867.43	\$ 4,188.25	\$ 5,500.00	\$ 5,500.00	100.0%	\$ 5,750.00	4.55%
52150	Travel, Mtgs & Training	\$ 20,162.97	\$ 17,947.43	\$ 26,117.31	\$ 31,125.00	\$ 31,125.00	100.0%	\$ 36,195.00	16.29%
52180	Liability Insurance	\$ 81,849.00	\$ 67,300.60	\$ 81,849.00	\$ 74,050.00	\$ 74,050.00	100.0%	\$ 74,050.00	0.00%
52210	Communications	\$ 20,838.04	\$ 25,195.62	\$ 22,879.94	\$ 32,400.00	\$ 32,400.00	100.0%	\$ 42,500.00	31.17%
52240	Uniforms	\$ 18,228.80	\$ 15,748.61	\$ 16,632.14	\$ 26,200.00	\$ 26,200.00	100.0%	\$ 28,200.00	7.63%
52250	Office Supplies	\$ 6,635.86	\$ 4,891.12	\$ 5,596.12	\$ 7,500.00	\$ 7,500.00	100.0%	\$ 8,000.00	6.67%
52260	Special Dept Supplies	\$ -	\$ 352.18	\$ 1,451.21	\$ 1,500.00	\$ 1,500.00	100.0%	\$ 1,500.00	0.00%
52270	Safety Equip/Supplies	\$ 19,690.16	\$ 17,659.03	\$ 18,110.02	\$ 25,000.00	\$ 25,000.00	100.0%	\$ 25,000.00	0.00%
52280	Maint Supp/Small Tools	\$ 33,726.81	\$ 30,494.34	\$ 35,597.93	\$ 40,000.00	\$ 40,000.00	100.0%	\$ 40,000.00	0.00%
52290	Chemical Supplies	\$ -	\$ -	\$ -	\$ 2,000.00	\$ 2,000.00	100.0%	\$ 2,000.00	0.00%
52300	Line Cleaning Supplies	\$ 42,744.05	\$ 53,362.68	\$ 56,262.15	\$ 53,000.00	\$ 53,000.00	100.0%	\$ 53,000.00	0.00%
52350	Prof/Contractual Svcs	\$ 24,782.42	\$ 33,153.49	\$ 32,749.33	\$ 67,450.00	\$ 67,450.00	100.0%	\$ 84,200.00	24.83%
52410	Maint-Buildings & Grounds	\$ -	\$ -	\$ -	\$ 2,000.00	\$ 2,000.00	100.0%	\$ 6,000.00	200.00%
52420	Maintenance-Equipment	\$ 46,387.14	\$ 54,944.50	\$ 64,423.24	\$ 60,000.00	\$ 60,000.00	100.0%	\$ 60,000.00	0.00%
52430	Landscape Restoration	\$ 2,301.32	\$ 933.63	\$ 2,700.56	\$ 5,300.00	\$ 5,300.00	100.0%	\$ 5,300.00	0.00%
52440	Pump Maintenance	\$ -	\$ -	\$ -	\$ 86,194.45	\$ 86,194.45	100.0%	\$ 90,000.00	4.42%
52450	Equipment Rental	\$ -	\$ -	\$ -	\$ 2,500.00	\$ 2,500.00	100.0%	\$ 2,500.00	0.00%
52510	Permits/Fees/Software Licenses	\$ 13,630.93	\$ 17,451.46	\$ 18,071.31	\$ 20,300.00	\$ 20,300.00	100.0%	\$ 22,800.00	12.32%
52910	Non-Capital Equipment	\$ 6,676.70	\$ 5,107.75	\$ 6,418.44	\$ 7,950.00	\$ 7,950.00	100.0%	\$ 10,050.00	26.42%
<b>Total Materials, Supplies &amp; Services</b>		\$ 343,496.98	\$ 352,226.52	\$ 396,376.13	\$ 554,969.45	\$ 554,969.45	100.0%	\$ 604,045.00	8.84%
<b>Interfund Transfers</b>									
53040	Fleet Replacement Charges	\$ 167,064.00	\$ 167,064.00	\$ 177,505.00	\$ 177,505.00	\$ 177,505.00	100.0%	\$ 195,005.00	9.86%
<b>Total Interfund Transfers</b>		\$ 167,064.00	\$ 167,064.00	\$ 177,505.00	\$ 177,505.00	\$ 177,505.00	100.0%	\$ 195,005.00	9.86%
<b>Capital Outlay</b>									
54010	Capital Equipment - New	\$ 19,271.11	\$ 8,941.17	\$ 3,204.00	\$ 6,100.00	\$ 6,100.00	100.0%	\$ 13,400.00	119.67%
54030	Capital Equip - Replacement	\$ 13,703.66	\$ 24,540.85	\$ 19,989.35	\$ 11,850.00	\$ 11,850.00	100.0%	\$ 20,100.00	69.62%
<b>Total Capital Outlay</b>		\$ 32,974.77	\$ 33,482.02	\$ 23,193.35	\$ 17,950.00	\$ 17,950.00	100.0%	\$ 33,500.00	86.63%
<b>Sub-Total O&amp;M Fund</b>		\$ 2,553,033.87	\$ 2,581,463.23	\$ 2,687,004.93	\$ 3,300,053.45	\$ 3,300,053.45	100.0%	\$ 3,409,780.00	3.32%
<b>Net Operation &amp; Maintenance Fund</b>		\$ 2,553,033.87	\$ 2,581,463.23	\$ 2,687,004.93	\$ 3,300,053.45	\$ 3,300,053.45	100.0%	\$ 3,409,780.00	3.32%

## SS Construction

### Organizational Chart



## SS Construction (continued)

### Mission Statement

The mission statement of the System Services Construction Division is to undertake construction and repair activities on the existing MSD Collection Sewer System as “Good Stewards of the Environment” to provide construction related support to other departments of the District and to demonstrate the highest level of customer service and professionalism in all internal and external interactions.

### Key Responsibilities

Include timely, quality, and cost effective connections, repairs, and rehabilitation to the existing MSD Collection Sewer System while protecting the waters of the state and the environment of Buncombe County and the District; working closely with the MSD System Services Maintenance Division in maintaining a properly operating collection system; and being exceptional public servants in all activities and interactions with others.

### Staffing History

Division & Position	Approved Positions 15-16	Approved Positions 16-17	Budgeted Positions 17-18
<b>Department of System Services - Construction</b>			
<b>Management:</b>			
Director of Construction	1	1	1
<b>Total Management</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Construction Administration:</b>			
Administrative Assistant – Construction	1	1	1
Construction Inspector II	1	0	0
Construction Inspector III	2	3	3
Construction Inspector IV	1	1	1
<b>Total Construction Administration</b>	<b>5</b>	<b>5</b>	<b>5</b>
<b>Construction:</b>			
Construction Worker I	1	2	5
Construction Worker II	6	7	2
Construction Worker III	4	2	4
Construction Operator I	1	2	2
Construction Operator II	2	2	0
Construction Operator III	0	0	1
Construction Crew Leader	4	4	4



## SS Construction (continued)

### Staffing History (continued)

Division & Position	Approved Positions 15-16	Approved Positions 16-17	Budgeted Positions 17-18
<b>Department of System Services - Construction</b>			
<b>Construction:</b>			
Senior Construction Crew Leader	0	1	1
Construction & Repair Supervisor	1	1	1
Heavy Equipment Excavator I	5	4	3
Heavy Equipment Excavator II	1	1	3
Manager of SS Construction	1	1	1
<b>Total Construction</b>	<b>26</b>	<b>27</b>	<b>27</b>
<b>Total – SS Construction Department</b>	<b>32</b>	<b>33</b>	<b>33</b>

### Accomplishments for FY 2016-2017

1. Rehabilitated 20,000 LF of main sewer line with in-house construction crews.
2. Utilized Trenchless Technologies for over 8,500 LF of mainline rehabilitation and 1,775 LF of service line installation. Through these efforts approximately 3,500 LF of existing asphalt surfaces were maintained.
3. Cleared over 21,000 LF of sewer line Right-of-Way.
4. Completed over 1,250 work order requests during the year.
5. Coordinated (4) joint venture projects with the other agencies to facilitate overall cost savings and/or other benefits for both agencies.
6. Continued annual paving contract with the City of Asheville Street Department to expedite economical, efficient repairs and restoration to City streets affected by MSD construction and repair work.
7. Utilized recycled asphalt and concrete materials for select backfill on current sewer rehabilitation projects.
8. SSD Construction continued participation in the Buncombe County Utility Coordinating Committee, which promotes safe digging and improved coordination between various utility agencies.
9. Two construction employees participated as members of MSD's ISO team.

## **SS Construction** (continued)

### **Accomplishments for FY 2016-2017** (continued)

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10. During April of 2017, SS Construction performed emergency repairs on the force main at the Weaverville #1 Pump Station. This work included significant teamwork and coordination with the SSD Maintenance Group.
11. Rehabilitated approximately 7,100 LF of 8/12-inch mainline sewer through the Asheville Country Club Golf Course during their overall improvements project. The coordination of this work saved MSD considerable costs in site restoration and other related aspects of the sewer work.
12. Partnered with RiverLink on an emergency stream bank restoration project along Smith Mill Creek in West Asheville. This activity provided additional protection for our existing 20-inch sewer line while facilitating a portion of a future RiverLink project in the subject area.
13. Participated on the City of Asheville joint task force for Infrastructure Committee. This committee plans and coordinates projects to facilitate cost savings for multiple utility departments.
14. Special training activities for the year included a NC Highway Patrol class for CDL Dump Truck and Loaded Trailer Operations, a PSNC Energy class for safe excavating around gas lines, an “IRS” pipe repair demonstration for the Town of Johnson City, Tennessee, and Leadership School for three Construction employees.
15. The Construction Administration group provided inspection services for twelve (12) Collection System CIP projects; six (6) Water Reclamation Facility related projects, and sixty one (61) Planning and Development related sewer extensions.

### **Budget Highlights/Changes for FY 2017-2018**

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1. Purchase pavement breaker for backhoe to improve efficiency with pavement and concrete excavation.
2. Purchase of various tools, equipment to improve overall operational, and safety needs.

## SS Construction (continued)

### Goals & Objectives

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- **Goal:** Operate collection system in compliance with all provisions of State Permit (Goal #1)
  - *Objective:* Clear a minimum of 20,000 LF of sewer line easement each year
  - *Objective:* Rehabilitate 20,000 LF of sewer line with Dig-and-Replace, IRS, and other trenchless technology rehabilitation methods
  
- **Goal:** Work with City of Asheville Street, Storm Water, and Water Departments as well as other agencies where possible on strategic planning and joint projects (Goal #4)
  - *Objective:* Conduct yearly meetings with departments
  - *Objective:* Remove service lines from water meter boxes
  - *Objective:* Coordinate tap installation to reduce permit fees
  - *Objective:* Establish joint ventures for paving overlays
  - *Objective:* Coordination of service line renewals
  
- **Goal:** Promote a “Safety First” work environment (Goal #1)
  - *Objective:* Continue developing the role and responsibilities of the Construction Safety Committee to facilitate discussion, review, and updates to safety procedures and policies for the Construction Division
  - *Objective:* Continue working closely with the MSD Safety Division to insure safety policies and procedures are followed
  
- **Goal:** Represent MSD in the Operations Challenge (Pipe Tapping) Competition at the North Carolina AWWA-WEA State Conference in the fall of 2017 (Goal #3)
  - *Objective:* Achieve the best place possible while maintaining a spirit of competition and team cooperation
  
- **Goal:** Explore various cost savings options for the division (Goal #3)
  - *Objective:* Continue exploring and developing pipe-bursting, boring, and other trenchless technology options
  - *Objective:* Facilitate cost savings through the recycling and reuse of excavated concrete and asphalt materials
  
- **Goal:** Maintain a qualified and motivated work force (Goal #1-4)
  - *Objective:* Continue cross training schedule for “worker” and “operator” employees
  - *Objective:* Continue training program for “excavator” employees
  - *Objective:* Provide opportunities for additional trainings that promote increased knowledge and abilities for all construction staff

## SS Construction (continued)

### Performance Measures

Task		14-15	15-16	16-17 <sup>est</sup>
1.	Construction Repairs	543	520	532
2.	Taps Installed	239	234	331
3.	Manhole Repairs	376	294	337
4.	Right-of-Way Clearing (lineal feet)	23,199	22,142	21,000
5.	Other Trenchless Line Rehabilitation (lineal feet)	460	1,433	1,775
6.	Dig & Replace Rehabilitation (lineal feet)	8,388	6,740	11,000
7.	IRS (lineal feet)	704	1,241	0
8.	Construction Rehabilitation (lineal feet)	3,660	3,769	500
9.	Pipebursting Main Line (lineal feet)	2,066	1,561	3,000
10.	Boring Main Line (lineal feet)	5,255	6,774	5,500
11.	Total Construction Rehabilitation Footage (lineal feet) (Items 6, 7, 8, 9, 10)	20,073	20,084	20,000
12.	Sewer Rehabilitation Inspected on CIP Projects (lineal feet)	28,452	17,440	26,000
13.	Sewer Extensions Inspected from Development Projects (linear feet)	28,442	43,616	36,000

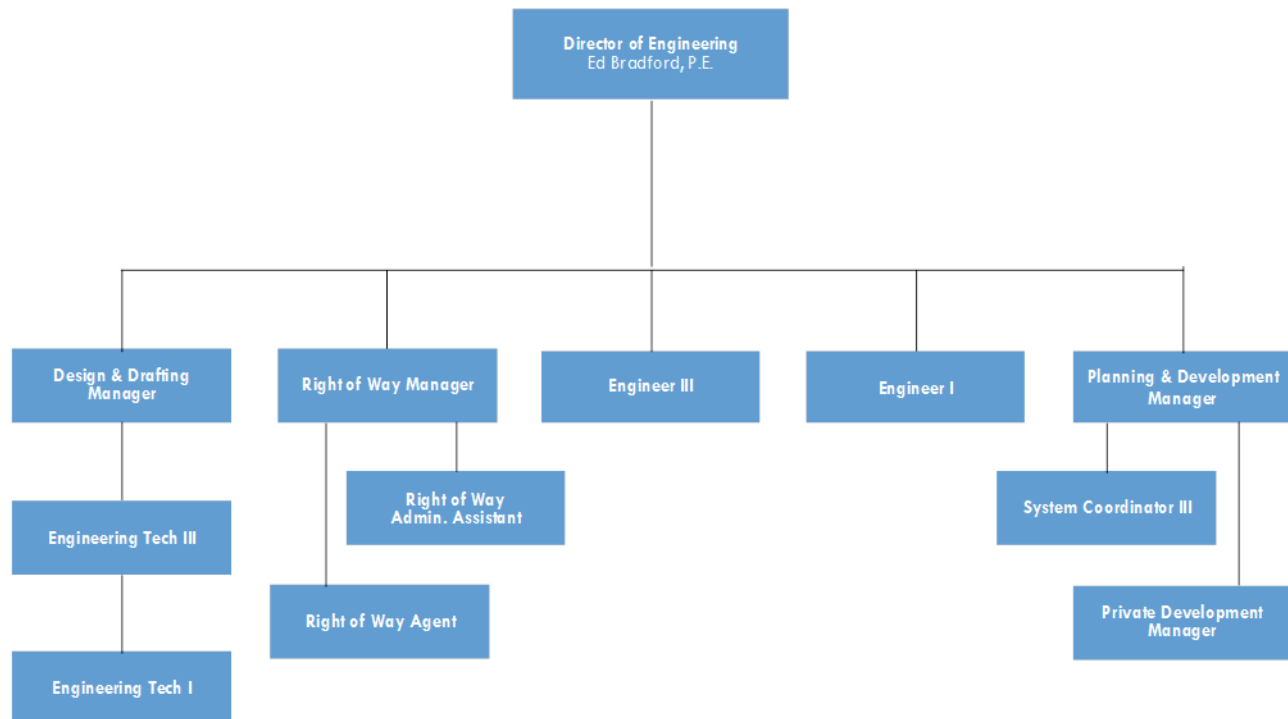
# FY18 Budget – SS Construction

No.	Name	Actual 2013-2014	Actual 2014-2015	Actual 2015-2016	Approved 2016-2017 Budget	Estimated Actual 6/30/2017	Percent Expended To Total Budget	Proposed 2017-2018 Budget	Inc (Dec) Over Prior Year
<b>Salaries &amp; Wages</b>									
51100	Salaries & Wages	\$ 1,483,748.47	\$ 1,586,770.58	\$ 1,662,122.73	\$ 1,614,234.00	\$ 1,614,234.00	100.0%	\$ 1,668,549.00	3.36%
51150	Overtime	\$ 91,372.55	\$ 45,317.85	\$ 50,216.31	\$ 69,000.00	\$ 69,000.00	100.0%	\$ 69,000.00	0.00%
<b>Total Salaries &amp; Wages</b>		\$ 1,575,121.02	\$ 1,632,088.43	\$ 1,712,339.04	\$ 1,683,234.00	\$ 1,683,234.00	100.0%	\$ 1,737,549.00	3.23%
<b>Benefits</b>									
51200	North Carolina Retirement	\$ 113,628.51	\$ 117,028.97	\$ 116,821.30	\$ 123,549.00	\$ 123,549.00	100.0%	\$ 131,706.00	6.60%
51250	Payroll Taxes	\$ 116,066.16	\$ 119,886.82	\$ 126,770.76	\$ 128,767.00	\$ 128,767.00	100.0%	\$ 132,923.00	3.23%
51300	Medical, Dental & Life	\$ 430,596.14	\$ 487,020.82	\$ 429,883.74	\$ 451,366.00	\$ 451,366.00	100.0%	\$ 485,217.00	7.50%
51325	Post Retirement Insurance	\$ 36,832.00	\$ 18,357.15	\$ 45,498.26	\$ 63,852.00	\$ 63,852.00	100.0%	\$ 59,004.00	-7.59%
51350	Worker's Compensation	\$ 50,576.05	\$ 47,819.04	\$ 51,264.00	\$ 64,561.00	\$ 64,561.00	100.0%	\$ 64,561.00	0.00%
51360	State Unemployment Benefits	\$ 7,430.83	\$ 5,705.47	\$ 1,481.06	\$ 7,700.00	\$ 7,700.00	100.0%	\$ 7,700.00	0.00%
51500	401K/457 Plan	\$ 56,487.91	\$ 68,713.94	\$ 75,868.13	\$ 80,713.00	\$ 80,713.00	100.0%	\$ 83,430.00	3.37%
<b>Total Benefits</b>		\$ 811,617.60	\$ 864,604.21	\$ 847,587.25	\$ 920,508.00	\$ 920,508.00	100.0%	\$ 964,541.00	4.78%
<b>Total Salaries, Wages &amp; Benefits</b>		\$ 2,386,738.62	\$ 2,496,692.64	\$ 2,559,926.29	\$ 2,603,742.00	\$ 2,603,742.00	100.0%	\$ 2,702,090.00	3.78%
<b>Materials, Supplies &amp; Services</b>									
52010	Advertising	\$ 500.00	\$ 574.85	\$ 383.33	\$ 500.00	\$ 500.00	100.0%	\$ 500.00	0.00%
52050	Dues & Subscriptions	\$ 2,846.25	\$ 4,003.50	\$ 3,459.25	\$ 4,150.00	\$ 4,150.00	100.0%	\$ 4,150.00	0.00%
52150	Travel, Mtgs & Training	\$ 31,717.20	\$ 26,161.68	\$ 35,934.73	\$ 30,050.00	\$ 30,050.00	100.0%	\$ 30,260.00	0.70%
52180	Liability Insurance	\$ 97,275.00	\$ 79,984.67	\$ 97,275.00	\$ 88,006.00	\$ 88,006.00	100.0%	\$ 88,006.00	0.00%
52210	Communications	\$ 15,200.64	\$ 16,332.61	\$ 15,709.97	\$ 20,675.00	\$ 20,675.00	100.0%	\$ 20,800.00	0.60%
52240	Uniforms	\$ 21,991.80	\$ 21,453.40	\$ 22,060.23	\$ 23,600.00	\$ 23,600.00	100.0%	\$ 23,700.00	0.42%
52250	Office Supplies	\$ 1,744.05	\$ 1,440.13	\$ 1,603.73	\$ 4,000.00	\$ 4,000.00	100.0%	\$ 4,000.00	0.00%
52260	Special Dept Supplies	\$ 620.90	\$ 1,081.46	\$ 649.38	\$ 1,000.00	\$ 1,000.00	100.0%	\$ 1,000.00	0.00%
52270	Safety Equip/Supplies	\$ 20,632.52	\$ 21,230.82	\$ 21,556.80	\$ 23,200.00	\$ 23,200.00	100.0%	\$ 23,200.00	0.00%
52280	Maint Supp/Small Tools	\$ 51,659.07	\$ 57,342.94	\$ 48,264.73	\$ 50,750.00	\$ 50,750.00	100.0%	\$ 50,750.00	0.00%
52300	Line Cleaning Supplies	\$ 528.35	\$ 164.95	\$ 271.27	\$ 750.00	\$ 750.00	100.0%	\$ 750.00	0.00%
52350	Prof/Contractual Svcs	\$ 2,297.00	\$ 8,486.01	\$ 11,434.34	\$ 12,000.00	\$ 12,000.00	100.0%	\$ 13,000.00	8.33%
52420	Maintenance-Equipment	\$ 1,298.11	\$ 1,726.93	\$ -	\$ 2,200.00	\$ 2,200.00	100.0%	\$ 2,200.00	0.00%
52430	Landscape Restoration	\$ 12,557.12	\$ 8,246.69	\$ 10,813.06	\$ 11,700.00	\$ 11,700.00	100.0%	\$ 11,700.00	0.00%
52450	Equipment Rental	\$ 4,280.76	\$ 3,777.75	\$ 1,971.99	\$ 20,000.00	\$ 20,000.00	100.0%	\$ 20,000.00	0.00%
52510	Permits/Fees/Software Licenses	\$ 11,343.00	\$ 14,210.45	\$ 13,541.30	\$ 17,000.00	\$ 10,740.00	63.2%	\$ 17,000.00	0.00%
52910	Non-Capital Equipment	\$ 10,272.84	\$ 7,514.70	\$ 6,722.18	\$ 6,575.00	\$ 1,281.26	19.5%	\$ 9,800.00	49.05%
<b>Total Materials, Supplies &amp; Services</b>		\$ 286,764.61	\$ 273,733.54	\$ 291,651.29	\$ 316,156.00	\$ 304,602.26	96.3%	\$ 320,816.00	1.47%
<b>Interfund Transfers</b>									
52340	Debt Administration Expenses	\$ 220,782.82	\$ 191,223.71	\$ 188,362.16	\$ 202,217.00	\$ 202,000.00	99.9%	\$ 186,350.00	-7.85%
53040	Fleet Replacement Charges	\$ 159,776.00	\$ 159,776.00	\$ 172,787.00	\$ 172,787.00	\$ 172,787.00	100.0%	\$ 190,287.00	10.13%
<b>Total Interfund Transfers</b>		\$ 380,558.82	\$ 350,999.71	\$ 361,149.16	\$ 375,004.00	\$ 374,787.00	99.9%	\$ 376,637.00	0.44%
<b>Capital Outlay</b>									
54010	Capital Equipment - New	\$ 7,362.00	\$ 12,102.00	\$ 11,525.00	\$ 6,400.00	\$ 6,400.00	100.0%	\$ 5,600.00	-12.50%
54030	Capital Equip - Replacement	\$ 14,990.01	\$ 12,286.19	\$ 6,912.95	\$ 17,100.00	\$ -	0.0%	\$ 9,500.00	-44.44%
<b>Total Capital Outlay</b>		\$ 22,352.01	\$ 24,388.19	\$ 18,437.95	\$ 23,500.00	\$ 6,400.00	27.2%	\$ 15,100.00	-35.74%
<b>Sub-Total O&amp;M Fund</b>		\$ 3,076,414.06	\$ 3,145,814.08	\$ 3,231,164.69	\$ 3,318,402.00	\$ 3,289,531.26	99.1%	\$ 3,414,643.00	2.90%
59200	LESS:								
	Chargebacks to General Fund for CIP	\$ (758,459.66)	\$ (748,359.85)	\$ (769,509.12)	\$ (748,639.00)	\$ (748,422.00)	100.0%	\$ (753,123.00)	0.60%
	Chargebacks to General Fund for SSD	\$ (1,279,053.00)	\$ (1,309,983.00)	\$ (1,388,104.00)	\$ (1,539,411.00)	\$ (1,539,411.00)	100.0%	\$ (1,620,008.00)	5.24%
<b>Net Operation &amp; Maintenance Fund</b>		\$ 1,038,901.40	\$ 1,087,471.23	\$ 1,073,551.57	\$ 1,030,352.00	\$ 1,001,698.26	97.2%	\$ 1,041,512.00	1.08%

## Engineering

### Organizational Chart

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## Engineering (continued)

### Mission Statement

The mission of the Engineering Division is to produce, manage, and complete engineering projects for the planning, repair, and rehabilitation of the District's Collection System and Water Reclamation Facility (WRF); and to provide quality control associated with expansion of the system. This shall be undertaken in the most efficient and effective manner necessary to ensure the reliable delivery and treatment of wastewater at an equitable price and in an environmentally sensitive manner.

### Key Responsibilities

Prepare a complete budget and schedule for all Capital Improvement Projects each fiscal year, and adhere to it. For all capital projects: ❶ Produce quality, timely, and cost-effective engineering designs, plans, and specifications; ❷ Acquire necessary rights-of-way; and ❸ Administer construction through each project's completion. Prepare CIP cash flows quarterly to be submitted to the Finance Director for accurate cash flow management. Procure, manage, and direct design work performed by various consulting engineers, as needed. Provide various special studies and analyses, including master planning of collection system and treatment facilities, evaluation of projected flow allocations, plan review, and quality control of developer-constructed projects; perform specialized related duties; and serve as a technical resource for the District.

### Staffing History

Division & Position	Approved Positions 15-16	Approved Positions 16-17	Budgeted Positions 17-18
<b>Department of Engineering</b>			
<b>Management:</b>			
Director of Engineering	1	1	1
<b>Total Management</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Office Support:</b>			
Office Manager	1	0	0
<b>Total Office Support</b>	<b>1</b>	<b>0</b>	<b>0</b>



## Engineering (continued)

### Staffing History (continued)

Division & Position	Approved Positions 15-16	Approved Positions 16-17	Budgeted Positions 17-18
<b>Engineers:</b>			
Engineer I	2	3	3
Engineer II	1	0	0
Engineer III	0	1	1
Senior Engineer/Construction Manager	1	0	0
<b>Total Engineers</b>	<b>4</b>	<b>4</b>	<b>4</b>
<b>Design and Drafting:</b>			
Engineering Technician I	1	1	1
Engineering Technician II	1	1	1
Engineering Technician III	0	1	1
Design & Drafting Manager	1	1	1
<b>Total Design and Drafting</b>	<b>3</b>	<b>4</b>	<b>4</b>
<b>Right of Way:</b>			
Administrative Assistant – Right of Way	1	1	1
Right of Way Agent	1	1	1
Right of Way Manager	1	1	1
<b>Total Right of Way</b>	<b>3</b>	<b>3</b>	<b>3</b>
<b>Planning &amp; Development:</b>			
Systems Coordinator III	2	2	2
Private Development Project Manager	1	0	0
Private Development Coordinator/Plan Review	1	0	0
Planning & Development Manager	0	1	1
<b>Total Planning and Development</b>	<b>4</b>	<b>3</b>	<b>3</b>
<b>Total – Department of Engineering</b>	<b>16</b>	<b>15</b>	<b>15</b>

### Accomplishments for FY 2016-2017

- 42,675 Linear Feet (LF) of collection system were rehabilitated during FY16. This included 18,848 LF rehabilitated through contract construction, 22,635 LF rehabilitated in-house by System Services, and 1,192 LF rehabilitated through development projects.

## Engineering (continued)

### Accomplishments for FY 2016-2017 (continued)

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2. Managed over 136 projects and line items within the CIP. Projects are within the various stages of lifecycles - from preliminary design, to active construction, to complete/closeout.
3. Processed over 1,610 applications and reviewed 73 plans for new connections and extensions to the collection system. (\*)
4. Acquired Rights-of-Way across 58 properties. Settled two condemnation action, saving expense of trial. (\*)
5. Designed ten in-house projects for System Services. These are designed and then constructed by in-house forces. (\*)
6. Applied for and received a 2017 NACWA National Environmental Achievement Award for the \$7.4M Incinerator System Emissions Upgrade Project at the plant. The project was completed ahead of schedule, and implemented a new mercury removal technology, which saved approx. \$5M over traditional technology.
7. Began the construction phase of the Plant Headworks Project, which is a primary recommendation of the plant Facility Plan. The \$9.6 million project is expected to be complete by late Fall 2018.
8. Began the design phase of the Plant High Rate Primary Treatment Project. This significant project will provide much needed primary treatment for the plant, and is the mid-term recommendation of the plant Facility Plan. Construction of this \$14.4 million project is expected to begin in Fall 2018.
9. Managed and completed an update of the District's Standards and Specifications, with an emphasis on pump stations. The final documents were submitted to NCDEQ in March 2017.

### Goals & Objectives

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- **Goal:** Rehabilitate approximately 50,000 feet of the collection system, in close collaboration with System Services (Objective #1)
- **Goal:** Verify adequate capacity of lines prior to authorizing construction of new lines or connection of any new facility, and ensure that all developer-constructed projects conform to MSD requirements (Goal #1)

## Engineering (continued)

### Goals & Objectives (continued)

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- **Goal:** Begin the construction phase of the first Facility Plan project at the WRF – Plant Headworks
- **Goal:** Begin the design phase of the Plant High Rate Primary Treatment project
- **Goal:** Meet the time and budget predictions established in the CIP for FY18 (Goal #3)
- **Goal:** Utilize consulting engineers for unexpected rehabilitation projects, or those requiring specialized expertise, as necessary to produce a timely response for other Divisions' engineering requests (Goal #2)
- **Goal:** Coordinate projects with member agencies whenever possible. This is accomplished by sharing information on upcoming work
- **Goal:** Prepare special studies and designs as necessary for other Divisions (Goal #2)
- **Goal:** Safeguard the structural integrity and accessibility of MSD sewer lines against damage from grading activities by other jurisdictions and private parties (Objective #4)
- **Goal:** Obtain feedback from developers and engineers concerning the District's regulations and process for sewer lines to be accepted for public use (Objective #5)
- **Goal:** Reduce use of paper and minimize file space needs

### Budget Highlights/Changes for FY2017-2018

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1. Continue to refine and advertise our new web-based permitting and the paperless plan review processes for the Planning & Development section.
2. Begin and manage the French Broad/Carrier Bridge PER project.
3. Complete Phase 2 of the lining project for the interceptor through the Biltmore Estate (6,631 LF).
4. Effectively manage the construction phase of the Plant Headworks Project (construction cost \$8.4M).

## Engineering (continued)

### Performance Measures

Task		14-15	15-16	16-17 (*)
1.	Linear footage rehabilitated	46,729	42,675	49,730
2.	CIP expenditures	\$16.6M	\$19.8M	\$17.0M
3.	CIP projections vs. actual expenditures (**)	76%	91%	77%
4.	Allocations	158	189	184
5.	Sewer Tap Applications	1,382	1,377	1,610
6.	Plans Reviewed	62	69	73
7.	Value of accepted systems	\$3,361,616	\$2,415,000	\$3,460,733

(\*) Estimated as of May 5, 2017

(\*\*) CIP Projections annually include \$1.1M for Contingency plus Developer Reimbursements

# FY18 Budget – Engineering

No.	Name	Actual 2013-2014	Actual 2014-2015	Actual 2015-2016	Approved 2016-2017 Budget	Estimated Actual 6/30/2017	Percent Expended To Total Budget	Proposed 2017-2018 Budget	Inc (Dec) Over Prior Year
<b>Salaries &amp; Wages</b>									
51100	Salaries & Wages	\$ 898,234.50	\$ 907,408.19	\$ 919,696.40	\$ 1,026,284.00	\$ 1,026,284.00	100.0%	\$ 1,000,863.00	-2.48%
51150	Overtime	\$ (355.54)	\$ 367.23	\$ 1,202.49	\$ 1,350.00	\$ 1,000.00	74.1%	\$ 1,000.00	-25.93%
<b>Total Salaries &amp; Wages</b>		\$ 897,878.96	\$ 907,775.42	\$ 920,898.89	\$ 1,027,634.00	\$ 1,027,284.00	100.0%	\$ 1,001,863.00	-2.51%
<b>Benefits</b>									
51200	North Carolina Retirement	\$ 63,796.17	\$ 64,100.68	\$ 62,028.82	\$ 75,428.00	\$ 75,403.00	100.0%	\$ 75,941.00	0.68%
51250	Payroll Taxes	\$ 66,301.35	\$ 66,929.30	\$ 66,765.52	\$ 78,614.00	\$ 78,587.00	100.0%	\$ 76,642.00	-2.51%
51300	Medical, Dental & Life	\$ 209,147.86	\$ 208,725.73	\$ 184,238.12	\$ 193,441.00	\$ 193,441.00	100.0%	\$ 194,087.00	0.33%
51325	Post Retirement Insurance	\$ 17,890.00	\$ 7,867.57	\$ 19,499.88	\$ 27,365.00	\$ 27,365.00	100.0%	\$ 23,600.00	-13.76%
51350	Worker's Compensation	\$ 24,565.95	\$ 20,525.39	\$ 21,971.00	\$ 27,669.00	\$ 27,669.00	100.0%	\$ 27,669.00	0.00%
51360	State Unemployment Benefits	\$ 3,283.39	\$ 2,445.20	\$ 634.74	\$ 3,300.00	\$ 3,300.00	100.0%	\$ 3,300.00	0.00%
51500	401-K/457 Plan	\$ 41,836.31	\$ 40,169.83	\$ 40,833.78	\$ 51,316.00	\$ 51,316.00	100.0%	\$ 50,045.00	-2.48%
<b>Total Benefits</b>		\$ 426,821.03	\$ 410,763.70	\$ 395,971.86	\$ 457,133.00	\$ 457,081.00	100.0%	\$ 451,284.00	-1.28%
<b>Total Salaries, Wages &amp; Benefits</b>		\$ 1,324,699.99	\$ 1,318,539.12	\$ 1,316,870.75	\$ 1,484,767.00	\$ 1,484,365.00	100.0%	\$ 1,453,147.00	-2.13%
<b>Materials, Supplies &amp; Services</b>									
52050	Dues & Subscriptions	\$ 4,422.31	\$ 4,193.56	\$ 3,877.45	\$ 5,444.50	\$ 5,319.50	97.7%	\$ 5,400.00	-0.82%
52150	Travel, Mtgs & Training	\$ 16,492.12	\$ 20,965.60	\$ 14,332.60	\$ 15,536.00	\$ 15,536.00	100.0%	\$ 19,524.00	25.67%
52180	Liability Insurance	\$ 38,400.00	\$ 31,574.52	\$ 38,400.00	\$ 34,741.00	\$ 34,741.00	100.0%	\$ 34,741.00	0.00%
52200	Telephone/Telefax	\$ 2,725.75	\$ 1,953.23	\$ -	\$ 200.00	\$ -	0.0%	\$ -	-100.00%
52210	Communications	\$ 1,935.22	\$ 1,583.25	\$ 1,589.67	\$ 2,355.00	\$ 2,355.00	100.0%	\$ 2,450.00	4.03%
52240	Uniforms	\$ 1,397.78	\$ 801.42	\$ 567.84	\$ 2,575.82	\$ 2,522.82	97.9%	\$ 2,600.00	0.94%
52250	Office Supplies	\$ 4,318.28	\$ 3,590.33	\$ 3,124.52	\$ 5,415.93	\$ 4,660.00	86.0%	\$ 4,700.00	-13.22%
52260	Special Dept Supplies	\$ 7,863.08	\$ 5,660.33	\$ 1,976.83	\$ 5,978.25	\$ 3,150.00	52.7%	\$ 3,300.00	-44.80%
52270	Safety Equip/Supplies	\$ 176.07	\$ 145.38	\$ 193.84	\$ 300.00	\$ 245.00	81.7%	\$ 300.00	0.00%
52330	Legal Fees	\$ 248.00	\$ -	\$ -	\$ 2,419.50	\$ 2,408.50	99.5%	\$ 3,000.00	23.99%
52350	Prof/Contractual Svcs	\$ 23,258.13	\$ 29,891.58	\$ 13,341.55	\$ 50,500.00	\$ 33,000.00	65.3%	\$ 35,750.00	-29.21%
52410	Maint-Buildings & Grounds	\$ 453.00	\$ -	\$ -	\$ -	\$ -	-	\$ -	-
52420	Maintenance-Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	-	\$ 200.00	-
52510	Permits/Fees/Software Licenses	\$ 220.60	\$ -	\$ -	\$ -	\$ -	-	\$ -	-
52910	Non-Capital Equipment	\$ 2,432.43	\$ 990.45	\$ 803.20	\$ 1,100.00	\$ 1,091.00	99.2%	\$ -	-100.00%
<b>Total Materials, Supplies &amp; Services</b>		\$ 104,342.77	\$ 101,349.65	\$ 78,207.50	\$ 126,566.00	\$ 105,028.82	83.0%	\$ 111,965.00	-11.54%
<b>Interfund Transfers</b>									
53040	Fleet Replacement Charges	\$ 2,847.00	\$ 2,847.00	\$ -	\$ -	\$ -	-	\$ -	-
<b>Total Interfund Transfers</b>		\$ 2,847.00	\$ 2,847.00	\$ -	\$ -	\$ -	-	\$ -	-
<b>Sub-Total O&amp;M Fund</b>		\$ 1,431,889.76	\$ 1,422,735.77	\$ 1,395,078.25	\$ 1,611,333.00	\$ 1,589,393.82	98.6%	\$ 1,565,112.00	-2.87%
59200	LESS:								
	Chargebacks to General Fund for CIP	\$ (1,294,515.65)	\$ (1,267,244.28)	\$ (1,239,616.25)	\$ (1,450,349.00)	\$ (1,429,215.82)	98.5%	\$ (1,400,787.00)	-3.42%
<b>Net Operation &amp; Maintenance Fund</b>		\$ 137,374.11	\$ 155,491.49	\$ 155,462.00	\$ 160,984.00	\$ 160,178.00	99.5%	\$ 164,325.00	2.08%

# INSURANCE FUNDS





## Insurance Funds

### Overview

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The Insurance Funds are funded through annual appropriations from the Operations and Maintenance Fund Budget. The District has established four (4) Insurance Funds as part of its sewer rate stabilization strategy. Background information and current year budget highlights of the insurance funds are discussed below and on the following pages.

#### Self-funded Employee Medical Program

The District offers medical, dental, and life insurance to all employees. Employees may purchase optional dependent coverage through payroll deduction. These benefits are funded by a combination of District contributions as well as commercial insurance premiums.

The District has established a self-insured group health and dental insurance program, with premiums paid to commercial carriers for stop-loss and aggregate coverage to limit the amount of risk the District will assume. A third party administrator processes all claims, and a commercial healthcare provider network is retained to negotiate fees and authorize payments. Prescription benefits are administered through a private contractor.

Employees pay a nominal amount for individual medical and dental coverage and pay approximately 30% to 36% of the cost for dependent coverage. After employee payment of specified deductibles and co-payments for medical and dental services, the Plan covers the remaining authorized charges in total. The budget for FY18 includes an employer contribution increase of 7.5% to cover anticipated expenditures needs.



## Insurance Funds (continued)

### FY18 SELF-FUNDED EMPLOYEE MEDICAL PROGRAM BUDGET

	Actual 2015-2016	Estimated Actual 2016-2017	Budget 2017-2018
<b>Beginning Balance</b>	<b>\$ 1,142,038</b>	<b>\$ 626,684</b>	<b>\$ 891,978</b>
<b>Income:</b>			
District Contributions	1,735,116	1,908,625	2,051,775
Employee Contributions	399,412	356,000	382,700
Transfer from Other Insurance Funds	278,500	735,800	225,000
Interest	<u>2,926</u>	<u>2,500</u>	<u>2,500</u>
<b>Total Income</b>	<b>2,415,954</b>	<b>3,002,925</b>	<b>2,661,975</b>
<b>Total Funds Available</b>	<b>3,557,992</b>	<b>3,692,609</b>	<b>3,553,953</b>
<b>Expenses:</b>			
Expected Claim Liability	2,544,004	2,315,983	2,254,336
Fixed Costs (see note below)	<u>387,304</u>	<u>421,648</u>	<u>428,313</u>
<b>Total Expenses</b>	<b>2,931,308</b>	<b>2,737,631</b>	<b>2,682,649</b>
<b>Ending Balance</b>	<b><u>\$ 626,684</u></b>	<b><u>\$ 891,978</u></b>	<b><u>\$ 871,304</u></b>

## Insurance Funds (continued)

### Post-Employment Insurance

The District has established a post-employment insurance fund to accumulate funds now, which will reduce future operational expenditures when retirees begin taking advantage of this benefit. The District will annually fund the equivalent of the annual required contribution less expenses as determined by an actuarial study as required by GASB 45. The accumulated funds will only be used for post-employment insurance. However, the District's Board does reserve the right to use the reserve funds for unforeseen emergencies. FY18 funding of \$249,500 represents a 1.5% of total operations. As of May 2017, the District has thirteen (13) eligible participants in the post-employment insurance plan.

### FY18 POST EMPLOYMENT INSURANCE BUDGET

	Actual 2015-2016	Estimated Actual 2016-2017	Budget 2017-2018
<b>Beginning Balance</b>	<b>\$ 138,352</b>	<b>\$ 165,385</b>	<b>\$ 188,670</b>
<b>Income</b>			
District Contributions	191,096	270,000	249,500
Employee Contributions	16,937	21,754	20,000
Interest Income	<u>10,096</u>	<u>11,531</u>	<u>9,000</u>
<b>Total Income</b>	<b>218,129</b>	<b>303,285</b>	<b>278,500</b>
<b>Total Funds Available</b>	<b>356,481</b>	<b>468,670</b>	<b>467,170</b>
<b>Expenses</b>			
Expenses	72,800	69,200	69,800
Transfer to Other Insurance Funds	<u>118,296</u>	<u>210,800</u>	<u>175,000</u>
<b>Total Expenses</b>	<b>191,096</b>	<b>280,000</b>	<b>244,800</b>
<b>Ending Balance</b>	<b><u>\$ 165,385</u></b>	<b><u>\$ 188,670</u></b>	<b><u>\$ 222,370</u></b>

## Insurance Funds (continued)

### Worker's Compensation

The District established a separate insurance fund for worker's compensation, which will facilitate allocation of costs to respective department, division, and section budgets. The Safety Officer acts as liaison with the insurance carrier to administer claims and to minimize future claims by providing training and equipment designed to prevent injuries. The budget for FY18 includes a 0.0% increase to cover anticipated expenditure needs.

### FY18 WORKER'S COMPENSATION FINANCIAL PLAN

	Actual	Estimated	
	2015-2016	2016-2017	Budget 2017-2018
<b>Beginning Balance</b>	<b>\$ 362,014</b>	<b>\$ 284,321</b>	<b>\$ 296,996</b>
<b>Income</b>			
District Contributions	215,312	273,000	273,000
Interest Income	<u>1,055</u>	<u>1,000</u>	<u>1,000</u>
<b>Total Income</b>	<b>216,367</b>	<b>274,000</b>	<b>274,000</b>
<b>Total Funds Available</b>	<b>578,381</b>	<b>558,321</b>	<b>570,996</b>
<b>Expenses</b>			
Interfund Transfer	18,800	-	50,000
Deductibles for Individual Claims	5,138	10,000	10,000
Premiums to commercial carrier	<u>270,123</u>	<u>251,325</u>	<u>213,000</u>
<b>Total Expenses</b>	<b>275,260</b>	<b>261,325</b>	<b>273,000</b>
<b>Ending Balance</b>	<b><u>\$ 284,321</u></b>	<b><u>\$ 296,996</u></b>	<b><u>\$ 297,996</u></b>

## Insurance Funds (continued)

### General Liability

The District's general liability insurance fund was established to ① allocate insurance costs to all departments, divisions and sectional budgets, ② provide funds for payment of no-fault sewer back-ups and ③ establish reserves to offset future unanticipated increases in sewer back-up liabilities in excess of budgeted amounts. The budget for FY18 includes a 0.2% increase based on anticipated expenditure needs.

### FY18 GENERAL LIABILITY FINANCIAL PLAN

	Actual 2015-2016	Estimated Actual 2016-2017	Budget 2017-2018
<b>Beginning Balance</b>	<b>\$ 487,098</b>	<b>\$ 553,006</b>	<b>\$ 560,303</b>
<b>Income</b>			
District Contributions	605,434	547,746	548,946
Interest Income	<u>1,850</u>	<u>2,300</u>	<u>2,300</u>
<b>Total Income</b>	<b>607,284</b>	<b>550,046</b>	<b>550,046</b>
<b>Total Funds Available</b>	<b>1,094,382</b>	<b>1,103,052</b>	<b>1,110,349</b>
<b>Expenses</b>			
Interfund Transfer	71,000	50,000	-
Premiums to commercial carrier	374,646	385,397	435,663
No Fault Sewer Back-Up Claims	19,711	15,000	50,000
Claim Deductibles	66,185	82,000	82,000
Flood Insurance	<u>9,834</u>	<u>10,352</u>	<u>11,227</u>
<b>Total Expenses</b>	<b>473,376</b>	<b>492,749</b>	<b>578,890</b>
<b>Ending Balance</b>	<b><u>\$ 553,006</u></b>	<b><u>\$ 560,303</u></b>	<b><u>\$ 531,459</u></b>

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# EQUIPMENT & REPLACEMENT FUNDS



## Equipment & Replacement Funds

### Overview

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The replacement funds are funded through annual appropriations from the Operations and Maintenance Fund Budget. The District has established three (3) replacement and equipment funds as part of its sewer rate stabilization strategy, with fourth reserve fund required under the Bond Order. Background information and current year budget highlights of the replacement and equipment funds are discussed below and on the following pages.

#### Fleet & Heavy Equipment Fund

The District has projected replacement dates and estimated prices for all vehicles and construction-type equipment over \$10,000. This information has been used to develop a funding plan whereby relatively constant amounts are to be transferred in from the annual Operations and Maintenance budget, with annual expenditures to be made in varying amounts to secure new vehicles and equipment as indicated in the plan's timetable. The projected balance in the fund at the end of FY17 is anticipated to approximate \$457,248. The FY18 contribution is \$460,000, with anticipated expenditures of \$634,000, including (1)  $\frac{3}{4}$  Ton Pickups (2)  $\frac{1}{2}$  Ton Pickups, (2) AWD SUV's, (1) Subaru Forrester, (2) 425 Hp Automatic Dump Trucks, Rod Truck, and Custom Trailer.



## Equipment & Replacement Funds (continued)

### FY18 FLEET & HEAVY EQUIPMENT FUND BUDGET

	Actual 2015-2016	Projected 2016-2017	Budget 2017-2018
<b>Beginning Balance:</b>	<b>\$ 537,009</b>	<b>\$ 578,698</b>	<b>\$ 454,248</b>
Revenue:			
District Contributions	425,000	425,000	460,000
Sale of Surplus Property	19,610	83,607	76,080
Interest Income	<u>3,060</u>	<u>4,200</u>	<u>4,542</u>
<b>Total Revenue</b>	<b>447,670</b>	<b>512,807</b>	<b>540,622</b>
<b>Expenditures:</b>			
Various	405,981	637,257	
(1) ¾ Ton Pickup	-	-	35,000
(2) ½ Ton Pickups	-	-	64,000
(2) AWD SUV's	-	-	55,000
(1) Subaru Forrester	-	-	30,000
(2) 425 HP Automatic Dump Trucks	-	-	290,000
Rod Truck	-	-	130,000
Custom Trailer	<u>-</u>	<u>-</u>	<u>30,000</u>
<b>Total Expenditure Replacements</b>	<b>405,981</b>	<b>637,257</b>	<b>634,000</b>
<b>Ending Balance:</b>	<b><u>\$ 578,698</u></b>	<b><u>\$ 454,248</u></b>	<b><u>\$ 360,870</u></b>

## Equipment & Replacement Funds (continued)

### Wastewater Treatment Plant Replacement

The replacement fund for the wastewater treatment plant was set up to develop a reserve to address general equipment replacement cost at these facilities. A similar strategy of periodic, uniform contributions from the Operations and Maintenance Fund and withdrawals for planned equipment rehabilitation or replacement are employed. The FY18 contribution is \$200,000 with anticipated expenditures of \$180,000 including General Rehab, RBC's Bearings, Clarifiers Pump Rehab, Thickener Seepex Pumps, Filter Bldg. filters, Chlorination & Dechlor Pumps, and Hydro Barscreen Rake rehab.

### FY18 WASTEWATER TREATMENT PLANT FUND BUDGET

	Actual 2015-2016	Projected 2016-2017	Budget 2017-2018
<b>Beginning Balance:</b>	<b>\$ 417,797</b>	<b>\$ 462,853</b>	<b>\$ 403,003</b>
<b>Revenue:</b>			
District Contributions	200,000	200,000	200,000
Interest Income	<u>2,408</u>	<u>2,300</u>	<u>4,030</u>
<b>Total Revenue</b>	<b>101,843</b>	<b>201,800</b>	<b>204,030</b>
<b>Expenditures:</b>			
Various	157,352	162,150	
General Rehab – PLC Upgrades			30,150
Rebuild Southside Barscreens			12,000
RBCs Bearings			75,000
Thickener – Seepex Pump			15,000
Belt Filter Press Overhauls			15,000
Scrubber Ash Pump Replacements			15,000
Transfer Out	<u>-</u>	<u>100,000</u>	<u>150,000</u>
<b>Total Expenditure Replacements</b>	<b>157,352</b>	<b>262,150</b>	<b>330,000</b>
<b>Ending Balance:</b>	<b><u>\$ 462,853</u></b>	<b><u>\$ 403,003</u></b>	<b><u>\$ 277,033</u></b>

## Equipment & Replacement Funds (continued)

### Pump Replacement

The replacement fund for the pump stations was set up to develop a reserve to address general equipment replacement cost at these facilities. A similar strategy of periodic, uniform contributions from the Operations and Maintenance Fund and withdrawals for planned equipment rehabilitation or replacement are employed. The FY18 transfer of \$150,000 from Wastewater Treatment Plant Replacement Fund with anticipated expenditures of \$70,050, which includes rehab to the Black Mountain Pump Station, Lake Julian Pump Station Rehab, and Weaverville #1 Pump Station.

### FY18 PUMP REPLACEMENT FUND BUDGET

	Actual 2015-2016	Projected 2016-2017	Budget 2017-2018
<b>Beginning Balance:</b>	\$ -	\$ -	\$ 45,345
<b>Revenue:</b>			
District Contributions	-	-	-
Transfer In	-	100,000	150,000
Interest Income	-	345	453
<b>Total Revenue</b>	-	<b>100,345</b>	<b>150,453</b>
<b>Expenditures:</b>			
Various		55,000	
Black Mountain Pump Station			14,000
Lake Julian Pump Station			11,050
Weaverville #1 Pump Station			45,000
Transfer Out	-	-	-
<b>Total Expenditure Replacements</b>	-	<b>55,000</b>	<b>70,050</b>
<b>Ending Balance:</b>	<u>\$ -</u>	<u>\$ 45,345</u>	<u>\$ 125,748</u>

## Equipment & Replacement Funds (continued)

### Capital Reserve Fund

This fund is mandated by the Bond Order to contain six percent (6%) or such greater percentage, as may be determined from time to time by the Board, of the amount shown by the Annual Budget to be necessary for current expenses for the current Fiscal Year. As this fund is to be tapped only for unusual and unforeseen expenditures, none is budgeted. There will be no FY18 contributions to the fund as the balance is in excess of that required.

### FY18 CAPITAL RESERVE FUND

	Actual 2015-2016	Projected 2016-2017	Budget 2017-2018
<b>Beginning Balance:</b>	<b>\$ 948,386</b>	<b>\$ 956,806</b>	<b>\$ 963,906</b>
<b>Revenue:</b>			
Interfund Transfer	-	-	-
Interest Income	<u>8,420</u>	<u>7,100</u>	<u>6,500</u>
<b>Total Revenue</b>	<b>8,420</b>	<b>7,100</b>	<b>6,500</b>
<b>Ending Balance:</b>	<b><u>\$ 956,806</u></b>	<b><u>\$ 963,906</u></b>	<b><u>\$ 970,406</u></b>

**NOTE:** Ending balance must be at least 6% of the annual O&M current expenses. FY2017-2018 O&M Budget (\$16,564,818 - \$660,000 transfer to reserves - \$102,270 capital equipment) x 6% = \$948,153

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# CAPITAL IMPROVEMENT PROGRAM



## Capital Improvement Program

### Overview

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The District's Capital Improvement Program commands the largest portion of budgeted expenditures, and as such, is planned strategically and in great detail for all infrastructure projects in excess of the \$15,000 infrastructure capitalization threshold. The District updates its ten-year capital improvement program (CIP) annually to comply with state regulatory and bond order requirements. Objectives of constructing these capital projects include replacing and rehabbing structurally defective sewer lines, handling wet-weather flow conditions, improving the performance at the wastewater treatment plant, and preparing the system to handle expected future wastewater flows over the upcoming decade.

The process begins with engineering staff developing projects, which often originate from problem areas identified by field crews during emergency and preventative maintenance procedures, and includes consideration of those projects outlined in the 20-year Wastewater System Master Plan. Engineers evaluate and prioritize each proposed project based upon the District's short-term requirements and long-term mission. Engineering staff then prepare cost estimates for identified projects and a proposed timetable for construction.

Once the CIP is drafted, the CIP Committee, consisting of representatives from the member agencies, meet to review the costs, locations, and necessity of proposed projects and make a recommendation to the District's Board. A copy of the CIP summary sheets follow in the succeeding pages of this budget document. A separate document compiling individual pages for each project with detailed costs and location map as presented to the CIP Committee and may be obtained upon request to W. Scott Powell, Director of Finance at (828)225-8211 or [spowell@msdbc.org](mailto:spowell@msdbc.org).

The District maintains a Ten Year CIP and rehabilitates a minimum of 50,000 Linear Feet (LF) of the collection system every year. The ten-year CIP prioritizes projects identified by the Board as fulfilling the District's mission but does not obligate District resources for their construction past the end of the current budget year.

The District has a capital projects ordinance, which is periodically updated as necessary, to make available funds for all projects scheduled for construction in the upcoming budget year and certain other projects to be begun in the current year but completed in a subsequent year.



## Capital Improvement Program (continued)

### Background

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The Capital Improvement Program is essential to the efficient functioning of the District, as evidenced by the requirement from both the bond order and state collection system permit. A well-planned CIP provides customers with the assurance of having reliable and affordable wastewater collection and treatment both now and in the future.

The Board has consistently financed its Capital Improvement Program through revenue bonds and pay-as-you-go moneys. As of June 30, 2017, the District will have \$90.04 million in outstanding revenue bond debt, with total debt service of \$9.79 million due before the end of the fiscal year. Unlike counties and cities, the District does not have a legally mandated debt limit. However, the District does have a rate covenant. The covenant requires the District to set rates and charges so that income available for debt service will not be less than 120% of fiscal year debt service requirement.

Throughout the history of the District, staff has continued to seek increasingly effective ways of identifying and prioritizing individual projects, to ensure a more comprehensive and balanced CIP. In 1990, as part of the political process of forming the District, certain construction and rehabilitation projects were identified by the various member municipalities and sanitary districts.

Once these designated projects were completed, the District then focused on rehabilitating aging, undersized collection lines to minimize unregulated discharges of raw sewage (sanitary sewer overflows or SSOs) and inflow/infiltration (I/I). Inflow and infiltration are the intrusion of groundwater and storm water runoff into the collection system, which can deplete capacity in sewer mains and at wastewater treatment plants.

As part of this comprehensive evaluative process, the District developed and implemented a program to monitor wastewater flows from the various parts of the sewerage system. The flow monitoring data was used to develop a computer hydraulic model of the flows of the sewerage system to help identify and remediate the worst areas of inflow and infiltration. In 1999, MSD began an aggressive line cleaning and television inspection program wherein the District contracted with outside companies to clean the pipes with water under high pressure and then to send a video camera (also known as closed circuit television or CCTV camera) through the line. The videotapes have enabled the District to more accurately determine the condition of the lines and to prioritize necessary repairs. Each year 10% of the pipes will be cleaned and then inspected by CCTV cameras to maintain the efficient operation of the collection system.

## Capital Improvement Program (continued)

### Background (continued)

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The District developed a proactive cost-effective rehabilitation strategy with the development of the Pipe Rating Program. Pipe rating is a proactive planning tool, which utilizes Closed Circuit Television (CCTV) information, GIS database, and actual maintenance history to view, rate, and computer-score pipe segments based on a number of factors. These factors, manhole-to-manhole, include work order history, number and severity of defects, and record overflows on that segment, which are combined to yield a numerical rating used to prioritize efforts. Staff recently updated the District's Pipe Rating Program to include additional parameters over previous versions. Each line project now has an objective numerical rating based upon overflow history, structural issues, customer service requests, and impacts to surface waters. This rating is then used to prioritize the District's collection system projects.

Pipe Rating minimizes costs by helping the District focus rehabilitation dollars where they are needed most, rather than the usual full-scale replacement of entire collector lines. In recognition of this innovative program, the Association of Metropolitan Sewerage Agencies (AMSA) awarded the District one of only two 2003 National Environmental Achievement Awards.

### Wastewater System Master Planning

- **Comprehensive Master Plan**—This plan was prepared in 2001 by Camp, Dresser & McKee (CDM). It is a comprehensive sewer system management program, which was prepared to identify system improvements needed to handle wet-weather flow conditions, to improve performance at the wastewater treatment plant, and to prepare the system to handle future system wastewater flows.

The report contained recommendations for improvements to the collection system as well as the treatment plant. A CIP was developed which included specific projects and their associated costs.

Reduction of Sanitary Sewer Overflows (SSO's) was, and remains, a key objective of this plan. Over the past twelve years, this has been accomplished using a "three-prong" approach, which combines: ① An effective Management, Operations and Maintenance (MOM) program to reduce line blockages and optimize response time when blockages do occur; ② An ongoing rehabilitation program to improve the structural condition of the system; and ③ Providing capacity to handle flows during wet-weather and future projected dry-weather flows.

This plan helped to establish the basis for the District's on going, aggressive Preventative Maintenance and Capital Improvement Programs. These two programs have resulted in

## Capital Improvement Program (continued)

### Background (continued)

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substantially reducing SSO's over the past twelve years, in addition to greatly improved system integrity.

- **Facilities Plan**—This plan was prepared in 2007 by Camp, Dresser & McKee (CDM). It is a focused, specific study of the Water Reclamation Facility (WRF). The plan is the result of a process evaluation of the WRF, including a detailed capacity evaluation of the Rotating Biological Contactors (RBCs). The report also includes a physical facilities evaluation for the major process equipment at the WRF. Recommendations to improve the performance of each process were included in the report.

In March 2014, MSD began the process of updating this important plan. The Facilities Plan Update is now complete. This significant, comprehensive study examined the various unit processes within the plant, with a focus on headworks, biological treatment alternatives, and the future regulatory climate. After extensive research of various options, the plan recommends adding new grit removal, a fine screening system, storage for peak flows (using existing decommissioned digesters), and chemically-enhanced primary clarification.

- **Collection System Master Plan**—In 2008, McGill Associates completed a Collection System Master Plan (the “2008 Collection System Plan”). The 2008 Collection System Plan focuses on the District's comprehensive growth issues by incorporating all of the recent planning and zoning changes from the District's member agencies. This plan also describes where and how areas will be served and provides for orderly growth of the sewer system to meet the needs of the region as a whole for the future.

The District's Collection System Master Plan addresses the orderly extension of the District's collection system into future service areas. The plan has been prepared in close cooperation with the District's member agencies and regional stakeholders. The land use policies and zoning regulations of each agency were used for land usage, growth projections/densities, and line locations. For areas outside of corporate or jurisdictional limits, Buncombe County's Zoning Ordinance has played an integral role in defining future service areas.

## Capital Improvement Program (continued)

### Types of Projects

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The projects in the CIP are classified into several types, based on the objective of the project. The projects are determined and scheduled based on the Master Plan, the pipe-rating score, and other factors impacting the overall well-being of the District.

The District's Capital Improvement Program is divided into the following six areas, generally based upon type of project or expense category:

- ▶ Interceptor & Wet Weather Rehabilitation
- ▶ General Sewer Rehabilitation
- ▶ Private Sewer Rehabilitation
- ▶ Treatment Plant, Pump Stations, and General Capital Improvements
- ▶ Design, ROW, and Construction Management Expenses
- ▶ Reimbursement Projects

The District maintains a CIP, which details necessary system improvements. The state permit requires a minimum of three years in the CIP; however, the District utilizes a ten-year window for more accurate prioritization and planning. The District rehabilitates approximately 50,000 LF of the collection system each year.

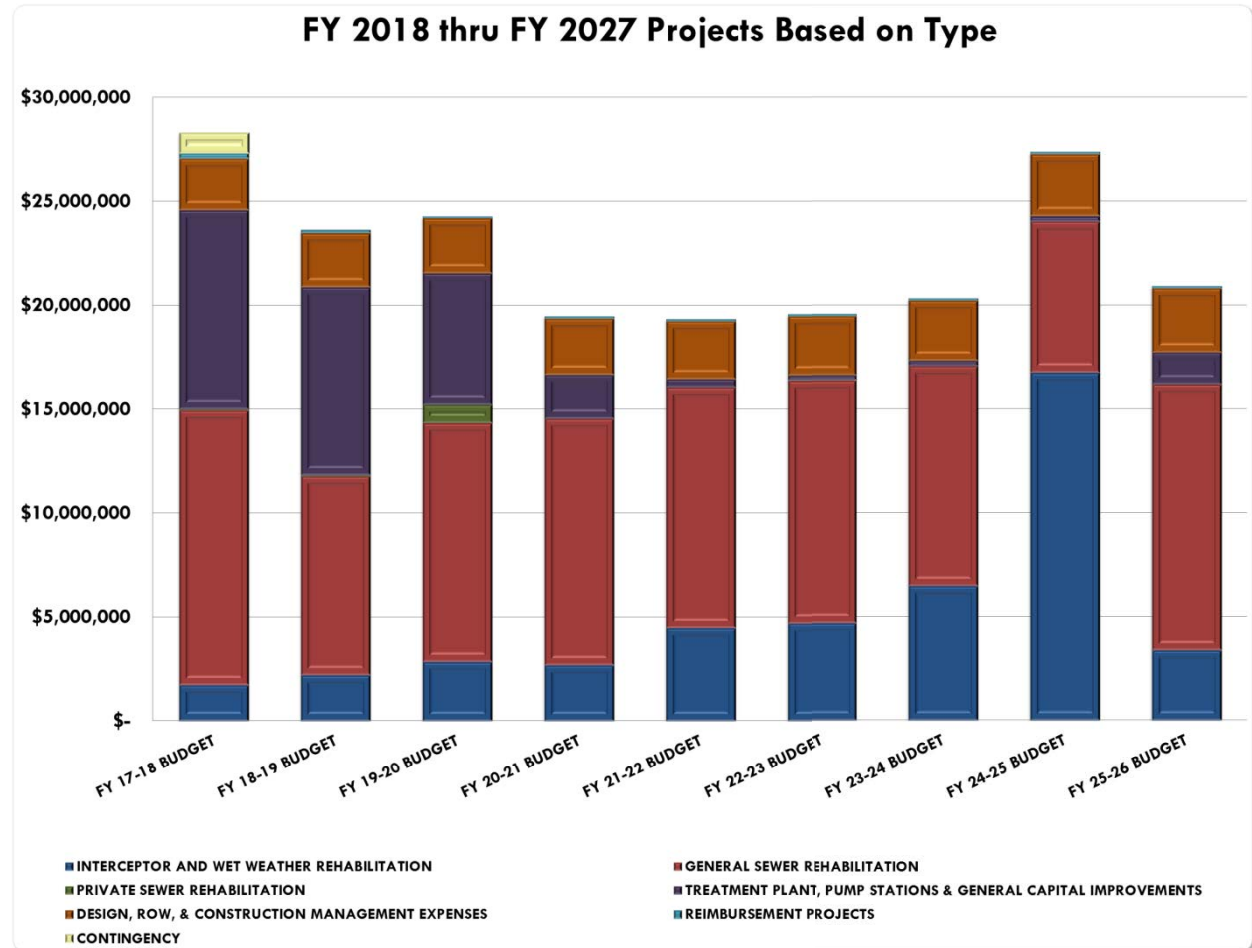
The Interceptor and Wet Weather Rehabilitation projects address the third prong of the Master Plan by providing increased system conveyance. The General Sewer Rehabilitation projects combine the first and second prongs by surveying all lines to plan maintenance activities and to improve the structural condition of the system. The Private Sewer Rehabilitation projects have the same objectives as the General but are separately presented to address environmental concerns resulting from sewers that were not publicly maintained at the time the District was formed. A limited amount of funding is budgeted annually to address the problem locations on a "worst first" basis as identified.

The District's Water Reclamation Facility (WRF) has a permitted capacity to treat up to 40 million gallons of wastewater a day, and uses roughly half of this capacity. In accordance with the Master Plan's twenty year planning period, there are no plans to replace or expand the plant in the near future. However, Water Reclamation Facility & pump station improvements are included in the CIP to maintain these facilities at their optimum level and to replace equipment that has exceeded its maintenance level.

Reimbursement projects include one Annexation Project from Consolidation, Developer Reimbursements, and NCDOT Reimbursements.

## Capital Improvement Program (continued)

### Types of Projects



## Capital Improvement Program (continued)

### Current Year Highlights

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The proposed capital budget for FY17-18 is \$28,307,716, which includes a contingency of \$1,000,000. The \$1,000,000 contingency line item is used for the entire program rather than having a separate contingency for each project. This is more efficient and continues to provide sufficient reserves for the District's capital program.

A budget for Reimbursement Projects totaling \$266,000 is proposed for a Master Plan project located in Woodfin. For these types of projects, the District will reimburse a developer for constructing a system, which will serve larger areas upstream of their development.

Total project costs over the ten-year window are estimated at \$226.8 million. Costs are updated each year during budget preparation in order to accurately reflect current bid pricing and market conditions. Included in future years' is an inflation factor of 2.92%, which utilizes the previous ten-year ENR Construction Cost Index as a basis. This factor is also updated each year.

Approximately 127 infrastructure projects are included in the CIP for FY18, ranging in length from 90 linear feet to over 34,000 linear feet. Twenty-one new collection system projects have been added to the CIP for FY2018 and beyond. In-house forces, as well as, outside contractors will be used to rehabilitate the regulated amounts as prescribed by the District's Collection System Permit.

#### ■ Collection System Capital Improvements:

MSD initiated and maintains a major program to rehabilitate its Wastewater Collection System. This program will conform to the North Carolina Department of Environmental and Natural Resources (NCDENR) Collection System Permit requirements, and will improve the operational performance and extend the life of the collection system. This Permit ushers in a change in focus of the District's Capital Improvement Plan. In the previous decade, efforts had been directed to expediting completion of certain projects identified by the member agencies and assumed by the District during the consolidation process. For example, construction of the 23.8-mile North Swannanoa Interceptor begun in 1993 was completed during FY2004 at a cost in excess of \$44 million. Now that most of these "consolidation" projects are completed, our focus has been redirected to rehabilitation of the State-mandated 250,000 feet of sewerline every five (5) years and other projects identified in the Master Plan. The estimated cost over a 10-year period is approximately \$191.9 million out of a total CIP budget of \$226.8 million.

## Capital Improvement Program (continued)

### Current Year Highlights (continued)

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Major projects for FY18 include the \$1,703,000 South French Broad Lining Project Ph. 1 with approximately 6,631 linear feet, \$1,429,800 Elkwood Avenue with over 4,736 linear feet, \$1,473,669 Hendersonville Road at Rosscraggon with over 4,163 linear feet, \$1,036,000 Sutton Avenue, with over 3,700 linear feet, and \$850,018 Jonestown Road with over 3,415 linear feet.

#### ■ Wastewater Treatment Plant Capital Improvements:

There are two major projects at final completion at the plant - the EPA mandated Incinerator System Emissions Project, and the replacement/relocation of the adjustable frequency drives for the influent pumps. The planned replacement of a second influent pump is complete (the third and last influent pump is on-schedule and will be complete by June 2017).

The Incinerator System Emissions Upgrades project, completed last year, received a 2017 NACWA Environmental Achievement Award in February 2017. This \$7.4 million project reduced emissions from the incinerator and utilized a new mercury removal technology, which saved \$5 million over traditional technology.

The long-term improvements (replacement of the RBC Biological System) will be a major project. The timing of this future project will be regulatory-driven.

The Plant Facility Plan is serving as guidance for planning significant capital projects at the plant. These projects include new bar screens and grit removal, a fine screening system, storage for peak flows using existing decommissioned digesters, and chemically enhanced primary clarification.

Another key aspect of the Facility Plan Update was to gain a solid understanding of regulatory issues that may impact future treatment requirements, and identify long-term biological treatment alternatives to comply with anticipated future regulation changes.

Near-term and mid-term project recommendations from the Facility Plan include:

- **Plant Headworks Project:** This \$9.6 million project spans 2 years and consists of a new grit removal system to replace the existing problematic system, a fine screening facility which will supplement the WRF's existing bar screens, and storage at the plant using existing decommissioned tanks to provide more effective treatment during peak flow events.



## Capital Improvement Program (continued)

### Current Year Highlights (continued)

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In addition, by removing more grit than the current process, it will help to better protect downstream processes within the plant. Construction of the Plant Headworks Project began in early April 2017 and will be completed in 18 months.

- **High Rate Primary Treatment Project:** This \$14.4 Million project will provide primary clarification by removing solids before the biological treatment stage. This will provide a more effective treatment, and will help the Rotating Biological Contactors (RBC's) to better perform. During high flow (storm) events, this treatment can be ramped-up in order to match the higher flows. Design began in FY17 and construction is planned to begin in FY19.

Long-term alternatives focused on the biological treatment aspect (currently RBC's). Specific alternatives will be evaluated if and when future regulatory requirements change over time. The two projects noted above allow for flexibility among the viable options for biological treatment.

## Program Summary

PROJECT NAME	LOCATION OF PROJECT	PROJECT FOOTAGE	TOTAL ESTIMATED COST	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23
				BUDGET	BUDGET	BUDGET	BUDGET	BUDGET	thru FY 26-27
INTERCEPTOR AND WET WEATHER REHABILITATION									
Christian Creek Interceptor	Buncombe County	12,340	\$4,330,094	\$23,500	\$371,362	\$1,935,000	\$1,966,000	\$0	\$0
This project includes the replacement of approximately 5,860 LF of existing 8-inch and 18-inch sewer pipe. The portions to be replaced are located Southwest of US Hwy 70 at Rowland Road in Swannanoa, and to Porters Cove Rd. at I-40. The lines are undersized and have experienced multiple SSO's.									
Dingle Creek Interceptor	Asheville	7,871	\$2,783,698	\$0	\$0	\$0	\$0	\$0	\$2,685,340
This project is located along Dingle Creek between the Blue Ridge Parkway and the Ramble Subdivision. The existing 18-inch vitrified clay pipe main will be replaced with a new 18-inch ductile iron pipe main. The approximate length of this project is 7,871 LF.									
Lower Swannanoa Interceptor	Asheville	6,475	\$5,478,400	\$0	\$0	\$0	\$0	\$0	\$5,463,521
This project is to eliminate problems associated with the splitter box and the downstream twin 36-inch lines.									
Middle Beaverdam Crk. @ US 19-23	Woodfin	2,930	\$1,293,650	\$0	\$0	\$7,070	\$0	\$3,250	\$1,275,900
This project will install 24" ductile iron pipe along Beaverdam Creek. It will also replace a 4" main at rear of lots on Washington Avenue and along the east side of US 19-23 just north of the railroad. Lines are in poor condition and the 4" lines are undersized.									
South French Broad Relief Int.	Buncombe County	34,865	\$16,719,000	\$0	\$140,000	\$16,000	\$500,000	\$3,994,000	\$12,069,000
This project includes the paralleling existing 36" and 48" interceptors with new 36" and 24" lines, respectively. The new interceptors will provide relief to the existing system during wet weather and were recommended improvements in the 2001 Wastewater System Master Plan.									
South French Broad Int. - Lining	Biltmore Estate	21,950	\$5,429,236	\$1,703,000	\$1,631,000	\$738,000	\$0	\$0	\$0
This project is located within the Biltmore Estate along the French Broad River. The southern terminus of the project is located where the Dingle Creek Interceptor flows into the South French Board Interceptor. The project consists of CIPP lining approximately 22,000 LF of existing 36" reinforced concrete pipe. The line is a major source of inflow and infiltration. Construction will be phased over several years.									
Beaverdam Creek WW (CDM #10)	Buncombe County	5,500	\$1,451,000	\$0	\$0	\$0	\$0	\$0	\$1,451,000
This was identified as a potential rehabilitation project to improve wet weather flow conveyance, as specified in the Master Plan developed by CDM. It is located in the North French Broad Interceptor area and is comprised of 5,500 LF of 8" through 12" diameter pipe.									
South Swannanoa WW (CDM #4)	Asheville	8,040	\$2,939,600	\$0	\$0	\$0	\$0	\$0	\$2,939,600
This was identified as a potential rehabilitation project to improve wet weather flow conveyance, as specified in the Master Plan developed by CDM. It is located in the Biltmore area near Sweeten Creek and is comprised of 8,040 LF of 18" through 42" diameter pipe.									
SUBTOTAL		99,971	40,424,678	\$1,726,500	\$2,142,362	\$2,696,070	\$2,466,000	\$3,997,250	\$25,884,361
Inflation per ENR Const. Cost Index	2.92%		1.0000	1.0000	1.0292	1.0593	1.0902	1.1220	1.20885293
SUBTOTAL with inflation		99,971	\$40,424,678	\$1,726,500	\$2,204,919	\$2,855,819	\$2,688,391	\$4,484,979	\$31,290,386

## Program Summary (continued)

PROJECT NAME	LOCATION OF PROJECT	PROJECT FOOTAGE	TOTAL ESTIMATED COST	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23
				BUDGET	BUDGET	BUDGET	BUDGET	BUDGET	thru FY 26-27 BUDGET
GENERAL SEWER REHABILITATION									
Adams Street	Asheville	2,550	\$756,200	\$500	\$111,400	\$0	\$632,300	\$0	\$0
This project is located in downtown Asheville near South French Broad Avenue and is comprised of 2,550 LF of 8-inch ductile iron pipe. The existing line is aging 6-inch vitrified clay pipe, is in poor condition, and runs under several houses.									
Arlington Street	Asheville	2,600	\$747,000	\$0	\$0	\$0	\$0	\$0	\$747,000
This project runs along Arlington Street in downtown Asheville. The project begins on Furman Avenue and ends at Town Mountain Road. There are numerous structural problems within the lines which contribute to I/I issues.									
Asheville Country Club (SS)	Asheville	0	\$174,503	\$74,500	\$0	\$0	\$0	\$0	\$0
This project is located in North Asheville and is comprised of 7,200 LF of 8-inch ductile iron pipe. The existing line is 8-inch vitrified clay pipe and PVC pipe in poor condition with repeated maintenance issues and SSO's.									
Atkins Street	Arden	1,833	\$518,430	\$0	\$0	\$2,250	\$28,000	\$482,700	\$0
This project is located in Arden just north of Lake Julian. Approximately 1,833 LF of existing 6-inch vitrified clay pipe will be replaced with new 8-inch ductile iron pipe. The existing sewer line is in poor condition due to roots, fractures, and sags in the line. The line is undersized and has flooded houses in the area.									
Battery Park Alley	Downtown Asheville	250	\$75,300	\$0	\$0	\$0	\$0	\$3,000	\$72,300
This project is located in downtown Asheville and is comprised of 250 LF of 8" ductile iron pipe. The existing line is aging 8" vitrified clay pipe with multiple holes and extensive root intrusion. The line has the potential to be more problematic as downtown development continues.									
Beale Road at Copney Lane	Asheville	4,027	\$1,178,925	\$15,000	\$115,200	\$1,033,000	\$0	\$0	\$0
This project ties into the Lake Julian Ph. 4 project just west of Glen Bridge Road and extends northward to Ducker Road and Lower Glen Bridge Road. It serves several major manufacturing sites. The lines are in poor condition with broken segments and leaking joints, have resulted in SSO's, and are difficult to access for maintenance and repairs.									
Bear Creek Road @ School Road	W. Asheville	2,800	\$790,600	\$0	\$0	\$0	\$0	\$500	\$782,200
This project is located in W. Asheville and is comprised of 2,062 LF of 8-inch ductile iron pipe. The existing line is aging 8-inch vitrified clay pipe. The line has multiple fractures, sags, misaligned joints, and root intrusion.									
Beaucatcher Rd. @ Kenilworth Rd.	E. Asheville	1,370	\$395,700	\$0	\$0	\$1,000	\$0	\$381,700	\$0
This project is located in East Asheville and is comprised of 1370 LF of 8-inch ductile iron pipe. The existing line is aging 6" orangeburg pipe in poor shape with a large amount of root intrusion.									

## Program Summary (continued)

PROJECT NAME	LOCATION OF PROJECT	PROJECT FOOTAGE	TOTAL ESTIMATED COST	FY 17-18 BUDGET	FY 18-19 BUDGET	FY 19-20 BUDGET	FY 20-21 BUDGET	FY 21-22 BUDGET	FY 22-23 thru FY 26-27 BUDGET
<b>GENERAL SEWER REHABILITATION</b>									
<b>Bellevue Road</b>	S. Asheville	1,700	\$446,000	\$5,000	\$33,000	\$405,000	\$0	\$0	\$0
This project is located in South Asheville along properties on Bellevue Road and is adjacent to Round Top Road. The project will replace 860 LF of 6-inch VCP and PVC. The existing lines are in bad condition and have too many point repairs.									
<b>Bent Tree Road</b>	Asheville	925	\$281,250	\$4,500	\$3,750	\$273,000	\$0	\$0	\$0
This project runs adjacent to Bent Creek Road in Asheville. The project begins on Old Toll Road, crosses Bent Tree Road, and ends at Crestwood Road. There are numerous structural problems and bends within the lines which contribute to I/I issues.									
<b>Broadway St. at Bordeau Place</b>	Asheville	475	\$281,250	\$0	\$0	\$0	\$0	\$0	\$268,181
This project is on Broadway Ave. just north of I-240. The existing 18-inch sewer will be pipe burst and replaced with 18-inch high density polyethylene line. An aerial crossing, which is in poor condition and ties into the Broadway Avenue main, will also be replaced as part of this project.									
<b>Buchanan Ave.</b>	Asheville	2,750	\$836,900	\$28,000	\$6,400	\$59,000	\$743,500	\$0	\$0
This project is located in downtown Asheville near Biltmore Avenue and is comprised of 1,400 LF of 8-inch ductile iron pipe. The existing line is 6-inch clay with heavy root intrusion, fractures, and one section exposed along a steep grade.									
<b>Caledonia Road</b>	Asheville	2,491	\$795,000	\$0	\$0	\$0	\$6,000	\$148,000	\$631,000
This project is located at the Caledonia Road entrance to the Kenilworth neighborhood, approx. 0.3 mile south of the Mission Hospital campus. The project includes replacement of approx. 2,491 LF of 8-inch and 10-inch VCP and Transite pipe with new DIP. The existing pipe has structural defects which have resulted in multiple SSO's.									
<b>Central Ave. @ I-240</b>	Asheville	990	\$334,100	\$0	\$0	\$0	\$0	\$0	\$334,100
This project is located in downtown Asheville near Woodfin Street and is comprised of 990 LF of 12-inch ductile iron pipe. The existing line is 6, 10, and 12-inch vitrified clay pipe with a history of SSO's.									
<b>Chatham Road</b>	Asheville	1,450	\$401,200	\$0	\$0	\$0	\$0	\$1,000	\$387,200
This project is located in North Asheville near W.T. Weaver Blvd. and is comprised of 1,450 LF of 8-inch ductile iron pipe. The existing line is 6-inch vitrified clay pipe in poor condition with heavy root intrusion.									
<b>Cherokee Road</b>	Asheville	1,960	\$615,200	\$4,230	\$75,000	\$506,000	\$10,000	\$0	\$0
This project will replace (or pipe burst) the existing sewer main from the end of the Macon Avenue @ Sunset Parkway project to an existing manhole east of Cambridge Road in North Asheville. The line is old vitrified clay pipe and is in very poor condition. Several segments are under houses, walls or other physical features which make repairs very difficult.									

## Program Summary (continued)

PROJECT NAME	LOCATION OF PROJECT	PROJECT FOOTAGE	TOTAL ESTIMATED COST	FY 17-18 BUDGET	FY 18-19 BUDGET	FY 19-20 BUDGET	FY 20-21 BUDGET	FY 21-22 BUDGET	FY 22-23 thru FY 26-27 BUDGET
<b>GENERAL SEWER REHABILITATION</b>									
<b>Chestnut Lodge Rd.</b>	Black Mountain	4,150	\$1,027,600	\$56,500	\$94,000	\$854,600	\$0	\$0	\$0
This project is located in Black Mountain near Blue Ridge Road and is comprised of 4,150 LF of 8-inch ductile iron pipe. The existing line is 6-inch and 8-inch clay with root problems, fractures, and multiple SSO's.									
<b>Commerce Street</b>	Asheville	530	\$171,900	\$168,400	\$0	\$0	\$0	\$0	\$0
This project is located in downtown Asheville near Church Street and is comprised of 8-inch ductile iron pipe. The existing 6-inch line contains both vitrified clay and PVC sections, and has had excessive maintenance problems due to multiple pipe defects.									
<b>Cumberland Ave.</b>	Asheville	4,587	\$1,293,450	\$0	\$0	\$0	\$0	\$0	\$1,275,200
This project is located in Montford and runs the entire length of Cumberland Avenue. Approximately 4,587 LF of existing 6-inch vitrified clay pipe will be replaced with 8-inch ductile iron pipe. This line is in very poor condition and has required multiple, frequent point repairs.									
<b>East Chestnut Ave @ Five Points</b>	N. Asheville	5,225	\$1,643,800	\$268,000	\$1,000	\$80,800	\$79,000	\$0	\$1,215,000
This project is located in North Asheville and is comprised of 5,225 LF of 8-inch ductile iron pipe. The existing line is aging 6", 8", and 10" VCP in poor shape with multiple structural defects per segment.									
<b>Elk Mountain Place</b>	Woodfin	4,101	\$890,250	\$22,000	\$120,000	\$0	\$730,250	\$0	\$0
This project is located south of Elk Mountain Road. between I-26 and the French Broad River. It is comprised of approximately 4,101 LF of 8 inch ductile iron pipe. The existing vitrified clay pipe sewer line is in poor condition and has experienced SSO's.									
<b>Elk Park Drive - PRP 35001</b>	Woodfin	2,242	\$550,046	\$0	\$0	\$0	\$0	\$0	\$500,000
This project is located in Woodfin and is comprised of 2,242 LF of 8-inch ductile iron pipe. The existing line is 6-inch vitrified clay pipe and PVC with numerous sags and root problems, as well as a PVC creek crossing, which will be replaced during construction of the new line.									
<b>Elkwood Ave.</b>	Woodfin	4,736	\$1,443,050	\$1,429,800	\$0	\$0	\$0	\$0	\$0
This project is located in Woodfin, east of I-26 along Elkwood Avenue and Old Burnsville Hill Road. It consists of replacement of approximately 4,577 LF of 8-inch ductile iron pipe. The existing line has offset joints, fractures, root intrusion, multiple point repairs, and is the source of frequent problems.									
<b>Elkwood Ave. @ Norman Austin Dr.</b>	Woodfin	600	\$178,100	\$0	\$0	\$0	\$0	\$0	\$178,100
This project runs through properties along Elkwood Ave., starting at Norman Austin Drive. The existing pipe is 4-inch and 6-inch, is undersized and has misaligned joints. There is a manhole that is located under a property owner's porch. The proposed 8-inch ductile iron pipe will run mainly on Elkwood Avenue to move the system in the road for easier maintenance.									

## Program Summary (continued)

PROJECT NAME	LOCATION OF PROJECT	PROJECT FOOTAGE	TOTAL ESTIMATED COST	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23
				BUDGET	BUDGET	BUDGET	BUDGET	BUDGET	thru FY 26-27
GENERAL SEWER REHABILITATION									
Fairmont Road	N. Asheville	3,600	\$1,094,250	\$0	\$0	\$6,750	\$59,500	\$0	\$1,013,000
This project is located in West Asheville off of Fairfax Avenue and adjacent to the I-240 west bound off ramp to Brevard Road. The project consists of replacing 200 LF of 8-inch VCP and a 10-inch DIP. The lines are in poor condition and have root problems that are creating SSOs.									
Forestdale Drive	S. Asheville	2,600	\$843,000	\$0	\$12,000	\$17,500	\$104,000	\$0	\$709,500
This project begins at Carnell Street, and ends at Caribou Road. The system runs along side roads and properties parallel to Hendersonville Road. System Services crews have reported numerous problems including multiple SSO's. The existing pipes will be replaced with 8-inch ductile iron pipe.									
Forest Hill Dr. @ Warwick Rd.	Asheville	3,400	\$973,600	\$0	\$0	\$0	\$0	\$0	\$973,600
This project is in Asheville in the Kenilworth neighborhood and consists of 3,400 LF of 8-inch ductile iron pipe. The current pipe is undersized 6 inch clay in poor condition, with roots and fractures.									
Four Inch Main - College Street	Asheville	1,000	\$436,200	\$0	\$0	\$0	\$0	\$0	\$436,200
This project is located in downtown Asheville near Beaucatcher Tunnel and is comprised of 8-inch ductile iron pipe. The existing line is 4-inch Orangeburg and 6-inch vitrified clay pipe in poor condition, with several buildings over the existing line.									
Four Inch Main - Dry Ridge Rd.	Asheville	908	\$312,100	\$24,942	\$273,500	\$0	\$0	\$0	\$0
This project is a 4-inch main and extends from Dry Ridge Road to Lucky Lane and Windsor Road in Asheville. This project is in the area north of Merrimon Avenue and east of Stratford Road. The existing line is a 4-inch Orangeburg pipe which is in poor condition.									
Four Inch Main - Patton Hill Rd.	Swannanoa	600	\$247,500	\$247,500	\$0	\$0	\$0	\$0	\$0
This 4" main project is located in East Asheville at the intersection of Old US-70 Hwy. and Patton Hill Road. It consists of replacing approximately 600 LF of 4" orangeburg and soil pipe with 8" DIP.									
Harmony Lane	Asheville	670	\$125,000	\$0	\$0	\$0	\$0	\$2,500	\$122,500
This project is along Harmony Lane in Asheville's Oakley area. The existing system has two parallel lines that collect on both sides of the street. Problems with the system consist of root intrusion, poor access for maintenance, and close proximity to houses.									
Hazel Mill Rd @ Richland St.	Asheville	3,300	\$950,700	\$0	\$0	\$0	\$33,000	\$9,400	\$908,300
This project is located in West Asheville, near the Bowen Bridge, and consists of 3,300 LF of 8-inch ductile iron pipe. The current pipe is 6-inch and 8-inch clay and PVC. Lines are undersized and in poor condition with multiple pipe sags, cracks, and fractures.									

## Program Summary (continued)

PROJECT NAME	LOCATION OF PROJECT	PROJECT FOOTAGE	TOTAL ESTIMATED COST	FY 17-18 BUDGET	FY 18-19 BUDGET	FY 19-20 BUDGET	FY 20-21 BUDGET	FY 21-22 BUDGET	FY 22-23 thru FY 26-27 BUDGET
<b>GENERAL SEWER REHABILITATION</b>									
<b>Hendersonville Rd @ Blake Drive</b>	S. Asheville	1,090	\$280,658	\$272,200	\$0	\$0	\$0	\$0	\$0
This project is located in South Asheville on Blake Drive off of Hendersonville Road. The project will replace 1,090 LF of 6-inch and 8-inch VCP. The existing lines are in bad condition and have too many point repairs.									
<b>Hendersonville Rd. @ Peachtree Rd.</b>	S. Asheville	1,100	\$353,450	\$346,250	\$0	\$0	\$0	\$0	\$0
This project will replace an existing 6-inch vitrified clay line in Hendersonville Road (US 25 South) between Peachtree Road and the Racquet Club Village Condo development. The line condition is very poor.									
<b>Hendersonville Rd. @ Rosscraggon Ph. 2</b>	Arden	4,163	\$1,711,249	\$1,473,669	\$0	\$0	\$0	\$0	\$0
This project begins at US 25 just south of the railway spur line that goes into the Duke Energy plant and will include lines on Old Furnace Road. and Azalea Road. The existing lines are in very poor condition with high infiltration due to cracks, broken pipes, and bad joints.									
<b>Hill Street</b>	Asheville	1,600	\$452,600	\$1,000	\$442,600	\$0	\$0	\$0	\$0
This project is located in Asheville near Montford Avenue and is comprised of 1,600 LF of 8-inch ductile iron pipe. The existing line is 6-inch vitrified clay pipe in poor condition with multiple severe structural defects.									
<b>Hill Street @ Cross Place</b>	Asheville	254	\$68,750	\$0	\$0	\$0	\$0	\$0	\$68,750
This project runs along Hill Street to the intersection of Cross Place abutting the I-240 & I-26 Interchange. It consists of replacing approximately 254 LF of existing 6" VCP with 8" DIP. The line has numerous structural issues and has experienced frequent stoppages over the years.									
<b>Horizon Hill Rd. (Hy-Vu Drive)</b>	Asheville	713	\$228,444	\$0	\$0	\$218,000	\$0	\$0	\$0
This project is located in Asheville near Merrimon Avenue. It consists of 713 LF of 8-inch ductile iron pipe. The current 8-inch Orangeburg and vitrified clay line has had repeated overflows due to root intrusion and pipe collapse.									
<b>Howland Rd. @ Sunset Trail</b>	Asheville	1,033	\$391,600	\$0	\$4,500	\$66,000	\$0	\$313,600	\$0
This project will replace an existing 8-inch main from 5 Howland Road. up to the rear of 371 Sunset Drive. System Services recently completed another portion of this system due to SSO's and line condition.									
<b>Jarnaul Avenue</b>	N. Asheville	5,330	\$1,497,700	\$0	\$25,500	\$268,000	\$0	\$1,185,700	\$0
This project is located in North Asheville between Elkwood Avenue (to the west) and Beaver Lake (to the east). The project consists of replacing approximately 5,330 LF of existing 4" and 6" VCP with new 8" DIP. The existing lines and manholes are in poor structural condition and have experience multiple SSOs and manhole overflows.									



## Program Summary (continued)

PROJECT NAME	LOCATION OF PROJECT	PROJECT FOOTAGE	TOTAL ESTIMATED COST	FY 17-18 BUDGET	FY 18-19 BUDGET	FY 19-20 BUDGET	FY 20-21 BUDGET	FY 21-22 BUDGET	FY 22-23 thru FY 26-27 BUDGET
<b>GENERAL SEWER REHABILITATION</b>									
<b>Johnston Blvd. @ Providence Rd.</b>	W. Asheville	2,000	\$544,150	\$0	\$9,000	\$53,000	\$0	\$474,000	\$0
This project is located in West Asheville, approx. 0.6 miles west of New Leicester Highway. The project consists of replacing 2,360 LF of existing 6-inch vitrified clay and PVC pipe with new 8-inch ductile iron pipe. The existing line contains many offset joints and bends, and is in poor structural condition.									
<b>Jonestown Road</b>	Woodfin	3,415	\$929,405	\$850,018	\$0	\$0	\$0	\$0	\$0
This project is located in Woodfin between Elk Mountain Road. and Riverside Drive., specifically along portions of Jonestown Road. The project consists of replacing approximately 3,578 LF of existing 6-inch VCP with 8-inch DIP. The line has numerous structural defects and has a history of root intrusion and SSOs.									
<b>Kenilworth @ Springdale Rd.</b>	Asheville	2,135	\$564,350	\$0	\$0	\$8,250	\$51,000	\$498,300	\$0
This project is located in Kenilworth at the intersection of Kenilworth Road. and Springdale Road. Approximately 2,135 LF of existing 6-inch vitrified clay pipe will be replaced with 8-inch ductile iron pipe. The existing line has voids, cracks, roots, and fractures, and has experienced multiple SSOs.									
<b>Lakeshore Dr. @ Merrimon Ave.</b>	N. Asheville	362	\$204,800	\$0	\$0	\$0	\$3,000	\$0	\$193,777
This project is located near the intersection of Lakeshore Drive and Merrimon Avenue in North Asheville. It consists of replacing approximately 838 LF of 6-inch VCP with 8-inch DIP. Portions of the line run beneath a collapsed storm drain, and also underneath a house on Lakeshore Drive. The existing pipe is fractured and generally in poor condition, and will be relocated as part of the project.									
<b>Lakeview @ Glen Falls Rd.</b>	N. Asheville	4,200	\$1,380,500	\$0	\$0	\$0	\$0	\$17,000	\$1,363,500
This project is just south of Beaver Lake on Lakeview Road, Glen Falls Road, and through properties on Glen Falls Road. The existing 6-inch clay pipe will be replaced with 8-inch ductile iron pipe. System Services has experienced numerous problems with this line.									
<b>Lakewood Drive @ Dudley Ave.</b>	Asheville	280	\$97,200	\$0	\$0	\$0	\$0	\$1,200	\$96,000
This project is located on Lakewood Drive in the Kenilworth neighborhood of Asheville. It consists of replacing approx. 280 LF of existing 8-inch VCP with new 8-inch DIP. The existing line runs adjacent to a house foundation and is difficult to maintain. This line has a history of root intrusion.									
<b>Laurel Road - Ph. 2</b>	Arden	1,496	\$401,307	\$0	\$0	\$0	\$0	\$0	\$380,000
This project is located in Royal Pines in southern Buncombe County. Approximately 1,496 LF of 8-inch ductile iron pipe will replace existing vitrified clay and Orangeburg pipe along Laurel Road and Laurel Court. The existing lines are in poor condition.									

## Program Summary (continued)

PROJECT NAME	LOCATION OF PROJECT	PROJECT FOOTAGE	TOTAL ESTIMATED COST	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	FY 22-23
				BUDGET	BUDGET	BUDGET	BUDGET	BUDGET	thru FY 26-27 BUDGET
GENERAL SEWER REHABILITATION									
Lincoln Avenue	Asheville	1,415	\$397,870	\$0	\$0	\$0	\$0	\$0	\$395,000
This project is located in the Oakley neighborhood in southeast Asheville, just north of I-40. It consists of replacing approximately 1,415 LF of existing 6-inch vitrified clay pipe with 8-inch ductile iron pipe. The existing line is in very poor structural condition.									
Lining Contract No. 9	Various	11,000	\$1,102,000	\$200,000	\$902,000	\$0	\$0	\$0	\$0
This is a trenchless technology project that includes lining substandard sewer lines with either CIPP or Fold and Form pipe. Existing manholes will be repaired or replaced as part of this work.									
Long Shoals Rd. @ Allen Ave.	Arden	1,176	\$297,925	\$82,000	\$198,900	\$0	\$0	\$0	\$0
This project is located at the west end of Allen Avenue, close to the intersection of Hendersonville Road. and Long Shoals Road. in Arden. It is comprised of approximately 2,263 LF of 8-inch ductile iron pipe. There are structural problems at various locations, and the line is in poor condition overall.									
Louisiana Avenue	W. Asheville	2,150	\$640,000	\$0	\$0	\$0	\$0	\$0	\$640,000
This project is located in West Asheville along Louisiana Avenue. The project will replace 2,150 LF of 6-inch VCP. The existing lines are undersized, in bad condition, and have too many point repairs.									
Louisiana Ave. @ Brucemont Circle	Asheville	1,420	\$649,785	\$634,920	\$0	\$0	\$0	\$0	\$0
This project is for the replacement of an existing line from Louisiana Avenue to Brucemont Circle. The present line goes under at least two houses and will be relocated to an existing alleyway. System Services has had maintenance issues with blockages due to broken joints and pipes.									
Lower Glendale Ave.	E. Asheville	2,716	\$873,150	\$0	\$0	\$0	\$0	\$0	\$866,500
This project is located in S.E. Asheville near the Oakley neighborhood. It consists of replacing approximately 2,716 LF of existing 10-inch and 12-inch vitrified clay pipe along Glendale Avenue. The existing line is subject to inflow and infiltration, is in poor condition, and undersized.									
Lower Melody Lane	E. Asheville	1,180	\$349,500	\$0	\$0	\$0	\$0	\$0	\$346,000
This project is a continuation of Upper Melody Lane. The system runs through the back of properties on Melody Lane and along the right of way of Norfolk Southern Railroad. The existing 6-inch Orangeburg pipe will be replaced with 8-inch ductile iron pipe. The existing Orangeburg pipe is deteriorating and has extensive root problems.									
Lynn Cove Road	Beaverdam	5,589	\$1,547,000	\$0	\$0	\$0	\$15,000	\$91,000	\$1,416,000
This project is located off of Beaverdam Road. The project runs through multiple properties along Lynn Cove Road from Governor Circle to 225 Lynn Cove Road. These lines and manholes have heavy I/I which have created multiple SSOs.									

## Program Summary (continued)

PROJECT NAME	LOCATION OF PROJECT	PROJECT FOOTAGE	TOTAL ESTIMATED COST	FY 17-18 BUDGET	FY 18-19 BUDGET	FY 19-20 BUDGET	FY 20-21 BUDGET	FY 21-22 BUDGET	FY 22-23 thru FY 26-27 BUDGET
<b>GENERAL SEWER REHABILITATION</b>									
<b>Manetta Rd. @ Johnson Dr.</b>	N. Asheville	6,500	\$1,917,700	\$0	\$0	\$0	\$65,000	\$7,000	\$1,845,700
This project is located in North Asheville near Merrimon Avenue and consists of 6,500 LF of 8-inch ductile iron pipe. The existing clay pipe is undersized and has voids, fractures, and root intrusions which have contributed to multiple SSO's.									
<b>Meadow Road @ Train Yard</b>	Asheville	1,800	\$603,000	\$0	\$0	\$0	\$1,500	\$46,000	\$546,500
This project is located in Asheville on Meadow Road between the Biltmore Estate and AB Tech College. It consists of replacing 1,800LF of existing 6" VCP with new 8" DIP. The existing line is in poor condition, is undersized, and runs underneath various structures.									
<b>Memory Lane</b>	Asheville	1,900	\$552,250	\$545,550	\$0	\$0	\$0	\$0	\$0
This project is located in East Asheville running along Memory Lane and it crosses street named Nixon Terrace. It consists of replacing existing 4" and 6" VCP with new 8" DIP. This line has experienced one SSO, has mis-aligned joints, roots, fractures, and all bottle necks with a section of 4" VCP.									
<b>Mitchell Avenue</b>	W. Asheville	3,360	\$1,008,300	\$0	\$0	\$0	\$34,000	\$0	\$974,300
This project is located in West Asheville between Patton Avenue and Haywood Road. and is comprised of 2,760 LF of 8-inch ductile iron pipe. The existing line is 6-inch vitrified clay pipe in poor condition, with multiple pipe defects that cannot be adequately repaired by point repairs.									
<b>Mountainbrook Rd. @ Chunns Cove</b>	Asheville	2,800	\$771,515	\$6,925	\$69,000	\$681,500	\$0	\$0	\$0
This project will relocate lines from the rear yards of lots fronting on Mountainbrook Road. (off Chunns Cove Road.) where access and maintenance is extremely difficult and will move those lines to public street rights of way. This project will also eliminate one high aerial creek crossing where existing support piers are failing due to erosion.									
<b>Mountain View Road</b>	E. Asheville	1,764	\$479,578	\$442,200	\$0	\$0	\$0	\$0	\$0
This project is located in East Asheville between Tunnel Road. and New Haw Creek Road. The project consists of replacing approx. 2,120 LF of existing 4, 6 and 8-inch vitrified clay pipe with 8-inch ductile iron pipe. The existing line has multiple fractures and small holes, and portions of the line are undersized.									
<b>New Haw Creek Rd. @ Dogwood Grove</b>	E. Asheville	1,900	\$531,500	\$7,600	\$61,000	\$0	\$453,400	\$0	\$0
This project is in East Asheville near Haw Creek Road., and consists of 1,900 LF of 8-inch ductile iron pipe. Existing 4-inch and 6-inch clay pipe is undersized, with fractures, root intrusion, and misaligned joints. Existing 8-inch ductile iron pipe has corrosion issues. Existing manholes are in poor condition.									

## Program Summary (continued)

PROJECT NAME	LOCATION OF PROJECT	PROJECT FOOTAGE	TOTAL ESTIMATED COST	FY 17-18 BUDGET	FY 18-19 BUDGET	FY 19-20 BUDGET	FY 20-21 BUDGET	FY 21-22 BUDGET	FY 22-23 thru FY 26-27 BUDGET
<b>GENERAL SEWER REHABILITATION</b>									
<b>New Haw Creek @ Water Booster Station</b>	Asheville	90	\$31,600	\$1,000	\$4,600	\$26,000	\$0	\$0	\$0
This project is located at the southwest end of New Haw Creek Road adjacent to the COA Water Booster Station. It consists of replacing 90 LF of existing 8" VCP with new 8" DIP. The line has multiple sags, structural defects, and accessibility issues due to existing large diameter water and gas lines in the vicinity.									
<b>New Stock Road</b>	Woodfin	9,020	\$2,402,500	\$6,500	\$76,000	\$0	\$2,284,000	\$0	\$0
This project runs along New Stock Road in Woodfin. The project begins at Nichols Hill Drive & New Stock Road and runs under I-26 and ends at Weaverville Road. The existing 8-inch lines have structural issues that lead to root intrusion and multiple SSOs.									
<b>New Walnut St. @ Riverside Dr.</b>	Asheville	1,180	\$368,000	\$13,000	\$50,000	\$305,000	\$0	\$0	\$0
This project runs along Riverside Drive and New Walnut Street. The project begins on Riverside Drive, continues onto New Walnut Street and extends under I-26. The existing 6" clay pipes have multiple sags and yearly maintenance is needed.									
<b>North Lexington @ I-240</b>	Asheville	450	\$163,970	\$2,000	\$0	\$159,400	\$0	\$0	\$0
This project is located in downtown Asheville near the I-240 on ramp from Broadway Street and is comprised of 450 LF of 8-inch ductile iron pipe. The existing line is 4-inch vitrified clay pipe with a history of stoppages and overflows.									
<b>North Market Street</b>	Asheville	1,064	\$352,000	\$0	\$1,500	\$68,000	\$0	\$277,200	\$0
This project is located in downtown Asheville and consists of 1,050 LF of 8-inch ductile iron pipe. The existing 6-inch clay line is undersized, has multiple structural issues, and has caused flooded structures.									
<b>Oakland Drive @ Church Street</b>	Black Mountain	575	\$171,000	\$0	\$0	\$0	\$0	\$2,500	\$168,500
This project is located in Black Mountain running through properties from Pine Street to Oakland Drive. The project will replace 575 LF of 4-inch Orangeburg and 6-inch VCP. The existing lines are in bad condition and have too many point repairs.									
<b>Old Haw Creek Rd. @ Greenbriar Rd.</b>	E. Asheville	3,755	\$971,000	\$95,000	\$847,500	\$0	\$0	\$0	\$0
This project is located in the Haw Creek neighborhood of E. Asheville along Old Haw Creek Rd. and Greenbriar Rd. It consists of replacing approximately 3,755 LF of existing 6-inch vitrified clay pipe with 8-inch ductile iron pipe. The existing line is in poor condition and has been subject to frequent overflows.									
<b>Old West Chapel Road</b>	Asheville	5,200	\$1,344,000	\$79,000	\$1,217,000	\$0	\$0	\$0	\$0
This project is located near the intersection of Sweeten Creek Road. and I-40. The I-40 crossing will be performed by bore and jack construction. The existing 8-inch clay pipe will be replaced with 8-inch ductile iron pipe. There have been multiple sanitary sewer overflows on this line. This project has been phased for two years, FY 17-18 and FY 18-19. In FY17-18, this phase will consist of lining 10,090 of existing 8-inch and 10-inch pipes. In FY18-19, this phase will consist of replacing 4,680 LF by pipe bursting and dig & replace.									

## Program Summary (continued)

PROJECT NAME	LOCATION OF PROJECT	PROJECT FOOTAGE	TOTAL ESTIMATED COST	FY 17-18 BUDGET	FY 18-19 BUDGET	FY 19-20 BUDGET	FY 20-21 BUDGET	FY 21-22 BUDGET	FY 22-23 thru FY 26-27 BUDGET
<b>GENERAL SEWER REHABILITATION</b>									
<b>Point Repair Contract No. 2</b>	Various	0	\$250,000	\$250,000	\$0	\$0	\$0	\$0	\$0
This construction contract will cover point repairs performed by an outside contractor for Fiscal Year 2017-2018. Point repairs covered under this contract are generated through work orders from the System Services Division.									
<b>Riverside Drive @ Norton Drive</b>	N. Asheville	700	\$233,700	\$0	\$0	\$0	\$0	\$0	\$233,700
This project is located in North Asheville and is comprised of 700 LF of 8-inch ductile iron pipe. The existing line is a problematic 4" sewer line composed of PVC and VCP with many defects.									
<b>Riverside Dr. @ Riverside Baptist</b>	Asheville	510	\$168,450	\$0	\$0	\$0	\$0	\$0	\$168,450
This project is located along Riverside Drive at the Riverside Baptist Church. It consists of replacing approximately 510 LF of existing 6" VCP with 8" DIP or lining the entire length (pending further investigation). Although this segment is structurally unsound and experiences heavy inflow and infiltration at the road, it doesn't have many service calls or any SSO's.									
<b>Riverview Drive</b>	Asheville	2,302	\$649,480	\$0	\$0	\$0	\$0	\$0	\$641,600
This project is located in Asheville near the Haywood Road bridge. The project consists of replacing approx. 2,302 LF of existing 6-inch vitrified clay pipe with 8-inch ductile iron pipe. The existing line is in poor condition and has experienced multiple overflows.									
<b>Royal Pines Drive - PRP 47009</b>	Arden	2,888	\$841,000	\$0	\$6,500	\$17,000	\$0	\$807,400	\$0
This project is located in South Asheville and is comprised of 2,888 LF of 8-inch ductile iron pipe. The existing line is 8-inch vitrified clay pipe which has had a history of root problems.									
<b>Sand Hill Road @ Baker Place</b>	W. Asheville	550	\$168,500	\$0	\$0	\$0	\$0	\$6,000	\$162,500
This project is located in West Asheville and is comprised of 550 LF of 8-inch ductile iron pipe. The existing line is a 6-inch VCP with multiple structural defects and access issues due to being located under several houses.									
<b>School Rd. @ Cranford Rd.</b>	W. Asheville	361	\$112,000	\$111,500	\$0	\$0	\$0	\$0	\$0
This project is located in West Asheville between Patton Avenue and Sand Hill Road and is comprised of 361 LF of 8-inch ductile iron pipe. The existing line is 6-inch PVC pipe that is full of roots, bends, and structural defects. Backups in this line have resulted in a flooded house.									
<b>Sheppard Drive</b>	W. Asheville	570	\$151,450	\$145,790	\$0	\$0	\$0	\$0	\$0
This project is located at 45 Sheppard Drive in West Asheville, close to the intersection of Old County Home Road and New Leicester Highway. The project includes replacing approximately 325 LF of existing 6-inch VCP with 8-inch DIP. The existing line has structural defects and has experienced numerous backups due to root intrusion.									

## Program Summary (continued)

PROJECT NAME	LOCATION OF PROJECT	PROJECT FOOTAGE	TOTAL ESTIMATED COST	FY 17-18 BUDGET	FY 18-19 BUDGET	FY 19-20 BUDGET	FY 20-21 BUDGET	FY 21-22 BUDGET	FY 22-23 thru FY 26-27 BUDGET
<b>GENERAL SEWER REHABILITATION</b>									
<b>S. Main St. @ Reems Creek Rd.</b>	Weaverville	565	\$164,700	\$0	\$5,300	\$29,000	\$130,400	\$0	\$0
This project is located on S. Main Street in Weaverville, approximately 0.7 mile south of downtown and adjacent to the intersection approximately 513 LF of existing 6" and 8" VCP with 565 LF of new 8" DIP. The existing lines routinely cause stoppage in flow and require frequent maintenance. Maintenance is difficult by several structures located over the existing lines.									
<b>Springside Rd. @ Overlook Rd.</b>	S. Asheville	4,500	\$1,214,800	\$9,800	\$108,000	\$1,076,000	\$0	\$0	\$0
This project is located in South Asheville near Overlook Road. and is comprised of 4,500 LF of 8-inch ductile iron pipe. The existing line is 6-inch and 8-inch vitrified clay pipe in poor shape, with a history of SSO's at various points.									
<b>Starnes Avenue</b>	Asheville	2,871	\$892,100	\$0	\$0	\$0	\$11,500	\$0	\$880,600
This project is located near downtown Asheville, just north of I-240. Approximately 2,871 LF of existing 6-inch VCP will be replaced with 8-inch DIP along portions of Short Street, Cumberland Avenue, Starnes Avenue, Harrison Street and Flint Street. Portions of the existing pipe were installed circa 1900, and have numerous structural defects.									
<b>Stratford Road</b>	N. Asheville	1,770	\$485,500	\$0	\$0	\$0	\$0	\$8,000	\$477,500
This project is located in N. Asheville along Stratford Road. The project is a continuation of Stratford @ Oxford Court. The lines run though properties alongside a stream. The existing 6-inch vitrified clay pipe is in poor structural condition which has allowed heavy infiltration.									
<b>Sulphur Springs Rd. @ Covington St.</b>	W. Asheville	1,350	\$421,000	\$8,000	\$103,000	\$0	\$304,500	\$0	\$0
This project begins in the area of the Sulphur Springs Road/Delaware Avenue intersection and runs through the back properties along Belmont Avenue. The existing 6-inch clay pipe will be replaced with 8-inch ductile iron pipe. The 6-inch clay line has had numerous problems and runs under a house.									
<b>Sutton Avenue</b>	Black Mountain	3,700	\$1,051,000	\$1,036,000	\$0	\$0	\$0	\$0	\$0
This project is on Sutton Ave. and extends up Ridgeway Avenue, Richardson Boulevard, and Broadway Street. The existing 6-inch and 8-inch clay pipe will be replaced with 8-inch ductile iron pipe. System Services crews report that the pipes are in poor condition, and have caused flooded structures and sanitary sewer overflows.									
<b>Sweeten Creek Rd. @ Buck Shoals Rd.</b>	S. Asheville	918	\$288,920	\$6,250	\$43,000	\$235,000	\$0	\$0	\$0
This project is located in Royal Pines on Buck Shoals Rd. between Hendersonville Road. (US 25) and Sweeten Creek Road. (US 25A). Approx. 1,330 LF of existing 6-inch vitrified clay pipe will be replaced with 8-inch ductile iron pipe. The existing line is in poor condition and is undersized.									
<b>Sweeten Creek Rd. @ Mills Gap Rd.</b>	Asheville	2,325	\$676,300	\$24,000	\$4,000	\$105,000	\$543,300	\$0	\$0
This project is located in South Asheville near Mills Gap Road. and is comprised of 2,325 LF of 8-inch ductile iron pipe. The existing line is 6-inch and 8-inch vitrified clay pipe in poor condition, with a history of SSO's.									

## Program Summary (continued)

PROJECT NAME	LOCATION OF PROJECT	PROJECT FOOTAGE	TOTAL ESTIMATED COST	FY 17-18 BUDGET	FY 18-19 BUDGET	FY 19-20 BUDGET	FY 20-21 BUDGET	FY 21-22 BUDGET	FY 22-23 thru FY 26-27 BUDGET
<b>GENERAL SEWER REHABILITATION</b>									
<b>Sweeten Creek Rd. @ Weston Rd.</b>	S. Asheville	1,775	\$469,400	\$0	\$18,000	\$1,700	\$0	\$37,000	\$412,700
This project is located in South Asheville near Weston Road. and is comprised of 1,775 LF of 8-inch ductile iron pipe. The existing line is 6-inch vitrified clay pipe and 4-inch PVC pipe in poor condition, with a history of SSO's.									
<b>Upper Grassy Br. Rd. @ Maxwell Rd.</b>	E. Asheville	1,000	\$264,710	\$0	\$0	\$0	\$0	\$0	\$259,500
This project is located in East Asheville and is comprised of 1,000 LF of 8-inch ductile iron pipe. The existing sewer line is 6-inch clay with root and odor problems.									
<b>US 70 @ Jordan Road</b>	Swannanoa	4,550	\$1,443,000	\$0	\$0	\$20,000	\$0	\$20,000	\$1,403,000
This project is located in Swannanoa along US 70. The project begins at McBrayer Ave., crosses under US 70 at Martin Road., and ends at Burgins Chapel Road. The existing 8-inch vitrified clay pipe is in poor condition. This is a potential lining project.									
<b>Walnut St. @ N. Lexington Ave.</b>	Asheville	1,550	\$463,500	\$0	\$0	\$7,000	\$0	\$456,500	\$0
This project runs along Walnut Street in downtown Asheville. The project begins at N. Lexington Avenue, runs along Walnut Street, and down side roads of Langren Alley, Market Street, Lawyers Walk, and ends near the corner of E. Walnut Street. The existing 6" and 8" clay pipes have structural issues and yearly maintenance is needed.									
<b>Walnut Street @ Rankin Ave.</b>	Asheville	2,350	\$765,900	\$0	\$0	\$500	\$0	\$753,900	\$0
This project is located in downtown Asheville and consists of 2,350 LF of 8-inch ductile iron pipe. The current 6-inch clay line is undersized and deteriorated, with many structural problems.									
<b>Waynesville Ave. @ Brownwood Ave.</b>	W. Asheville	4,100	\$1,368,200	\$0	\$41,000	\$500	\$318,200	\$54,000	\$954,500
This project is located in West Asheville between Haywood Road and Craven Street and is comprised of 4,100 LF of 8-inch ductile iron pipe. The existing line is 8-inch vitrified clay pipe that is in poor condition with heavy root intrusion, structural defects, and I&I problems, resulting in a large history of SSO's.									
<b>Wentworth Avenue</b>	Asheville	1,500	\$433,200	\$0	\$0	\$15,000	\$500	\$0	\$417,700
This project is located in Asheville near the Oakley neighborhood and is comprised of 1,500 LF of 8-inch ductile iron pipe. The existing line is 6-inch PVC and 8-inch vitrified clay pipe that has many offset joints, protruding taps, and pipe defects.									
<b>West Crabapple Lane</b>	W. Asheville	N/A	\$424,300	\$0	\$3,000	\$14,000	\$3,500	\$0	\$0
This project is on West Crabapple Lane which is a private road. The existing 8-inch clay pipe is in bad condition and will be replaced with 8-inch ductile iron pipe. System Services crews have reported multiple structural defects which are resulting in major infiltration and inflow.									

## Program Summary (continued)

PROJECT NAME	LOCATION OF PROJECT	PROJECT FOOTAGE	TOTAL ESTIMATED COST	FY 17-18 BUDGET	FY 18-19 BUDGET	FY 19-20 BUDGET	FY 20-21 BUDGET	FY 21-22 BUDGET	FY 22-23 thru FY 26-27 BUDGET
<b>GENERAL SEWER REHABILITATION</b>									
<b>Wildwood Park</b>	Weaverville	582	\$168,780	\$0	\$0	\$0	\$0	\$0	\$166,400
This project is located in Weaverville at the corner of N Main St. and Wildwood Park. It consists of replacing 430LF of 8-inch VCP with 8-inch DIP. The existing pipe has multiple fractures, root problems, and runs underneath multiple structures making maintenance difficult.									
<b>Wood Ave. @ Parker Rd.</b>	Asheville	1,050	\$303,500	\$0	\$0	\$0	\$11,000	\$5,900	\$286,600
This project is located in Asheville between Fairview Road and Tunnel Road and is comprised of 1,050 LF of 8-inch ductile iron pipe. The existing line is 8-inch vitrified clay pipe that has access issues due to being built over. Backups on this line have resulted in a flooded house.									
<b>SSD Rehab. &amp; Replacement</b>	Various	200,000	\$41,644,040	\$4,164,404	\$4,164,404	\$4,164,404	\$4,164,404	\$4,164,404	\$20,822,020
This line item is for the replacement of capital assets using in-house construction crews and materials. This includes new taps, small repairs, lining, as well as larger rehabilitation projects. Also included is paving when required for these repairs and rehabilitation projects. The total estimated project cost shown is the total within the ten year window.									
<b>Surveys for Design</b>	Various	N/A	\$500,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$250,000
New rehabilitation projects are generated continuously throughout the year. This line item provides for surveying needs for these new projects, in order that preliminary work may begin prior to being formally incorporated into the next year's CIP. This helps to ensure projects are completed efficiently.									
<b>Future Projects - Non Critical</b>	Various	Varies	Varies	\$0	\$0	\$0	\$0	\$0	\$0
This is a listing of projects which have low pipe ratings and are therefore less critical than other projects within the Ten Year CIP. All projects are reprioritized each year and the schedule for the entire program is adjusted based on project criticality.									
<b>SUBTOTAL</b>		411,932	\$103,456,840	\$13,213,448	\$9,300,554	\$10,827,154	\$10,869,754	\$10,305,404	\$47,390,678
<b>Inflation per ENR Const. Cost Index</b>	2.92%		1.0000	1.0000	1.0292	1.0593	1.0902	1.1220	1.22852977
<b>SUBTOTAL with inflation</b>		411,932	\$103,456,840	\$13,213,448	\$9,572,130	\$11,468,691	\$11,850,019	\$11,562,830	\$58,220,859
<b>PRIVATE SEWER REHABILITATION</b>									
<b>Dogwood Rd. @ White Pine Circle</b>	Arden	580	\$208,750	\$5,800	\$14,000	\$188,950	\$0	\$0	\$0
This private sewer rehabilitation project is located in South Asheville east of the intersection of Hendersonville Road (US-25) and Royal Oaks Road; more specifically, running along the rear of properties fronting Dogwood Road. It consists of replacing approximately 580 LF of existing 4" orangeburg with 8" DIP. One condemnation is needed.									
<b>Douglas Place PSR</b>	Asheville	588	\$150,580	\$0	\$0	\$0	\$0	\$1,000	\$144,600
This project is located in West Asheville and is comprised of 1,400 LF of 8-inch ductile iron pipe. The existing line is a problematic 4-inch private sewer line composed of PVC and VCP with many defects.									



## Program Summary (continued)

PROJECT NAME	LOCATION OF PROJECT	PROJECT FOOTAGE	TOTAL ESTIMATED COST	FY 17-18 BUDGET	FY 18-19 BUDGET	FY 19-20 BUDGET	FY 20-21 BUDGET	FY 21-22 BUDGET	FY 22-23 thru FY 26-27 BUDGET
<b>PRIVATE SEWER REHABILITATION</b>									
<b>Homeland Park</b>	Asheville	930	\$286,750	\$10,000	\$17,500	\$259,250	\$0	\$0	\$0
This private sewer rehabilitation project is located in East Asheville just south of the intersection of Swannanoa River Road and Tunnel Road in a subdivision called Homeland Park. Currently, its is a private sewer system planned for rehabilitation consisting of approximately 930 LF of existing 4" VCP to be replace with 8" DIP. This 4" private sewer is the main line for this subdivision and is full of roots with numerous service calls.									
<b>Old County Home Rd PSR</b>	W. Asheville	2,000	\$462,000	\$35,400	\$24,000	\$402,600	\$0	\$0	\$0
This project is located in West Asheville and is comprised of 1,400 LF of 8-inch ductile iron pipe. The existing line is a problematic 4-inch private sewer line composed of PVC and VCP with many defects.									
<b>SUBTOTAL</b>		4,098	\$1,108,080	\$51,200	\$55,500	\$850,800	\$0	\$1,000	\$144,600
<b>Inflation per ENR Const. Cost Index</b>	2.92%		1.0000	1.0000	1.0292	1.0593	1.0902	1.1220	1.29471000
<b>SUBTOTAL with inflation</b>		4,098	\$1,108,080	\$51,200	\$57,121	\$901,212	\$0	\$1,122	\$187,215
<b>TREATMENT PLANT, PUMP STATIONS &amp; GENERAL CAPITAL IMPROVEMENTS</b>									
<b>Biological Treatment</b>	Treatment Plant	0	\$4,000,000	\$0	\$0	\$0	\$0	\$0	\$4,000,000
This project is the final and largest recommendation from the Plant Facilities Plan. It will replace the Rotating Biological Contactors (RBC's) with an alternative biological treatment technology. This project will be driven by regulatory requirements.									
<b>Blower Bldg. MCC Replacement</b>	Treatment Plant	0	\$375,000	\$375,000	\$0	\$0	\$0	\$0	\$0
This project is for the replacement of five (5) existing RBC blower motor starters. The existing motor starters were installed as part of the 1998 plant upgrade and are now obsolete, making parts replacement difficult. The starters control the RBC motor blowers which in turn provide air to the RBC units, enabling them to rotate and perform biological treatment. Without functional RBC blowers, the plant will not be able to meet its permitted effluent limits.									
<b>Building and Facility Rehabilitation</b>	Treatment Plant	0	\$858,000	\$190,000	\$89,000	\$80,000	\$91,000	\$68,000	\$340,000
This item is for the replacement of larger capital items such as roofing systems, HVAC, and subcontracts on buildings and structures within the MSD campus and treatment plant facility. Total estimated project cost shown is the total within the ten year window.									
<b>Carrier Bridge P.S. Bypass &amp; Improvements</b>	Treatment Plant	0	\$2,175,618	\$0	\$31,500	\$2,000	\$1,695,000	\$137,500	\$0
This is part of the South French Broad Carrier Bridge PER project. A permanent bypass line will be installed at the Carrier Bridge Pump Station as an emergency backup to the existing 24-inch force main. Once installed, the new bypass line will allow for the pump station to be bypassed in the event of an emergency, or for major maintenance at the pump station. This project also includes increasing pump capacity for future growth within the service area.									

## Program Summary (continued)

PROJECT NAME	LOCATION OF PROJECT	PROJECT FOOTAGE	TOTAL ESTIMATED COST	FY 17-18 BUDGET	FY 18-19 BUDGET	FY 19-20 BUDGET	FY 20-21 BUDGET	FY 21-22 BUDGET	FY 22-23 thru FY 26-27 BUDGET
<b>TREATMENT PLANT, PUMP STATIONS &amp; GENERAL CAPITAL IMPROVEMENTS</b>									
<b>Carrier Bridge P.S. Grinder Replacement</b>	Treatment Plant	0	\$192,000	\$192,000	\$0	\$0	\$0	\$0	\$0
Carrier Bridge Pump Station has two (2) existing channel grinder units upstream of the pumps which reduce the size of solids entering the station. The existing units have a tendency to blind and create surcharged conditions in the upstream interceptor. The units will be replaced with low headloss units and a third unit will be installed to convey additional flow into the pump station wet well.									
<b>Fleet Gas Management System</b>	Treatment Plant	0	\$40,000	\$40,000	\$0	\$0	\$0	\$0	\$0
This project is for the replacement of two (2) gas pumps and fuel management/control system at the Fleet building. The existing pumps and control system are obsolete, making communication with MSD's network difficult.									
<b>Flow Monitoring</b>	Treatment Plant	0	\$342,535	\$30,000	\$30,000	\$0	\$0	\$0	\$0
This project is for expenses related to the continued operation, maintenance, and improvements of the District's flow monitoring program.									
<b>French Broad Carrier Bridge PER</b>	Buncombe County	0	\$500,000	\$500,000	\$0	\$0	\$0	\$0	\$0
This will be a flow modeling evaluation of several large sewer interceptors in the South French Broad, Lower Swannanoa, and Carrier Bridge areas. The study will identify undersized lines based on current and future flow and will include phased recommendations for improvements.									
<b>Intermediate Clarifier Slide Gates</b>	Treatment Plant	0	\$162,000	\$0	\$162,000	\$0	\$0	\$0	\$0
This project is for the replacement of eight (8) slide gates in the influent channel of the intermediate clarifier. The existing slide gates are original to the intermediate clarifier construction and are approximately 29 years old. The slide gates are necessary for isolating the four (4) clarifier basins and are in poor condition and difficult to operate.									
<b>Plant Headworks Improvements</b>	Treatment Plant	0	\$9,580,442	\$7,130,000	\$757,000	\$0	\$0	\$0	\$0
This project is a recommendation from the Facilities Plan Update, a WRF master planning document completed by HDR in April 2015. This project consists of a new influent screening facility, new grit removal system, fine screening facility, and surge/equalization basins and pumping station at the French Broad River WRF. The upgrades will improve downstream water quality and shave peak flows into the WRF.									
<b>Plant High Rate Primary Treatment</b>	Treatment Plant	0	\$14,445,441	\$354,000	\$7,561,000	\$5,709,000	\$0	\$0	\$0
This project is a recommendation from the Facilities Plan Update, a WRF master planning document completed by HDR in April 2015. High rate primary treatment will improve water quality ahead of the RBC's thereby extending their useful life and improving treatment efficiency.									

## Program Summary (continued)

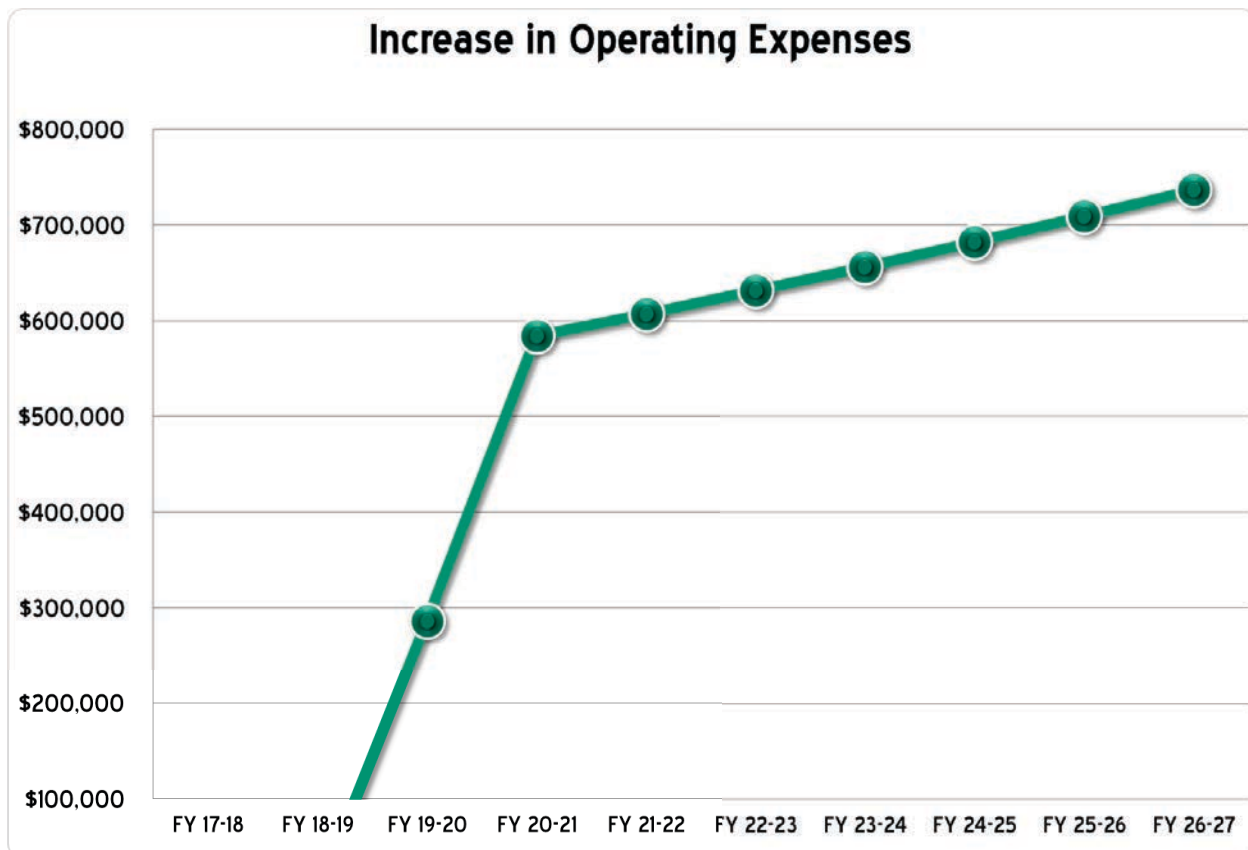
PROJECT NAME	LOCATION OF PROJECT	PROJECT FOOTAGE	TOTAL ESTIMATED COST	FY 17-18 BUDGET	FY 18-19 BUDGET	FY 19-20 BUDGET	FY 20-21 BUDGET	FY 21-22 BUDGET	FY 22-23 thru FY 26-27 BUDGET
TREATMENT PLANT, PUMP STATIONS & GENERAL CAPITAL IMPROVEMENTS									
Reems Creek PS Improvements This project is located north of Asheville in Weaverville at the Reems Creek Golf Club. The pump station is reaching the end of its life expectancy and is in need of rehabilitation. The possibility of eliminating the pump station all together or rehabilitating the existing pumps and converting the station to submersible pumps was considered. The most cost effective solution is to upgrade the existing station to submersible (solids handling) pumps.	Weaverville	0	\$100,000	\$100,000	\$0	\$0	\$0	\$0	\$0
Sodium Hypo. Tank Replacement This project is for the replacement of four (4) 14,600 gallon sodium hypochlorite storage tanks. Sodium hypochlorite (i.e. bleach) is used to disinfect the wastewater prior to leaving the plant. The existing fiberglass reinforced plastic (FRP) storage tanks were installed in 2002 and are beyond their 10-year normal life expectancy. Leaks have developed in two of the tanks, requiring multiple repairs.	Treatment Plant	0	\$183,000	\$183,000	\$0	\$0	\$0	\$0	\$0
General Capital Equipment This is for the purchase of capital equipment in excess of \$15,000. Examples include pumps, plant equipment, computer servers, large concrete saws, etc.	Varies	0	\$1,500,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$750,000
Weaverville Pump Stations - Soft Start This project is located at Weaverville #1, #2, and Erwin Hills pump stations. These pump stations experience frequent pump starts due to their full capacity and will benefit greatly from soft start or variable frequency drive (VFD) technology. The results produce less mechanical wear and maintenance.	Asheville	0	\$325,000	\$325,000	\$0	\$0			\$0
SUBTOTAL		0	\$34,779,036	\$9,569,000	\$8,780,500	\$5,941,000	\$1,936,000	\$355,500	\$5,090,000
Inflation per ENR Const. Cost Index	2.92%		1.0000	1.0000	1.0292	1.0593	1.0902	1.1220	1.27315490
SUBTOTAL with inflation		0	\$34,779,036	\$9,569,000	\$9,036,891	\$6,293,020	\$2,110,594	\$398,877	\$6,480,358
DESIGN, ROW, & CONSTRUCTION MANAGEMENT EXPENSES									
Design, ROW, & Const. Mgmt. Exp. This line item is for expenses related to the District's Capital Improvement Program (CIP). Included are salaries for the CIP Division, capital equipment, and bond debt expenses related to the financing of the CIP program.	MSD/ENG	0	\$28,309,159	\$2,481,568	\$2,598,527	\$2,665,192	\$2,727,078	\$2,790,668	\$15,046,126
SUBTOTAL		0	\$28,309,159	\$2,481,568	\$2,598,527	\$2,665,192	\$2,727,078	\$2,790,668	\$15,046,126
BUDGET SUMMARY									
SUBTOTAL with Inflation		516,001	\$208,077,793	\$27,041,716	\$23,469,587	\$24,183,935	\$19,376,081	\$19,238,476	\$111,224,944
CONTINGENCY				\$1,000,000					
REIMBURSEMENT PROJECTS This is for reimbursements for extensions that qualify under the District's Extension Policy. Refer to the "Policy and Procedures for the Extension of Sewer Service" for further information.	Various	0	\$1,216,000	\$266,000	\$150,000	\$100,000	\$100,000	\$100,000	\$500,000
TOTAL		516,001	\$209,293,793	\$28,307,716	\$23,619,587	\$24,283,935	\$19,476,081	\$19,338,476	\$111,724,944

## Impact of CIP on Operations

One of the purposes of a budget document is to describe the impact of significant non-routine capital expenditures on a government's current and future operating budgets. For most municipal and county governments, non-routine capital improvements consist of expansion of facilities, which often result in higher operating costs. For example, larger buildings increase utility expenses, and new structures such as libraries or swimming pools involve hiring additional staff. In addition, for most municipal and county governments, non-routine capital improvements are, for the most part, based upon the decisions of the local governing authority.

The District's CIP is different in two respects. First, almost all non-routine capital expenditures involve rehabilitation of already existing sewer pipe infrastructure, and secondly, the District's capital improvements to infrastructure are mandated by the state environmental regulatory department, imposing limits on discretionary action and cost.

Through major capital improvements to the sewer collection system, the District expects to realize long-term cost reduction in wastewater treatment operations. The following detail illustrates the impact of the Capital Improvement Program on the District's current and future operational budgets.



## Operational Impact Summary

PROJECT NAME	FY 17-18 BUDGET	FY 18-19 BUDGET	FY 19-20 BUDGET	FY 20-21 BUDGET	FY 21-22 BUDGET	FY 22-23 thru FY 26-27 BUDGET
<b>INTERCEPTOR AND WET WEATHER REHABILITATION</b>						
Christian Creek Interceptor: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Dingle Creek Interceptor: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Lower Swannanoa Interceptor: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Middle Beaverdam Crk. @ US 19-23: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.						
South French Relief Int: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.						
South French Broad Int - Lining: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Beaverdam Creek WW (CDM #10): No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
South Swannanoa WW (CDM #4): No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
<b>INTERCEPTOR AND WET WEATHER REHABILITATION</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>GENERAL SEWER REHABILITATION</b>						
Adams Street: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Arlington Street: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Asheville Country Club (SS): No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Atkins Street: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-

## Operational Impact Summary (continued)

PROJECT NAME	FY 17-18 BUDGET	FY 18-19 BUDGET	FY 19-20 BUDGET	FY 20-21 BUDGET	FY 21-22 BUDGET	FY 22-23 thru FY 26-27 BUDGET
<b>GENERAL SEWER REHABILITATION (continued)</b>						
Battery Park Alley: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Beale Road @ Copney Lane: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Bear Creek Road @ School Road: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Beaucatcher Rd @ Kenilworth Rd: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Bellevue Road: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Bent Tree Road - No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Broadway Street @ Bordeaux Place - No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Buchanan Avenue - No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Caledonia Road - No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Central Avenue @ I-240 - No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Chatham Road - No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Cherokee Road - No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Chestnut Lodge Road - No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-

## Operational Impact Summary (continued)

PROJECT NAME	FY 17-18 BUDGET	FY 18-19 BUDGET	FY 19-20 BUDGET	FY 20-21 BUDGET	FY 21-22 BUDGET	FY 22-23 thru FY 26-27 BUDGET
<b>GENERAL SEWER REHABILITATION (continued)</b>						
Commerce Street - No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Cumberland Avenue - No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
East Chestnut Ave @ Five Points: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Elk Mountain Place: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Elk Park Drive - PRP 35001: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Elkwood Avenue: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Elkwood @ Norman Austin Drive: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Fairmont Road: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Forestdale Drive: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Forest Hill Drive @ Warwick Road: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Four Inch Main - College Street: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Four Inch Main - Dry Ridge Road: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Four Inch Main - Patton Hill Rd.: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Harmony Lane: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-

## Operational Impact Summary (continued)

PROJECT NAME	FY 17-18 BUDGET	FY 18-19 BUDGET	FY 19-20 BUDGET	FY 20-21 BUDGET	FY 21-22 BUDGET	FY 22-23 thru FY 26-27 BUDGET
<b>GENERAL SEWER REHABILITATION (continued)</b>						
Hazel Mill Road @ Richland Street: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Hendersonville Rd @ Blake Drive: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Hendersonville Road @ Peachtree Road: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Hendersonville Road @ Rosscraggon Phase 2: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Hill Street: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Hill Street @ Cross Place: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Horizon Hill Road (Hy-Vu Drive): No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Howland Road @ Sunset Trail: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Jarnaul Avenue: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Johnston Boulevard @ Providence Road: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Jonestown Road: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Kenilworth @ Springdale Road: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Lakeshore Drive @ Merrimon Avenue: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-



## Operational Impact Summary (continued)

PROJECT NAME	FY 17-18 BUDGET	FY 18-19 BUDGET	FY 19-20 BUDGET	FY 20-21 BUDGET	FY 21-22 BUDGET	FY 22-23 thru FY 26-27 BUDGET
<b>GENERAL SEWER REHABILITATION (continued)</b>						
Lakeview @ Glen Falls Road: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Lakewood Drive @ Dudley Ave.: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Laurel Road - Phase 2: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Lincoln Avenue: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Lining Contract No. 9: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Long Shoals Road @ Allen Avenue: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Louisiana Avenue: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Louisiana Avenue @ Bruceмонт Circle: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Lower Glendale Avenue: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Lower Melody Lane: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Lynn Cove Road: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Manetta Road @ Johnson Drive: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Meadow Road @ Train Yard: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Memory Lane: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-

## Operational Impact Summary (continued)

PROJECT NAME	FY 17-18 BUDGET	FY 18-19 BUDGET	FY 19-20 BUDGET	FY 20-21 BUDGET	FY 21-22 BUDGET	FY 22-23 thru FY 26-27 BUDGET
<b>GENERAL SEWER REHABILITATION (continued)</b>						
Mitchell Avenue: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Mountainbrook Road @ Chunns Cove Road: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Mountainview Road: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
New Haw Creek Road @ Dogwood Grove: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
New Haw Creek Road @ Water Booster Station: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
New Stock Road: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
New Walnut St. @ Riverside Dr.: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
North Lexington @ I-240: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
North Market Street: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Oakland Dr @ Church Street: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Old Haw Creek Road @ Greenbriar Road: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Old West Chapel Road: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Point Repair Contract No. 2: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-

## Operational Impact Summary (continued)

PROJECT NAME	FY 17-18 BUDGET	FY 18-19 BUDGET	FY 19-20 BUDGET	FY 20-21 BUDGET	FY 21-22 BUDGET	FY 22-23 thru FY 26-27 BUDGET
<b>GENERAL SEWER REHABILITATION (continued)</b>						
Riverside Drive @ Norton Drive: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Riverside Drive @ Riverside Baptist: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Riverview Drive: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Royal Pines Drive - PRP 47009: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Sand Hill Rd @ Baker Place: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
School Road @ Cranford Road: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Sheppard Drive: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Springside Road @ Overlook Road: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Starnes Avenue: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Stratford Road: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Sulphur Springs Road @ Covington Street: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Sutton Avenue: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Sweeten Creek Rd. @ Buck Shoals Rd.: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-

## Operational Impact Summary (continued)

PROJECT NAME	FY 17-18 BUDGET	FY 18-19 BUDGET	FY 19-20 BUDGET	FY 20-21 BUDGET	FY 21-22 BUDGET	FY 22-23 thru FY 26-27 BUDGET
<b>GENERAL SEWER REHABILITATION (continued)</b>						
Sweeten Creek Rd. @ Mills Gap Rd.: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sweeten Creek Road @ Weston Road: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Upper Grassy Branch Road @ Maxwell Road: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
US 70 @ Jordan Road: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Walnut Street @ N. Lexington Ave.: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Walnut Street @ Rankin Avenue: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Waynesville Avenue @ Brownwood Avenue: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Wentworth Avenue: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
West Crabapple Lane: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Wildwood Park: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Wood Avenue @ Parker Road: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
SSD Rehabilitation & Replacement: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Surveys for Design: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-

## Operational Impact Summary (continued)

PROJECT NAME	FY 17-18 BUDGET	FY 18-19 BUDGET	FY 19-20 BUDGET	FY 20-21 BUDGET	FY 21-22 BUDGET	FY 22-23 thru FY 26-27 BUDGET
<b>GENERAL SEWER REHABILITATION (continued)</b>						
Future Projects - Non Critical: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
<b>GENERAL SEWER REHABILITATION</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>PRIVATE SEWER REHABILITATION</b>						
Dogwood Rd. @ White Pine Circle: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Douglas Place PSR: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Homeland Park: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
Old County Home Rd PSR: No Impact to Operating Budget - efficiencies gained will be used in the District's collector system preventative maintenance program.	-	-	-	-	-	-
<b>PRIVATE SEWER REHABILITATION</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TREATMENT PLANT, PUMP STATIONS &amp; GENERAL CAPITAL IMPROVEMENTS</b>						
Biological Treatment: Impact to Operating Budget will be de minimis.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Blower Bldg. MCC Replacement: Impact to Operating Budget will be de minimis.						
Building and Facility Rehabilitation: Impact to Operating Budget will be de minimis.	-	-	-	-	-	-
Carrier Bridge P.S. Grinder Replacement: Impact to Operating Budget will be de minimis.	-	-	-	-	-	-
Fleet Gas Management System: Impact to Operating Budget will be de minimis.	-	-	-	-	-	-
Flow Monitoring: Impact to Operating Budget will be de minimis.	-	-	-	-	-	-
French Broad Carrier Bridge PER: Impact to Operating Budget will be de minimis.	-	-	-	-	-	-
Intermediate Clarifier Slide Gates: Impact to Operating Budget will be de minimis.	-	-	-	-	-	-
Plant Headworks Improvements: Impact to Operating Budget will be de minimis.	-	-	-	-	-	-
Plant High Rate Primary Treatment: Analysis is complete. Impact to operating budget includes additional energy, polymer, alum, and ballast costs.	-	-	286,313	584,024	607,246	3,416,038

## Operational Impact Summary (continued)

PROJECT NAME	FY 17-18 BUDGET	FY 18-19 BUDGET	FY 19-20 BUDGET	FY 20-21 BUDGET	FY 21-22 BUDGET	FY 22-23 thru FY 26-27 BUDGET
<b>TREATMENT PLANT, PUMP STATIONS &amp; GENERAL CAPITAL IMPROVEMENTS (continued)</b>						
Reems Creek Ps Improvements: Impact to Operating Budget will be de minimis.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sodium Hypo. Tank Replacement: Impact to Operating Budget will be de minimis.	-	-	-	-	-	-
General Capital Equipment: Impact to Operating Budget will be de minimis.	-	-	-	-	-	-
Weaverville Pump Stations - Soft Start: Impact to Operating Budget will be de minimis.	-	-	-	-	-	-
<b>TREATMENT PLANT, PUMP STATIONS &amp; GENERAL CAPITAL IMPROVEMENTS</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 286,313</b>	<b>\$ 584,024</b>	<b>\$ 607,246</b>	<b>\$ 3,416,038</b>
<b>DESIGN, ROW, &amp; CONSTRUCTION MANAGEMENT EXPENSES</b>						
Design, ROW, & Const. Mgmt. Exp.: No Impact to Operating Budget.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>DESIGN, ROW, &amp; CONSTRUCTION MANAGEMENT EXPENSES</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>OPERATIONAL IMPACT SUMMARY</b>						
<b>PROJECT CATEGORY</b>	<b>FY 17-18 BUDGET</b>	<b>FY 18-19 BUDGET</b>	<b>FY 19-20 BUDGET</b>	<b>FY 20-21 BUDGET</b>	<b>FY 21-22 BUDGET</b>	<b>FY 22-23 thru FY 26-27 BUDGET</b>
<b>OPERATIONAL IMPACT SUMMARY</b>						
Interceptor & Wet Weather Rehabilitation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
General Sewer Rehabilitation	-	-	-	-	-	-
Private Sewer Rehabilitation	-	-	-	-	-	-
Treatment Plant, Pump Station and General Capital Improvements	-	-	286,313	584,024	607,246	3,416,038
Design, ROW, & Construction Management Expenses	-	-	-	-	-	-
<b>Total</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 286,313</b>	<b>\$ 584,024</b>	<b>\$ 607,246</b>	<b>\$ 3,416,038</b>



# DEBT FINANCING



## Debt Financing

### Debt Management

Prior to the 1990s, the District's policy was to fund capital improvements from user fees. Having inherited aging collector lines, some in excess of 100 years old, this policy forced the District to increase rates dramatically yet never provided enough funding to keep up with the magnitude of desperately needed repairs. Coming to realize the benefit of integrating capital-planning and debt-financing activities, the District Board developed a long-range plan to utilize bonds and pay-as-you-go in a coordinated capital improvement plan.

This combined strategy allows for more equity between long-term and new ratepayers while providing the necessary funding for an adequately functioning system. Issuing debt provides the capital to rehabilitate crumbling infrastructure while allowing present and future ratepayers who will enjoy the benefit to share the cost through annual principal and interest payments. This contrasts with a strategy that uses only pay-as-you-go whereby a resident will pay higher rates for many years to accumulate the funds needed for rehabilitation before enjoying any benefit, yet new users joining after completion of a project will have immediate use of the new facilities without sharing in any of the cost. Another advantage of combining borrowed funds with current funding is the ability to structure debt repayment schedules to avoid dramatic rate increases otherwise needed to provide adequate amounts for multi-million dollar projects.

The District's bonds are rated by national rating agencies as follows:

Moody's Investors Service	Standard & Poor's	Fitch Ratings
Aa1	AA+	AA+

In December 2015, the District received a ratings upgrade from Aa2 to Aa1 from Moody's Investors Service. Moody's Investors Service recognized the District's sound financial performance characterized by ample liquidity, healthy debt service coverage, and comprehensive fiscal planning. The rating also incorporates MSD's regional customer base, adequate system capacity, manageable debt levels, and satisfactory protections for bondholders. These high ratings enable the District to pay a lower rate of interest than many other utilities, which has a positive effect on the current and future budgets.

Unlike North Carolina's cities and counties, MSD does not have a debt limit. However, provisions in the District's Bond Order require minimum debt coverage of 120% of net revenues to bonded debt service. The Board established a revenue policy, which sets a goal for debt coverage ratio to be approximately 150% for forecasting and planning purposes, realizing the impact of the increased debt coverage ratio on bond ratings.



## Debt Financing (continued)

### Debt Management (continued)

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The District maintains a ten year forecast to budget capital improvements financed by a combination of debt and current fees. Based on projections using modest, consistent rate increases and capital improvement projects as outlined in the District's 10-year Capital Improvement Plan, an additional \$28 million in debt is anticipated to be issued in FY2018 without affecting the planned rate of user charge increases.

### Capital Projects Funding

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Funding for capital projects comes from a combination of revenue bonds and pay-as-you-go financing. Details may be found in the Policies & Budget Process tab of this budget document where Debt Policy is presented and in the schedule, "Budget/Rate Forecast" which illustrates the timing of debt issues and accumulation of revenues over expenditures anticipated to be available for capital financing. Generally speaking, half of the funds for capital improvements come from debt financing, with the other half funded by the excess of revenues over expenditures (pay-as-you-go).

During FY14, the District issued \$26.2 million fixed rate revenue bonds. The District has expended the entire amount of proceeds from the aforementioned debt issuance. The District will accumulate funding from operations to finance a portion of the capital budget until the next debt issuance, anticipated to be in FY18.

As of June 30, 2017, the District will have \$90.0 million par value of outstanding revenue bond debt. During FY17, over \$9.8 million in principal will be repaid. The District anticipates issuing an additional \$28 million in revenue bonds in FY18. Debt service from this future bond issue has been included in the District's long-term business plan and sewer rate increases. A summary of outstanding debt at June 30, 2017 and anticipated principal repayment during FY18 are on the following two (2) pages.

## Debt Financing (continued)

### Outstanding Debt as of June 30, 2017

	Original Issue Amount	Balance 6/30/2017	Additions	Retirements	Balance 6/30/2018
<b>Enka-Candler Water and Sewer District Bonds liability assumed by Metropolitan Sewerage District of Buncombe County, North Carolina on July 2, 1990 as stated in the sewer consolidated agreement</b>					
5.00% serial bonds assumed July 2, 1990 with maturities on each June 1 through 2024 varying from \$19,000 to \$64,000, interest payable annually.	\$1,500,000	\$404,000	\$ -	\$64,000	\$340,000
<b>Total Bonds, Enka Candler Series</b>	\$1,500,000	\$404,000	\$ -	\$64,000	\$340,000
<b>Revenue Bonds, Series 2008A issued to refund Series 2005 Revenue Bonds</b>					
Interest at variable rates in the weekly mode, payable monthly, due serially until 2031.	\$33,635,000	\$29,805,000	\$ -	\$855,000	\$28,950,000
<b>Total Bond, Series 2008A</b>	\$33,635,000	\$29,805,000	\$ -	\$855,000	\$28,950,000
<b>2009 North Carolina Water Pollution Control Revolving Fund used to construct certain sewerage</b>					
\$672,980 revolving loan issued August 18, 2009 unpaid principal sum is reduced by one-half as "Principal Forgiveness", interest accrues at 0%, 20 annual installments May 1, 2011 to 2030	\$336,490	\$218,715	\$ -	\$16,825	\$201,890
<b>Total State Revolving Fund</b>	\$336,490	\$218,715	\$ -	\$16,825	\$201,890
<b>Revenue Bonds, Series 2009A issued to construct certain sewerage projects</b>					
2.0% to 5.00% serial bonds issued October 7, 2009, with maturities on each July 1, 2010 through 2024 varying from \$400,000 to \$700,000; interest payable semi-annually	\$7,920,000	\$4,800,000	\$ -	\$515,000	\$4,285,000
5.00% term bonds issued October 7, 2009, at 109.001%, due July 1, 2029; interest payable semi-annually.	\$4,065,000	\$4,065,000	\$ -	\$ -	\$4,065,000
5.00% term bonds issued October 7, 2009, at 107.240%, due July 1, 2034; interest payable semi-annually.	\$5,220,000	\$5,220,000	\$ -	\$ -	\$5,220,000
<b>Total Bond, Series 2009A</b>	\$17,205,000	\$14,085,000	\$ -	\$515,000	\$13,570,000

## Debt Financing (continued)

### Outstanding Debt as of June 30, 2017 (continued)

	Original Issue Amount	Balance 6/30/2017	Additions	Retirements	Balance 6/30/2018
<b>Revenue Bonds, Series 2009B used to refund portions of Series 1999</b>					
2.0% to 5.00% serial bonds issued October 7, 2009, with maturities on each July 1, 2010 through 2019 varying from \$595,000 to \$3,100,000; interest payable semi-annually	\$13,360,000	\$1,845,000	\$ -	\$595,000	\$1,250,000
<b>Total Bond, Series 2009B</b>	\$13,360,000	\$1,845,000	\$ -	\$595,000	\$1,250,000
<b>Revenue Bonds, Series 2013 used to refund Series 2003 and Series 2008B</b>					
2.0% to 5.00% serial bonds issued May 1, 2013, with maturities on each July 1, 2014 through 2029 varying from \$1,065,000 to \$4,255,000; interest payable semi-annually	\$30,230,000	\$18,685,000	\$ -	\$1,595,000	\$17,090,000
<b>Total Bond, Series 2013</b>	\$30,230,000	\$18,685,000	\$ -	\$1,595,000	\$17,090,000
<b>Revenue Bonds, Series 2014 issued to construct certain sewerage projects</b>					
2.0% to 5.00% serial bonds issued May 21, 2014 with maturities on each July 1, 2015 through 2039 varying from \$535,000 to \$1,430,000; interest payable semi-annually	\$21,510,000	\$20,310,000	\$ -	\$685,000	\$19,625,000
5.00% term bonds issued May 21, 2014, at 112.950%, due July 1, 2039; interest payable semi-annually.	4,685,000	4,685,000	-	-	4,685,000
<b>Total Bond, Series 2014</b>	\$26,195,000	\$24,995,000	\$ -	\$685,000	\$24,310,000
<b>Total Bonds—All Series</b>	\$96,266,490	\$90,037,715	\$ -	\$4,325,825	\$85,711,890

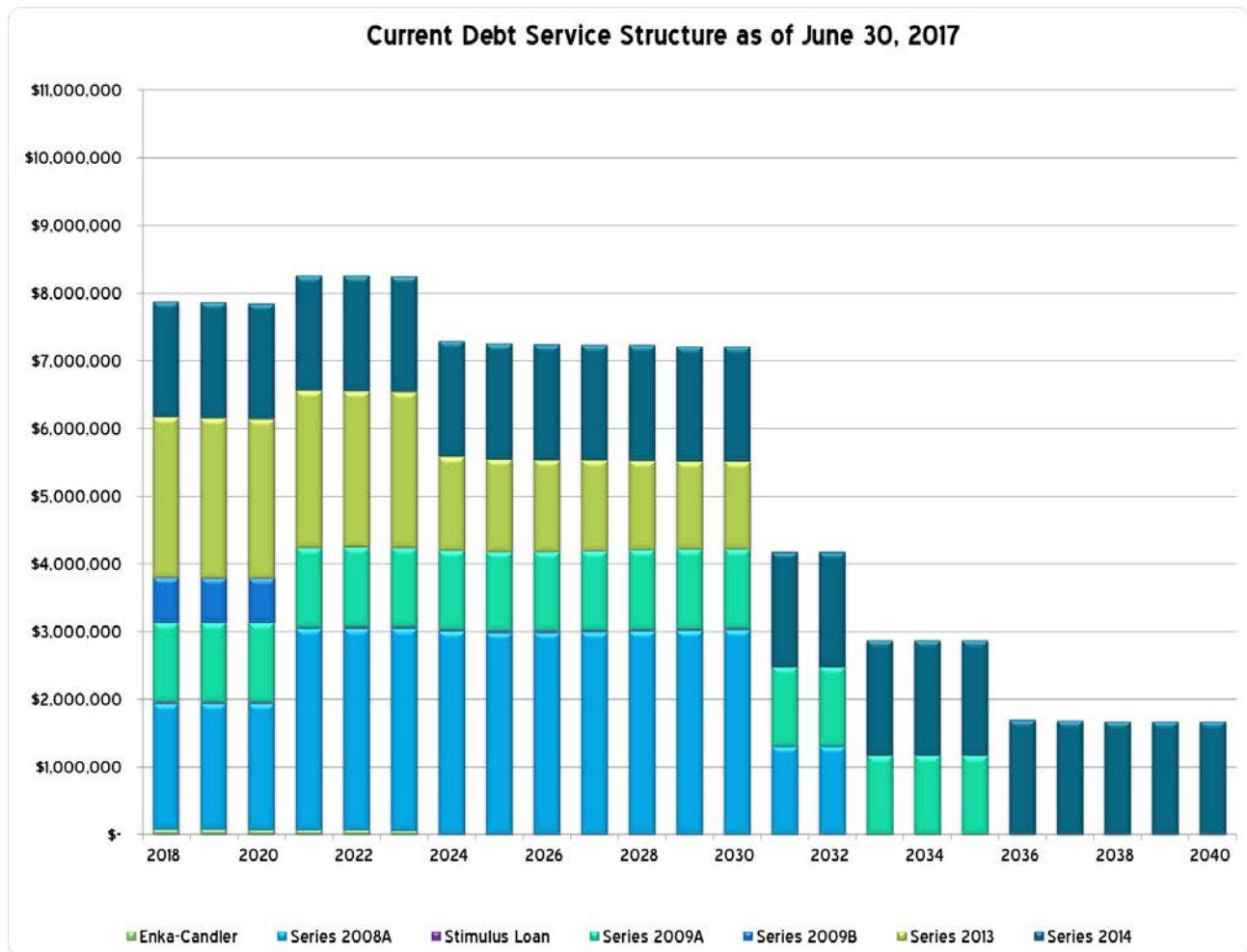
## Aggregate Debt Service

Year Ending June 30	Enka-Candler Bonds	Series 2008A Refunding	Series 2009A	Series 2009B Refunding
<b>2018</b>	\$ 84,200	\$ 1,858,620	\$ 1,180,700	\$ 656,900
<b>2019</b>	81,000	1,859,120	1,179,700	652,700
<b>2020</b>	77,800	1,863,272	1,182,800	647,700
<b>2021</b>	74,600	2,967,245	1,180,000	-
<b>2022</b>	71,400	2,979,356	1,183,150	-
<b>2023</b>	68,200	2,979,445	1,180,200	-
<b>2024</b>	21,000	2,986,599	1,180,875	-
<b>2025</b>	-	2,986,194	1,181,750	-
<b>2026</b>	-	2,987,324	1,180,875	-
<b>2027</b>	-	3,000,803	1,178,250	-
<b>2028</b>	-	3,010,738	1,178,750	-
<b>2029</b>	-	3,017,451	1,182,125	-
<b>2030</b>	-	3,025,226	1,178,375	-
<b>2031</b>	-	1,304,929	1,182,375	-
<b>2032</b>	-	1,306,777	1,179,000	-
<b>2033</b>	-	-	1,178,250	-
<b>2034</b>	-	-	1,179,875	-
<b>2035</b>	-	-	1,178,750	-
<b>2036</b>	-	-	-	-
<b>2037</b>	-	-	-	-
<b>2038</b>	-	-	-	-
<b>2039</b>	-	-	-	-
<b>2040</b>	-	-	-	-
	<b>\$ 478,200</b>	<b>\$ 38,133,098</b>	<b>\$ 21,245,800</b>	<b>\$ 1,957,300</b>

## Aggregate Debt Service (continued)

Year Ending June 30	North Carolina Water Pollution Control Revolving Fund		Series 2013 Refunding	Series 2014	Aggregate Debt Service
<b>2018</b>	\$	16,825	\$ 2,368,094	\$ 1,707,175	\$ 7,872,513
<b>2019</b>		16,825	2,363,094	1,709,175	7,861,613
<b>2020</b>		16,825	2,350,794	1,705,075	7,844,265
<b>2021</b>		16,825	2,322,594	1,701,025	8,262,289
<b>2022</b>		16,825	2,302,844	1,709,625	8,263,199
<b>2023</b>		16,825	2,298,219	1,705,775	8,248,663
<b>2024</b>		16,825	1,377,719	1,706,675	7,289,693
<b>2025</b>		16,825	1,363,469	1,708,025	7,256,262
<b>2026</b>		16,825	1,352,944	1,703,275	7,241,242
<b>2027</b>		16,825	1,341,444	1,695,775	7,233,096
<b>2028</b>		16,825	1,323,644	1,706,625	7,236,581
<b>2029</b>		16,825	1,304,644	1,695,475	7,216,520
<b>2030</b>		16,825	1,294,922	1,697,675	7,213,022
<b>2031</b>		-	-	1,698,175	4,185,479
<b>2032</b>		-	-	1,696,875	4,182,652
<b>2033</b>		-	-	1,698,675	2,876,925
<b>2034</b>		-	-	1,693,575	2,873,450
<b>2035</b>		-	-	1,698,138	2,876,888
<b>2036</b>		-	-	1,697,325	1,697,325
<b>2037</b>		-	-	1,692,850	1,692,850
<b>2038</b>		-	-	1,682,125	1,682,125
<b>2039</b>		-	-	1,681,000	1,681,000
<b>2040</b>		-	-	1,681,000	1,681,000
	\$	<b>218,719</b>	\$ <b>23,364,422</b>	\$ <b>39,071,113</b>	\$ <b>124,468,651</b>

## Aggregate Debt Service (continued)



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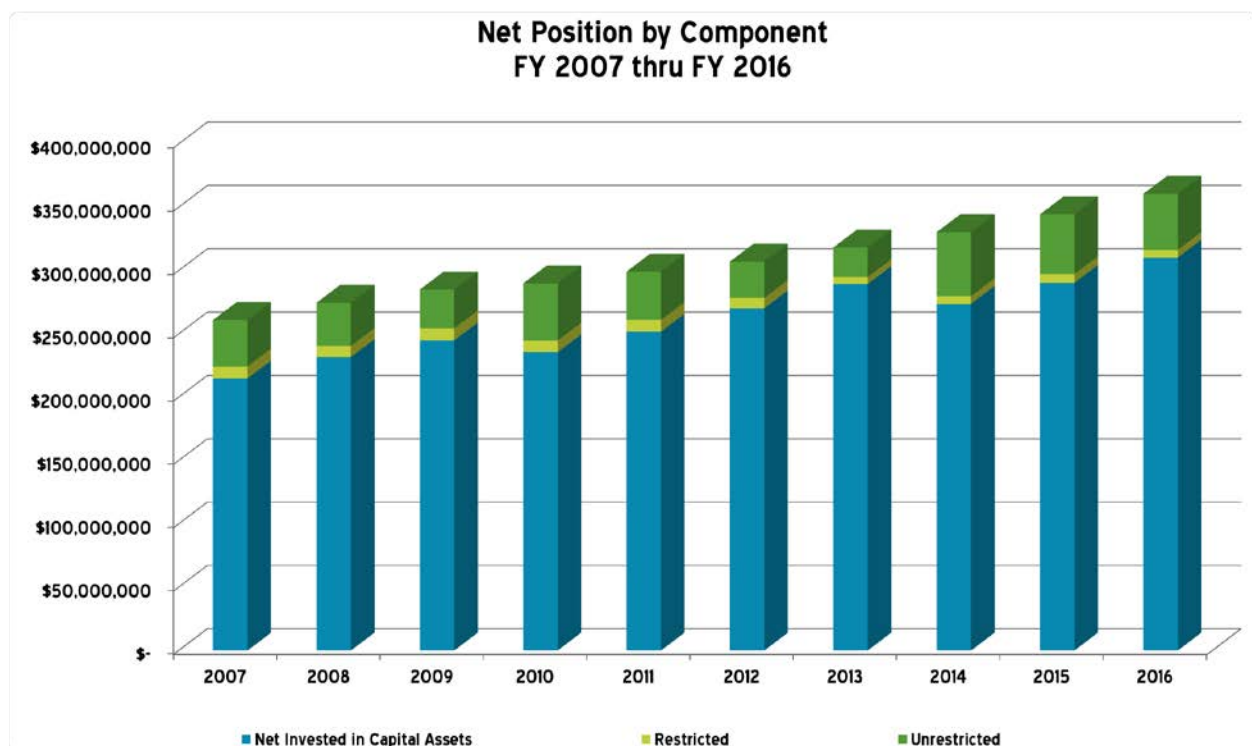
# STATISTICAL INFORMATION



## Net Position by Component

FY2007 to FY2016

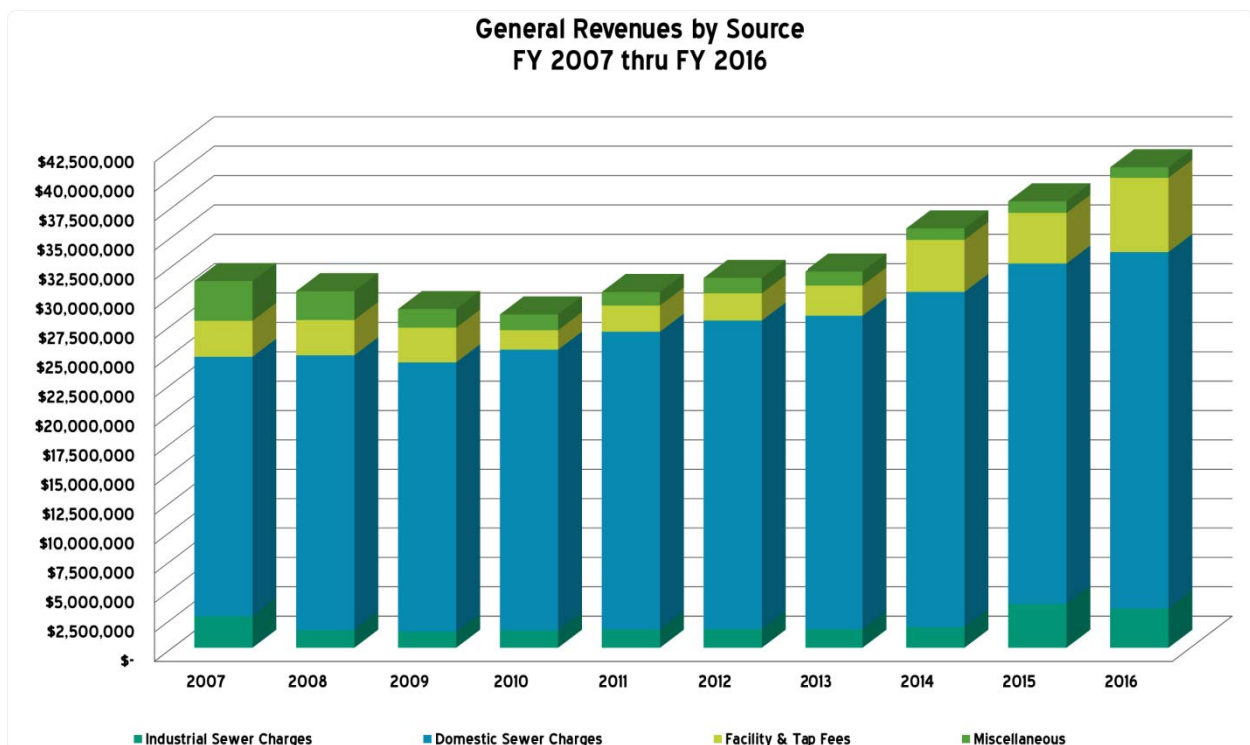
Fiscal Year Ended June 30	Net Invested in Capital Assets	Restricted	Unrestricted	Total Net Position
2007	\$ 214,808,683	\$ 9,447,494	\$ 36,699,672	\$ 260,955,849
2008	231,678,011	8,886,108	33,968,233	274,532,352
2009	244,875,790	9,493,497	30,570,139	284,939,426
2010	235,471,938	9,248,713	45,195,178	289,915,829
2011	251,754,578	9,294,955	38,170,812	299,220,345
2012	270,297,021	8,117,494	28,687,702	307,102,217
2013	289,369,009	5,472,550	23,332,868	318,174,427
2014	273,702,824	6,238,648	50,388,726	330,330,198
2015	290,329,700	6,930,286	47,164,270	344,424,256
2016	\$ 310,277,965	\$ 6,087,649	\$ 44,227,370	\$ 360,592,984



## General Revenues by Source

FY2007 to FY2016

Fiscal Year Ended June 30	Industrial Sewer Charges	Domestic Sewer Charges	Facility & Tap Fees	Miscellaneous	Total
2007	\$ 2,693,328	\$ 22,077,774	\$ 3,054,950	\$ 3,384,897	\$ 31,210,949
2008	1,510,669	23,385,025	3,005,184	2,444,885	30,345,763
2009	1,386,132	22,904,587	2,959,115	1,578,976	28,828,810
2010	1,498,529	23,871,289	1,654,010	1,348,691	28,372,519
2011	1,565,402	25,329,492	2,238,171	1,147,955	30,281,020
2012	1,599,819	26,249,357	2,321,474	1,305,959	31,476,609
2013	1,577,916	26,690,934	2,566,635	1,185,057	32,020,542
2014	1,758,818	28,528,622	4,430,475	972,397	35,690,312
2015	3,725,584	28,978,958	4,311,259	984,097	37,999,898
2016	\$ 3,344,074	\$ 30,335,486	\$ 6,324,596	\$ 895,535	\$ 40,899,691

**Note:** Does not include Capital Contributions

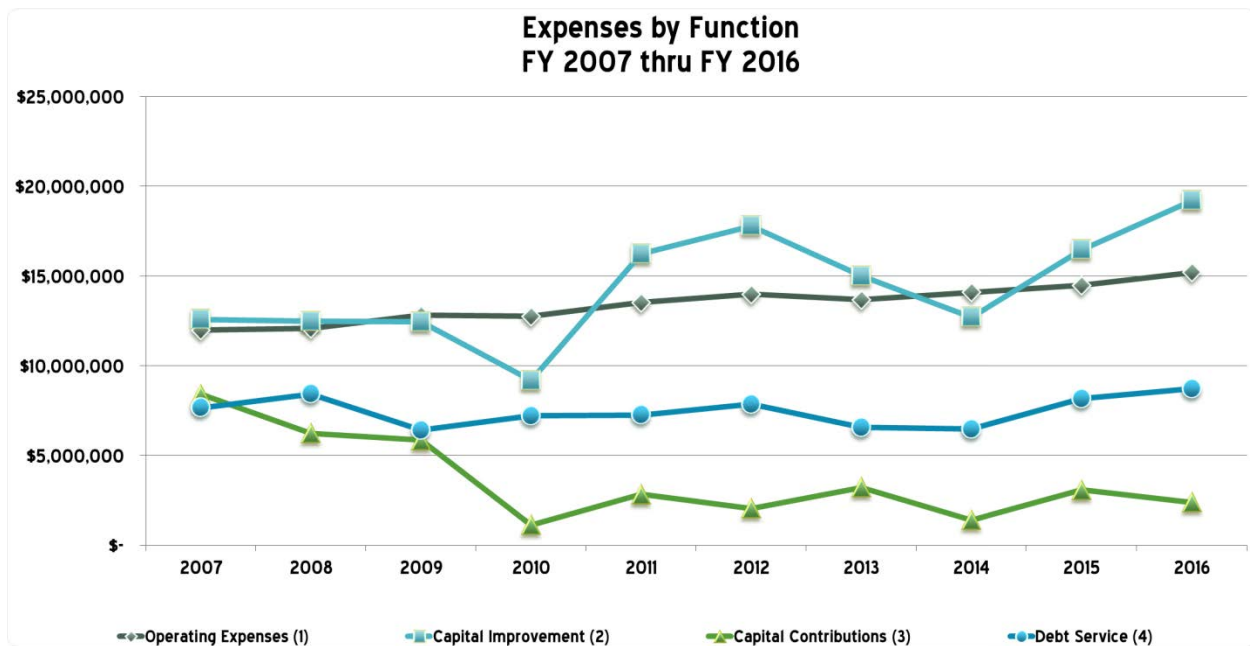


## Expenses by Function (Non-GAAP)

FY2007 to FY2016

Fiscal Year Ended June 30	Operating Expenses <sup>(1)</sup>	Capital Improvement <sup>(2)</sup>	Capital Contributions <sup>(3)</sup>	Debt Service <sup>(4)</sup>	Total
2007	\$ 11,977,241	\$ 12,574,902	\$ 8,404,343	\$ 7,650,737	\$ 40,607,223
2008	12,070,195	12,471,794	6,244,304	8,419,405	39,205,698
2009	12,808,349	12,447,791	5,856,798	6,413,405	37,526,343
2010	12,754,727	9,173,231	1,128,684	7,212,980	30,269,622
2011	13,522,468	16,226,145	2,841,859	7,255,856	39,846,328
2012	13,982,269	17,775,391	2,047,550	7,859,771	41,664,981
2013	13,674,518	14,988,922	3,217,846	6,553,956	38,435,242
2014	14,081,697	12,701,810	1,396,385	6,464,583	34,644,475
2015	14,468,184	16,455,653	3,078,520	8,154,350	42,156,707
2016	\$ 15,204,117	\$ 19,201,501	\$ 2,392,781	\$ 8,722,495	\$ 45,520,894

1. Includes general operations
2. Excludes depreciation expense
3. This includes collection system infrastructure contributed by developers
4. Includes Bond Principal Expense and Bond Interest Less Capitalized Interest Portion and excludes early retirement of long-term debt.



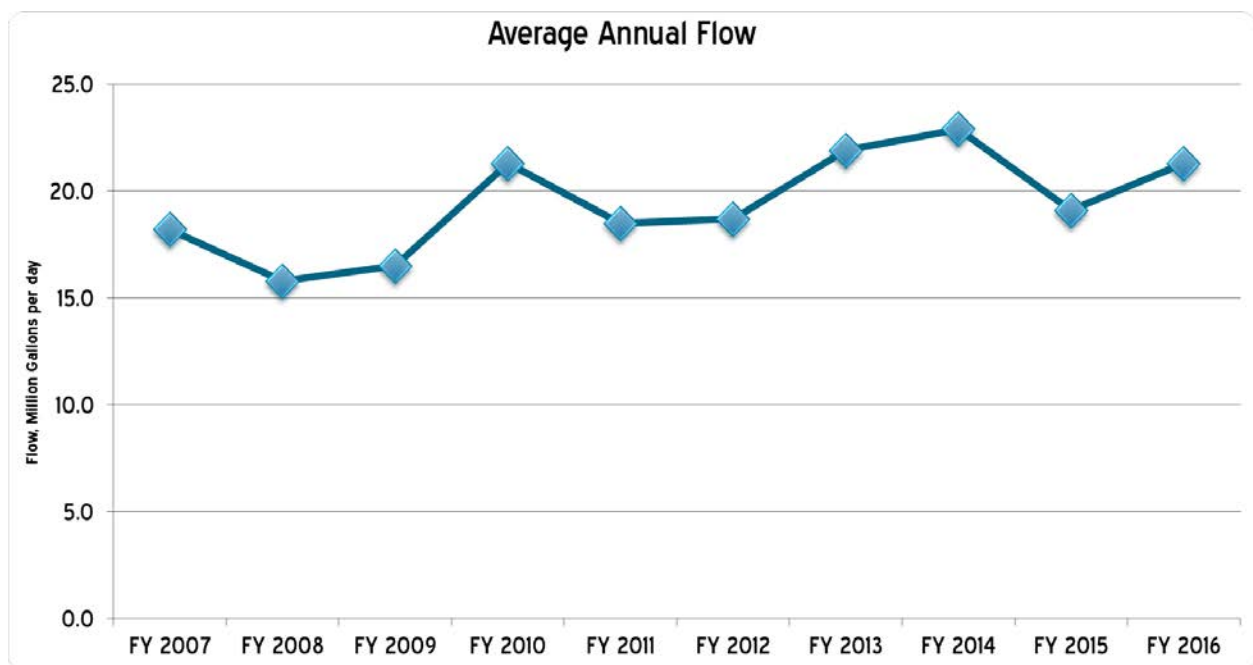
## Wastewater Flow Table

FY2007 to FY2016

Fiscal Year Ended June 30	ADF (A) (mgd)	Total Operating Expenses (B)
2007	18.2	\$ 11,977,241
2008	15.8	12,070,195
2009	16.5	12,808,349
2010	21.3	12,754,727
2011	18.5	13,522,468
2012	18.1	13,982,269
2013	21.9	13,674,518
2014	22.9	14,081,697
2015	19.1	14,468,184
2016	21.3	\$ 15,204,117

**A.** ADF=Average Daily Flow

**B.** Includes Collection System Operations and Administrative Expenses in addition to Wastewater Treatment Expenses but excludes depreciation.



## Demographic Statistics – Service Area Population

Year	Asheville	Biltmore Forest	Black Mountain	Montreat	Weaverville	Woodfin	Buncombe County (B)
1960	60,186	1,004	1,313	(A)	1,041	(A)	130,074
1970	57,681	1,298	3,204	581	1,280	(A)	145,056
1980	54,022	1,499	4,083	741	1,495	3,260	160,897
1990	64,625	1,346	6,537	799	2,056	3,002	174,727
2000	68,555	1,434	7,499	884	2,474	3,169	206,330
2010	74,140	1,522	7,646	774	2,894	3,395	233,932

## Demographic &amp; Economic Statistics

FY2007 to FY2016

Fiscal Year Ended June 30	Population Estimates <sup>1</sup>	Per Capita Income <sup>2</sup>	Median Age <sup>1</sup>	Civilian Labor Force <sup>3</sup>		
				Employed	Unemployed	Unemployment Rate
2007	230,766	\$ 35,266	40.5	117,069	4,476	3.7%
2008	233,772	36,050	40.7	117,933	5,664	4.6%
2009	236,349	34,146	40.8	111,852	10,675	8.7%
2010	238,776	34,151	40.7	113,978	10,716	8.6%
2011	241,345	35,572	40.9	115,209	10,337	8.2%
2012	244,243	37,486	41.2	117,764	9,628	7.6%
2013	247,618	37,257	41.4	120,681	8,209	6.3%
2014	250,297	39,340	41.6	121,613	6,070	4.8%
2015	253,178	40,994	41.8	125,069	6,237	4.7%
2016	257,413	Unavailable	41.9	129,756	5,276	3.9%

**Note:** The information above is for Buncombe County, N.C. The District believes that the above information is representative of the service area, which extends over approximately 80% of the county.

**Sources:**

1. North Carolina Office of State Budget and Management
2. Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce
3. North Carolina Department of Commerce, Division of Employment Security



## Principal Commercial Users

FY2007 to FY2016

Commercial User	Type of Business	2007			2016		
		Total Charges	Rank	Percentage of Total Charges	Total Charges	Rank	Percentage of Total Charges
Milkco, Inc.	Dairy Products & Juices	\$ 479,908	3	1.94%	\$ 574,628	1	1.71%
Charah	Ash Management Company				430,780	2	1.28
Mission Health System	Health & Emergency Services	173,499	6	0.70	422,769	3	1.26
Jacob Holm Industries America	Textile Manufacturing				287,323	4	0.85
Ridgecrest Baptist Conference Center	Christian Conference Center	215,815	4	0.87	226,062	5	0.67
Sierra Nevada	Micro-Brewery Manufacturer				195,717	6	0.58
New Belgium Brewing					158,595	7	0.47
Givens Estates	Retirement Community				147,296	8	0.44
BONAR	Chemical Manufacturer	105,527	9	0.43	141,997	9	0.42
- (formerly Colbond)							
Duke Progress Energy					130,300	10	0.39
Anvil Kintwear	Textile Manufacturing	766,335	1	3.09			
- (formerly Asheville Dyeing & Finishing)							
BASF	Textile Manufacturing	572,305	2	2.31			
Spring Global	Textile Manufacturing	184,053	5	0.74			
- (formerly Owen Manufacturing Company, Inc.)							
Day International	Textile Machine Parts	112,630	7	0.45			
The Biltmore Company		75,986	10	0.31			
VA Medical Center	Veterans Hospital	85,530	9	0.35			
- Asheville Department of Veterans Affairs							
TOTAL		\$ 2,771,588		11.19%	\$ 2,715,467		8.06%

## Principal Employers

FY2007 to FY2016

Employer	FY 2007			FY 2016		
	Employees	Rank	% of Total County Employment	Employees*	Rank	% of Total County Employment
Mission Health System & Hospitals	6,000	1	5.13%	3,000+	1	2.34%*
Buncombe County Public Schools	3,720	2	3.18%	3,000+	2	2.34%*
Asheville-Buncombe Technical Community College	-----			1,000-2,999	3	0.78% - 2.34%
The Biltmore Company	1,580	5	1.35%	1,000-2,999	4	0.78% - 2.34%
Buncombe County Government	1,670	4	1.43%	1,000-2,999	5	0.78% - 2.34%
City of Asheville	-----			1,000-2,999	6	0.78% - 2.34%
Ingles Markets, Inc.	3,050	3	2.61%	1,000-2,999	7	0.78% - 2.34%
Omni Grove Park Inn	1,100	7	0.94%	1,000-2,999	8	0.78% - 2.34%
VA Medical Center - Asheville	1,140	6	0.97%	1,000-2,999	9	0.78% - 2.34%
Eaton Corporation - Electrical Division	860	9	0.73%	705-999	10	0.59% - 0.78%
Community Care Partners	990	8	0.84%	-----		
Borgwarner Turbo & Emissions Systems	840	10	0.72%	-----		
<b>Total for Principal Employers</b>	<b>20,950</b>		<b>17.90%</b>	<b>13,750 - 21,992</b>		<b>10.74% - 17.18%</b>

# APPENDIX



## Classification of Accounts

**51100-Salaries & Wages**—This includes salaries & wages for 148 department personnel. Also includes a Cost of Living increase of 3.0%.

**51150-Overtime**—This includes compensation as necessary for non-exempt personnel.

**51200-NC Retirement**—The District contributes 7.58% of gross salaries and wages to the North Carolina Local Government Employees' Retirement System. The employees contribute an additional 6.00% through payroll deduction, but the employee portion is not budgeted, as it is not an expense of the District.

**51250-Payroll Taxes**—The District contributes 6.20% of gross salaries and wages to Social Security and 1.45% for Medicare as the employer share. The employees contribute equal amounts through payroll deduction, but this is not included in the budgeted amount.

**51300-Medical, Dental & Life**—This includes the employer allocation of the self-funded employee medical and dental program.

**51325-Post-Employment Insurance**—The District implemented GASB Statement No. 45: Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions. Included are postretirement benefits other than pension, for example, medical, dental, and vision.

**51350-Worker's Compensation**—This includes the allocation of worker's compensation premiums and deductible costs.

**51360-State Unemployment Benefits**—Beginning FY14, the District is being required to maintain a reserve equaling 1% of unemployment insurance taxable wages. In August of 2014, and every August subsequent, the Division of Employment Security (DES) will calculate the amount that each employer should have in its reserve. Unemployment claims for 2014 will be deducted from the reserve in the fall of that year. Employers will then receive a bill from the DES indicating the amount they must pay to replenish their reserve to the 1% level. This payment will cover both the costs of unemployment claims and increases in the employer's total number of employees or total taxable wages.

## Classification of Accounts (continued)

**51500-401(k)**—The District contributes up to 5.0% of matching contributions based upon the level of employee participation in the 401(k)-retirement plan. A professional investment institution administers this as contracted with the North Carolina Retirement System.

**52010-Advertising**—This includes newspaper ads for vacant positions, quarterly informational reports, and mandatory public SSO notices. In addition, the advertising account covers Annual Report and System Performance Annual Report distribution, door hangers and any other miscellaneous communications from the District to the public.

**52050-Dues & Subscriptions**—This includes memberships to professional organizations and subscriptions to water utility periodicals, local newspapers, etc.

**52100-Postage**—This includes the charges for mailing of all official correspondence.

**52150-Travel, Meetings & Training**—This includes attendance at regional, state, and national professional associations and various continuing education requirements including supervisory training, skill-based pay training, operators seminar, etc.

**52160-Tuition Assistance**—This includes pre-authorized monetary assistance to employees who take educational courses that directly relate to their positions at the District.

**52170-Director's Fees & Expenses**—This includes all costs pertaining to the Board of Directors such as stipends, meeting expenses, and travel to national water and wastewater conferences.

**52180-Insurance**—This represents allocation of general liability insurance premium and deductible costs.

**52210-Communications (other than landline telephone)**—This includes charges for cellular telephones, mobile radios, and pagers.

**52240-Uniforms**—This includes charges for the purchase of work shirts, pants, outerwear, safety boots and other related items, as well as the rental and cleaning of certain uniforms.

## Classification of Accounts (continued)

**52250-Office Supplies**—This includes paper, printing charges, and other miscellaneous office-related supplies.

**52260-Special Departmental Supplies**—This includes specialty paper, bindery supplies, and printing services for employee manual, index tabs, ID badges, film, film developing, business cards, and vellum.

**52270-Safety Equipment/Supplies**—This includes goggles, vests, trench-shoring equipment, gas monitors, and related items to prevent work-related injuries.

**52280-Supplies/Small Tools**—This includes chainsaw blades, drill bits, gloves, miscellaneous hand tools, axes, shovels, batteries, sewer tape, paint and paint brushes, etc.

**52290-Chemicals**—This includes all chemicals used in the treatment of wastewater.

**52300-Line Cleaning & Supplies**—This includes chemicals, rat bait, nozzles, hose, root cutters & replacement rods, root killer, degreaser, etc.

**52330-Legal Fees**—This includes professional services of the District's attorney for various matters not related to capital projects.

**52340-Debt Administration Fees**—This includes trustee fees, liquidity facility fees for variable debt, arbitrage calculation fees, and incidental expenditures incurred by the Bond Trustee.

**52350-Professional & Contractual Services**—This includes external audit fees, building security, emissions testing, effluent analysis, testing of samples, service contract on pumps, lab instrumentation, emergency line repairs, plumbing repairs, tree service, fence service, software annual support fees, and other outsourced services.

**52400-Repairs (Office Equipment)**—This includes charges for repairs of various office equipment not under a maintenance agreement.



## Classification of Accounts (continued)

**52410-Maintenance (Bldgs. & Grounds)**—This includes janitorial fees, outsourced repairs, mowing services, landscaping supplies, and elevator inspections.

**52420-Maintenance (Equipment)**—This includes maintenance expense on the forklift and pallet jack for the Purchasing/Warehouse Division, maintenance and repair of various equipment items, such as gas detectors, chlorinators, parts and repairs for the camera equipment, cable, pumps, and various other maintenance of non-vehicular equipment.

**52430-Landscape Restoration**—This includes manholes, rims & lids, blacktop patch and concrete materials, asphalt & concrete work, pipe, couplings, adapters, straw, grass seed, mulch, pine needles and plants required to recover excavated areas, etc.

**52440-Pump Maintenance**—This includes all parts and supplies necessary to maintain all MSD pumps.

**52450-Equipment Rental**—This includes the rental of equipment used occasionally like chippers and bulldozers.

**52460-Motor Fuel and Lubricants**—This includes gasoline, diesel fuel, motor oil, brake fluid, and similar supplies to operate and maintain the District fleet of trucks, vans, and heavy equipment.

**52470-Outside Vehicle Maintenance**—This includes expenditures paid to factory-authorized dealer service departments or similar enterprises to perform needed repairs to vehicles beyond the capabilities of the District's in-house fleet maintenance employees.

**52500-Rents & Leases**—This includes the rental of any equipment for the treatment plant, and operating leases for copiers and other office equipment.

**52510-Permits, Fees, & Software Licenses**—This includes charges for annual radiation license, stormwater permit, lab certification renewal, state operating permits, air permit, City of Asheville pavement cutting permits, and MSD manholes raised by the City during their paving programs and water usage by preventative maintenance trucks.

**52650-Utilities**—This includes charges for electricity, gas, water, and trash collection.



## Classification of Accounts (continued)

**52690-Freight**—This includes freight charges ONLY for items that are not clearly and easily defined as pertaining to a certain division and/or line item(s).

**52715-Safety Incentive Program**—Rewards to employees for compliance with safety rules and procedures are distributed by the Safety Officer based upon observations during routine and surprise inspections.

**52725-Wellness Program**—One of the ways the District attempts to manage costs for self-funded health insurance plan is to encourage employees to achieve and maintain healthy lifestyles. Wellness program costs include education, fitness equipment, and auxiliary supplies.

**52730-Employee Assistance Program**—The District contracts with an agency to provide resources for dealing with employee performance issues to assist management.

**52910-Non-Capital Equipment**—This includes any item under \$1,000 consisting of various tools and assorted information technology components such as computers or monitors.

**52915-Copiers, Printers and Faxes**—This includes routine supplies and purchase of any machines under \$1,000.

**52920-Billing & Collections**— This represents the billing and collection of sewer charges by the member agencies.

**53040-Fleet Equipment Replacement Fund**—This includes the proposed annual funding for the future acquisition of vehicles, trucks, and trailers. Current acquisition of replacement vehicles is budgeted in the replacement fund itself.

**54010-Capital Equipment (New)**—This includes requests for new equipment over \$1,000 or more and having a useful life of three years or longer.

**54020-Capital Equipment (Software)**—This includes license and other nonrecurring software charges of at least \$1,000 and having a useful life of three years or longer.

## Classification of Accounts (continued)

**54030-Capital Equipment (Replacement)**—This includes requests for replacement equipment over \$1,000 or more and having a useful life of three years or longer.

**59200-Chargebacks to Construction Fund**—Direct labor and materials costs incurred to acquire right-of-ways, design, plan, and monitor construction projects budgeted in the Systems Services and Engineering Services departments are transferred to the capital projects fund to be included in the capitalized cost of self-constructed assets.

## Job Classification by Grade Order (effective July 1, 2017)

<b>Grade</b>	<b>Annual Salary Range - July 1, 2017</b>			<b>Title</b>
	<b>Minimum</b>	<b>Mid-Point</b>	<b>Maximum</b>	
<b>5</b>	\$26,680	\$34,384	\$42,088	Construction Worker I
				Technical Services Worker I
<b>8</b>	28,731	37,028	45,325	Public Relations Representative
<b>9</b>	29,448	37,953	46,458	Construction Crew Worker II
				Technical Services Worker II
<b>11</b>	31,405	40,107	48,810	Construction Worker III
				Technical Services Worker III
<b>12</b>	34,480	42,256	50,031	Construction Operator I
				Dispatcher II
				Heavy Equipment Excavator I
				Office Assistant II
				Technical Services Operator I
<b>14</b>	36,224	44,394	52,565	Construction Administrative Assistant
				Operator in Training
				Right of Way Administrative Assistant
				Technical Services Operator II
<b>15</b>	37,131	45,505	53,878	Accounting Technician I
				Heavy Equipment Excavator II
				Purchasing Agent I
<b>16</b>	38,060	46,642	55,223	Accounting Technician II
				Construction Operator III
				Electrician II
				Mechanic II
				System Coordinator III
				Technical Services Operator III
<b>17</b>	39,011	47,807	56,603	Purchasing Agent II
<b>18</b>	39,987	49,003	58,020	Executive Secretary/GM & Board
<b>19</b>	40,987	50,228	59,470	GIS Data Mapping Technician
				Senior Electrician
				Senior Mechanic
<b>20</b>	\$42,011	\$51,485	\$60,958	Environmental, Health & Safety Technician
				Fleet Mechanic III

## Job Classification by Grade Order (effective July 1, 2017) (continued)

<b>Grade</b>	<b>Annual Salary Range - July 1, 2017</b>			<b>Title</b>
	<b>Minimum</b>	<b>Mid-Point</b>	<b>Maximum</b>	
<b>20</b>	\$42,011	\$51,485	\$60,958	WWTP Office Manager
				WWTP Operator
<b>21</b>	43,060	52,772	62,483	First Responder
				Industrial Waste Chemist
<b>22</b>	44,136	54,091	64,045	Construction Crew Leader
				Electrician IV/Specialist
				Engineering Technician II
				Lead Operator
<b>23</b>	45,244	55,446	65,648	Budget Analyst I
<b>24</b>	46,372	56,830	67,288	Construction Inspector III
				Purchasing Supervisor
<b>25</b>	47,532	58,252	68,971	Construction & Repair Supervisor
				Electrical Maintenance Crew Leader
				IT Technician II
				Mechanical Maintenance Crew Leader
				Night Supervisor
				Payroll/Benefits Manager
				Pump Station Maintenance Crew Leader
				Senior Crew Leader
				SSD Administrator
<b>26</b>	48,722	59,710	70,697	GIS Specialist
				Senior Field Representative
<b>27</b>	49,940	61,201	72,462	Maintenance Coordinator
<b>28</b>	51,187	62,731	74,275	HR Programs Manager
				Industrial Pretreatment Coordinator
				Right of Way Agent
<b>29</b>	52,466	64,298	76,131	Database Analyst
				Environmental, Health & Safety Manager
				GIS Analyst
				SCADA/PLC Technician
<b>30</b>	\$53,777	\$65,907	\$78,037	Design/Drafting Manager

## Job Classification by Grade Order (effective July 1, 2017) (continued)

<b>Grade</b>	<b>Annual Salary Range - July 1, 2017</b>			<b>Title</b>
	Minimum	Mid-Point	Maximum	
<b>32</b>	\$56,502	\$69,244	\$81,986	Database/Network Administrator
<b>33</b>	57,914	70,974	84,035	Right of Way Manager
<b>34</b>	59,362	72,749	86,136	Engineer I
<b>35</b>	60,849	74,569	88,289	Manager of SS Construction
<b>36</b>	62,367	76,431	90,495	Accounting Manager
				Facilities Maintenance Manager
				Field Operations Manager
				Fleet Maintenance Manager
				Maintenance Manager
<b>38</b>	65,528	80,303	95,078	GIS Manager
				IT Network Manager
				Planning & Development Manager
<b>40</b>	68,845	84,367	99,887	Engineer III
<b>43</b>	74,137	90,854	107,572	Operations Manager
<b>47</b>	81,835	100,287	118,739	Director of Construction
				Director of Finance
				Director of Human Resources
				Director of Information Technology
				Director of SS Maintenance
<b>49</b>	85,977	105,363	124,749	Director of Waste Treatment & Maintenance Facility
<b>53</b>	94,900	116,300	137,700	Director of Engineering
	contract			General Manager
	<b>Skill-Based</b>			
	\$35,341	\$47,406	\$59,470	Facilities Maintenance Technician

## Staffing History (FTE's)

Division & Position	Approved Positions 13-14	Approved Positions 14-15	Approved Positions 15-16
<b>Management</b>			
<b>Division Heads:</b>			
Director of Capital Improvement Program	1	0	0
Director of Engineering	0	1	1
Director of Financial Services	1	1	1
Director of Human Resources	1	1	1
Director of Planning & Development	1	0	0
Director of Information Technology	1	1	1
Director of System Services – Construction	1	1	1
Director of System Services – Maintenance	1	1	1
Director of Water Reclamation Facility	1	1	1
<b>Total Division Heads</b>	<b>8</b>	<b>7</b>	<b>7</b>
<b>Department of Office of the General Manager</b>			
General Manager	1	1	1
<b>Total General Manager</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Office Support:</b>			
Executive Secretary	1	1	1
<b>Total Office Support</b>	<b>1</b>	<b>1</b>	<b>1</b>
<b>Department of Human Resources</b>			
Public Relations Representative	1	1	1
HR Programs Manager	1	1	1
Payroll/Benefits Manager	1	1	1
<b>Total Human Resources</b>	<b>3</b>	<b>3</b>	<b>3</b>
<b>Environmental, Health &amp; Safety:</b>			
EHS Administrative Assistant	1	1	1
Environmental, Health & Safety Manager	1	1	1
<b>Total Environmental, Health &amp; Safety</b>	<b>2</b>	<b>2</b>	<b>2</b>
<b>Department of Information Technology</b>			
<b>Information Systems (IT):</b>			
IT Technician I	1	1	1
IT Technician II	1	1	1
IT Network Manager	1	1	1
<b>Total IT</b>	<b>3</b>	<b>3</b>	<b>3</b>
<b>Management Information Systems (MIS):</b>			
Database Analyst	1	1	1
Database Administrator/Developer	1	1	1
<b>Total MIS</b>	<b>2</b>	<b>2</b>	<b>2</b>

## Staffing History (FTE's) (continued)

Division & Position	Approved Positions 13-14	Approved Positions 14-15	Approved Positions 15-16
<b>Department of Information Technology</b>			
<b><i>Geographic Information Systems (GIS):</i></b>			
Technical Services Data Manager	1	1	1
GIS Analyst	0	1	1
GIS Technician I	1	1	1
Lead GIS Technician	1	0	0
GIS Manager	1	1	1
<b><i>Total GIS</i></b>	<b>4</b>	<b>4</b>	<b>4</b>
<b>Department of Financial Services</b>			
<b><i>Finance &amp; Budget:</i></b>			
Budget Analyst	1	1	1
<b><i>Total Finance &amp; Budget</i></b>	<b>1</b>	<b>1</b>	<b>1</b>
<b><i>Accounting, Investments &amp; Cash Flow</i></b>			
Accounting Technician I	1	2	2
Accounting Technician II	1	1	1
Accounting Manager	1	1	1
<b><i>Total Acct., Investments &amp; Cash Flow Management</i></b>	<b>3</b>	<b>4</b>	<b>4</b>
<b><i>Purchasing &amp; Warehouse:</i></b>			
Purchasing Agent I	1	1	1
Purchasing Agent II	1	1	1
Purchasing Supervisor	1	1	1
<b><i>Total Purchasing &amp; Warehouse</i></b>	<b>3</b>	<b>3</b>	<b>3</b>
<b>Department of Engineering</b>			
<b><i>Construction Administration:</i></b>			
Administrative Assistant – Construction	1	1	1
Construction Inspector II	2	1	1
Construction Inspector III	1	2	2
Construction Inspector IV	0	1	1
Construction Manager	1	0	0
<b><i>Total Construction Administration</i></b>	<b>5</b>	<b>5</b>	<b>5</b>
<b><i>Planning &amp; Development</i></b>			
Systems Coordinator III	2	2	2
Private Development Inspector	1	1	0
Private Development Project Manager	1	1	1
Private Development Coordinator/Plan Review	1	1	1
<b><i>Total Planning and Development</i></b>	<b>5</b>	<b>5</b>	<b>4</b>



## Staffing History (FTE's) (continued)

Division & Position	Approved Positions 13-14	Approved Positions 14-15	Approved Positions 15-16
<b>Department of Engineering (continued)</b>			
<b><i>Design and Drafting:</i></b>			
Engineering Technician I	1	1	1
Engineering Technician II	0	1	1
Engineering Technician III	0	0	0
Engineering Technician IV	2	0	0
Design and Drafting Manager	1	1	1
<b><i>Total Design and Drafting</i></b>	<b>4</b>	<b>3</b>	<b>3</b>
<b><i>Engineers:</i></b>			
Engineering Associate	1	0	0
Engineer I	0	2	2
Engineer II	1	1	1
Engineer III	1	0	0
Senior Engineer/Construction Manager	0	1	1
<b><i>Total Engineers</i></b>	<b>3</b>	<b>4</b>	<b>4</b>
<b><i>Office Support:</i></b>			
Office Manager	1	1	1
<b><i>Total Office Support</i></b>	<b>1</b>	<b>1</b>	<b>1</b>
<b><i>Right of Way:</i></b>			
Administrative Assistant – Right of Way	1	1	1
Right of Way Agent	1	1	1
Right of Way Manager	1	1	1
<b><i>Total Right of Way</i></b>	<b>3</b>	<b>3</b>	<b>3</b>
<b>Department of Water Reclamation Facility</b>			
<b><i>Plant Operations:</i></b>			
Lead Operator	0	2	2
Operations Manager	0	1	1
Senior Plant Operator	0	0	0
WWTP Office/Administrative Manager	0	0	1
WWTP Operator	10	8	8
WRF Superintendent	1	0	0
<b><i>Total Plant Operations</i></b>	<b>11</b>	<b>11</b>	<b>12</b>
<b><i>Fleet Maintenance:</i></b>			
Fleet Mechanic III	3	3	3
Fleet/Mechanical Maintenance Supervisor	1	1	1
<b><i>Total Fleet Maintenance</i></b>	<b>4</b>	<b>4</b>	<b>4</b>

## Staffing History (FTE's) (continued)

Division & Position	Approved Positions 13-14	Approved Positions 14-15	Approved Positions 15-16
<b>Department of Water Reclamation Facility</b>			
<b><i>Mechanical/Electrical Maintenance:</i></b>			
Electrician II	0	1	1
Electrical Maintenance Technician	4	0	0
Electrical Maintenance Foreman	0	0	0
Electrical Maintenance Crew Leader	1	1	1
Electrical Specialist	0	1	0
Instrumentation Specialist	0	1	1
Mechanic II	0	2	2
Mechanical Maintenance Technicians	6	0	0
Mechanical Maintenance Crew Leader	1	1	1
Mechanical Specialist	0	1	1
Pump Station Maintenance Technician	1	0	0
Pump Station Maintenance Crew Leader	1	0	0
Senior Electrician	0	2	2
Senior Mechanic	0	2	2
Electrical Maintenance Manager	1	1	1
<b>Total Mechanical/Electrical Maintenance</b>	<b>15</b>	<b>13</b>	<b>12</b>
<b><i>Industrial Waste:</i></b>			
Industrial Waste Chemist	1	1	1
Industrial Pretreatment Coordinator	1	1	1
Pump Station Maintenance Technician	0	1	1
Pump Station Maintenance Crew Leader	0	1	1
SCADA/PLC Technician	2	2	2
Field Operations Manager	1	1	1
<b>Total Industrial Waste</b>	<b>5</b>	<b>7</b>	<b>7</b>
<b><i>Facilities Maintenance:</i></b>			
Facility Maintenance Technician	5	5	5
Facilities Maintenance Manager	1	1	1
<b>Total Structural Maintenance</b>	<b>6</b>	<b>6</b>	<b>6</b>
<b>Department of System Services (Construction/Maintenance)</b>			
<b><i>Office Support:</i></b>			
Dispatcher	1	1	1
Office Assistant II	2	2	2
SSD Administrator	1	1	1
<b>Total Office Support</b>	<b>4</b>	<b>4</b>	<b>4</b>

## Staffing History (FTE's) (continued)

Division & Position	Approved Positions 13-14	Approved Positions 14-15	Approved Positions 15-16
<b>Department of System Services – Construction</b>			
<b>Construction:</b>			
Construction Worker I	5	1	1
Construction Worker II	0	6	6
Construction Worker III	6	4	4
Construction Operator I	2	1	1
Construction Operator II	2	2	2
Construction Operator III	0	0	0
Construction Crew Leader	4	4	4
Construction & Repair Supervisor	2	2	2
Heavy Equipment Excavator I	5	5	5
Heavy Equipment Excavator II	0	1	1
<b>Total System Services Construction</b>	<b>26</b>	<b>26</b>	<b>26</b>
<b>Department of System Services – Maintenance</b>			
<b>Maintenance:</b>			
First Responder	3	2	2
Technical Services Worker I	0	2	2
Technical Services Worker II	5	4	4
Technical Services Worker III	1	2	2
Technical Services Operator I	2	1	1
Technical Services Operator II	6	3	3
Technical Services Operator III	4	7	7
Assistant Supervisor - SS Maintenance	2	2	2
Collection System Maintenance Supervisor	2	2	2
<b>Total System Services - Maintenance</b>	<b>25</b>	<b>25</b>	<b>25</b>
<b>Total:</b>	<b>148</b>	<b>147</b>	<b>147</b>

**RESOLUTION ADOPTING FINAL BUDGET AND SEWER USE CHARGES  
FOR THE  
METROPOLITAN SEWERAGE DISTRICT  
OF BUNCOMBE COUNTY, NORTH CAROLINA  
FOR THE FISCAL YEAR July 1, 2017 THRU June 30, 2018**

**WHEREAS**, the Board of Directors has reviewed the Operations and Maintenance, Bond, Reserves, Construction Expenditures of the District, and the sources of revenue and allocations (uses) of expenditures for the 2017-2018 fiscal year; and

**NOW, THEREFORE, BE IT RESOLVED:**

- 1.** The following amounts are hereby appropriated in the Revenue Fund for the Operations and Maintenance of the District and for transfers to the Debt Service, General Fund, and Insurance Funds for the fiscal year beginning July 1, 2017 and ending June 30, 2018:

Operating and Maintenance Expenses	\$ 12,782,797
Transfer to Insurance Accounts	\$ 3,122,021
Transfer to Fleet & Heavy Equipment Fund	\$ 460,000
Transfer to Wastewater Treatment Plant Fund	<u>\$ 200,000</u>
Subtotal O&M	\$ 16,564,818
Transfer to Debt Service Fund	<u>\$ 9,790,466</u>
	<u>\$ 26,355,284</u>

It is estimated that the following revenues will be available in the Revenue Fund for the fiscal year beginning July 1, 2017 and ending June 30, 2018:

Domestic User Fees	\$ 31,169,273
Industrial User Fees	\$ 3,347,294
Billing and Collection Fees	\$ 800,255
Investment Interest	\$ 428,670
Reimbursement for Debt Service from COA	\$ 37,000
Rental Income	\$ 71,641
Contributions to Net Position	<u>\$ (9,498,849)</u>
	<u>\$ 26,355,284</u>

- 2.** The following amounts are hereby appropriated in the General Fund for the transfers to the Construction Fund for the fiscal year beginning July 1, 2017 and ending June 30, 2018:

Transfer into Construction	<u>\$ (2,000,000)</u>
----------------------------	-----------------------

It is estimated that the following revenues will be available in the General Fund for the fiscal year beginning July 1, 2017 and ending June 30, 2018:

Facility and Tap Fees	\$ 2,175,000
Investment Income	\$ 11,000
Contributions to Net Position	<u>\$ (186,000)</u>
	<u>\$ (2,000,000)</u>

3. The following amounts are hereby appropriated in the Construction Fund for Capital Improvement Plan expenditures for the fiscal year beginning July 1, 2017 and ending June 30, 2018.

Capital Improvements Projects	<u>\$ 28,307,716</u>
-------------------------------	----------------------

It is estimated that the following revenues will be available to the Construction Fund for the fiscal year beginning July 1, 2017 and ending June 30, 2018.

Proceeds from Revenue Bonds	\$ 28,000,000
Investment Income	\$ 290,527
Transfer from General Fund	\$ 2,000,000
Contributions to Net Position	<u>\$ (1,982,811)</u>
	<u>\$ 28,307,716</u>

4. The following amounts are presented as the financial plan of the Insurance Funds that are used to provide insurance services. Estimated operating expenditures for the fiscal year beginning July 1, 2017 and ending June 30, 2018 are:

Operating Expenditures	<u>\$ 3,554,339</u>
------------------------	---------------------

It is estimated that the following revenues will be available in the Insurance Funds for the fiscal year beginning July 1, 2017 and ending June 30, 2018:

Transfer In from the Revenue Fund	\$ 3,122,021
Investment Income	\$ 14,800
Employee/Retirees Medical Contributions	\$ 402,700
Appropriated Net Position	<u>\$ 14,818</u>
	<u>\$ 3,554,339</u>

5. The following amounts are presented as the financial plan of the Fleet & Heavy Equipment Fund designated for capital equipment expenditures for the fiscal year beginning July 1, 2017 and ending June 30, 2018 estimated as follows:

Capital Equipment	<u>\$ 634,000</u>
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It is estimated that the following revenues will be available in the Fleet & Heavy Equipment Fund for the fiscal year beginning July 1, 2017 and ending June 30, 2018:

Transfer in from the Revenue Fund	\$ 460,000
Sale of Surplus Property	\$ 76,080
Investment Income	\$ 4,542
Appropriated Net Position	<u>\$ 93,378</u>
	<u>\$ 634,000</u>

6. The following amounts are presented as the financial plan of the Wastewater Treatment Plant Replacement Fund designated for wastewater treatment plant capital expenditures for the fiscal year beginning July 1, 2017 and ending June 30, 2018 estimated as follows:

Capital Equipment	<u>\$ 180,000</u>
-------------------	-------------------

It is estimated that the following revenues will be available in the Wastewater Treatment Plant Replacement Fund for the fiscal year beginning July 1, 2017 and ending June 30, 2018:

Transfer In from the Revenue Fund	\$ 200,000
Investment Income	\$ 4,030
Transfer Out to Pump Station Replacement Fund	\$ (150,000)
Appropriated Net Position	<u>\$ 125,970</u>
	<u>\$ 180,000</u>

7. The following amounts are presented as the financial plan in the Pump Station Replacement Fund designated for pump capital expenditures for the fiscal year beginning July 1, 2017 and ending June 30, 2018 estimated as follows:

Capital Equipment	<u>\$ 70,050</u>
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It is estimated that the following revenues will be available in the Pump Station Replacement Fund for the fiscal year beginning July 1, 2017 and ending June 30, 2018:

Transfer In from the Wastewater Replacement Fund	\$ 150,000
Investment Income	\$ 453
Contributions to Net Position	<u>\$ (80,403)</u>
	<u>\$ 70,050</u>

8. The following amounts are hereby appropriated in the Debt Service Fund for principal and interest payments for the fiscal year beginning July 1, 2017 and ending June 30, 2018:

Debt Service	<u>\$ 9,790,466</u>
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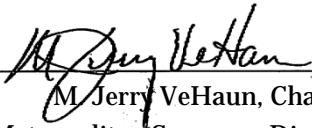
It is estimated that the following revenues will be available in the Debt Service Fund for the fiscal year beginning July 1, 2017 and ending June 30, 2018:

Transfer In from the Revenue Fund	\$ 9,790,466
Investment Income	\$ 50
Contributions to Net Position	<u>\$ (50)</u>
	<u>\$ 9,790,466</u>

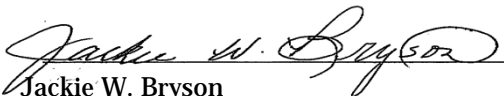
9. That the Board of the Metropolitan Sewerage District does hereby approve an increase in the Budgets to the amount necessary to reflect any contributions to the Debt Service Reserve Fund or Capital Reserve Fund as determined by the Bond Trustee to be necessary to comply with covenants in the Bond Order.

- 10.** The General Manager is hereby authorized to transfer appropriations as contained herein under the following conditions:
- a. He may transfer amounts without limitation between departments in a fund.
  - b. He may transfer any amounts within Debt Service and Reserve Funds designated as excess by the Trustee into another fund.
  - c. He may transfer up to 10% of Insurance Fund reserves to meet current year expenditures in excess of budget.
- 11.** That the attached Schedule of Fees and Charges be adopted as effective July 1, 2017.
- 12.** That this resolution shall be entered in the minutes of the District and within five (5) days after its adoption, copies thereof are ordered to be filed with the Finance and Budget Officer and Secretary of the Board as required by G.S. 159-13 (d).

Adopted this 14th day of June 2017.

  
\_\_\_\_\_  
M. Jerry VeHaun, Chairman  
Metropolitan Sewerage District of  
Buncombe County, North Carolina

Attest:

  
\_\_\_\_\_  
Jackie W. Bryson  
Secretary/Treasurer



# Schedule of Rates, Fees, and Charges - FY2018

**Effective July 1, 2017**

	<b>CURRENT FY17 RATE</b>	<b>PROPOSED FY18 RATE</b>
<b>Rate increase</b>		<b>2.50%</b>
<b>Collection Treatment Charge</b>		
Residential & Commercial Volume Charges (per CCF) Inside	\$ 4.39	\$ <b>4.50</b>
Industrial Volume Charges (per CCF) Inside	\$ 3.95	\$ <b>4.21</b>
Industrial Surcharge for BOD (per lb., BOD >250 mg/l) Inside	\$ 0.320	\$ <b>0.314</b>
Industrial Surcharge for TSS (per lb., TSS >250 mg/l) Inside	\$ 0.259	\$ <b>0.256</b>
Residential & Commercial Volume Charges (per CCF) Outside	\$ 4.40	\$ <b>4.51</b>
Industrial Volume Charges (per CCF) Outside	\$ 3.96	\$ <b>4.22</b>
Industrial Surcharge for BOD (per lb., BOD >250 mg/l) Outside	\$ 0.320	\$ <b>0.314</b>
Industrial Surcharge for TSS (per lb., TSS >250 mg/l) Outside	\$ 0.259	\$ <b>0.256</b>
<b>Base Meter/Maintenance Charge &amp; Billing Fee</b>		
5/8"	\$ 6.77	\$ <b>6.94</b>
3/4"	\$ 9.85	\$ <b>10.10</b>
1"	\$ 17.48	\$ <b>17.92</b>
1 1/2"	\$ 40.01	\$ <b>41.01</b>
2"	\$ 70.76	\$ <b>72.53</b>
3"	\$ 156.93	\$ <b>160.85</b>
4"	\$ 280.03	\$ <b>287.03</b>
6"	\$ 630.83	\$ <b>646.60</b>
8"	\$ 1,120.12	\$ <b>1,148.12</b>
10"	\$ 1,754.04	\$ <b>1,797.89</b>
Billing Fee (per bill)	\$ 2.31	\$ <b>2.36</b>
<b>Sewer Facility Fees</b>		
<i>This impact fee is for allotted capacity in the treatment and transmission system. A differential fee will be charged for increases to an existing meter size.</i>		
<b>Residential</b>		
Per Unit (non-mobile home)	\$ 2,500.00	\$ <b>2,500.00</b>
Mobile Home	\$ 1,740.00	\$ <b>1,740.00</b>
Affordable Housing	\$ 670.00	\$ <b>670.00</b>
<b>Nonresidential (modifiable per economic development waiver)</b>		
5/8"	\$ 2,500.00	\$ <b>2,500.00</b>
3/4"	\$ 2,830.00	\$ <b>2,830.00</b>

# Schedule of Rates, Fees, and Charges - FY2018 (continued)

**Effective July 1, 2017**

	<b>CURRENT FY17 RATE</b>	<b>PROPOSED FY18 RATE</b>
<b>Sewer Facility Fees</b> <small>(continued)</small>		
Nonresidential (modifiable per economic development waiver) <small>(continued)</small>		
1"	\$ 5,560.00	\$ <b>5,560.00</b>
1 1/2"	\$ 11,350.00	\$ <b>11,350.00</b>
2"	\$ 20,000.00	\$ <b>20,000.00</b>
3"	\$ 45,000.00	\$ <b>45,000.00</b>
4"	\$ 87,500.00	\$ <b>87,500.00</b>
6"	\$ 225,400.00	\$ <b>225,400.00</b>
8"	\$ 237,500.00	\$ <b>237,500.00</b>
Additions < 1,400 GPD	\$ 870.00	\$ <b>870.00</b>
Additions over 1,400 GPD	Based on flow rate & meter size	<b>Based on flow rate &amp; meter size</b>
<b>Sewer Connection Fees</b> * *		
<i>This fee is to provide new or re-establish existing service connections to the MSD system.</i>		
Sewer Connection by MSD	\$ 650.00	\$ <b>650.00</b>
Pavement Disturbance Fee	\$ 2,200.00	\$ <b>2,200.00</b>
Additional Charge for Boring	N/A	<b>N/A</b>
Refund if Boring avoids pavement disturbance	\$ (1,300.00)	\$ <b>(1,300.00)</b>
Inspection Fee for Developer (or Utility Contractor) Installed Sewer Connection	\$ 140.00	\$ <b>140.00</b>
<i>**The Sewer Connection Fee will apply to all new construction, as well as existing structures which have been demolished/rebuilt and sewer service is reinstated under new property ownership. MSD reserves the right to require that a licensed utility contractor install any sewer connection/service line. Sewer service lines within public rights-of-way between 75 and 300 feet shall be constructed by a licensed utility contractor to MSD Standards. All work will be subject to MSD inspection.</i>		
<b>Manhole Installation/Replacement</b>		
Cost per foot	\$ 250.00	\$ <b>250.00</b>
Pavement replacement (if required)	\$ 1,800.00	\$ <b>1,800.00</b>

**Schedule of Rates, Fees, and Charges - FY2018** (continued)**Effective July 1, 2017**

	<b>CURRENT FY17 RATE</b>	<b>PROPOSED FY18 RATE</b>
<b>Other Fees</b>		
Allocation Fee	\$ 170.00	\$ <b>170.00</b>
Non-Discharge Permit	\$ 200.00	\$ <b>200.00</b>
Plan Review Fee	\$ 450.00	\$ <b>450.00</b>
Plan re-review Fee	\$ 350.00	\$ <b>350.00</b>
Final Inspection	\$ 350.00	\$ <b>350.00</b>
Pump Station Acceptance Fee	Note 1	<b>Note 1</b>
<i><b>Note 1</b> --See policy for details of computation of O&amp;M and equipment replacement costs for upcoming 20 years; 50% discount for affordable housing</i>		
<b>Bulk Charges</b>		
Volume Charge for Septic Haulers (per 1,000 Gal.)	\$ 45.00	\$ <b>45.00</b>
Biochemical Oxygen Demand >250 mg/l (per lb.)	\$ 0.320	\$ <b>0.314</b>
Total Suspended Solids >250 mg/l (per lb.)	\$ 0.259	\$ <b>0.256</b>
<b>Returned Check Charge</b>		
Returned Check (per event)	\$ 25.00	\$ <b>25.00</b>
Dishonored Draft (per event)	\$ 25.00	\$ <b>25.00</b>
<b>Copy/Printing Fees/Miscellaneous (each)</b>		
8x11 first print of standard GIS inquiry	\$ 1.00	\$ <b>1.00</b>
8x14 first print of standard GIS inquiry	\$ 1.00	\$ <b>1.00</b>
11x17 first print of standard GIS inquiry	\$ 2.00	\$ <b>2.00</b>
24x36 first print of standard GIS inquiry	\$ 7.00	\$ <b>7.00</b>
34x44 first print of standard GIS inquiry	\$ 12.00	\$ <b>12.00</b>
36x48 first print of standard GIS inquiry	\$ 14.00	\$ <b>14.00</b>
8x11 or 8x14 copies after first print	\$ 0.11	\$ <b>0.11</b>
11x17 copies after first print	\$ 0.20	\$ <b>0.20</b>
24x36 copies after first print	\$ 0.94	\$ <b>0.94</b>
34x44 copies after first print	\$ 1.76	\$ <b>1.76</b>
36x48 copies after first print	\$ 2.03	\$ <b>2.03</b>
Foam Core mounting per sq. foot	\$ 3.00	\$ <b>3.00</b>
Data CD	\$ 30.00	\$ <b>30.00</b>
Shipping for CD	\$ 5.00	\$ <b>5.00</b>
Permit Decals for Septic Haulers	\$ 50.00	\$ <b>50.00</b>

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# GLOSSARY



## Glossary of Terms

***Accrual Basis of Accounting***—Method of accounting where revenues are recognized as soon as they are earned and expenses as soon as the liability is incurred. Used most frequently with business-type governmental funds.

***Actuary***—A professional trained in mathematics, statistics and economic techniques that allow them to put a financial value on future events. The District retains a consulting actuarial firm to perform the regular annual actuarial valuations of the post retirement plan.

***Actuarial Report***—A report performed annually by the actuary to examine whether the contributions made to a post-retirement plan is adequate.

***Adopted Budget***—The budget approved by District Board of Directors and enacted via a budget resolution, on or before June 15 of each year.

***AMSA (American Metropolitan Sewerage Association)***—Nationwide organization established to help improve operations.

***Annual Budget***—The District's adopted budget for a fiscal year.

***Basis of Accounting***—The criteria governing the timing of the recognition of financial transactions and events. There are three major methods of accounting—cash, accrual, and modified accrual.

***Billing Fee***—Charge assessed by member agencies that collect sewer user fees from ratepayers to recover the administrative cost of collection.

***BOD (Biochemical Oxygen Demand)***—A measure of the amount of oxygen used up in the anaerobic decomposition of organic matter. The BOD test utilizes the oxygen from air dissolved in water and reflects treatability or stage of decomposition. It gives a direct measurement of the strength of wastewater, usually expressed in mg/l (milligrams per liter).

***Bond***—A written promise to pay a specific sum of money (the principal) at a date or dates in the future (the maturity) together with periodic interest at a specified rate.

## Glossary of Terms (continued)

**Bond Rating**—Rating for bonds to be issued that primarily reflects the ability of the issuer to repay the bonds. Better bond ratings result in lower interest rates for the bonds issued. Current bond rates for the District are Aa2 by Moody's and AA+ by Standard and Poor's and Fitch Ratings.

**Budget**—A plan of financial operation comprised of an estimate of proposed expenditures for a fiscal year and the proposed means of financing those expenditures (revenue estimates).

**Budget Calendar**—The schedule of key dates or milestones, which the District follows in the preparation and adoption of the budget.

**Budget Document**—The official written statement prepared by the District's Director of Finance, which presents the proposed budget to the District Board of Directors.

**Budget Resolution**—The official statement by the District Board of Directors establishing the legal authority for the District Budget administrative staff to obligate and expend funds.

**Budget Transmittal**—A general discussion of the proposed budget presented to the Board by the General Manager and the Director of Finance as a part of the budget document. The budget message explains principal budget issues against the background of financial experience in recent years and presents recommendations made by the General Manager.

**Capital Budget**—The capital budget is responsible for all infrastructure projects in excess of the \$15,000 infrastructure capitalization threshold. Projects include replacing and rehabbing structurally defective sewer lines, handling wet-weather flow conditions, improving the performance at the wastewater treatment plant, and preparing the system to handle expected future wastewater flows over the upcoming decade. A capital budget appropriation is limited to the cost of a project and may be expended over a long period until the project is completed.

**Capital Expenditure**—An amount paid out that creates a benefit in more than one year, usually costs that are incurred in the acquisition or improvement of real or personal property. Capital expenditure includes both the cost of the asset itself as well as expenditures necessary to put it in place. Capital expenditure for equipment, for example, means the net invoice price of the equipment including the cost of any modifications, attachments and accessories or auxiliary apparatus necessary to make it usable for the purposes for which it is acquired. Ancillary charges such as taxes, duty, and protective in transit insurance, freight, and installation are also included in the total purchase price.



## Glossary of Terms (continued)

**Capital Improvement Program (CIP)**—Projects established to account for the cost of capital improvements. Typically, the District's capital projects include a purchase of land and/or the construction or rehabilitation of infrastructure such as major interceptors and pump stations as well as major renovations and additions to the hydroelectric and wastewater treatment plant facilities.

**Capital Reserve Fund**—The Metropolitan Sewerage District of Buncombe County Capital Reserve Fund, a special fund created by the provisions the District's Bond Order established to provide funding for unusual and extraordinary expenditures and debt service in the event of insufficient revenues.

**Cash Basis of Accounting**—Under cash basis, all transactions is recognized when cash is received or expended. This method is not acceptable for use by governmental entities.

**Collector Sewers**—That portion of the collection and transportation system, which gathers wastewater from individual buildings and transports it through a network of sanitary sewers to interceptor sewers.

**Coverage Ratio**—The excess of current revenues over current expenses divided by required debt service expressed as a ratio. This ratio is used to gauge the adequacy of utility rates to provide cash required for current operations and debt payments.

**Current Expenses**—The Districts' reasonable and necessary annual expenses of maintenance, repair, and operation of the Sewerage System.

**Debt Service**—Payment of interest and repayment of principal on bonded indebtedness.

**Department**—A management unit.

**District**—The Metropolitan Sewerage District of Buncombe County, North Carolina, a public body and body politic and corporate in the County of Buncombe, State of North Carolina exercising public and essential governmental functions to provide for the preservation and promotion of the public health and welfare.

**District Board**—The sewerage district board established under the provisions of the Enabling Act as the governing body of the District.

## Glossary of Terms (continued)

**Division**—A term used to describe a cost center with distinct objectives and activities within a Department.

**Domestic User**—Users whose sewer charges are based upon flow and meter size, predominately residences and small businesses.

**Enabling Act**—The North Carolina Metropolitan Sewerage Districts Act (Article 5, Chapter 162A, General Statutes of North Carolina, 1982 Replacement Volume, as amended) and, pursuant to the provisions thereof, The State and Local Government Revenue Bond Act (Article 5, Chapter 159, General Statutes of North Carolina, 1982 Replacement)

**Encumbrance**—Commitment of money to meet an obligation that is expected to be incurred to pay for goods or services received by the District.

**Enterprise Funds**—A type of proprietary fund set up to account for the financing of services to the general public where all or most of the operating expenses involved are recovered in the form of user charges.

**Environmental Protection Agency (EPA)**—The federal agency responsible for regulating water quality and the Federal Clean Water Act.

**Expansion**—Expenditures to enlarge capacity of facilities or extend system to new areas.

**Expenditures**—The cost of goods received or services rendered whether payment for such goods and services has been made or not.

**Federal Energy Regulatory Commission (FERC)**—An independent government agency, officially organized as part of the Department of Energy, and is responsible for regulating the interstate transmission of natural gas, oil, and electricity.

**Fiscal Year**—The calendar on which the District operates for financial and budget purposes. The District's fiscal year begins on July 1 and ends on June 30. The current fiscal year, 2014, began on July 1, 2013, and will continue until June 30, 2014.

**Flow**—Volume of domestic or industrial wastewater.

## Glossary of Terms (continued)

**Full-time equivalent (FTE)**—A method of calculating employment and enrollment to adjust for part-time or part-year participation. One FTE is equivalent to one full-time employee who works 40 per week for 52 weeks, for a total of 2,080 work hours.

**Fund**—A fiscal entity with a self-balancing set of accounts used to account for an activity(s) with common objectives.

**Fund Equity**—The excess of revenues over expenditures accumulated from prior years within a fund that are present in the form of cash at the beginning of the fiscal year.

**GAAP (Generally Accepted Accounting Principles)**—These are standards for measuring and reporting financial data promulgated by an authoritative body.

**GIS (Geographical Information System)**—An organized collection of computer hardware, software, geographic data, and personnel designed to efficiently capture, store, update, manipulate, analyze, and display all forms of geographically referenced information.

**Goal**—The underlying reason(s) for the provision of essential District services.

**Improvements**—Betterments or upgrades to increase value, quality or usefulness.

**Industrial User**—Any user of the Sewerage System who discharges industrial waste (the liquid and waterborne pollutants resulting from processes or operations employed in industrial establishments). Charges based on flow, BOD and TSS.

**I/I (Inflow/Infiltration)**—Water entering the collection system from rain, water table, streams, and other non-user sources, unnecessarily driving up cost of treatment and likelihood of SSOs.

**Influent**—The wastewater entering the reclamation facility.

**Infrastructure Rehabilitation System (IRS)**—A method of lining existing deteriorating sewer pipes in the ground to save the cost of having to dig them up and replace them. This procedure is performed by in-house staff, at a lower cost than hiring contractors.

## Glossary of Terms (continued)

**Interceptor**—A sewer that carries sanitary waste that is built by the District. These are large sewers that collect wastewater from local trunk sewers and convey it to the water reclamation facility.

**Laterals**—Privately owned building sewer lines and smaller collection system lines (4-6 inch in diameter) which connect to larger public main sewer lines.

**Lift Station**—A facility in a sewer system consisting of a receiving chamber, pumping equipment, and associated drive and control devices which collect and lift wastewater to a higher elevation when the continuance of the sewer at reasonable slopes would involve excessive trench depths; or that collects and raises wastewater through the use of force mains from areas too low to drain into available sewers.

**Line-item Budget**—A budget detailing categories of expenditure for goods and services that the District intends to purchase during the fiscal year.

**Local Government Budget & Fiscal Control Act**—The legal guidelines of the State of North Carolina, which govern budgetary and fiscal affairs of local governments, found in Chapter 159 of the North Carolina General Statutes.

**Local Government Commission (LGC)**—The nine-member body established as a division of the Department of the State Treasurer to serve the citizens of North Carolina by issuing debt for units of local government and public authorities, monitoring the repayment of their debt, and overseeing the fiscal activities and financial soundness of all local governments and public authorities.

**Modified Accrual Basis of Accounting**—Under modified accrual, revenue is recognized when earned provided it is collected in time to pay liabilities of the current period. Similarly, liabilities are recognized as expenditures when payment is due because it is only at that time that they normally are liquidated with expendable available financial resources.

**Net Assets**—The difference of total assets and total liabilities for any period.

**Net Revenues**—The excess of revenues over current expenses for any period.

## Glossary of Terms (continued)

**NPDES (National Pollutant Discharge Elimination System)**—Permit to operate wastewater treatment issued by the EPA.

**Objective**—A measurable statement of the actual service(s), which the District expects to achieve.

**Operations and Maintenance (O&M) Budget**—The annual budget for activities related to controlling, operating, managing, and maintaining the sewerage system. Operating costs include such expenses as personal services (salaries and benefits for classified employees and hourly workers), contractual services, and supplies.

**Order**—The Amended and Restated 1999 Bond Order. To request a copy, contact the Director of Finance at the address on the cover of this document.

**OSHA (Occupational Safety and Health Administration)**—Federal agency responsible for issuing and monitoring standards to minimize workplace deaths, injuries and illnesses.

**PER**—Preliminary Engineering Report.

**PLC (Programmable Logic Controller)**—Instrumentation hardware used for automated control of equipment.

**Preliminary Budget**—Budget that Board approves prior to adoption of final budget.

**Pretreatment**—Any process used by local industries to reduce pollution load before wastewater is introduced into a main sewer system or delivered to a reclamation facility.

**Proprietary Fund**—A type of fund that accounts for governmental operations that are financed and operated in a manner similar to private business enterprises. It is financed primarily from charges to users of services provided.

**Pumping Station**—A relatively large sewage pumping installation designed not only to lift sewage to a higher elevation but also to convey it through force mains to gravity flow points located relatively long distances from the pumping station.

## Glossary of Terms (continued)

**Recommended Budget**—The budget proposed by the General Manager and Director of Finance to District Board for adoption.

**Rehabilitation**—Expenditures for repair due to damage, wear, or decay to restore facilities to normal or optimum condition.

**Replacements**—Expenditures for components replacing existing units.

**Revenue (for purposes of Bond Order coverage)**—All payments, proceeds, fees, charges, and all other income derived by or for the account of the District from its ownership and operation of the Sewerage System, excluding all acreage, connection, front-footage, tap-on, assessment and similar fees and charges and grants derived by the District in connection with the provision of or payment for capital improvements constituting a part of the Sewerage System and excluding the proceeds of any taxes levied by the District.

**Rotating Biological Contactor (RBC)**—Large rotating plates housing bacteria, which consume dissolved solids in wastewater.

**Satellite System**—Any sewer system maintained by another entity without a state-issued discharge permit but which is connected to a MSD line for wastewater treatment and discharge by MSD. The State requires reporting for all satellite systems with a flow over 200,000 gallons per day. MSD has one reportable satellite system.

**Sewage**—Sewage refers to the wastewater flow from residential, commercial, and industrial establishments, which flows through the pipes to a reclamation facility.

**Sewerage**—Sewerage refers to the system of sewers and physical facilities employed to transport, treat, and discharge sewage.

**SCADA (Supervisory control and data acquisition)**—A computer system for gathering and analyzing real time data. SCADA systems are used to monitor and control a plant or equipment in industries such as telecommunications, water and waste control, energy, oil and gas refining and transportation.

**Sludge**—The accumulated settled solids deposited from sewage or industrial wastes, raw or treated, in tanks and basins, and containing more or less water forming a semi-liquid mass.

## Glossary of Terms (continued)

***SS (Suspended Solids)***—Solid matter that either floats on the surface of or is suspended in wastewater and which is removable by laboratory filtration.

***SSO (Sanitary System Overflow)***—Untreated wastewater escapes from the collection system.

***Treatment System***—Wastewater Treatment Plant of the District.

***User Charge***—Fees levied upon residential, commercial, and industrial users of a wastewater treatment system based upon the volume and characteristics of the waste.

***Water Reclamation Facility***—Wastewater Treatment Plant of the District.

***WNCRAQA Western North Carolina Regional Air Quality Agency***—A self-supporting, local air quality regulatory agency formed by an interlocal agreement between Buncombe County and the City of Asheville.

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