



Municipal Market Disclosure Information Cover Sheet

This Filing Applies to:

1. The Metropolitan Government of Nashville and Davidson County, TN Water and Sewer Revenue Bonds, Series 2022 (WIFIA Loan)

5920982T3

2. The Metropolitan Government of Nashville and Davidson County (Tennessee), Federally Taxable Water and Sewer Revenue Refunding Bonds, Series 2021B (Green Bonds), \$232,075,000 Dated:

October 14, 2021

592098X44, 592098X51, 592098X69, 592098X77, 592098X85, 592098X93, 592098Y27, 592098Y35, 592098Y43, 592098Y50, 592098Y68, 592098Y76, 592098Y84, 592098Y92, 592098Z26, 592098Z34, 592098Z42

3. The Metropolitan Government of Nashville and Davidson County (Tennessee), Water and Sewer Revenue Bonds, Series 2021A (Green Bonds), \$377,520,000 Dated: October 14, 2021

592098Z67, 592098Z75, 592098Z83, 592098Z91, 5920982A4, 5920982B2, 5920982C0, 5920982D8, 5920982E6, 5920982F3, 5920982G1, 5920982H9, 5920982J5, 5920982K2, 5920982L0, 5920982M8, 5920982N6, 5920982P1, 5920982Q9, 5920982R7, 5920982S5

4. The Metropolitan Government of Nashville and Davidson County (Tennessee), Water and Sewer Revenue Bonds, Series 2020A, \$169,575,000, Dated: April 8, 2020

592098T72, 592098T80, 592098T98, 592098U21, 592098U39, 592098U47, 592098U54, 592098U62, 592098U70, 592098U88, 592098U96, 592098V20, 592098V38, 592098V46, 592098V53, 592098V61, 592098V79, 592098V87, 592098V95

5. The Metropolitan Government of Nashville and Davidson County (Tennessee), Water and Sewer Revenue Bonds, Series 2020B, \$45,530,000, Dated: April 8, 2020

592098W45, 592098W52, 592098W60, 592098W78, 592098W86

6. The Metropolitan Government of Nashville and Davidson County (Tennessee), Water and Sewer Revenue Bonds, Series 2017A (Green Bonds), \$89,420,000, Dated: November 2, 2017

592098N60, 592098N78, 592098N86, 592098P27, 592098N94, 592098P35, 592098P43, 592098P50, 592098P68, 592098P76, 592098P92, 592098P84, 592098Q26, 592098Q34, 592098Q42, 592098Q59,

592098Q67, 592098Q75, 592098Q83, 592098Q91

7. The Metropolitan Government of Nashville and Davidson County (Tennessee), Water and Sewer Revenue Bonds, Series 2017B, \$155,210,000, Dated: November 2, 2017
592098R41, 592098R58, 592098R66, 592098R74, 592098R82, 592098R90, 592098S24, 592098S32, 592098S40, 592098S57, 592098S65, 592098S73, 592098S81, 592098S99, 592098T23, 592098T31, 592098T49

8. The Metropolitan Government of Nashville and Davidson County (Tennessee), Water and Sewer Revenue Bonds, Series 2013, \$237,930,000, Dated: April 25, 2013
592098M95, 592098L54

9. The Metropolitan Government of Nashville and Davidson County, Tennessee, Water and Sewer Revenue Bonds Federally Taxable Series 2010B (Build America Bonds - Direct Payment), \$135,000,000, Dated: December 16, 2010
592098G43, 592098G50

10. The Metropolitan Government of Nashville and Davidson County, Tennessee, Water and Sewer Revenue Bonds Federally Taxable Series 2010C (Recovery Zone Economic Development Bonds), \$75,000,000, Dated: December 16, 2010
592098G68

TYPE OF FILING:

If information is also available on the Internet, give URL: www.dacbond.com

WHAT TYPE OF INFORMATION ARE YOU PROVIDING? (Check all that apply)

Financial / Operating Data Disclosures

Rule 15c2-12 Disclosure

Annual Financial Information & Operating Data (Rule 15c2-12)

Audited Financial Statements or ACFR (Rule 15c2-12)

2022 Audited Financial Statements - Water & Sewer System

Failure to provide as required

Additional / Voluntary Disclosure

- Quarterly / Monthly Financial Information
- Change in Fiscal Year / Timing of Annual Disclosure
- Change in Accounting Standard
- Interim / Additional Financial Information / Operating Data
- Budget
- Investment / Debt / Financial Policy
- Information Provided to Rating Agency, Credit / Liquidity Provider or Other Third Party
- Consultant Reports
- Other Financial / Operating Data

Event Filing

Rule 15c2-12 Disclosure

- Principal / Interest Payment Delinquency
- Non-payment Related Default
- Unscheduled Draw on Debt Service Reserve Reflecting Financial Difficulties
- Unscheduled Draw on Credit Enhancement Reflecting Financial Difficulties
- Substitution of Credit or Liquidity Provider, or Its Failure to Perform
- Adverse Tax Opinion or Event Affecting the Tax-exempt Status of the Security
- Modification to the Rights of Security Holders
- Bond Call
- Defeasance
- Release, Substitution or Sale of Property Securing Repayment of the Security
- Rating Change
- Tender Offer / Secondary Market Purchases
- Merger / Consolidation / Acquisition and Sale of All or Substantially All Assets
- Bankruptcy, insolvency, receivership or similar event
- Successor, Additional or Change in Trustee
- Failure to Provide Event Filing Information as Required
- Financial Obligation - Incurrence and Agreement
- Financial Obligation - Event Reflecting Financial Difficulties

Additional / Voluntary Disclosure

- Amendment to Continuing Disclosure Undertaking
- Change in Obligated Person
- Notice to Investor Pursuant to Bond Documents
- Communication From the Internal Revenue Service
- Bid For Auction Rate or Other Securities
- Capital or Other Financing Plan

- Litigation / Enforcement Action
- Change of Tender Agent, Remarketing Agent or Other On-going Party
- Derivative or Other Similar Transaction
- Other Event-based Disclosures

Asset-Backed Securities Filing

Additional / Voluntary Disclosure

- Initial Asset-Backed Securities Disclosure (SEC Rule 15Ga-1(c)(1))
- Quarterly Asset-Backed Securities Disclosure (SEC Rule 15Ga-1(c)(2)(i))
- Annual Asset-Backed Securities Disclosure (SEC Rule 15Ga-1(c)(2)(ii))
- Other Asset-Backed Securities Disclosure (e.g. notice of termination of duty to file reports pursuant to SEC Rule 15Ga-1(c)(3))

Disclosure Dissemination Agent Contact:

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Relationship to Issuer: Dissemination Agent

Authorized By:

Name: Corbin I. Carpenter, Esquire

Title: Disclosure Counsel

Entity: The Metropolitan Government of Nashville and Davidson County, TN



Annual Disclosure

**ANNUAL FINANCIAL INFORMATION
For the Fiscal Year Ending
June 30, 2022**

**THE METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY
DEPARTMENT OF WATER AND SEWERAGE SERVICES**

**HISTORICAL STATEMENT OF REVENUES, EXPENSES, DEBT, AND DEBT
SERVICE COVERAGE**

For the Fiscal Year Ending June 30

	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>
Operating Revenues	223,840,989	227,648,685	265,887,373	309,956,808	335,440,141
Non-Operating Revenues	2,963,497	6,301,910	582,442	1,492,115	(2,674,036)
Total Revenues	226,804,486	233,950,595	266,469,815	311,448,923	332,766,105
Total Debt Service	79,024,582.41	86,100,050	66,978,202	74,523,093	80,835,232
Operating Expenses:					
Less Depreciation and Amortization	113,857,693.81	111,335,275	132,611,031	108,824,451	138,150,123
Debt Service on SRF Loans					
Undesignated Fund Balance	53,674,825.00	57,426,839	120,629,850	94,913,396	143,429,637
Coverage Ratio	1.43	1.42	2.00	2.72	2.41
All information taken from CAFR					

**FORECAST STATEMENT OF REVENUES, EXPENSES, DEBT, AND DEBT SERVICE
COVERAGE**
For Fiscal Year Ending June 30

Calculation for Rate Covenant Requirement					
	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Operating Revenues	\$ 337,119,500	\$ 350,250,000	\$ 357,255,000	\$ 364,400,100	\$ 375,412,200
Operating Expenses (Excluding PILOT)	152,768,400	157,351,500	162,072,000	166,934,200	177,100,400
Net Revenue (Excluding PILOT)	184,351,100	192,898,500	195,183,000	197,465,900	198,311,800
Payment in Lieu of Taxes (PILOT)	14,000,000	14,000,000	14,000,000	14,000,000	14,000,000
Debt Service - Parity Debt					
Bond Series 2010	14,161,712	8,780,462	8,780,462	8,780,462	8,780,462
Revenue Bonds 2013	11,180,850	6,673,125	551,625	-	-
Revenue Bonds 2017	16,777,569	16,780,569	16,991,969	16,991,769	16,991,844
Revenue Bonds 2020	15,275,175	20,419,675	20,410,675	20,412,175	20,376,550
Revenue Bonds 2021	28,181,401	28,182,135	34,853,830	34,854,523	34,852,402
Short-Term Financing	924,500	6,674,600	12,923,800	9,034,800	6,737,300
Net Debt Service - Parity Debt	86,501,207	87,510,566	94,512,361	90,073,728	87,738,558
Total Operating Expenses and Net Debt Service	\$ 239,269,607	\$ 244,862,066	\$ 256,584,361	\$ 257,007,928	\$ 264,838,958
Rate Covenant Ratios					
Sr. Subordinate (1.20 Required)	2.13	2.20	2.07	2.19	2.26
Notes: Senior Debt rate covenant ratio of 1.10 is no longer applicable.					

	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
Operating Revenues					
<i>Charges for Service</i>					
Water Revenues	\$ 129,582,000	\$ 132,173,840	\$ 134,817,113	\$ 137,176,400	\$ 138,891,100
Sewer Revenues	214,573,000	218,864,460	223,241,749	227,148,500	229,987,900
Customer Service Fees	3,250,000	3,315,000	3,381,300	3,440,500	3,483,500
Misc. Water & Sewer Revenue	2,110,000	2,152,200	2,195,244	2,233,700	2,261,700
<i>Subtotal: Charges for Service</i>	<u>349,515,000</u>	<u>356,505,300</u>	<u>363,635,400</u>	<u>369,999,100</u>	<u>374,624,200</u>
Non-Operating Revenues					
Interest Income on Fund Balances	\$ 250,000	\$ 255,000	\$ 260,100	\$ 264,700	\$ 268,000
Other Revenues	485,000	494,700	504,504	513,500	520,000
<i>Subtotal: Non-Operating Revenues</i>	<u>735,000</u>	<u>749,700</u>	<u>764,700</u>	<u>778,200</u>	<u>788,000</u>
Total Revenues	\$ 350,250,000	\$ 357,255,000	\$ 364,400,100	\$ 370,777,300	\$ 375,412,200
Operating Expenses	(157,351,500)	(162,072,000)	(166,934,200)	(171,942,200)	(177,100,400)
Net Revenues Available for Debt Service	\$ 192,898,500	\$ 195,183,000	\$ 197,465,900	\$ 198,835,100	\$ 198,311,800
Debt Service Funding					
<i>Revenue Bonds</i>					
Series 2010A Revenue Refunding Bonds	-	-	-	-	-
Series 2010B Revenue Bonds Taxable (BAB) ¹	(5,890,843)	(5,890,843)	(5,890,843)	(5,890,843)	(5,890,843)
Series 2010C Revenue Bonds Taxable (RZEDB) ¹	(2,889,619)	(2,889,619)	(2,889,619)	(2,889,619)	(2,889,619)
Series 2013 Revenue Bonds	(6,673,125)	(551,625)	-	-	-
Series 2017A Revenue (Green) Bonds	(6,112,444)	(6,112,294)	(6,113,344)	(6,111,944)	(6,112,294)
Series 2017B Revenue Bonds	(10,868,125)	(10,879,675)	(10,878,425)	(10,876,925)	(10,879,550)
Series 2020A Revenue Bonds	(10,876,050)	(10,879,675)	(10,878,425)	(10,876,925)	(10,879,550)
Series 2020B Revenue Refunding Bonds	(9,543,625)	(9,531,000)	(9,533,750)	(9,520,875)	(9,497,000)
Series 2021A Revenue Bonds	(7,846,851)	(7,847,960)	(14,521,155)	(14,520,348)	(14,519,602)
Series 2021B Revenue Bonds Taxable	(20,334,550)	(20,334,175)	(20,332,675)	(20,334,175)	(20,332,800)
Total Existing Bonds	(80,835,200)	(74,916,900)	(81,038,200)	(81,021,700)	(81,001,300)
Proposed Short-Term Financing	(6,000,000)	(10,500,000)	(6,250,000)	(7,500,000)	(4,000,000)
<i>Subtotal: Revenue Bonds</i>	<u>(86,835,200)</u>	<u>(85,416,900)</u>	<u>(87,288,200)</u>	<u>(88,521,700)</u>	<u>(85,001,300)</u>
<i>State Revolving Fund Loan</i>	<u>(674,600)</u>	<u>(2,423,800)</u>	<u>(2,784,800)</u>	<u>(2,761,000)</u>	<u>(2,737,300)</u>
Total Debt Service	\$ (87,509,800)	\$ (87,840,700)	\$ (90,073,000)	\$ (91,282,700)	\$ (87,738,600)
Total Revenues Available for Capital Projects	\$ 105,388,700	\$ 107,342,300	\$ 107,392,900	\$ 107,552,400	\$ 110,573,200
(transferred to E&R Fund)					
Other Budgeted Expenditures					
Total Consent Decree Program	110,500,000	158,500,000	255,800,000	255,800,000	255,800,000
Total Other Capital Projects	461,520,000	150,430,000	173,312,000	173,312,000	173,312,000
<i>Subtotal: Other Budgeted Expenditures</i>	<u>572,020,000</u>	<u>308,930,000</u>	<u>429,112,000</u>	<u>429,112,000</u>	<u>429,112,000</u>
Other Transfers In					
Transfer from Extension and Replacement Fund	110,000,000	149,250,000	149,360,000	140,350,000	141,275,000
Proposed Proceeds From Long-Term Debt	250,000,000	-	-	-	-
Proposed Proceeds from Short Term Financing	126,456,000	150,000,000	150,000,000	-	-
<i>Subtotal: Other Transfers In</i>	<u>\$ 486,456,000</u>	<u>\$ 299,250,000</u>	<u>\$ 299,360,000</u>	<u>\$ 140,350,000</u>	<u>\$ 141,275,000</u>
Remaining Available Funds (Revenue Surplus/Deficit)	\$ 105,388,700	\$ 107,342,300	\$ 107,392,900	\$ 107,552,400	\$ 110,573,200
Total Beginning Extension and Replacement Fund	\$ 343,543,690	\$ 388,932,390	\$ 393,024,690	\$ 386,057,590	\$ 388,259,990
Remaining Available Funds (Revenue Surplus/Deficit)	105,388,700	107,342,300	107,392,900	107,552,400	110,573,200
Water Impact Fees	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
Sewer Impact Fees	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000
Development Fee Revenue	35,000,000	30,000,000	20,000,000	20,000,000	20,000,000
Net Transfers	(110,000,000)	(149,250,000)	(149,360,000)	(140,350,000)	(141,275,000)
Total Ending Extension and Replacement Fund	\$ 388,932,390	\$ 393,024,690	\$ 388,057,590	\$ 388,259,990	\$ 392,558,190
Note:					
1. Debt Services are without the effect of sequestration					
2. The System adopted new water and sewer rate effectively January 1, 2020					

Rate Covenant

The Bond Resolution (RS 2010-1442 and subsequent substitute resolutions) requires the Metropolitan Government to set and maintain rates sufficient to produce Net Revenues (Revenues minus Operation and Maintenance Expenses) in each Fiscal Year at least equal to the greater of (i) 120% of the Debt Service Requirement on the Prior Bonds and the Outstanding Bonds in such Fiscal Year; or (ii) 100% of the sum of (A) the Debt Service Requirement on the Prior First Lien Bonds, the Second Lien Bonds and Subordinated indebtedness in such Fiscal Year, (B) the amounts required to be paid during such Fiscal Year into the debt service reserve fund and the operating reserve fund established by the Prior First Lien Resolution and to the Debt Service Reserve Fund established pursuant to the Bond Resolution, and (C) the amount of all other charges and liens whatsoever payable out of Revenues during such Fiscal Year, including, but not limited to, payments in lieu of taxes.

THE WATER AND SEWER SYSTEM

General

The formation of the Metropolitan Government of Nashville and Davidson County (“Metropolitan Government”) effective on April 1, 1963, resulted in the combination and consolidation of (1) the water and sewage system formerly maintained by the City of Nashville, and (2) the sewage system formerly maintained by the Davidson County Improvement District No. 1 into the Department of Water and Sewerage Services (the “Department”). The Department, established under Section 8.501 of the Charter of the Metropolitan Government, is charged with the responsibility for construction, operation and maintenance of all water and sanitary sewer facilities for the Metropolitan Government as well as the collection of all charges for the services of such utilities.

In addition to the facilities thus combined and consolidated, the Water System (as defined herein) and the Sewer System (as defined herein) have gradually been expanded and include: improvements financed by revenues; improvements resulting from capital contributions in aid of construction by private developers; all improvements, additions and extensions financed with the proceeds of outstanding bonds and governmental grants; and facilities acquired from the Nashville Suburban Utility District, the First Suburban Water Utility District of Davidson County, Tennessee, the sewerage service of the Parkwood Service Company, the Joelton Water Utility District, the City of Lakewood water and sewerage system, Rayon City Water Company, the Cumberland Utility District, the sewerage service of the Nolensville/College Grove Utility District in Williamson County, and the Old Hickory Utility District of Davidson County.

Under the Charter and Tennessee Code Annotated §7-3-302, the Metropolitan Government can assume and take over any water and/or sewer utility district located within its boundaries through ordinances adopted by the Metropolitan Council. Several such systems currently operate inside Davidson County and if a decision is made to consolidate these operations into the Department, the Metropolitan Government will take subject to or retire all debts and liabilities of the systems. The economic impact of such an assumption or takeover would be evaluated prior to the submission of any legislation to the Metropolitan Council. By contract dated February 1996, the Metropolitan Government has agreed not to take over the Harpeth Valley Utility District before February 2026.

Historically, the Department managed and partially funded the Stormwater operations of the Metropolitan Government. In 2009, the Metropolitan Government established a Stormwater Division of the Department as a stand-alone enterprise fund with its own set of service fees, which are now an itemized part of the water bill. Further funding of Stormwater operations will not be required of the Department.

On July 2020, the Department assumed management of the Metropolitan Government of Nashville Davidson County District Energy System (DES). DES delivers heat, ventilation, and air condition (HVAC) to buildings in the downtown corridor through a series of closed-circuit pipe systems carrying cooled and heated water. DES activities are funded solely from fees/rates from the Customers of the system and revenues generated from the general government.

On July 1, 2021 the Department assumed management of the Metropolitan Government of Nashville Davidson County Waste Services activities which includes resident recycling and waste collection in the Urban Services District, commercial trash collection in the downtown corridors, county-wide refuse collection convenience centers and drop off points, and oversight of the county's closed landfills. Waste Services activities are funded solely from Solid Waste fees and revenues generated from the general government.

The Water System

The water provided by the Department's water system (the "Water System") currently meets all physical, chemical, and bacteriological water quality standards established by the United States Environmental Protection Agency (the "EPA") under the Safe Drinking Water Act, as amended, by the Tennessee Department of Environment and Conservation ("TDEC") and under the Tennessee Safe Drinking Water Act of 1983, as amended.

The Water System draws water from the Cumberland River and processes it through modern filtration plants for delivery into the distribution system. Raw water is treated by chemical coagulation, flocculation, clarification, filtration, and disinfection. The existing water treatment plants and pumping facilities have a total delivery capacity of 180 million gallons per day. In Fiscal Year 2022, net sales to retail customers were 23.1 billion gallons. The peak demand for water from the system during Fiscal Year 2022 was 130 million gallons on June 29, 2022.

The Omohundro Water Treatment Plant, originally placed in service in 1889, has been extensively expanded and modernized over the years. This campus includes (i) the George Reyer Pumping Station, (ii) the Robert L. Lawrence Jr. Filtration Plant, and (iii) the Boiler House and an electrical substation. The substation, completed in 2019 includes four 2.5 mega-watt backup electrical generators that can run the entire Omohundro Campus at its rated maximum capacity of 90 million gallons per day. The central control room located at this plant provides constant monitoring of the status of all water pumping stations and reservoirs.

The K. R. Harrington Water Treatment Plant was completed and placed into operation in 1977. This facility provided an additional capacity of 60 million gallons per day to the Metropolitan Government's water treatment capabilities. Expansion of this plant to 90 million gallons per day was completed in 1992 and will ensure an adequate supply of potable water through the coming years. In 1999, as a precaution against prolonged power outages caused by ice storms, tornadoes, or other disasters, the Harrington Plant was equipped with four emergency

generators with a capacity of 1,750 kW each. These generators allow the Department to operate the plant at a capacity of 72 million gallons per day.

The water from the existing treatment plants is delivered into the water distribution system via six major transmission mains. The distribution system contains approximately 3,105 miles of mains ranging in diameter from 2 inches to 60 inches. Storage is provided by the 35-million-gallon capacity Eighth Avenue Reservoir and various other reservoirs with a combined additional capacity of 63.3 million gallons and by tanks and standpipes, many of which are utilized to provide water service in areas of higher elevation than the central urbanized area. At this time only half of the Eighth Avenue Reservoir is in service, thus reducing its capacity to 15.5 million gallons. The Water System has 57 booster-pumping stations to deliver water to these higher regions.

Although recent growth has been relatively flat, the Water System has experienced continuous growth over the past decade, and as of Fiscal Year 2022, has provided direct service to 220,021 customers. In Fiscal Year 2022, 61% of the water provided by the Water System was consumed by commercial and industrial customers (including residential apartment complexes), and 39% by residential customers. The following table illustrates growth of the Water System over the past 10 years.

15.2 Water System Facts in Brief

	Fiscal Years Ended June 30		
			(2012-2022)
	<u>FY 2022</u>	<u>FY 2012</u>	<u>Ten Year</u>
			<u>History</u>
Use of Water			
Water Customers ⁽¹⁾	220,021	185,965	18.31%
Average Daily Finished (MGD)	98.9	93.7	5.55%
Water Sales for Fiscal Year ⁽²⁾			
(billions of gallons)	23.1	22.5	2.67%
Maximum Daily Demand			
(millions of gallons)	130.0	125.2	3.83%
Growth of System			
Utility Plant Value ⁽³⁾			
Millions	2,376	1,697	40.01%
Reservoirs	35	38	-7.89%
Storage Capacity of Reservoirs			
(millions of gallons)	62.2	60.0	3.67%
Water Pumping Stations	57	57	0.00%
Miles of Distribution Lines	3,105	2,886	7.59%
Fire Hydrants	22,153	20,534	7.88%

(1) As per billing records

(2) Excludes wholesale customers

(3) Property, Plant & Equipment of the Combined Water and Sewer System, net of depreciation

The Department has a contract with ESource to perform an independent water audit annually. The audit for Fiscal Year 2022 is complete. During the audit, the system input volume is categorized as revenue water and non-revenue water. Non-revenue water is further broken down into real losses (leakage) and apparent losses (meter error). For Fiscal Year 2022, the real losses were 32.4% of system input volume and the apparent losses were 1.52% of system input volume.

The Sewer System

The existing sewerage system (the “Sewer System”) comprises 3,059 miles of gravity sewers, 117 pumping stations, 169 miles of force main and four treatment plants, the three most important of which are the Central Wastewater Treatment Plant, the Dry Creek Wastewater Treatment Plant, and the Whites Creek Wastewater Treatment Plant. The Central Wastewater Treatment Plant has a capacity of 250 million gallons per day plus an additional 80 million gallons per day stormwater treatment for a total capacity of 330 million gallons per day. The Dry Creek Wastewater Treatment Plant has a design capacity of 24 million gallons per day of secondary treatment while the Whites Creek Wastewater Treatment Plant has a capacity of 37.5 million gallons per day of secondary treatment.

The Department properly treats and disposes of sludge produced at its treatment plants consistent with State and Federal law and has constructed a biosolids facility to stabilize and further treat sludge, including sludge thickening, anaerobic digestion and heat drying. The methane gas produced from the digesters is used to heat dry the sludge into pellets, which are considered a Class A material by the USEPA and are a marketable product. The facility has significantly reduced the need to landfill the residuals.

The following table provides data on the use and facilities of the Sewer System over the last ten years. The average number of customers served increased 15.2% since Fiscal Year 2012. Over the last ten years, there has been an 9% increase in the number of sewerage pumping stations and a concurrent 5.4% increase in the miles of sewer lines. Wastewater treatment has increased by approximately 23.22%.

Sewer System Facts in Brief

	<u>Fiscal Years Ended June 30</u>		
	<u>FY 2022</u>	<u>FY 2012</u>	<u>(2012-2022) Ten Year History</u>
Sewer Customers	223,176	193,729	15.20%
Annual Sewage Treatment (billions of gallons)	66.6	54.2	22.88%
Average Daily Treatment (millions of gallons)	182.37	148	23.22%
Growth of System Utility Plant Value ⁽¹⁾ (millions)	2,376	1,697	40.01%
Total Miles of Sewer Lines	3,228	3,063	5.4%

Treatment Plants	4	4	-
No. of Sewer Pumping Stations	120	110	9.0%

(1) Property, Plant & Equipment of the Combined Water and Sewer System, net of depreciation

Major Customers

The following list shows the largest customers of the Department for water and sewer services for the fiscal year ended June 30, 2022, ranked according to billings.

WATER SERVICES LARGEST CUSTOMERS (In 1,000's)

City of Brentwood	\$ 833
Metro Water Bio Solids Treatment	673
RHP Operations OH, LLC	673
Metro District Energy Systems	591
Wometco Coca Cola	537
Cargill Meat Solutions, Inc.	506
Bridgestone Tire & RC	385
Purity Dairies, Inc.	376
Vandy – Power House	368
David Lipscomb University	364

SEWER SERVICES LARGEST CUSTOMERS (In 1,000's)

City of Brentwood	\$ 3,405
Hendersonville Utility District	3,319
City of Mount Juliet	3,267
City of Lavergne	2,762
City of Goodlettsville	2,721
Metro Water Bio Solids Treatment	1,411
RHP Operations OH, LLC	1,405
Cargill Meat Solutions, Inc.	1,004
Home Depot #733	631
CSX Transportation	560

Management and Personnel

SCOTT A. POTTER, P.E., Director, graduated from Vanderbilt University with a Bachelor of Engineering Degree in Electrical Engineering in 1986 and was commissioned as an Ensign in the United States Navy. While serving in the Navy Mr. Potter received a master's degree in Mechanical Engineering from the Naval Postgraduate School in Monterey, California, in 1991. Mr. Potter served on two destroyers: USS COCHRANE (DDG 21) and USS CALLAGHAN (DDG 994). While stationed at the United States Naval Academy, he earned the academic rank of Master Instructor, teaching courses in Statics, Materials Science, Applied Fluid Mechanics, Thermodynamics, and Applied Thermodynamics. The Louisville Water Company, in Louisville, Kentucky, employed Mr. Potter as Manager of Distribution Operations from 1998 to 2001. He was also an adjunct member of the faculty of the Mechanical Engineering Department in the Speed Scientific School at the University of Louisville and is presently an adjunct instructor at Belmont University in the Mathematics Department.

DAVID M. TUCKER, Deputy Director (Operations), graduated from Tennessee State University with a Bachelor of Science Degree in Biological Sciences. He has thirty-four years of experience in water and wastewater treatment plant operations and maintenance. Mr. Tucker holds a State of Tennessee Grade IV Operator's Certification in both water and wastewater treatment. The Operations division is responsible for the operation and maintenance of all water and wastewater treatment facilities, all associated pumping stations and reservoirs, Laboratory Services and Security. He joined the Department in 1987 as an Assistant Plant Manager and has progressed to his present position. He is a member of the Water Environmental Federation and the American Water Works Association

CYRUS Q. TOOSI, P.E., Assistant Director (Engineering), graduated from the University of Texas at Austin, in 1988, with a Bachelor of Science Degree in Civil Engineering. Mr. Toosi held a position with the City of Houston for two years prior to coming to Nashville. In 1990 he joined the Department as a hydraulic modeler, and as a flow monitoring, and planning specialist. He has since advanced to his present position. He has twenty years of experience in the engineering of water and wastewater systems. He has created MWS' Master Water Growth Plan, Asset Management Program, and Water Infrastructure Rehabilitation Program. He also currently serves as the Chief Engineer for the Department and also oversees the Overflow Abatement- Clean Water Nashville Program. He holds a Professional Engineering License in the State of Tennessee and is a member of the American Water Works Association and Water Environment Federation

LEANNE B SCOTT, P.E., Assistant Director (Repair and Maintenance of Distribution and Collection Systems) holds a Bachelor of Science degree in Chemical Engineering from Tennessee Technological University and a Master of Science degree in Engineering Management from the University of Tennessee. She has over thirty-five years of experience in water and wastewater systems, working across the department in treatment, distribution/collection systems, engineering planning. Leanne is a registered professional engineer in the State of Tennessee and holds Grade 4 Water Treatment Operator, Grade 2 Water Distribution Operator and Grade 2 Wastewater Collection Operator licenses. She is a member of the Water Environment Federation, served as President of the KY-TN Section in 2011-12 and

2013-14 and currently serves as a WEF Delegate at Large. She is also a member of the American Waterworks Association and serves on the section's Nonrevenue Water Committee.

BRENT R. FREEMAN, P.E., Assistant Director (Operations - Wastewater), holds a Bachelor of Science Degree in Civil Engineering from Tennessee Technological University. He is a licensed Professional Engineer, holds state operator certifications in Wastewater Operations, Collection, and Distribution, and is a Certified Energy Manager. He is a member of the Water Environment Federation, Association of Energy Engineers, and the American Water Works Association. Prior to joining the Department in 2002, Mr. Freeman worked as a consulting engineer; and he has over 25 years of professional experience in municipal operations and engineering.

GLEN K. DOSS, Assistant Director (Water Operations), holds an associate degree in Electrical Engineering Technology and a bachelor's degree in Business Administration. He has 29 years of experience in water and wastewater treatment plant operations and maintenance. Mr. Doss holds a State of Tennessee Grade IV Operator's Certification in both water and wastewater treatment. He joined the Department in 1992 as a helper in the electric shop at the Central Wastewater Treatment and has progressed to his present position. He is the licensed operator in direct charge of the water treatment system as per TDEC rules and regulations.

HAL BALTHROP, P.E., Assistant Director (Development Services), holds a Bachelor of Science Degree in Civil Engineering from Tennessee Technological University. He is a licensed Professional Engineer and the Department's State Licensed Collection System Manager and Water Distribution Manager. Mr. Balthrop also serves on the Tennessee Board of Architectural and Engineering Examiners, serves as State Chair of the Tennessee Water and Wastewater Agency Response Network, serves as Chair of the KY/TN AWWA Water Utility Committee on Legislative Issues and is a member of WEF, AWWA, TWWA, and TAUD.

AMANDA K. DEATON-MOYER, Assistant Director (Business & Finance), holds a Bachelor of Arts Degree in Political Science and a Master of Public Administration degree from the University of Georgia. She is a Certified Municipal Financial Officer for the State of Tennessee and is a member of the the Government Financial Officers Association. Prior to joining the Department in 2017, she served as the City Manager for the City of Forest Hills, Tennessee and the Assistant Chief Administrative Officer for Budget and Strategic Planning for the City of Macon, Georgia. She has over 10 years of professional experience in financial planning and management in the government sector.

SHANNON FRYE, Assistant Director (Customer Service & Information Services), graduated from Trevecca University with a Bachelor of Arts in Management and Human Relations. She joined the department in 1988 beginning her career in Human Resources and then transitioned to Customer Service where she has been working for over 30 years. Ms. Frye has served several years on the AWWA Customer Service Committee. She is the Chair of the KY/TN AWWA Knowledge, Creation, and Exchange Council and is a member of the Water for People Committee.

At the end of Fiscal Year 2022, the Department employed 696 persons. Employees of the Department are members of one of these pension plans:

Metropolitan Employees' Benefit Trust Fund

Established in 1963, the Metropolitan Employees' Benefit Trust Fund covers substantially all employees who are not members of any other plan and is used to account for Divisions A and B of the Metro Plan. Division B of the Metro Plan is the only plan open to new members. This fund receives contributions from both employees and from the Government. Under the administrative responsibility of the Employee Benefit Board, this fund provides for the accumulation of assets for the payment of disability and retirement benefits for employees covered under this plan.

Davidson County Employees' Retirement Fund

The Davidson County Employees' Retirement Fund covers certain employees of the former Davidson County and was closed to new members in 1963. Benefits are funded by contributions from the Government.

Closed City Plan Fund

The Civil Service Employees' Pension Fund covers certain employees of the former City of Nashville and was closed to new members in 1963. Benefits are funded by contributions from the Government.

Rate Setting Process

The Charter of the Metropolitan Government provides that the Metropolitan Mayor and the Metropolitan Council have the authority and are directed to establish the rates for water and sewerage services and to provide methods of changes in such rates. Acting in accordance with this authority, the Metropolitan Council adopted Ordinance BL 2019-045, which beginning January 1, 2020, implemented a five-year plan of increases for both water and wastewater rates. Both water and sewer rates were restructured in accordance with a cost of services study. In addition to the restructuring, rates were increased equivalent to 26.4% to meet planned capital needs. Water and Sewer Rate increases are 4% for calendar year 2021; and 3% for the calendar years 2022, 2023, and 2024. Beginning in calendar year 2025, annual rate increases based on the Consumer Price Index for All Urban Consumers occur in perpetuity. The Ordinance requires a cost of services study to be completed at least every seven years to review and realign rates.

The Metropolitan Council adopted Ordinance BL 2010-790 on December 7, 2010, imposing a 10% sewer surcharge in lieu of the surcharge which had previously been imposed to secure the payment of the TLDA Loans. Therefore, the sewer surcharge had not been included as part of Revenues, and such funds were not available to pay System operating expenses or System debt service (other than the TLDA Loans). Ordinance BL2019-045 renames the 10% Sewer Surcharge the Sewer Infrastructure Replacement fee and adds a 10% charge on water rates called the Water Infrastructure Replacement Fee. Revenue from the surcharges is available for payment of system operating expenses and debt service. In addition to rate adjustments, Ordinance BL2019-045 increased water capacity fees by 450%, sewer capacity fees by 207%.

Any change in the water and sewerage service rates established under the above ordinances must be adopted by the Metropolitan Council through approval of an ordinance. As stated in Section 3.05 of the Charter: "No ordinance shall become effective unless it shall have passed by a majority vote on three (3) different days, on the final passage of which it shall have received a majority vote of all the members to which the council is entitled and until it shall have been signed by the Metropolitan County Mayor or become a law without his signature...."

An ordinance will become law without the signature of the Metropolitan Mayor if the Mayor fails to approve or disapprove the ordinance and does not return it to the Metropolitan Council at or prior to the next regular meeting of the Metropolitan Council occurring ten days or more after the ordinance is delivered to the Mayor. If the Mayor vetoes the ordinance, it will become law if subsequently adopted by a two-thirds vote of all the members of the Metropolitan Council to which it is entitled.

Under the Charter of the Metropolitan Government, the Mayor is obligated to submit an operating budget to the Metropolitan Council no later than May 1st of each year. Before the beginning of each Fiscal Year, and in no event later than June 30th, the Metropolitan Council is obligated to adopt a budget, which must provide for all expenditures required by law or the Charter and for the payment of all debt service requirements for the ensuing year and a tax rate to fully fund the budget. If the Metropolitan Council fails to adopt a budget, the budget submitted by the Mayor becomes law and the Metropolitan Council must adopt a tax rate to fund that budget.

Monthly service charges for water and sewerage services are generally based, in each case, upon a rate schedule consisting of a minimum charge and a quantity charge. The minimum charges vary according to meter size and account class, i.e. residential, nonresidential/commercial. The quantity charge is dependent on use according to policy.

Water revenues from the Department’s customers include a fixed minimum charge per customer connection and a quantity charge per 100 cubic feet (cf) based upon the meter size and number of connections, and a 10% Water Infrastructure Replacement fee. The quantity charge is applied to all consumption in excess of 200 cf per month. The rates listed below were in effect as of January 1, 2020.

WATER AND SEWERAGE RATE SCHEDULE BY CUSTOMER CLASS

Monthly rates for water sold are based on meter measurement. Monthly sewerage service charges for the use of the public sanitary sewerage system are set by water consumption as determined by meter measurement. Minimum charges per month are based on size of meter and customer class.

CLASS DETERMINATION

<u>CLASS</u>	<u>ANTICIPATED OR HISTORICAL USAGE</u>
Residential	Up to two housing units on a common meter
Non-residential	All others

WATER AND SEWER CHARGES AND RATES

Minimum Charges per Month (Including 200 Cubic Feet Usage)

On January 1, 2020, the following rates went into effect as a result of the passage of Ordinance

BL2019-045:

Effective January 1, 2022

Water & Sewer Meter by Size			Volumetric Rates		
Meter Size	Water	Sewer	Residential Volumetric Rate	Water	Sewer
5/8 inch	\$5.45	\$8.72	0-2 CCF	\$0	\$0
3/4 inch	12.98	38.56	2-6 CCF	3.75	6.26
1 inch	16.36	49.90	6-10 CCF	4.50	6.26
1.5 inch	28.76	97.13	>11 CCF	5.63	6.26
2 inch	40.61	136.45	Non-Residential Volumetric Rate	Water	Sewer
3 inch	64.90	169.88	0-2 CCF	\$0	\$0
4 inch	147.53	482.01	>2 CCF	2.95	6.26
6 inch	184.18	574.63			
8 & 10 inch	239.65	735.79	**Additional 10% Water and 10% Sewer Infrastructure Fees		

Effective January 1, 2023

Water & Sewer Meter by Size			Volumetric Rates		
Meter Size	Water	Sewer	Residential Volumetric Rate	Water	Sewer
5/8 inch	\$5.62	\$8.98	0-2 CCF	\$0	\$0
3/4 inch	13.37	39.72	2-6 CCF	3.86	6.45
1 inch	16.86	51.39	6-10 CCF	4.64	6.45
1.5 inch	29.62	100.04	>11 CCF	5.80	6.45
2 inch	41.82	140.55	Non-Residential Volumetric Rate	Water	Sewer
3 inch	66.84	174.98	0-2 CCF	\$0	\$0
4 inch	151.95	496.47	>2 CCF	3.04	6.45
6 inch	189.70	591.87			
8 & 10 inch	246.84	757.87	**Additional 10% Water and 10% Sewer Infrastructure Fees		

Billing and Collection Procedures

With certain limited exceptions, the Department is required to charge for all water and sewerage services provided by it and consumed by, or, in the case of sewerage services, made available to each customer. Charges for water and sewerage services are generally based on metered measurement of water consumption. The Department reads meters and renders bills to customers monthly. The charges for water and sewerage services are included in a single, combined bill in terms of a “net billing,” which is the charge calculated at established rates, and a “gross billing,” which is the current net billing increased by 5% or by \$2.50, whichever is greater. This addition to the net billing is a form of penalty for the customer’s failure to promptly pay the monthly bill for services. The gross billing amount becomes applicable 20 days after the billing is mailed to the customer. If a customer fails to pay a bill, a delinquency notice is included in the subsequent month’s bill. If the customer fails to pay the bill for a second time, the customer is notified of potential disconnect by letter and/or phone call advising that service will be discontinued if payment is not received in five days. If the customer does not pay the delinquent account within five days following the visit, the account is subject to immediate discontinuation of water and sewer service. To have service restored the customer must then pay the total delinquent amount plus a reconnection fee. If the Department is unable to collect the amount owed, the account is then turned over to a commercial collection agency.

The foregoing billing and collection procedures have resulted in the collection of approximately 99.58% of all amounts billed during the past five Fiscal Years.

The Department has approximately 215,000 meters across Davidson County, Tennessee. Of those, nearly 108,000 are AMI (“Advanced Meter Infrastructure”), meaning readings and other vital data can be sent and received remotely through the cellular network. Beginning in

2018, the Department replaced about 12,000 meters with this technology and will continue annually until the entire system is upgraded (pending supply chain issues). Currently, the AMI system uses 12 antennae to receive data; this system will be expanded as the network needs grow. Customer service has experienced a less than 1% failure rate with data reception from AMI meters.

Wholesale Customers

The Department provides sewage treatment services for the Cities of Brentwood, Goodlettsville, Millersville, Belle Meade, Lavergne, Ridgetop, Mount Juliet, Hendersonville Utility District, and White House Utility District (the “Wholesale Sewer Customers”), pursuant to contracts between the Department and each of the Wholesale Sewer Customers. Revenues from Wholesale Sewer Customers represented 5.1% (\$17.1M) of revenue received in Fiscal Year 2022. Wholesale contracts have been updated to include annual escalation based on the consumer price index. Under the wholesale contracts, the Department is obligated to treat sewage (subject to volume limitations) from the Wholesale Sewer Customers, and the Wholesale Sewer Customers are required to pay a volumetric rate for sewage delivered to the Department. Capital costs incurred by the Department to maintain capacity for the Wholesale Sewer Customers are recoverable under the contracts. None of the Wholesale Sewer Customers has ready access to other sewage treatment facilities. A cost of services study was conducted in Fiscal Year 2018 and rates were increased in October 2019 by 6% accordingly.

Wholesale Sewer Customer flows were approximately 12.71% of total treated flows for Fiscal Year 2022.

The following represents a summary of the effective dates and terms of the wholesale contracts:

CUSTOMER	EFFECTIVE DATE	AMENDMENT DATE	TERM OF CONTRACT
City of Belle Meade	October 1, 2014	NA	10 years
City of LaVergne	December 1, 2009	October 1, 2014	10 years
City of Millersville	February 16, 2010	October 1, 2014	10 years
City of Brentwood	November 19, 2009	October 1, 2014	10 years
City of Goodlettsville	September 27, 2010	October 1, 2014	10 years
Hendersonville Utility District	October 20, 2011	May 6, 2015	20 years
City of Ridgetop	May 6, 2015	NA	9 years
City of Mount Juliet	June 22, 1999	NA	30 years
White House Utility District	May 6, 2015	NA	9 Years

Operations and Maintenance

The Department has implemented operation and maintenance procedures with respect to the System and has undertaken several programs to upgrade performance, including a water

quality testing program. Water quality within the water treatment facilities is tested on site on an hourly basis. Additional testing is conducted at a central laboratory maintained by the Department and certified by the State of Tennessee.

Water discharged from the plants into the distribution system is monitored in accordance with the Federal Safe Drinking Water Act. Water discharged from the three wastewater treatment plants is tested to ensure compliance with the National Pollutant Discharge Elimination System as administered by the United States Environmental Protection Agency and Tennessee to the Tennessee Department of Environment and Conservation.

The Department takes every precaution to ensure that the water delivered to each customer is of the highest quality possible and meets all Federal and State drinking water standards. Drinking water does not contain lead when it leaves the treatment plants but tap water can accumulate trace amounts of lead through the corrosion of plumbing materials containing lead. The Department has had an intense corrosion control program since 1992 to prevent the possibility of lead leaching into the water. Following EPA and State guidelines, the Department regularly monitors drinking water in the distribution system for lead to determine the effectiveness of our corrosion control program. The Department replaces its portion of lead service lines prior to public works paving projects, during water main replacement projects, and when a lead service line is leaking, and repair would be required.

The Department performs regular maintenance and repair of equipment with outside contractors performing major repairs. To facilitate maintenance and repairs, the Department has established several inspection programs for the different areas of operation. Inspection programs include pumping station inspection, cross-connection protection testing, smoke testing for collection system integrity, water leak detection, fire hydrant testing and valve testing programs. Vans are equipped with closed circuit television cameras that can be maneuvered through the sewer mains to inspect the sewer system.

Comprehensive training programs have been developed for employees, from unskilled to supervisory and management positions, covering many aspects of the operation and maintenance of the Systems. Although participation in the programs is not mandatory, employees who wish to be promoted to a higher job classification must demonstrate that they have the knowledge and skills that such programs provide.

Environmental Regulation

The Federal Water Pollution Control Act of 1972 (“FWPCA”), as amended by the Clean Water Act of 1977, and the Water Quality Act of 1987 (collectively, the “CWA”), provides for the restoration and maintenance of the chemical, physical and biological integrity of the nation’s waters. To achieve that end, the FWPCA established the National Pollution Discharge Elimination System (“NPDES”), a permit system administered by the US Environmental Protection Agency (“EPA”) in conjunction with the states. The EPA has delegated the NPDES program for Tennessee to the Tennessee Department of Environment and Conservation (“TDEC”). The Tennessee General Assembly enacted the Tennessee Water Quality Control Act of 1977 to obtain the primary objectives of the CWA and to qualify for full participation in the NPDES program established under Section 402 of the FWPCA. Pursuant to the authority granted to it, the Tennessee Water Quality Control Board has enacted regulations consistent with the CWA.

In 1990, TDEC issued Order 88-3364 (the “1990 Order”) as a result of violations by the Metropolitan government of the Tennessee CWA from January 1987 through June 1989. The 1990 Order was, among other things, a result of the discharge of improperly treated wastewater into the waterways by the Metropolitan Government’s collection system and various wastewater treatment plants, leading to pollution in violation of the CWA. The 1990 Order also stated that the Metropolitan Government’s failure to comply with certain agreed upon orders entered by the Tennessee Water Quality Control Board in 1985 and 1987 was also a basis for the 1990 Order.

The 1990 Order identified specific problems regarding the Metropolitan Government’s collection system and wastewater treatment and required the Metropolitan Government to correct them. In response, the Department developed a detailed program, referred to as the “Overflow Abatement Program” (“OAP”), for making system improvements to correct the problems identified in the 1990 Order. This program was approved by the TDEC. Although the Department substantially complied with the 1990 Order, it was not in full compliance with the CWA as of 1999.

On September 17, 1999, the TDEC issued Order 99-0390 (the “1999 Order”) replacing the 1990 Order and citing the Metropolitan Government in violation of state law. Effective July 1, 2001, the Metropolitan Government was to immediately not permit or allow any overflows of bypasses from its combined sewer system (wastewater and storm water) during dry weather to any waters of the State, nor was it to allow any discharge from the sanitary sewerage system to any tributary of the Cumberland River. The flow limits that the tie-in points from all contributing satellite sewage systems were to be maintained.

The Metropolitan Government has substantially addressed the issues raised in the 1999 Order and implemented capital improvements to its Sewer System in response thereto. TDEC has not assessed monetary penalties against the Metropolitan Government for failing to meet a schedule compliance date, and the Metropolitan Government complied with the requirement of the 1999 Order.

EPA Consent Decree

In December 2005, the Department received an inquiry from the United States Environmental Protection Agency’s Region IV (“USEPA”) headquarters. This inquiry requested certain documents and records pertaining to the Department’s operations, capital plan, and stormwater management. The Department’s response was submitted in January 2006. The Department, TDEC, and USEPA agreed on a recommended consent decree to address and correct deficiencies within the Department’s Sewer system that have caused violations of the CWA (the “Consent Decree”). The Consent Decree originally required that the Metropolitan Government fully develop, by March 12, 2011, a Corrective Action Plan/Engineering Report (CAP/ER) for its sanitary sewer system and a Long-Term Control Plan (“LTCP”) for its combined Sewer system to achieve the goals of the CWA. Upon submittal and approval of the plans, the Metropolitan Government was originally obligated to complete the work as developed by the plans in nine years.

On May 14, 2010, The Metropolitan Government petitioned the USEPA and TDEC for a 6-month time extension for the delivery of both plans and a two-year extension for the final compliance with the Consent Decree based on the flood of May 2010. The USEPA and TDEC granted the requested time extension to the Department. Both the CAP/ER and LTCP were submitted on time based on the time extension to EPA and TDEC in September of 2011. On August 10, 2017, the EPA approved the CAP/ER and the eleven-year timeline to complete the

work officially commenced, yielding a deadline of August 2028 for compliance. After extensive negotiation, EPA issued a partial conditional approval of the LTCP in December 2020 which requires the Department to submit a revised LTCP within four years based on water quality standards in effect at the time and allows 11 years from the date of the letter to complete the work.

Due to the COVID-19 Pandemic, the Department invoked force majeure stating that labor and related supply chain issues were impacting progress. In parallel, review of major aspects of the CAP/ER created reason to seek additional conversation and review with the timeline USEPA. At June 30, 2022 discussions were ongoing.

Among other requirements, the Consent Decree will require estimated capital expenditures to the System in a total amount of approximately \$1.96 billion. See “The Water and Sewer Capital Improvement Plan,” which follows. Failure to comply with the Consent Decree and meet future established deadlines could result in penalties up to \$3,000 per incident, and up to \$5,000 per day for failure to implement work in a timely manner. The Department has spent just over \$611 million dollars on program projects through May of 2022.

The Department has thus far been successful in meeting all the deadlines established by the Consent Decree and is currently in compliance with the Decree in all respects.

Payments in Lieu of Taxes, the Local Cost Allocation Plan, and Shared Government Services

Tennessee law, Tennessee Code Annotated 7-34-115(a)(9), provides that a municipality may require a municipally owned utility to make payments in lieu of ad valorem property taxes, for which the utility is exempt as a governmental entity, in an amount not to exceed the taxes payable on privately owned property of a similar nature. This payment is intended to help reimburse the municipality for the municipal services and support provided to the public works. In 1996, the Metropolitan Council adopted Substitute Resolution Number R96-177, which requires the Department to make an annual payment to the Metropolitan Government of \$4,000,000. In 2020 the Metropolitan Council adopted Resolution Number R20-154, which requires the Department to make an annual payment to the Metropolitan Government of \$10,000,000. This total \$14,000,000 represents a payment in lieu of ad valorem taxes. This payment, made in monthly installments, is made after payments of debt service on the Metropolitan Government’s water revenue bonds.

The Local Cost Allocation Plan (LOCAP) for the Metropolitan Government is a method by which central service costs are distributed across the Metro departments. In Fiscal Years 2021 and 2022, the Department was charged \$6,510,300 and \$7,380,000 respectively. In Fiscal Year 2022 this plan will cost the Department \$7,454,900. The Metropolitan Government charges the Department for additional Shared Government Services such as Fleet Management, Information Systems, Legal Fees, Insurance, and Property Services. These charges totaled \$8,909,470 million in Fiscal Year 2022, and in Fiscal Year 2023 Shared Government Services charges will be \$10,843,400.

Payments in Lieu of Taxes, the Local Cost Allocation Plan payments, as well as all Shared Services charges have been included in the historical and forecasted Expenses of the Department in the Forecast Statement.

The Water and Sewer System Capital Improvement Plan

The Water System

The Metropolitan Government's Water System dates to the late 1800's. Over sixty five percent (65%) of the water system is at least forty years old. More than 150 miles of water main are over 80 years old. The Water Infrastructure Rehabilitation (WIR) program provides for the rehabilitation and/or replacement of old water distribution infrastructure. The 12th Ave South project is a multi-phased construction project that was bid in 2022 and replaces 52,720 linear feet of water mains at a cost of \$19.5 million. The East Nashville WIR project will replace over 60,000 linear feet of old water main with new ductile iron pipe mains at a cost of approximately \$35 million also in various phases. Water mains in the sewer separation projects for Schrader Lane, Benedict and Crutcher, and Boscobel are planned totaling approximately \$105 million over the next three to four years. Other WIR projects, similar in scope and size, including phased projects in the Sylvan Park, Jackson Road, Hobbs Trimble, Jefferson South, Albion / DB Todd, Centennial, Shelby Avenue Area, Old Hickory Area and Charles E. Davis amongst other areas and smaller projects, will account an estimated \$ 558 million over the next six to eight years.

The Metropolitan Government's Master Water Improvement Plan, which sets out projected water needs based on population forecasting and hydraulic modeling, was updated in 2016. An update was completed in 2022 with final publication edit due mid 2023. To prepare for anticipated growth across the service area, the master plan has identified several projects, totaling over \$121 million in the next six years to provide both capacity and redundancy in the overall system. Seven projects have been identified in the Mater Water Improvement Plan to accommodate growth for 2033 and an additional seven have been identified to accommodate growth for 2045. Many of these projects will begin in the next six years. Those include Omohundro Transmission main 1 &2, Post Rd Main, Charlotte Pike Main, Trinity Main, Whites Creek Main, and West End Main at a combined estimated cost of \$156 million.

The system also has capacity and efficiency projects underway. In final completion and partially funded through SRF Loans, Phase I of the 8th Ave Reservoir Tank in Tank project which will update the historic structure (Est 1890's) structure with a new 35M gallon concrete tank; the second phase will begin in April 2023. Three water reservoirs are planned for rehabilitation at a cost of approximately \$25 million for growth and efficiency. Future identified projects intended to add capacity to the system include installation of 6,000 feet of new 24-inch water main in Brick Church Lane to Belle Arbor; installation of 3,000 feet of new 16 inch main in Ashland City Highway; installation of 11,000 linear feet of 24-inch water main along Central Pike; installation of 4,000 feet of 12-inch water main in Clarksville Pike; and the installation of 4,000 feet of 12-inch water main in Brick Church Lane to Knight Road. A future identified project intended to add redundancy to the system includes installation of a redundant 60-inch water main from the KRH Water Treatment Plant to the approximate midpoint of the Cumberland / City Low water main project. This project has been deferred due to other higher priorities to beyond the six year CIB.

In addition to the projects identified in the Master Water Improvement Plan, MWS also prepares an ongoing Water Infrastructure Rehabilitation (WIR) Program in which projects are identified and ranked based on pipe age and break history as well as other hydraulic and economic factors. WIR projects focus on specific neighborhoods and areas of town to replace aging infrastructure.

Finally, improvements at the water plants are also critical to meeting the needs of the service area. The Department recently completed an 18-month pilot study to identify the best technologies for both current and potential future regulations based on the Cumberland River source water. Post Filter Granular Activated Carbon (GAC) Contactors have been selected for implementation at both water treatment plants to further enhance water treatment. Additional processes for improved water quality have been identified that will position the Department to best meet current and future regulations for the growing service area. Those processes include new pretreatment and filtration facilities at both plants, converting the existing filtration facilities into GAC, and other needed improvements. Work at both the Omohundro and KR Harrington Water Plants is anticipated to cost \$640M over the next ten years. In fall of 2022, the Department was awarded received a \$315M WIFIA Loan to assist in this project.

Capital Plan- The Sewer System

In September of 2011, the CAP/ER and the LTCP studies were submitted to EPA and TDEC as part of the Consent Decree with EPA and TDEC to reduce sanitary sewer overflows and combined sewer system overflows. A schedule was developed to construct those projects to meet the compliance date of the CD, which is eleven years following the approval of each plan. While waiting for approval of these plans, Water Services implemented numerous projects related to the CAP/ER taking advantage of the additional time for completion. EPA approved the CAP/ER in August 2017, setting a deadline for compliance of August 2028. The LTCP received a partial conditional approval in December 2020, with a compliance deadline of December 2031. Due to the COVID-19 Pandemic, the Department invoked force majeure stating that labor and related supply chain issues were impacting progress. In parallel, review of major aspects of the CAP/ER created reason to seek additional conversation and review with USEPA regarding potential modification to the August 2028 deadline. Following a meeting with EPA and TDEC, MWS submitted a request in February 2023 to modify the completion date for fourteen individual projects, and committed to submitting a revised CAP/ER within three years covering those projects and potentially including additional projects. At that time it may be necessary to amend the consent decree and modify the August 2028 compliance date to fully mitigate sanitary sewer overflows.

Sewer System Rehabilitation Projects reduce the amount of inflow and infiltration into the separated sanitary sewer system by inserting cured-in-place liner into aging sewers to create a new plastic pipe within the original host pipe. Rehabilitation projects identified in the CAP/ER recently completed include Shelby 6 Rehab Project, \$8.5M, Dry Creek Rehab, \$4M, and Smith Springs 3, \$5.5M. Construction for sewer rehabilitation projects has begun for Shepherd Hills rehab, \$4.8M, Lakewood Area 2 rehab, \$1.7 million, Seven Mile Creek Rehab, \$8M, Bandywood, \$9.8M, 28th Ave Phase 2, 9.2M, and Cleeces Ferry 2, \$10.5M. Several other projects are in design and will then be given to our competitively bid by our contracted vendors for construction.

Equalization (EQ) Projects are included in the CAP/ER to temporarily store excess flow during heavy rainfall events, before returning the stored flow to the collection system for treatment. Construction is nearing completion for the Davidson Branch Pump Station and EQ project, \$29.8 million, while construction is underway for the Gibson Creek EQ project \$18.9 million.

Conveyance Projects add additional hydraulic capacity to overloaded pipes to reduce overflows. Construction is complete for the Long Blvd pipe replacement project, \$0.5 million, and is underway for the Hurricane Creek Pipe Improvements project, \$19.1 million, and the Howse Avenue force main replacement project, \$2.5 million.

The Central Wastewater Treatment Capacity Improvements and CSO Reduction project, which will both reduce CSOs under the LTCP and make necessary process improvements, continues under construction. At a cost of approximately \$450 million, this construction project includes increasing capacity for the Central Pumping Station, increasing treatment capacity for peak flows by 40 percent, upgrading the aeration system, replacing chlorine disinfection with ultraviolet light and other process improvements. The Central project is under construction utilizing a CMAR for project delivery and is scheduled for completion in December 2023.

The following table depicts the proposed spending for capital improvements by the Department during the Fiscal Years ending June 30, 2022, through 2026. Capital projects in the forecast period will be funded from the revenues of the Department, proceeds from Commercial Paper, issuance of new revenue bonds, or a combination of these. The plan as shown assumes additional funding will be available from increases in water and sewer rates, thus increasing the amount of operating revenues available to the Department and/or issuance of new revenue bonds, with the resultant change to debt service requirements.

Water and Sewer Capital Improvement Plan

	2023	2024	2025	2026	2027	TOTAL
Consent Decree Program						
Program Management and Water Quality	19,000,000	17,000,000	15,500,000	14,500,000	13,500,000	79,800,000
Combined Sewer Improvements	58,000,000	163,000,000	353,000,000	68,000,000	56,000,000	726,000,000
Sanitary Sewer Rehabilitation	9,000,000	10,000,000	48,000,000	128,000,000	61,000,000	206,000,000
Total Consent Decree Program	86,000,000	190,000,000	416,500,000	210,500,000	130,500,000	1,011,800,000
Other						
Water Distribution System Improvements	93,170,000	43,730,000	60,270,000	65,470,000	64,900,000	302,184,880
Water Pump Station Improvements	3,456,000	2,076,000	2,292,000	2,262,000	2,388,000	13,337,066
Water Plant Improvements	173,025,000	118,825,000	336,015,000	4,425,000	2,450,000	689,436,395
Water Reservoir Improvements	32,650,000	600,000	15,150,000	600,000	3,650,000	54,533,729
Development Assistance	37,750,000	12,810,000	12,700,000	12,280,000	12,220,000	93,909,852
Customer Services/ Information Services	11,350,000	62,875,000	11,300,000	7,550,000	7,200,000	126,000,000
Vehicles and Equipment	5,500,000	4,000,000	4,000,000	3,500,000	3,500,000	22,500,000
Wastewater Collection System Improvements	10,780,000	1,820,000	2,180,000	2,180,000	2,400,000	26,793,011
Wastewater Plant Improvements	89,291,000	107,612,500	45,497,000	36,859,000	27,360,000	333,745,714
Wastewater Pump Station Improvements	2,304,000	1,384,000	1,528,000	1,508,000	1,592,000	9,246,103
Other	16,570,000	16,650,000	16,250,000	17,100,000	17,225,000	70,770,000
Total Other Capital Projects	475,846,000	372,382,500	507,182,000	153,734,000	144,885,000	1,742,456,750
TOTAL	561,846,000	562,382,500	923,682,000	364,234,000	275,385,000	2,754,256,750
Sources of Funds						
Extension and Replacement Fund	110,000,000	148,250,000	149,360,000	140,350,000	141,275,000	647,960,000
Proceeds from Long-term Debt	-	130,000,000	-	-	-	130,000,000
Commercial Paper Program	155,000,000	100,000,000	150,000,000	150,000,000	50,000,000	730,200,000
Other Short-term Financing	17,637,000	26,456,000	-	-	-	44,093,000
Water Impact Fees	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	25,000,000
Sewer Impact Fees	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	50,000,000
TOTAL	297,637,000	419,706,000	314,360,000	305,350,000	206,275,000	1,627,253,000