

# **WATER & SEWER SYSTEM**

## **Annual Disclosure**

**ANNUAL FINANCIAL INFORMATION  
For the Fiscal Year Ending  
June 30, 2007**

**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

	2003	2004	2005	2006	2007
Operating Revenues	147,977,245	152,785,636	151,258,130	155,826,854	164,356,620
Operating Expenses	(63,049,335)	(67,466,429)	(71,410,488)	(77,922,420)	(82,817,201)
Net Transfers to Other Departments In Metro Government	(8,539,980)	(14,008,880)	(21,306,393)	(12,370,483)	(14,252,800)
Adjustment for Transfer for Stormwater Capital in FY 2005. This is Included in Net Transfers for 2006 & 2007			6,691,667		
<b>Total Operating Expenses (exclusive of Depr and Amort)</b>	<b>(71,589,315)</b>	<b>(81,475,309)</b>	<b>(86,025,214)</b>	<b>(90,292,903)</b>	<b>(97,070,001)</b>
Operating income before Depreciation and amortization	76,387,930	71,310,327	65,232,916	65,533,951	67,286,619
Depreciation Expense	(44,113,004)	(45,196,830)	(46,681,216)	(47,204,986)	(49,687,077)
Amortization Expense	(674,272)	(276,438)	(348,612)	(380,602)	(425,889)
Operating Income	31,600,654	25,837,059	18,203,087	17,948,363	17,173,653
Non-Operating Revenues					
Investment Income	8,712,562	6,361,839	4,187,377	5,899,974	8,319,893
Interest Expense	(31,936,494)	(30,840,286)	(29,300,253)	(26,812,319)	(23,024,476)
Gain (loss ) on sale of property, plant and equipment	(9,027)	176	167,785	280,948	108,357
Arbitrage rebate income (expense)	(785,840)	-	-	(1,234)	-
Other	521,468	-	712,925	-	542,991
<i>Subtotal Non-Operating Revenues</i>	<i>(23,497,331)</i>	<i>(24,478,271)</i>	<i>(24,232,166)</i>	<i>(20,632,631)</i>	<i>(14,053,235)</i>
Capital Grants and contributions	10,075,842	11,291,219	16,889,196	25,609,986	46,585,852
Transfer for Stormwater Capital (above)			(6,691,667)	-	-
<b>Net Income</b>	<b>18,179,165</b>	<b>12,650,007</b>	<b>4,168,451</b>	<b>22,925,718</b>	<b>49,706,270</b>
<b>Calculation for Rate Covenant Requirement</b>					
Operating Revenues	147,977,245	152,785,636	151,258,130	155,826,854	164,356,620
Plus:					
Interest Income	8,712,562	6,361,839	4,187,377	5,899,974	8,319,893
Other Income	521,468	-	712,925	-	542,991
Less:					
Interest Income (Debt Service Reserve Fund)	(3,292,318)	(4,509,000)	(1,645,663)	(2,503,376)	(3,214,070)
Interest Income (Construction Fund)	-	-	-	-	-
<b>Revenues Available for Rate Covenant Requirement</b>	<b>153,918,957</b>	<b>154,638,475</b>	<b>154,512,769</b>	<b>159,223,452</b>	<b>170,005,434</b>
Operating Expenses	71,589,315	81,475,309	86,025,214	90,292,903	97,070,001
Debt Service - Parity Debt					
Principal on Revenue Bonds	19,680,000	20,190,000	21,680,000	21,680,000	28,025,000
Interest on Revenue Bonds	27,966,030	28,620,637	27,531,176	27,531,176	24,307,706
Less: Debt Service Reserve Fund Interest	(3,292,318)	(4,614,738)	(1,645,663)	(2,503,376)	(3,214,070)
Net Debt Service - Parity Debt	44,353,712	44,195,899	47,565,513	46,707,800	49,118,636
<b>Total Operating Expenses and Net Debt Service</b>	<b>115,943,027</b>	<b>125,671,208</b>	<b>133,590,728</b>	<b>137,000,703</b>	<b>146,188,637</b>
Rate Covenant Requirement (1.10) (2)	1.33	1.23	1.16	1.16	1.16

(1) The figures in the above chart exclude any transfers and unallocated expenses from the Department's capital activity fund (Extension & Replacement Fund).

(2) As defined in Section 7.8.A of the Substitute Resolution No R85-762 (Water & Sewer Bond Resolution) dated November 5 1985, "... as will produce Revenues at least equal in such Fiscal Year to 110% of (1.10 times) the total of (i) Operating Expenses budgeted for such fiscal year plus (ii) the aggregate of the Debt Service to become due during such Fiscal Year."

# FORECAST STATEMENT OF REVENUES, EXPENSES, DEBT, AND DEBT SERVICE COVERAGE

For Fiscal Year Ending June 30

	2008	2009	2010	2011	2012
<b>Operating Revenues</b>					
<i>Charges for Service</i>					
Water Revenues	\$ 55,800,200	\$ 63,477,981	\$ 69,914,278	\$ 71,812,642	\$ 72,530,768
Sewer Revenues	103,200,000	105,482,334	121,424,839	127,610,740	128,886,847
Customer Service Fees	3,820,100	3,223,939	3,223,939	3,223,939	3,256,178
<i>Subtotal: Charges for Service</i>	<u>162,820,300</u>	<u>172,184,254</u>	<u>194,563,056</u>	<u>202,647,321</u>	<u>204,673,794</u>
<b>Non-Operating Revenues</b>					
Interest Income on Fund Balances	\$ 3,700,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000
Other Revenues*	6,709,219	6,709,219	6,709,219	6,709,219	6,709,219
<i>Subtotal: Non-Operating Revenues</i>	<u>\$ 10,409,219</u>	<u>\$ 7,709,219</u>	<u>\$ 7,709,219</u>	<u>\$ 7,709,219</u>	<u>\$ 7,709,219</u>
<b>Total Revenues</b>	<u>\$ 173,229,519</u>	<u>\$ 179,893,473</u>	<u>\$ 202,272,275</u>	<u>\$ 210,356,540</u>	<u>\$ 212,383,013</u>
<b>Operating Expenses</b>	<u>(101,518,500)</u>	<u>(104,733,759)</u>	<u>(107,150,999)</u>	<u>(109,880,503)</u>	<u>(112,078,113)</u>
<b>Net Revenues Available for Debt Service</b>	<u>\$ 71,711,019</u>	<u>\$ 75,159,714</u>	<u>\$ 95,121,276</u>	<u>\$ 100,476,037</u>	<u>\$ 100,304,900</u>
<b>Debt Service</b>					
<i>Revenue Bonds</i>					
1986 Revenue Refunding Bonds	\$ (19,358,275)	\$ (29,913,233)	\$ (29,917,893)	\$ (29,917,230)	\$ (15,714,120)
Series 1993 Revenue Refunding Bonds	(10,430,855)	(6,987,380)	(6,978,868)	(6,950,630)	(11,559,100)
Series 1996 Revenue Refunding Bonds	(3,817,944)	-	-	-	-
Series 1998A Revenue Refunding Bonds	(11,119,013)	(11,110,131)	(11,100,238)	(11,096,288)	(11,093,756)
Series 1998B Revenue Bonds	(4,390,598)	(1,347,060)	(1,348,469)	(1,348,714)	(5,447,863)
Series 2002 Revenue Refunding Bonds	(1,426,031)	(1,426,031)	(1,426,031)	(1,426,031)	(1,426,031)
Series 2007 Revenue Refunding Bonds	(1,747,863)	(1,997,338)	(1,998,200)	(1,998,638)	(7,353,650)
Proposed 2009 Revenue Bonds	-	(3,742,613)	(6,763,863)	(6,763,863)	(6,763,863)
<i>Subtotal: Revenue Bonds</i>	<u>(52,290,578)</u>	<u>(56,523,786)</u>	<u>(59,533,561)</u>	<u>(59,501,393)</u>	<u>(59,358,383)</u>
<i>Existing State Revolving Fund Loans</i>	<u>(4,412,580)</u>	<u>(4,412,568)</u>	<u>(4,412,580)</u>	<u>(4,412,568)</u>	<u>(4,412,568)</u>
<i>New State Revolving Fund Loans</i>	<u>(6,738,804)</u>	<u>(7,857,072)</u>	<u>(7,857,072)</u>	<u>(7,857,072)</u>	<u>(7,857,072)</u>
<b>Total Debt Service</b>	<u>\$ (63,441,962)</u>	<u>\$ (68,793,426)</u>	<u>\$ (71,803,213)</u>	<u>\$ (71,771,033)</u>	<u>\$ (71,628,023)</u>
<b>Total Revenues Available for Capital Projects</b>	<u>\$ 8,269,057</u>	<u>\$ 6,366,288</u>	<u>\$ 23,318,063</u>	<u>\$ 28,705,004</u>	<u>\$ 28,676,877</u>
(transferred to E&R Fund)					
<b>Other Budgeted Expenditures</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Total Overflow Abatement Program	35,300,000	15,129,800	29,862,600	16,772,700	52,045,500
Total Other Capital Projects	82,048,600	97,592,000	76,826,800	93,132,700	60,197,200
<i>Subtotal: Other Budgeted Expenditures</i>	<u>117,348,600</u>	<u>112,721,800</u>	<u>106,689,400</u>	<u>109,905,400</u>	<u>112,242,700</u>
<b>Other Transfers In</b>					
Transfer from Extension and Replacement Fund	2,005,200				15,000,000
Transfer from the Debt Service Reserve Fund	45,000,000				
Proposed Stormwater Revenue Funding		5,000,000	5,000,000	5,000,000	5,000,000
Proposed Revenue Bond Proceeds		72,661,800	91,629,400	94,845,400	82,182,700
Water Impact Fees	2,560,000	2,560,000	2,560,000	2,560,000	2,560,000
Sewer Impact Fees	7,500,000	7,500,000	7,500,000	7,500,000	7,500,000
State Revolving Fund Loan	25,505,600	25,000,000			
Tennessee Local Development Authority Loans	31,783,000				
<i>Subtotal: Other Transfers In</i>	<u>\$ 114,353,800</u>	<u>\$ 112,721,800</u>	<u>\$ 106,689,400</u>	<u>\$ 109,905,400</u>	<u>\$ 112,242,700</u>
<b>Remaining Available Funds (Revenue Surplus/Deficit)</b>	<u>\$ 8,269,057</u>	<u>\$ 6,366,288</u>	<u>\$ 23,318,063</u>	<u>\$ 28,705,004</u>	<u>\$ 28,676,877</u>
<b>Total Beginning Extension and Replacement Fund</b>	<u>\$ 13,564,724</u>	<u>\$ 19,828,581</u>	<u>\$ 26,194,869</u>	<u>\$ 49,512,933</u>	<u>\$ 78,217,937</u>
Remaining Available Funds (Revenue Surplus/Deficit)	8,269,057	6,366,288	23,318,063	28,705,004	28,676,877
Net Transfers	(2,005,200)	-	-	-	(15,000,000)
<b>Total Ending Extension and Replacement Fund</b>	<u>19,828,581</u>	<u>26,194,869</u>	<u>49,512,933</u>	<u>78,217,937</u>	<u>91,894,814</u>

\* Includes planned increases in wholesale rates

<b>Calculation for Rate Covenant Requirement</b>					
	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Operating Revenues	\$ 169,529,519	\$ 178,893,473	\$ 201,272,275	\$ 209,356,540	\$ 211,383,013
Plus:					
Interest Income	3,700,000	1,000,000	1,000,000	1,000,000	1,000,000
Other Income	-	-	-	-	-
Less:					
Interest Income (Debt Service Reserve Fund)	(1,238,338)	-	-	-	-
Interest Income (Construction Fund)	-	-	-	-	-
<b>Revenues Available for Rate Covenant Requirement</b>	<b>\$ 171,991,181</b>	<b>\$ 179,893,473</b>	<b>\$ 202,272,275</b>	<b>\$ 210,356,540</b>	<b>\$ 212,383,013</b>
<b>Operating Expenses</b>	<b>101,518,500</b>	<b>104,733,759</b>	<b>107,150,999</b>	<b>109,880,503</b>	<b>112,078,113</b>
<b>Debt Service - Parity Debt</b>					
Principal on Revenue Bonds	29,930,000	32,180,000	34,425,000	36,772,500	39,147,500
Interest on Revenue Bonds	22,360,578	24,343,786	25,108,561	22,728,893	20,210,883
Less: Refunding of Revenue Bonds - Estimated savings	-	(2,100,000)	(2,100,000)	(2,100,000)	(2,100,000)
Less: Debt Service Reserve Fund Interest	(1,238,338)	-	-	-	-
<b>Net Debt Service - Parity Debt</b>	<b>51,052,240</b>	<b>54,423,786</b>	<b>57,433,561</b>	<b>57,401,393</b>	<b>57,258,383</b>
<b>Total Operating Expenses and Net Debt Service</b>	<b>\$ 152,570,740</b>	<b>\$ 159,157,545</b>	<b>\$ 164,584,560</b>	<b>\$ 167,281,896</b>	<b>\$ 169,336,496</b>
<b>Rate Covenant Requirement (1.10) (1)</b>	<b>1.13</b>	<b>1.13</b>	<b>1.23</b>	<b>1.26</b>	<b>1.25</b>

(1) The rate covenant is calculated by dividing Revenues, as defined in the Resolution, by the total Operating Expenses and Debt Service, as defined in the Resolution. This ratio must be greater or equal to 1.10.

The projections in the "Forecast Statement of Revenues, Expenses, Debt and Debt Service Coverage" are based on the assumption that the Operating Revenues assume water rate increases of approximately 10%, 10 %, 10%, and 3% for the years, 2009, 2010, 2011, and 2012 respectively. Also assumed are wastewater rate increases of approximately 15%, 15%, 15%, and 5% for the same years. These proposed increases have not yet been approved, as required, by the Metropolitan Council. If they are not approved, the revenues from rates are estimated to be relatively constant at \$132 Million. To maintain the Rate Covenant Test at 1.10, unless revenues can be raised from another source, it is projected that Operating Expenses would have to be reduced to approximately \$92 Million in 2008, increasing to approximately \$95 Million in 2011. After payment of the Debt Service on the State Revolving Loans, with no additional revenues, this scenario would fund new capital projects of approximately \$2.5 Million per year. Also, the projections include a \$4 Million increase in revenues for 2008, from other utilities, based on their paying new wholesale rates, as determined by the Metro's Rate Consultants. The utilities, which are not currently under a contract for service, but are transporting wastewater to Metro, have formed the Metro Sewer Users Association. The association has hired a consultant to review the new wholesale rate and negotiate the terms of a new agreement. Currently, they are not paying the new contract rate. If these new wholesale rates are not considered, the 2008 Operating Expenses would decrease by \$3 Million and the other years would correspondingly decrease.

## **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 Parkwood Service Company, the Joelton Water Utility District, the City of Lakewood sewerage system, Rayon City Water Company, the Cumberland Utility District, and the sewerage service of the Nolensville/College Grove Utility District in Williamson 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.

On April 1, 2002, the Department began managing and partially funding the stormwater operations of the Metropolitan Government. The Public Works Department of the Metropolitan Government funded the balance until July 1, 2003. Beginning on July 1, 2003, the Department fully funded the Stormwater Division with a budget of \$14 million for Fiscal Year 2004. Funding for Fiscal Year 2008 is \$12.8 million including a \$2.6 million grant from the Federal Emergency Management Agency for buyouts of homes with repetitive flood losses.

The Stormwater Division performs a number of federally mandated functions including storm drainage infrastructure inventory and maintenance for water quality, roadway pollution reduction, public education, monitoring of the system for illicit discharges and construction site runoff, and habitat improvement. The storm drainage infrastructure is maintained through a cleaning and stabilization program, while capital expenditures involve projects that replace larger segments of the drainage system or improve its capacity.

### **The Water System**

The water provided by the Department's water system (the "Water System") currently meets all physical, biological, 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, clarification, high rate 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 2007, net sales to retail customers were 24.1 billion gallons. The peak demand for water from the system during Fiscal Year 2007 was 123.2 million gallons on July 18, 2006.

The Robert L. Lawrence, Jr. Filtration Plant, originally placed in service in 1929, was extensively modernized and expanded in 1953 and 1963 to a capacity of 72 million gallons per day. An upgrade of this plant was completed in 2001 and it now has a treatment capacity of 90 million gallons per day. Control panels located at this plant provide 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 year 2010. 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 2,888 miles of mains ranging in diameter from 2 to 60 inches. Storage is provided by the 51 million gallon Eighth Avenue Reservoir and various other reservoirs with a combined additional capacity of 42.5 million gallons and by tanks and stand pipes, many of which are utilized to provide water service in areas of higher elevation than the central urbanized area. The Water System has fifty-seven booster-pumping stations to deliver water to these higher regions.

The Water System has experienced continuous growth over the past decade, and as of Fiscal Year 2007, has provided direct service to 171,627 customers. In Fiscal Year 2007, 46% of the water provided by the Water System was consumed by commercial and industrial customers (including residential apartment complexes), and 54% by residential customers. The following table illustrates growth of the Water System over the past ten years.

Water System Facts in Brief

	Fiscal Year Ended June 30		
	<u>2007</u>	<u>1997</u>	<u>(1997-2007) Ten Year History</u>
Use of Water			
Water Customers - End of Period <sup>(1)</sup> (thousands)	171,627	133,337	28.7%
Average Daily Treatment (millions of gallons)	97.1	82.7	17.5%
Water Sales for Fiscal Year (billions of gallons)	24.1	19.6	23.0%
Maximum Daily Demand (millions of Gallons)	123.2	98.7	24.9%
Growth of System			
Utility Plant Value <sup>(2)</sup> (millions)	\$1,478	\$1,102	34.1%
Reservoirs	44	44	0.0%
Storage Capacity (millions of gallons)	93.5	80.9	15.6%
Auxiliary Pump Stations	57	58	(1.7%)
Total Miles, Distribution Lines	2,888	2,559	12.9%
Fire Hydrants	19,511	16,338	19.4%
(1) As per billing records			
(2) Property, Plant & Equipment of the Combined Water and Sewer System, net of depreciation			

**The Sewer System**

The existing sewerage system (the “Sewer System”) comprises 2,875 miles of gravity sewers, 103 pumping stations, 152 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 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 law. Currently, the sludge is being transported to landfills. Beginning in Fiscal Year 2005 the Department started the design and construction of a \$135 million biosolids project that will allow the sale of a dryer and more viable product for consumer use. This project, which should substantially reduce the need for landfill space, is due for completion in 2008.

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 20.8% since Fiscal Year 1997. Over the last ten years, there has been a 5.1% increase in the number of sewerage pumping stations and a concurrent 29.4% increase in the miles of sewer lines. Wastewater treatment has decreased by 12.2% partially due to our Overflow Abatement Program which has significantly reduced inflow and infiltration.

Sewer System Facts in Brief

	Fiscal Year Ended June 30		
	2007	1997	(1997 - 2007) Ten Year History
Sewer Customers - End of Period	183,695	152,064	20.8%
Annual Sewage Treatment (billions of gallons)	46.9	53.5	(12.3%)
Average Daily Treatment (millions of gallons)	128.6	146.5	(12.2%)
Growth of System			
Utility Plant Value <sup>(1)</sup> (millions)	\$1,478	\$1,102	34.1%
Total Miles of Sewer Lines	3,027	2,339	29.4%
Number of Treatment Plants	4	6	(33.3%)
Number of Pumping Stations	103	98	5.1%

(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 indicated recent one-year period, ranked according to billings.

**WATER SERVICES LARGEST CUSTOMERS**

One Year Period Ending June 30, 2007

(In 1,000's)

Vanderbilt University	\$ 1,840
Metro Schools	658
Opryland, USA	530
Metro District Energy Systems	333
Bridgestone Tire and Rubber Co.	309
Aerostructures Corporation	287
Baptist Hospital	278
Meharry Medical College	268
Purity Dairy	200
Spring Industries	197

**SEWER SERVICES LARGEST CUSTOMERS**

One Year Period Ending June 30, 2007

(In 1,000's)

Vanderbilt University	\$ 2,070
Metro Schools	1,132
Purity Dairies, Inc.	1,064
Opryland, USA	964
Meharry Medical College	435
Baptist Hospital	361
Level Valley Creamery, Inc.	347
Tennessee State University	308
Country Delite Farms, Inc.	293

### **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 Masters 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.

DAVID M. TUCKER, Assistant Director (Operation of Water and Wastewater Facilities), graduated from Tennessee State University with a Bachelor of Science Degree in Biological Sciences. He has twenty years 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. 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, Assistant Director (Engineering), graduated from the University of Texas, 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. In 1990 he joined the Department as a hydraulic modeler and flow monitoring specialist and has advanced to this present position. He holds a Professional Engineering License in the State of Tennessee.

HAL BALTHROP, Assistant Director (Repair and Maintenance of Distribution and Collection Systems), 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 is also Tennessee National Delegate of the Tennessee Society of Professional Engineers and a member of WEF, AWWA, TWWA, and TAUD.

MARTHA SEGAL, Assistant Director (Customer Services & Information Services), graduated from Old Dominion University with a Bachelor of Science in Business Administration Degree and a Master of Business Administration Degree. She worked with the Department of Utilities in Norfolk, Virginia for 14 years prior to being recruited to Metro Water Services in 2000. She served for many years on the AWWA Virginia Section Customer Service Committee. She is currently Chair of the KY/TN Section AWWA.

At the end of Fiscal Year 2007, the Department employed 657 persons. Employees of the Department are members of one of four pension plans. Two such plans are of the former City of Nashville and former Davidson County plans. Both are closed to new membership. The third, the Original Metro Plan is now closed to new membership. The fourth plan that has been established is the Modified Metro Plan and is an open plan. The Metropolitan Employee's Benefit Trust Fund was established under provisions of the Charter. The General Fund of the Metropolitan Government, after recognizing contributions from other moneys of the Metropolitan Government, employees and the State, is responsible for funding of the aforementioned plans.

### **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 Council adopted Ordinance 99-1502, which beginning May 1, 1999, established a table of charges for water services that decreased water rates by 25% for residential water customers, 20% for small commercial customers, 15% for intermediate commercial customers, and 5% for large commercial customers. These charges are currently in effect.

At the recommendation of the Department, the Metropolitan Council, pursuant to Ordinance 96-317, adopted on June 11, 1996, rescinded sewage service increases scheduled to take effect in January 1997 and January 1998. Sewerage rates have been constant since 1996.

The Metropolitan Government is reviewing the Department's future requirements and will make appropriate adjustments to rates and/or expenses to meet the Department's needs and ensure continued compliance with the Rate Covenant.

Any change in the water and sewerage service rates established under the above ordinances must be adopted by the Metropolitan Council by ordinance. As stated in Section 3.05 of the Charter of the Metropolitan Government of Nashville and Davidson County "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 Council at or prior to the next regular meeting of the 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 Council to which it is entitled.

Under the Charter of the Metropolitan Government, the Mayor is obligated to submit an operating budget to the Council no later than March 31 of each year. Before the beginning of each Fiscal Year, and in no event later than June 30 the 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 Council fails to adopt a budget, the budget submitted by the Mayor becomes law and the Council must adopt a tax rate to fund that budget.

Pursuant to the Resolution, before the beginning of each Fiscal Year, the Metropolitan Government is obligated to fix or maintain rates for water and sewerage service so as to produce Revenues at least equal to 110% of the Operating Expenses for the Department budgeted for the ensuing Fiscal Year plus the aggregate of the Debt Service (being the amount of payments due during such ensuing year on the Bonds issued and outstanding pursuant to the Resolution).

#### Current Rates and Charges

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, small commercial, intermediate commercial and large commercial/industrial. The quantity charge is dependent on account class.

#### Current Water Rates

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. The quantity charge is applied to all consumption in excess of 200 cf per month.

### **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
Small Commercial and Industrial	Up to 1,600 cubic feet per month
Intermediate Commercial and Industrial	1,600 to 200,000 cubic feet per month
Large Commercial and Industrial	Over 200,000 cubic feet per month

### **WATER AND SEWER CHARGES AND RATES**

Minimum Charges per Month (Including 200 Cubic Feet Usage)

<u>Meter Size</u>	<u>WATER</u>				<u>SEWER</u>			
	<u>Residential</u>	<u>Small Commercial</u>	<u>Intermediate Commercial</u>	<u>Large Commercial</u>	<u>Residential</u>	<u>Small Commercial</u>	<u>Intermediate Commercial</u>	<u>Large Commercial</u>
5/8"	\$ 2.70	\$ 3.44	\$ 11.96	\$ 515.91	\$ 6.05	\$ 6.76	\$ 22.14	\$ 854.53
3/4"	9.17	9.78	16.97	521.49	17.17	19.23	31.40	863.77
1"	11.03	11.77	18.58	523.31	20.68	23.16	34.40	866.77
1 1/2"	16.22	17.30	23.07	528.32	30.40	34.05	42.72	875.08
2"	21.85	23.30	28.19	534.04	40.94	45.85	52.18	884.55
3"	28.84	30.76	35.28	539.07	54.02	60.50	65.31	892.86
4"	47.00	50.13	55.85	562.06	88.03	98.59	103.38	930.97
6"	73.79	78.71	86.22	596.01	138.23	154.82	159.61	987.20
8"	115.40	123.10	134.22	652.55	216.17	242.11	248.46	1,080.84
10"	115.40	123.10	134.22	652.55	216.17	242.11	248.46	1,080.84
	Water usage charges per 100 Cubic Feet (Usage over 200 Cubic Feet)				Sewer usage charges per 100 Cubic Feet (Usage over 200 Cubic Feet)			
<b>Rates</b>	<b>\$ 2.01</b>	<b>\$ 2.14</b>	<b>\$ 1.85</b>	<b>\$ 1.56</b>	<b>\$ 3.76</b>	<b>\$ 4.21</b>	<b>\$ 3.43</b>	<b>\$ 2.59</b>

In addition to the above rates, an additional charge of 10% of the sewerage charge is required to repay state loans.  
An 9.25% state and local sales tax is added to all water charges.

### **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. During Fiscal Year 2007, the Department read meters on a quarterly basis and renders bills to customers monthly. Customers were billed for two months based on their historical average usage, and the third month's billing was an adjusting bill based on the actual meter measurement for the three-month period. Beginning in Fiscal Year 2008, the Department will return to the practice of reading water meters each month and rendering bills to customers on a monthly basis.

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 \$10.00, whichever is greater. The 5% addition to the net billing is a form of penalty for the customer's failure to promptly pay the monthly bill for services, and the gross billing amount becomes applicable 15 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, a representative of the department notifies the customer, pursuant to Tennessee Code Annotated § 65-32-104, 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 99.11 % of all amounts billed during the past five Fiscal Years.

### **Wholesale Customers**

The Department provides sewage treatment services for the Cities of Brentwood, Goodlettsville, Millersville, Belle Meade, Lavergne, Ridgetop and Mount Juliet, Hendersonville Utility District, Old Hickory Utility District, and White House Utility District (the "Wholesale Sewer Customers"), pursuant to contracts between the Department and each of the Wholesale Sewer Customers. Under the wholesale contracts, the Department is obligated to receive that 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 is only marginally recoverable under the original contracts.

The wholesale contract with Cities of Brentwood, Goodlettsville, Millersville, Belle Meade, and Lavergne, as well as the Hendersonville Utility District, and Old Hickory Utility District were either terminated, have expired or are set to expire in 2008. None of the Wholesale Sewer Customers have ready access to other sewage treatment facilities: absent the Department, the Wholesale Sewer Customers would have to construct new treatment facilities or new sewer connection to other sewage treatment providers. As such, the Department anticipates continuing to provide sewage treatment services to the Wholesale Sewer Customers for the foreseeable future. The Department is also attempting to negotiate new, long-term contract with those Wholesale Sewer Customers whose contracts have expired.

At the recommendation of the Department's rate consultant, the Department has implemented increased wholesale sewage treatment rates for those Wholesale Sewer Customers whose contracts have expired or were terminated. Those Wholesale Sewer Customers have objected to the increased rates and have not paid such increased rates to date (the Wholesale Sewer Customers have continued to pay the previously imposed rate). The Metropolitan Government is currently in litigation with the Cities of Brentwood, Lavergne, and Millersville seeking to recover the full increased sewage treatment rate. The Department cannot predict the outcome of the litigation, or whether the Metropolitan Government will pursue similar litigation with respect to the other Wholesale Sewer Customers that have refused to pay the increased rates. The Department further cannot predict whether this rate dispute will cause any or all of the Wholesale Sewer Customers to pursue sewage treatment services from other providers.

The Department's annual revenues from Wholesale Sewer Customers are approximately \$6 million, and the annual operating expenses associated with the provision of treatment services to the Wholesale Sewer Customers is approximately \$5.1 million with out any consideration of ongoing capital costs relative to capacity and treatment. Wholesale Sewer Customer flows were approximately 12% of total treated flows for Fiscal Year 2006-2007.

### **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 (42 U. S. C. 300f et seq.). Water discharged from all four 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 the Tennessee Department of Environment and Conservation.

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.

### **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 No. R96-177, which requires the Department to make an annual payment to the Metropolitan Government of \$4,000,000, representing a payment in lieu of ad valorem taxes. This payment, made in monthly installments, is to be paid out of the Department's Operating and Maintenance Fund. Since the Department must make payments to the Debt Service Fund before any payments to the Operating and Maintenance Fund, payments to the Bondholders have priority over the payments in lieu of taxes.

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 2006 and 2007, the Department was charged \$3,915,655 and \$3,639,093 respectively. In Fiscal Year 2008 this plan will cost the Department \$4,181,024. The Metropolitan Government charges the Department for additional Shared Government Services such as Fleet Management, Information Systems, and Finance Services. These charges totaled \$6.2 million in Fiscal Year 2007. 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 IMPROVEMENT PLAN**

### **The Water System**

Beginning in 2002, the Metropolitan Government updated its Master Water Improvement Plan (the "Water Plan") which sets out projected water needs due to growth for the service area through the year 2025. Most improvements projected in the Water Plan through 2010 are currently scheduled to be made. The improvements resulting from the Water Plan and additional planning for drought conditions include \$62.7 million worth of projects. The following anticipated projects comprise this amount and are included in the 2009 – 2013 Capital Improvements Budget:

- Powell Avenue water main upgrade – Phase I (Phase II has already been completed)
- Powell Pumping Station upgrade
- City Low (KRH / CUD) water main addition
- Battery Lane Pumping Station upgrade
- Lebanon Road water main upgrade
- Dodson Chapel water main upgrade

- Central Pike water main upgrade
- New additional Cane Ridge water tank
- New additional Hillsboro water tank
- New additional Rice Road water tank
- New Oman Drive water pumping station
- Old Hickory Blvd water main upgrade
- Hillsboro Road water line upgrade
- Omohundro high service pumps and transmission main improvements
- Whites Creek and Bulls Run distribution system improvements
- Harding Place / Battery Lane / Granny White / Tyne Valley pressure zone improvements
- Bear Hollow water main upgrade
- Omohundro water main river crossing upgrade (24")
- Caldwell water line upgrade
- Study for a new west side water treatment plant

Over the next five years, the Department has budgeted approximately \$29.6 million for its Water Infrastructure Rehabilitation (WIR) program, which is a program that systematically renews older water infrastructure and ensures the integrity of the infrastructure for current and future needs. This program includes the following anticipated projects in the near future:

- Harding Place Cleaning and Lining - \$1.6 million
- Belle Meade Blvd water line replacement - \$ 5 million
- Omohundro #1 36" water main cleaning and lining - \$ 4.8 million
- Omohundro #2 36" water main cleaning and lining - \$5.2 million
- 17th & 18th Avenue cleaning and lining - \$ 3 million
- Unidentified smaller WIR projects - \$10 million

### The Sewer System

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.

Until 1990, Section 201 of the CWA authorized grants for the construction of wastewater treatment facilities identified in an approved Facilities Plan. The grant program was converted to a loan program and the states were the recipients of a grant to establish and fund the program. The purpose of Section 201 is to require and assist in the development and implementation of wastewater treatment facilities plans and identified projects that will achieve the goals of the CWA (the "201 Plan"). The CWA requires that publicly owned treatment works, such as the treatment portions of the wastewater system, achieve levels of secondary treatment as defined in the CWA or, where applicable, more stringent levels of treatment required to meet water quality standards established pursuant to applicable state and federal laws and regulations. In 1976, the Metropolitan Government completed its 201 Plan (the "Nashville 201 Plan") for the approved Nashville planning area and portions of the six surrounding counties were included in the plan (the "201 Plan Area"). The Nashville 201 plan, approved by the TDEC and the EPA,

provided for the most cost-effective methods of treating and transporting sanitary waste in the 201 Plan Area and for an infrastructure for wastewater treatment through the year 2000. The facility plan is currently used to identify projects as eligible for State Revolving Fund Loans.

The TDEC makes State Revolving and Tennessee Local Development Authority loans available to the Metropolitan Government and other local governments to fund the cost of constructing capital projects such as those described above. The Department repays the Tennessee Local Development Loans from a 10% sewer user fee, imposed pursuant to State law. The fee appears as a charge on sewer bills and upon collection, the Department remits the total collected sewer user fees to the State in the same manner as certain sales tax collections. The State sewer user fees are not included in revenues. In 1990, the grants program was converted to a State Revolving Loan Program (SRF). The repayment of the SRF loans is taken from the Department's Extension and Replacement Fund as provided in the Resolution.

Many of the capital wastewater improvements (set forth in the following table) are required to be completed pursuant to Order 88-3364, issued by the TDEC in 1990 (the "1990 Order"). The 1990 Order resulted from violations by the Metropolitan Government of the Tennessee Water Quality Control Act of 1977 (Tenn. Code Ann. § 69-3-101 et seq., as amended) 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. The projects required under the 1990 Order that were not constructed at the time of Order 99-0390 (the "1999 Order") were required in the new Order. The compliance required in the 1999 Order has been completed.

On September 17, 1999, the TDEC issued Order 99-0390 (the "1999 Order") replacing Order 88-3364 and citing the Metropolitan Government in violation of state law; "By causing or allowing discharges from its sewage system to waters of the state in a manner not authorized by its permit the Respondent has violated T. C. A. §69-3-108(b) and T. C. A. §69-3-114(b)...." This new order superseded the provisions of Order 88-3364, and required payment of a fine of \$600,000. Effective July 1, 2001, the Metropolitan Government was to immediately not permit or allow any overflows or bypasses from its combined sewer system 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 current flow limits at the tie-in points from all contributing satellite sewage systems were to be maintained.

The Metropolitan Government considers its relationship with TDEC to be good, and that the current OAP has addressed, and continues to address, the concerns expressed by the State of Tennessee about its wastewater treatment and collection system. On March 17, 2000, the TDEC recognized the tremendous commitment of effort and expense made by the Department toward safer, cleaner water by the Department's commitment of an additional \$471 million for capital projects, including specific OAP projects. This brings the Metropolitan Government's total capital commitment between 1990 and 2007 to \$1.1 billion to upgrade the system as well as to comply with water quality enforcement actions. The compliance dates required by the 1999 Order have been met until the U. S. Environmental Protection Agency intervened into the compliance issue of the Metropolitan Government with its NPDES permits. TDEC has not assessed monetary penalties against the Metropolitan Government for failing to meet a schedule compliance date, and the Metropolitan Government is in compliance with the requirements approved in settling the 1999 Order.

In December 2005, the Department received an inquiry from the U.S. Environmental Protection Agency's Region IV 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. Metro Water Services (MWS), the State of Tennessee Department of Environment and Conservation, and the United States Environmental Protection Agency agreed on a recommended consent decree to address and correct deficiencies within the Department's sewer system that have caused violations of the Clean Water Act (CWA). The consent decree requires that MWS fully develop, in two years, a Corrective Action Plan / Engineering Report (CAP/ER) for its separate 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, MWS will have an additional 9 years to complete the work as developed by the plans. The future related capital expenditures are expected to total between \$300 and \$500 million. Failure to comply with the mandate and meet future established deadlines could result in penalties up to \$3,000 per occurrence, and up to \$5,000 per day for failure to timely implement work.

Metro Council, by approving Resolution # RS2007-2144, on August 23, 2007, settled the existing 1999 Order and the Civil Action filed against the Metro Government. The Metro Council agreed to the terms of the consent decree filed in United States District Court for the Middle District of Tennessee for final approval.

The major elements of the settlement are as follows:

1. Payment of a civil penalty in the amount of \$282,019 to the United States Government;
2. Completion of certain specified environmental projects at the direction of United States Environmental Protection Agency and the State of Tennessee as set forth in Appendix E of the Consent Decree that (1) address water quality issues presented by septic tank failures in the 40 year old Brandywine Subdivision and (2) address water quality issues presented by septic tank failures in the Sanitarium Road area, both projects that, together, are estimated to cost approximately \$2.8 million to complete;
3. Issuance of a grant in the amount of \$282,019 over a six year period to a nonprofit environmental organization specified by the State of Tennessee as set forth in Appendix F of the Consent Decree;
4. Achieving compliance with provisions of the Clean Water Act and the Tennessee Water Quality Control Act in a manner set forth in the Consent Decree; and,
5. Imposition of stipulated civil penalties in the event timely compliance is not achieved; and
6. The State has directed that a nonprofit organization be designated to receive a grant in the amount of \$282,019 to be paid over six years.

The Consent Decree is pending the approval of the United States Department of Justice and the United States District Court before it can be implemented.

Specific OAP projects include the Second Phase of the Dry Creek Wastewater Treatment Plant Optimization, including upgrades to the on-site pumping station, fine bubble diffusion, and odor control systems, which is approaching completion at a total project cost of \$38.6 million. (OAP is funding \$3.6 million of this effort for flow optimization). Improvements to the Dodson Chapel Wastewater Pumping Station and the construction of a three million gallon wastewater equalization basin have been completed in 2007, at a cost of \$4.24 million. The improvements provide a higher level of mechanical reliability at the pumping station and allow the equalization basin to store peak wet weather flows for processing after

wet weather events have concluded so as to reduce overflows. Additional Equalization Basins are under design for the Barker Road / Omohundro Trunk sewer and the West Park wastewater Pumping Station. Each of these projects will include construction of a ten million gallon basin and related piping, pumping, and control systems, at an estimated cost of \$10 million for each project.

Improvements to the Combined Sewer System to reduce the frequency, volume, and duration of combined sewer overflows include the design of a new Washington Regulator (estimated construction cost \$10 million) and the Boscobel CSO - Village Court Sewer, for which bids are under review at this time (\$1.5 million).

Wastewater Pumping Station improvements to reduce or eliminate separated wastewater system overflows through increased reliability and flow capacity are also taking place. Improvements to the Hurricane Creek Wastewater Pumping Station are just beginning construction (\$2.48 million) and will be completed in 2008. Planning for the replacement Wastewater Pumping Station for Whites Creek basin is wrapping up; the results of that Planning Study will determine the scope for the replacement facility in that location.

Sewer System Rehabilitation continues for the elimination of Inflow and Infiltration from the separated sanitary sewer system. The Davidson Branch area (Phase 5, \$870 thousand) is near completion. Future rehabilitation projects include the Hermitage Area Rehabilitation, the Inglewood Rehabilitation Phase 3, and the 28th Avenue Rehabilitation Phases 1 & 2 project (\$1.10 million / \$1.50 million / \$1.80 million respectively). Design is complete for all of these projects, and construction starts are planned in FY 2008 pending receipt of SRF loans for construction.

Additional improvements to the Central Wastewater Treatment Plant are needed to address the handling of biosolids, and odor issues. These include the installation of new odor control equipment, new thickening facilities, new digestion facilities, a centrifuge de-watering process, and a new solids drying system, which will convert the biosolids into a reusable product. The costs of these improvements are estimated at \$13 million over the remaining year of this project, funded by state revolving fund and Tennessee Local Development Authority loans. This is scheduled for completion in 2008. The Department will spend an additional \$39 million to improve the handling of biosolids at the Dry Creek Wastewater Treatment Plant, including the installation of new odor control facilities, new digesters, and refurbished thickening and dewatering facilities, also scheduled for completion in 2008.

The following table depicts the proposed commitments for capital improvements to be undertaken by the Department during the Fiscal Years Ending June 30, 2008 through 2012. Capital projects during the forecast period will be funded from the revenues of the Department, State Loan Programs, issuance of new revenue bonds, replacing reserves with surety instruments, or a combination of these. The plan as shown assumes additional funding will be available from: a change to existing customer charges (beginning in 2008) 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.

The Metropolitan Government has received approximately \$312 million in Tennessee Local Development Authority and State Revolving Fund loans to finance capital projects and those under the OAP, and anticipates additional approvals for funding from these sources of approximately \$46 million.

### **The Water and Sewer Capital Improvement Plan**

	2008	2009	2010	2011	2012	TOTAL
<b>Overflow Abatement Program:</b>						
Wastewater Treatment Plant Improvements	4,275,000	236,200	248,100	260,500	273,500	5,293,300
Wastewater Pump Station Improvements	3,420,000	4,826,200	878,100	1,003,000	15,753,500	25,880,800
Sanitary Sewer Rehabilitation	9,965,000	3,549,200	3,684,300	5,717,700	25,278,000	48,194,200
Combined Sewer Improvements	13,185,000	4,736,200	23,648,100	8,360,500	9,273,500	59,203,300
Program Management & Water Quality	4,455,000	1,782,000	1,404,000	1,431,000	1,467,000	10,539,000
<b>Total Overflow Abatement Program</b>	<b>\$ 35,300,000</b>	<b>\$ 15,129,800</b>	<b>\$ 29,862,600</b>	<b>\$ 16,772,700</b>	<b>\$ 52,045,500</b>	<b>\$ 149,110,600</b>
<b>Other:</b>						
Trunk Sewer Additions	1,515,000	2,537,000	1,560,100	1,584,400	1,609,800	8,806,300
Wastewater Plant Improvements	8,601,000	7,065,000	12,618,800	34,475,300	9,721,900	72,482,000
Wastewater Pump Station Improvements	3,310,000	3,517,000	3,204,300	2,387,100	2,455,200	14,873,600
Water Plant Improvements	10,280,000	26,688,000	11,252,400	7,248,300	8,405,700	63,874,400
Water Reservoir & Pump Station Improvements	8,257,000	12,276,000	11,581,000	4,687,200	2,994,500	39,795,700
Water Distribution System Improvements	19,365,000	16,777,000	13,642,100	21,910,400	16,982,200	88,676,700
Utility Relocation Projects	2,250,000	2,250,000	2,250,000	2,250,000	2,250,000	11,250,000
Information Systems Improvements	7,339,600	4,123,300	2,188,200	208,300	493,800	14,353,200
Vehicles and Equipment	4,111,000	3,642,000	3,179,000	2,804,000	2,704,000	16,440,000
Meter Change-out Program	4,475,000	5,434,700	4,115,900	4,427,700	1,440,100	19,893,400
Stormwater Improvements	2,005,200	5,000,000	5,000,000	5,000,000	5,000,000	22,005,200
Miscellaneous	7,545,000	8,282,000	6,235,000	6,150,000	6,140,000	34,352,000
<b>Total Other Capital Projects</b>	<b>\$ 79,053,800</b>	<b>\$ 97,592,000</b>	<b>\$ 76,826,800</b>	<b>\$ 93,132,700</b>	<b>\$ 60,197,200</b>	<b>\$ 406,802,500</b>
<b>TOTAL</b>	<b>\$ 114,353,800</b>	<b>\$ 112,721,800</b>	<b>\$ 106,689,400</b>	<b>\$ 109,905,400</b>	<b>\$ 112,242,700</b>	<b>\$ 555,913,100</b>
<b>Sources of Funds</b>						
Extension and Replacement Fund	2,005,200				15,000,000	17,005,200
Release of Debt Service Reserve Funds	45,000,000					45,000,000
Proposed Stormwater Revenue Funding		5,000,000	5,000,000	5,000,000	5,000,000	20,000,000
Proposed Revenue Bond Proceeds	-	72,661,800	91,629,400	94,845,400	82,182,700	341,319,300
Water Impact Fees	2,560,000	2,560,000	2,560,000	2,560,000	2,560,000	12,800,000
Sewer Impact Fees	7,500,000	7,500,000	7,500,000	7,500,000	7,500,000	37,500,000
State Revolving Fund Sewer Loan	25,505,600	25,000,000	-	-	-	50,505,600
Tennessee Local Development Authority Loans	31,783,000					31,783,000
Other (Grants)	-	-	-	-	-	-
<b>TOTAL</b>	<b>\$ 114,353,800</b>	<b>\$ 112,721,800</b>	<b>\$ 106,689,400</b>	<b>\$ 109,905,400</b>	<b>\$ 112,242,700</b>	<b>\$ 555,913,100</b>

### Financial Constraints on Implementing the Capital Plan

Beginning in Fiscal Year 2008-2009, it will be difficult for the Department to fully fund the capital plan described above without either significantly raising water and sewerage service rates and/or reducing operating expenses. The Department intends to propose the adoption of rate increases for Fiscal Year 2008-2009. The amount of the proposed increases is under review, and there can be no assurance that any proposed rate increases will be approved. In the event such increases are not approved, the Department will consider reducing operating expenses in order to fund the capital plan.