

Metropolitan Sewerage District of Buncombe County

Asheville, North Carolina



MSD Board Retreat



February, 2008



1. MSD Organization

Metropolitan Sewerage District of Buncombe County (North Carolina)

March, 2008

MSD HISTORY

- MSD was formed in 1962 by State Statute as a special District with the sole purpose to collect and treat wastewater and to eliminate the direct discharges to the surrounding rivers and streams.
- In 1968 the Treatment Plant was completed and we began treating the wastewater from the various local governments in the region.
- In 1990 all the local governments and special districts gave all of their collection lines to MSD for ownership and maintenance in agreements we call “Sewer Consolidation.”

Metropolitan Sewerage District of Buncombe County (North Carolina)

March, 2008

MSD Governed by Independent Board

- Governed by a twelve-member Board appointed by the following entities:

City of Asheville (3)	Montreat
Buncombe County (3)	Weaverville
Biltmore Forest	Woodfin Sanitary Water and Sewer District
Black Mountain	Town of Woodfin
- Board responsible for setting rates without approval from any member agency.
- Chairman, Vice-chairman and Secretary-Treasurer are elected annually by the Board.
- Members serve staggered three-year terms and may be re-appointed.
- Active subcommittees:

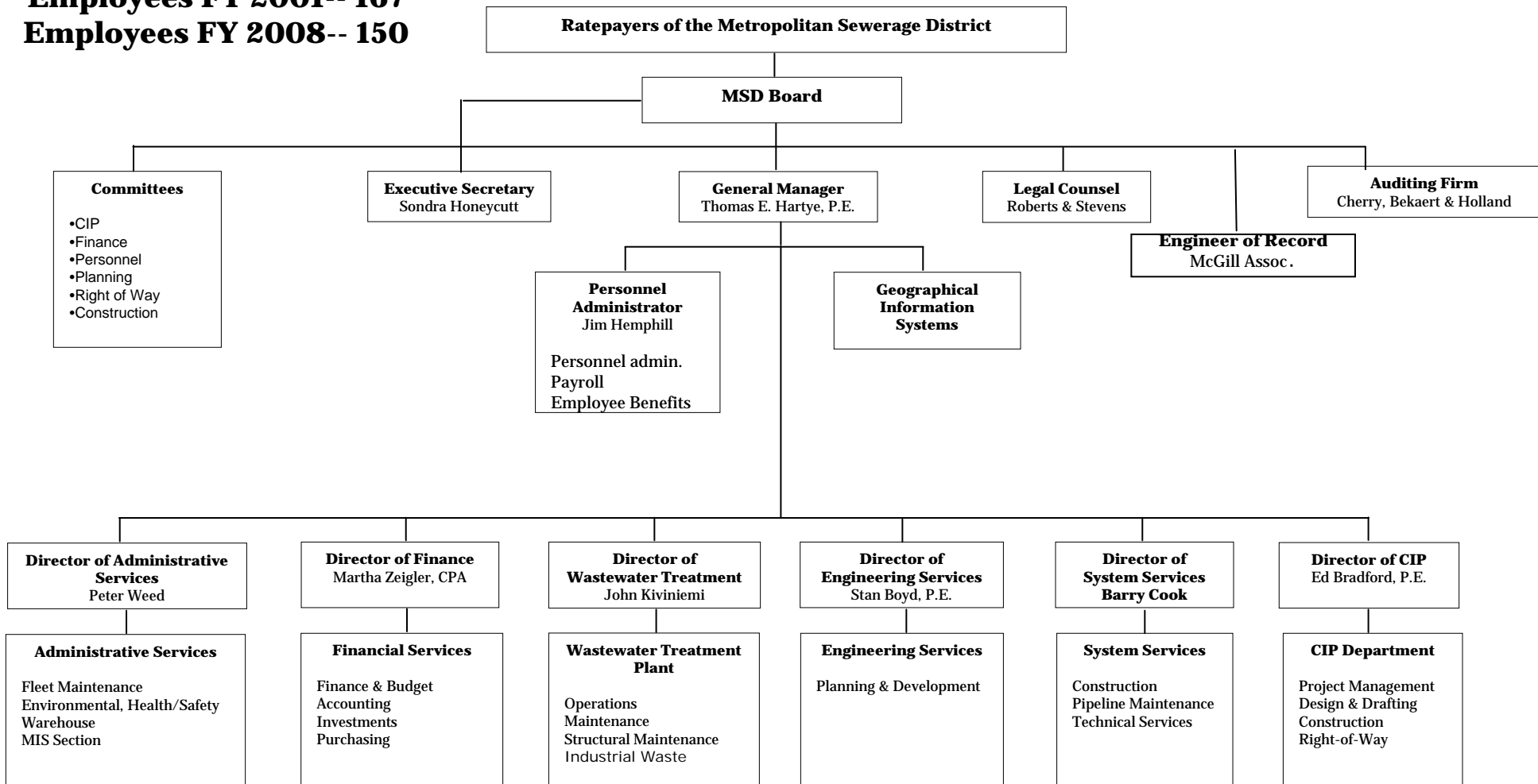
Capital Improvement Program	Personnel
Construction	Planning
Finance	Right of Way
- The Board employs a General Manager, P.E., who is responsible for daily operations.

Metropolitan Sewerage District of Buncombe County (North Carolina)

March, 2008

Management Structure

Employees FY 2001-- 167
Employees FY 2008-- 150



Metropolitan Sewerage District of Buncombe County (North Carolina) March, 2008

2003 AMSA Excellence in Management Award

Signifies MSD's commitment to both its customers and its employees through efficient operations, teamwork, long term planning, and effective management.



2. MSD Operations

Metropolitan Sewerage District of Buncombe County (North Carolina) March, 2008

MSD: ISO 14001 Registered



- ISO 14001 Implementation Team
- Entire Organization ISO 14001 Registered encompassing Treatment Plant, Collection System, Engineering and Administration
- Largest Public Utility in NC to be registered



**Metropolitan Sewerage District of Buncombe County (North Carolina)
March, 2008**

MSD Treatment Plant

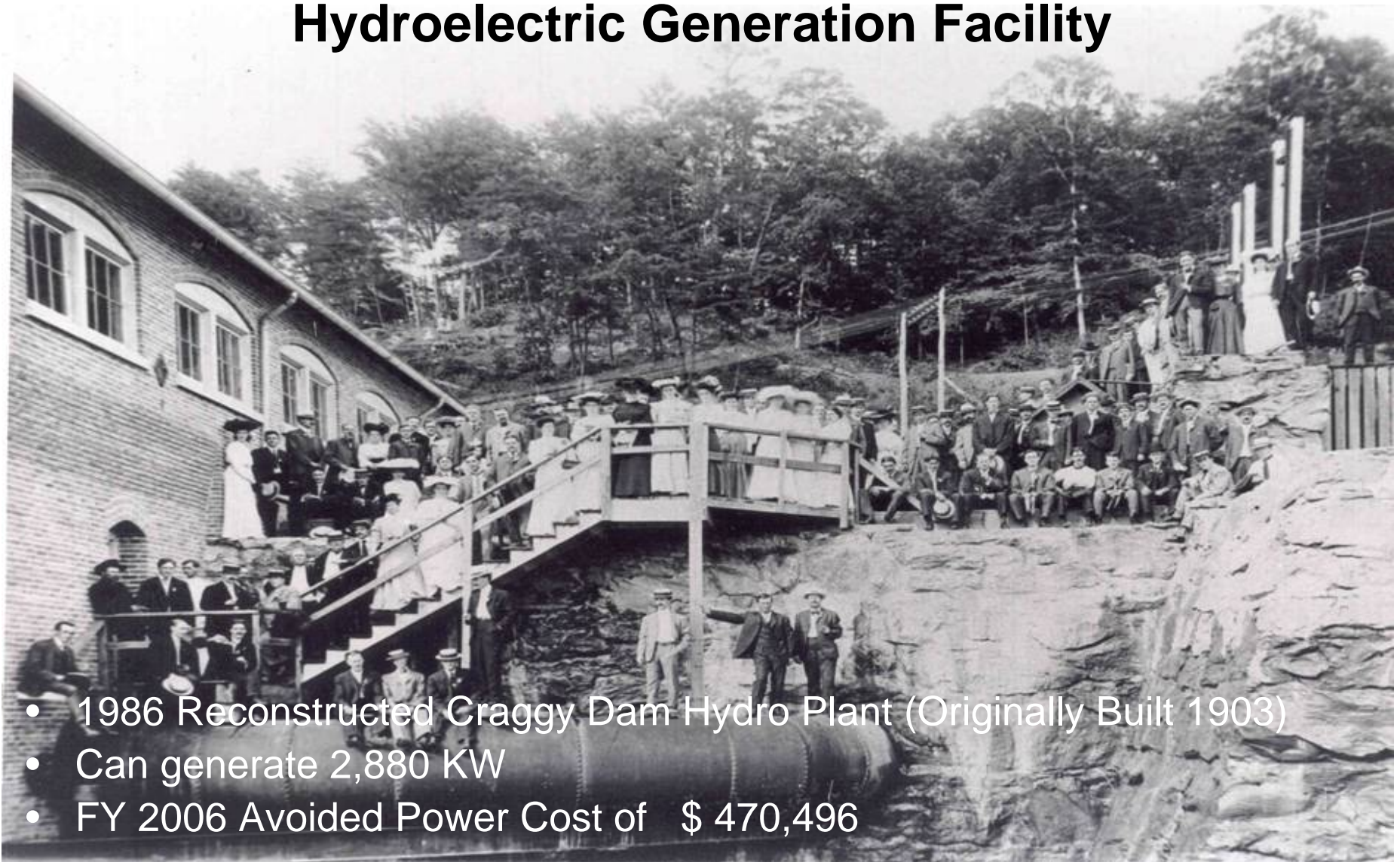


Treatment Plant

- 1995 Plant expansion to 40 MGD completed (65 MGD Peak)
- Current Average Daily Flow 16.7 MGD
- 152 Rotating Biological Contactors (RBC)—largest in world
- 2880 KW Hydroelectric Generation Facility
- 2 MW Diesel Generator Back-up
- 900 KW Gas Generators
- Land-fill Gas supply from closed county Landfill

**Metropolitan Sewerage District of Buncombe County (North Carolina)
March, 2008**

Hydroelectric Generation Facility



- 1986 Reconstructed Craggy Dam Hydro Plant (Originally Built 1903)
- Can generate 2,880 KW
- FY 2006 Avoided Power Cost of \$ 470,496

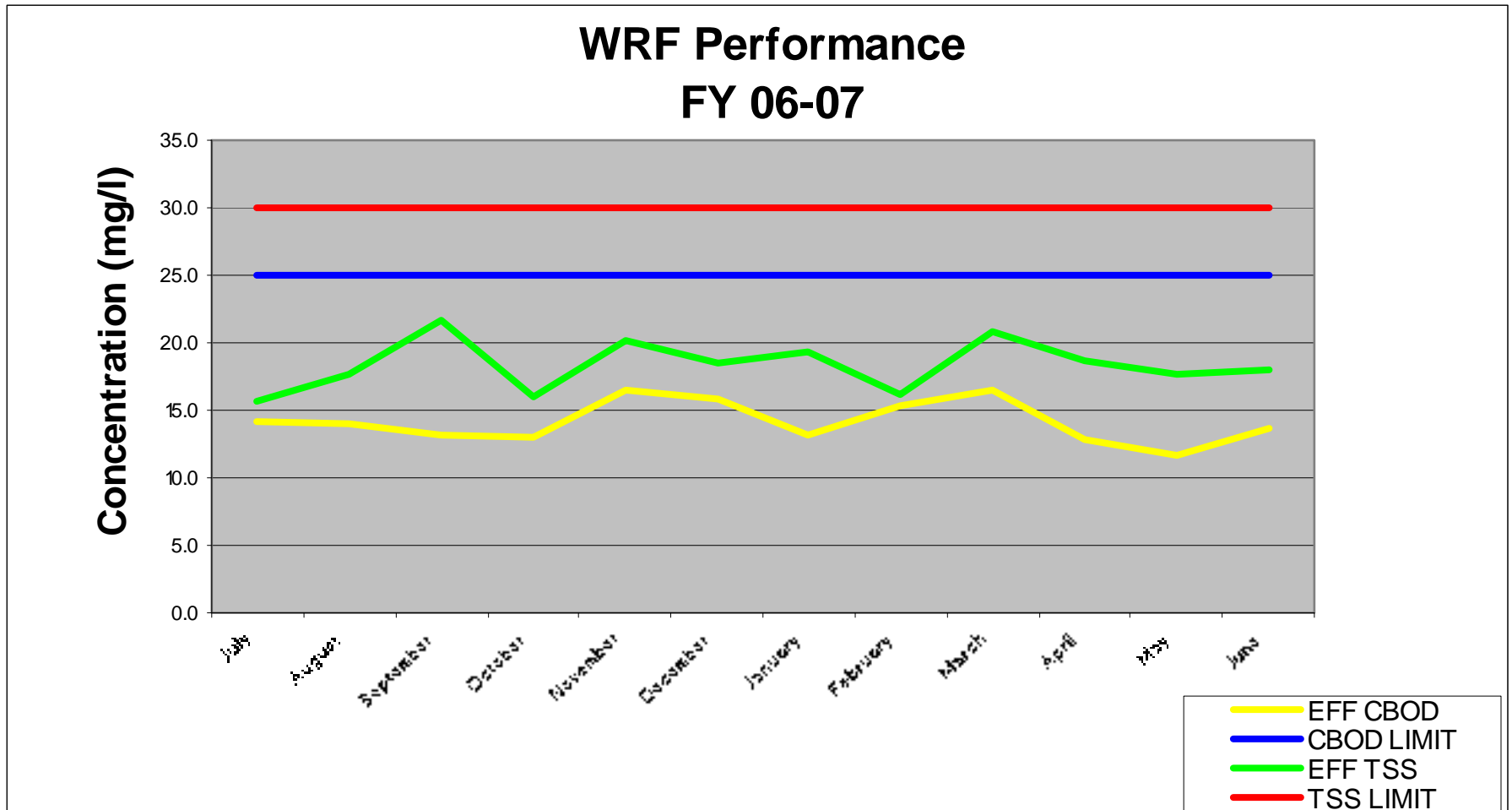
High Training Level for Wastewater Treatment Plant Operators

Treatment Plant Operators	Total at 1/01/2008	
Grade II (Minimum required)	1	8.3%
Grade III	0	
Grade IV (Maximum)	11	91.7%
Total	<u>12</u>	<u>100.0%</u>

Metropolitan Sewerage District of Buncombe County (North Carolina)

March, 2008

Regulatory Compliance at the Treatment Plant



Treatment Plant Receives AMSA Platinum 7 Award

- **Platinum Peak Performance**
 - Seven consecutive years for excellence in wastewater treatment



Metropolitan Sewerage District of Buncombe County (North Carolina)

March, 2008

Collection System



- Over 900 miles of sewer mains
- 30 pump stations
- Over 29,000 manholes
- 180 square mile service area (Over 80% of the Population of Buncombe County)
- Replaced over 670,000 feet of sewer mains since 1990 (over 14% of Entire System)
- Preventative maintenance cleaning and CCTV 15% - 20% of system per year
- Rehabilitation/replacement of approximately 250,000 feet of sewers in the next five years
- New Collection System Permit October 2007

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March, 2008

Emphasis on Training in Systems Services Division

Wastewater Collection Systems	Total at 1/01/2008	
No Certification	14	26.4%
Grade I	7	13.3%
Grade II	6	11.3%
Grade III	4	7.5%
Grade IV	22	41.5%
	53	100.0%

Note: Certification NOT required for State permit (and does not include office workers)

Customer Service

- District has a 180 square mile service area.
- Average Customer Response time during daytime is 34 minutes and at night 40 minutes.
- Frequently receive letters of appreciation regarding promptness and going extra mile.

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Major Causes of SSO's

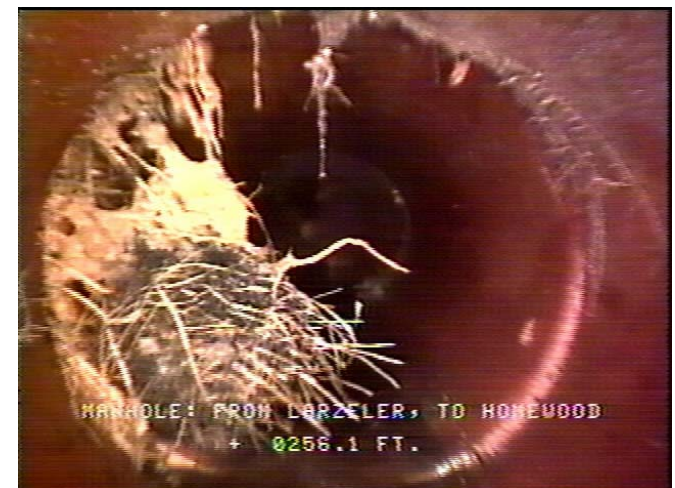
Major Defects



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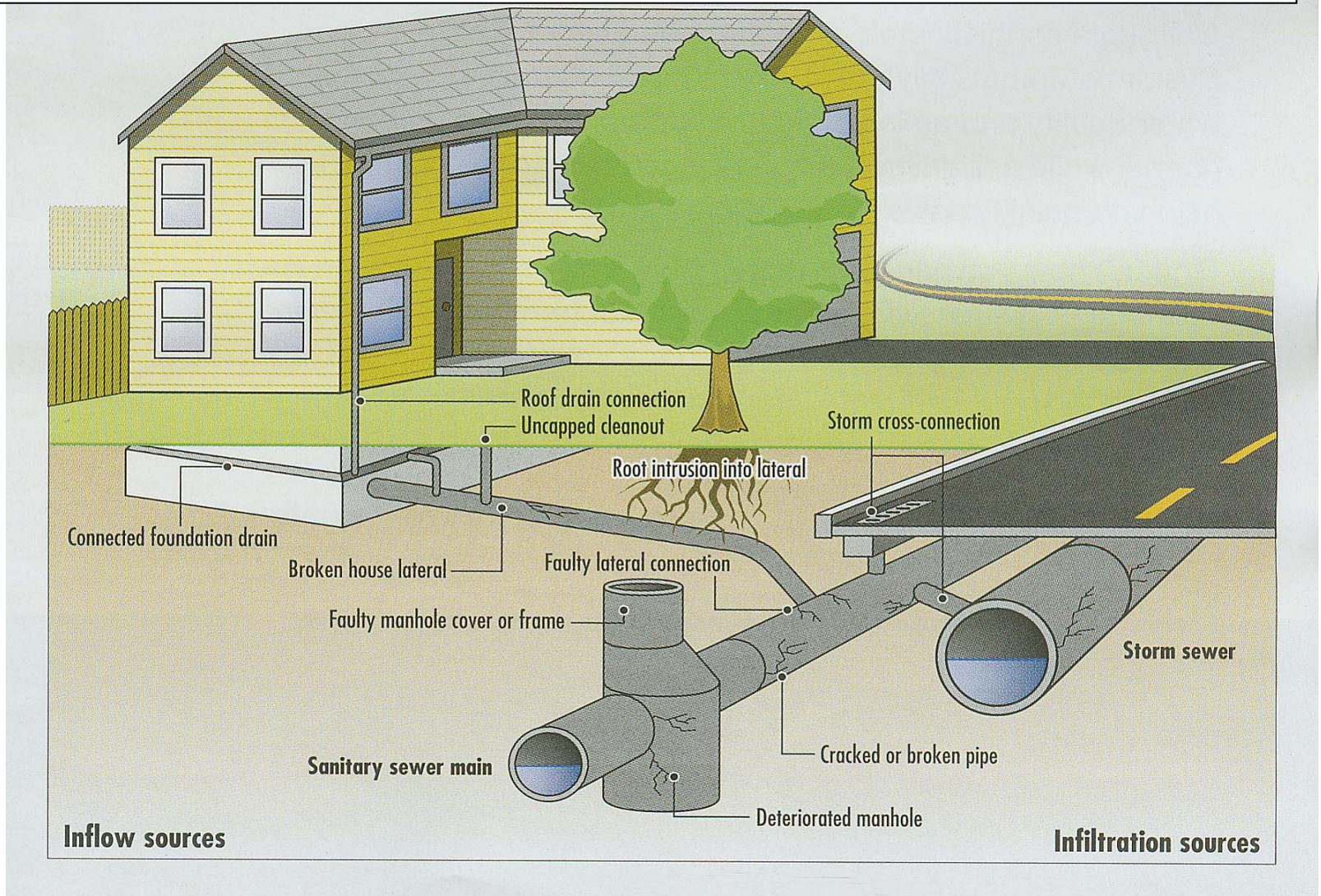
Roots & Grease



Metropolitan Sewerage District of Buncombe County (North Carolina)

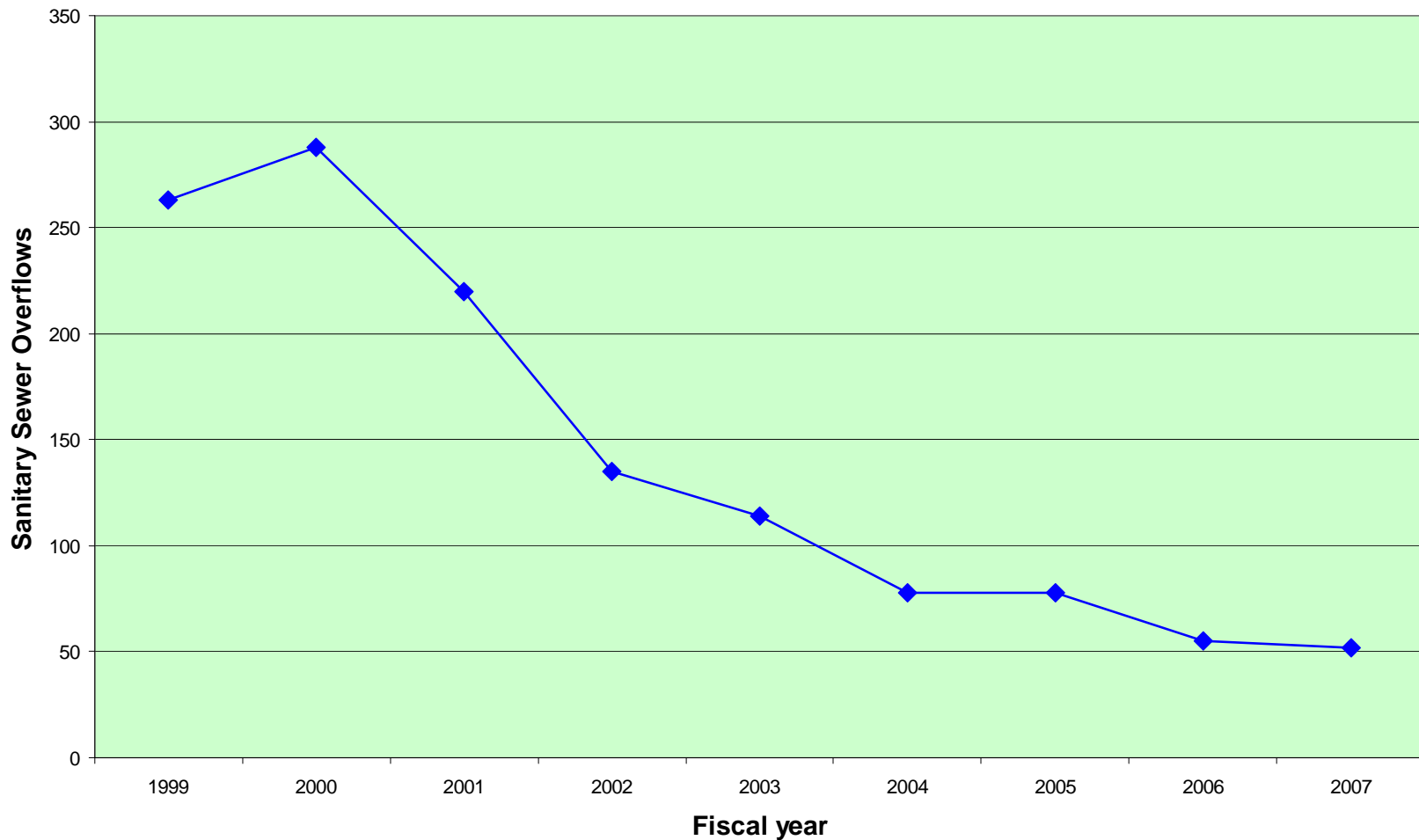
March, 2008

Infiltration & Inflow



Metropolitan Sewerage District of Buncombe County (North Carolina) March, 2008

Marked Improvement in Collection System Environmental Compliance Issues



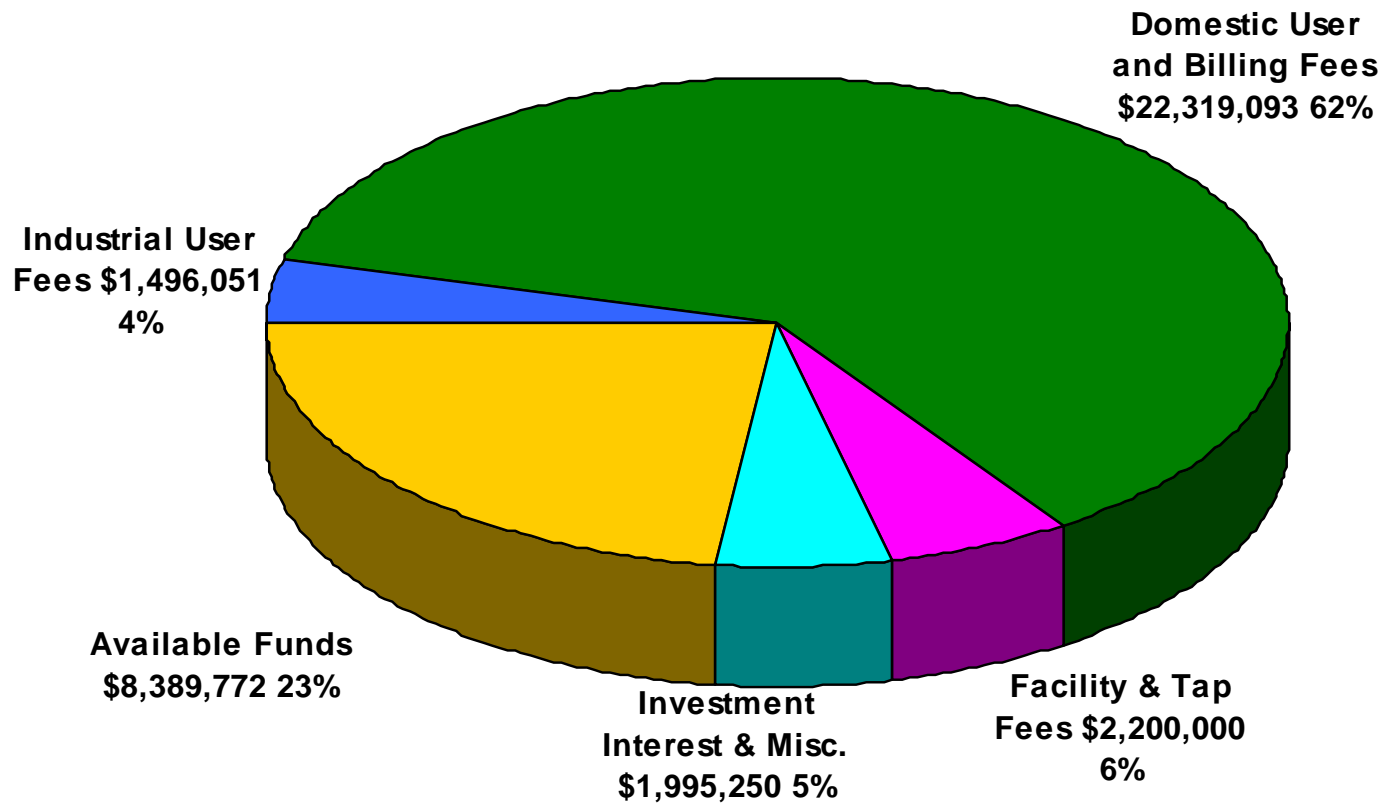
3. Financial Overview of the District

Metropolitan Sewerage District of Buncombe County (North Carolina)

March, 2008

FY 08 Budgeted Revenues

\$36,400,166

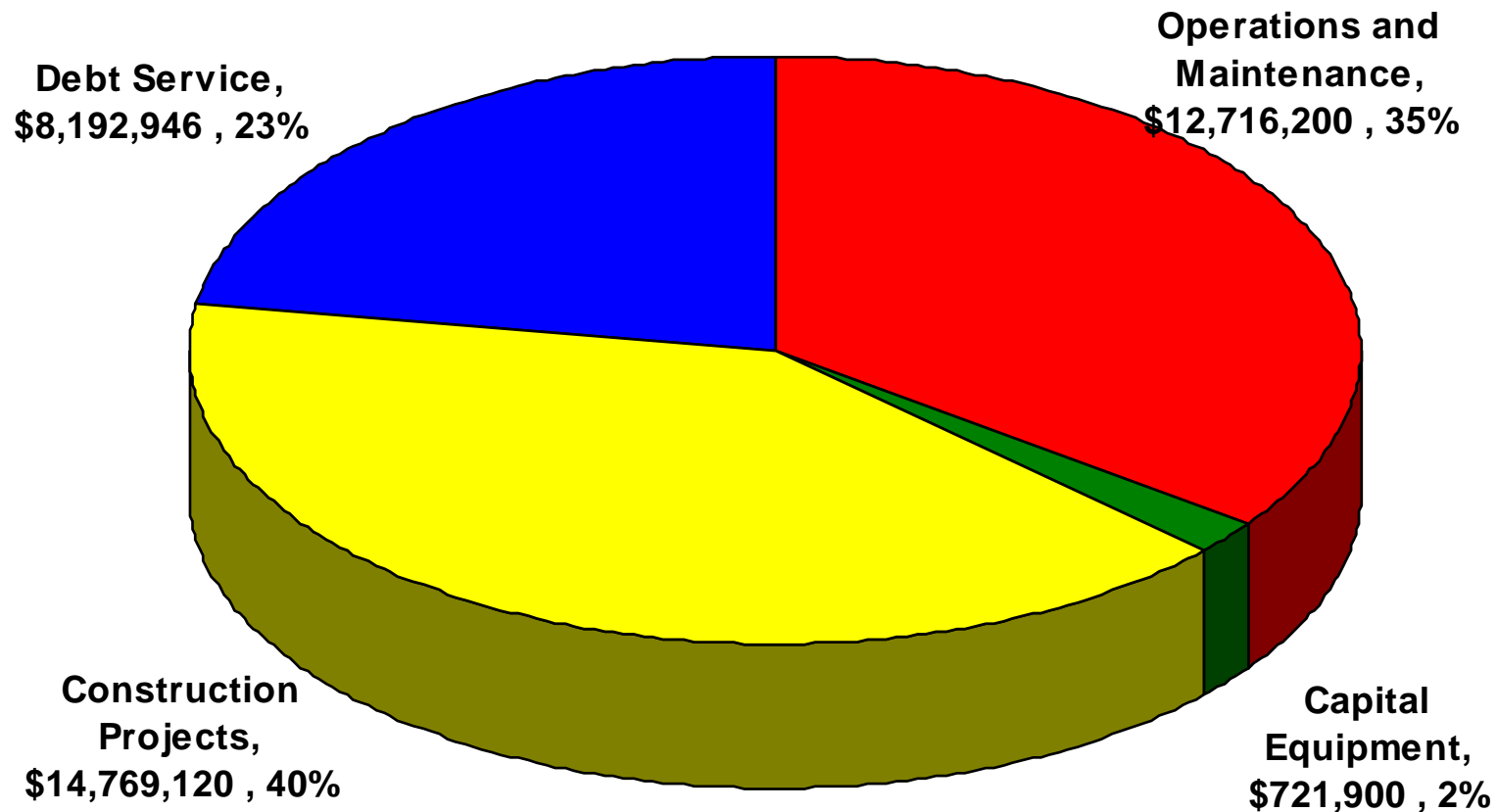


Metropolitan Sewerage District of Buncombe County (North Carolina)

March, 2008

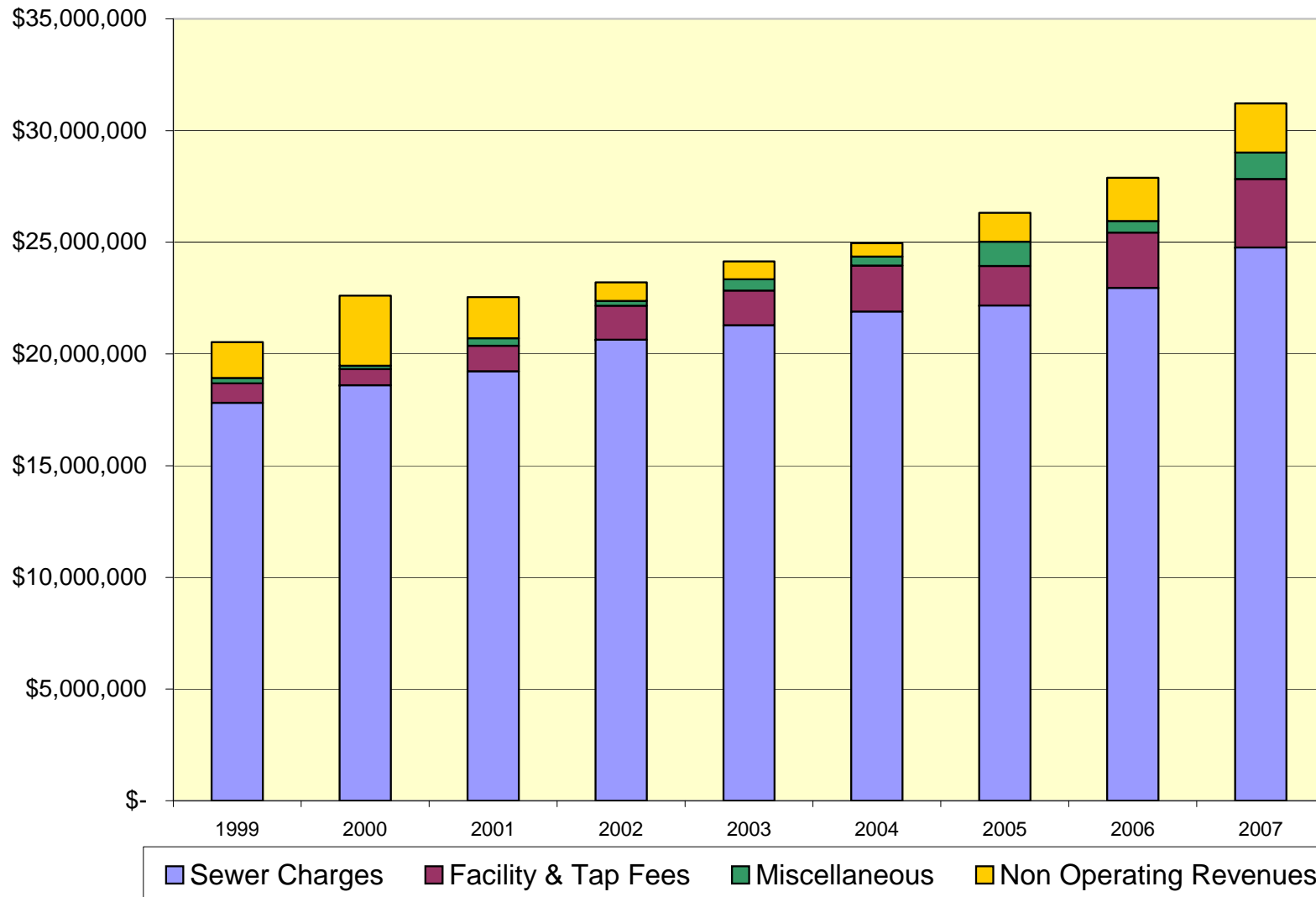
FY 08 Budgeted Expenditures

\$36,400,166



Metropolitan Sewerage District of Buncombe County (North Carolina) March, 2008

MSD Revenues



Metropolitan Sewerage District of Buncombe County (North Carolina)
March, 2008

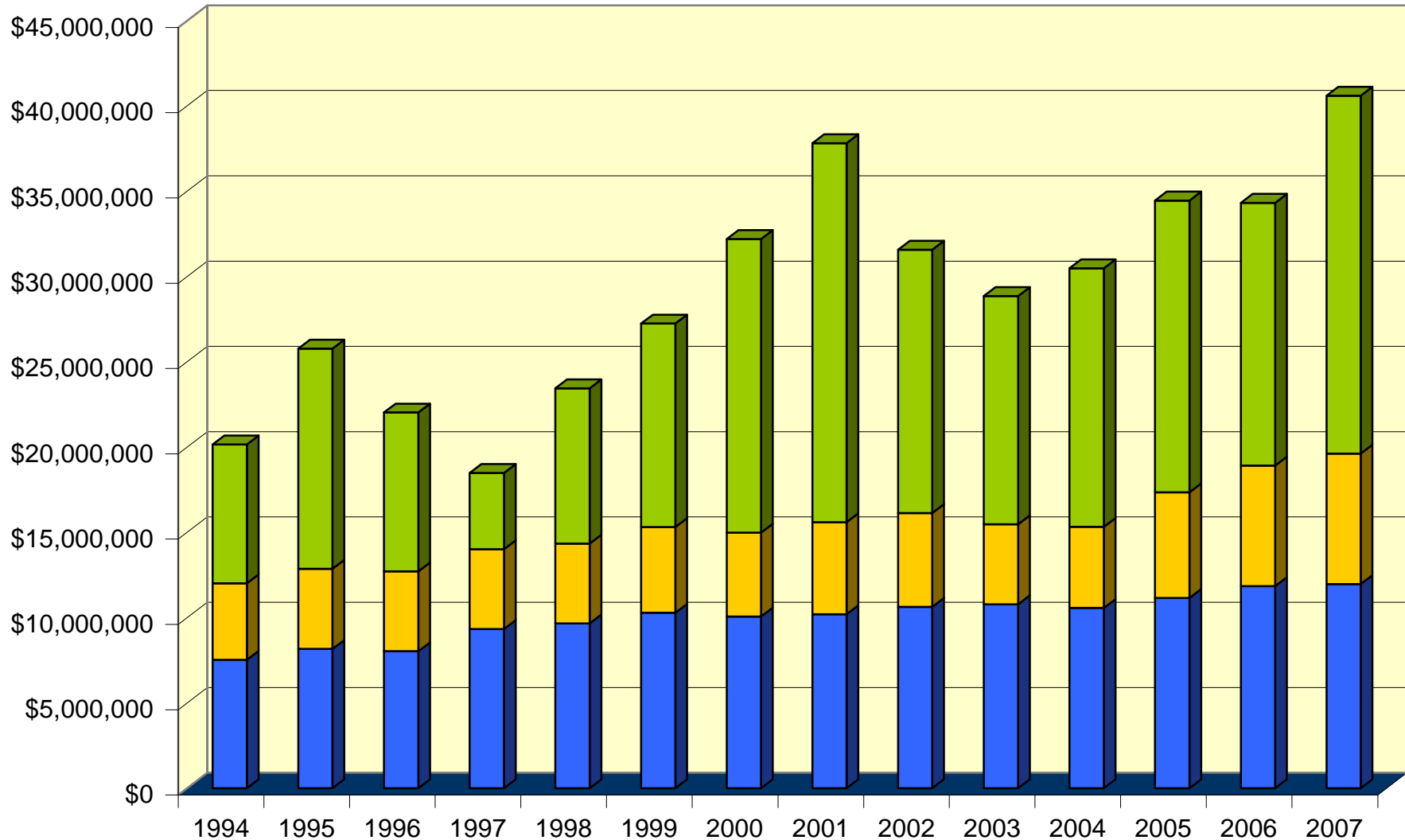
Current Reserve Funds

(6/30/07)

- Fleet Replacement Fund \$ 1,143,291
- Plant Equipment Replacement Fund \$ 661,852
- Capital Reserve Fund (6% O&M) \$ 758,719
- Debt Service Reserve Fund \$ 5,187,554
- Insurance Fund – Medical,
Worker Comp., Property
& Liability \$ 745,587

Metropolitan Sewerage District of Buncombe County (North Carolina) March, 2008

MSD All Expenditures



Operating Expenses Debt Service Capital Improvement & Expansion

Metropolitan Sewerage District of Buncombe County (North Carolina) March, 2008

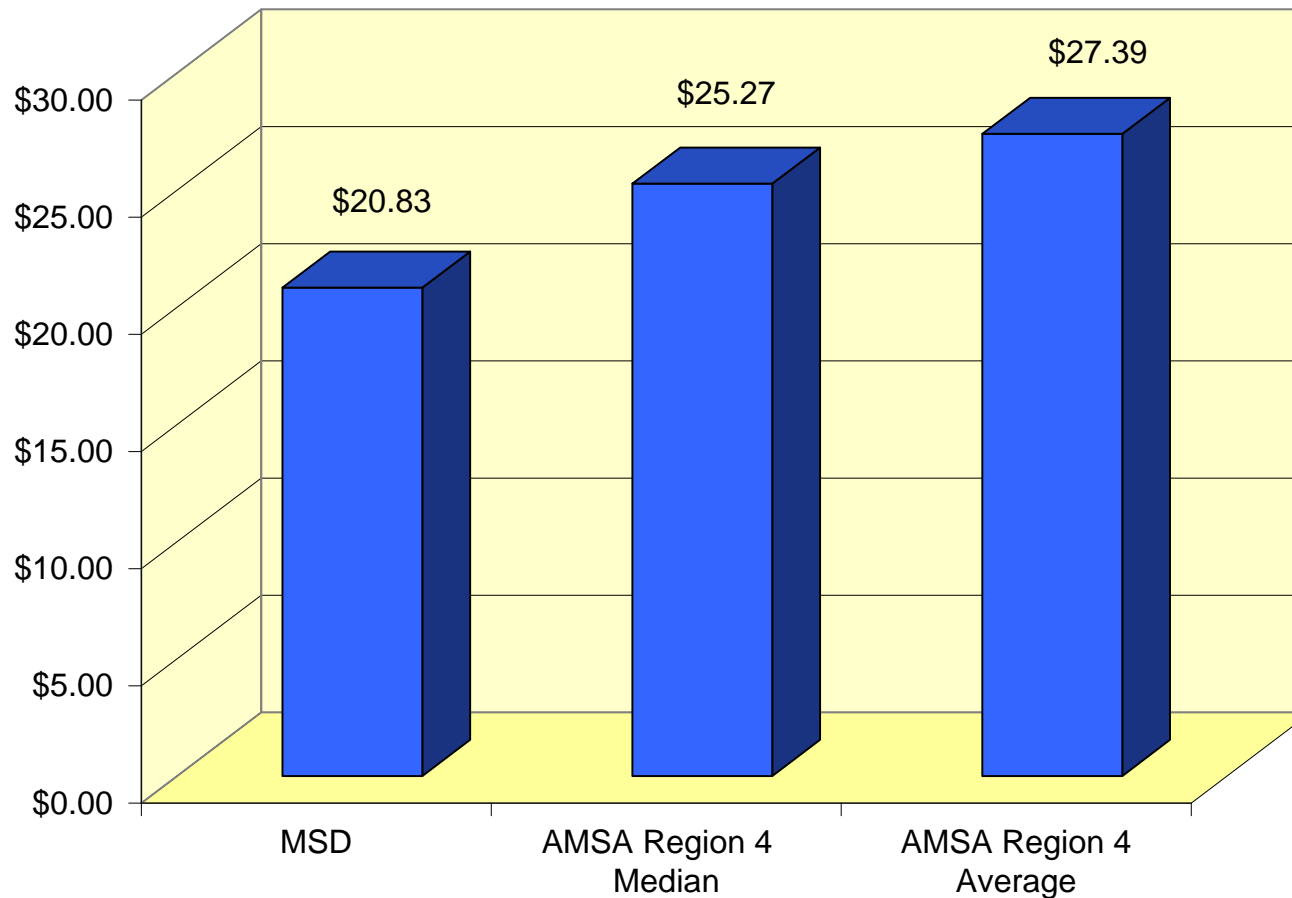
Average Monthly Domestic Bill

Average 5 CCF



Metropolitan Sewerage District of Buncombe County (North Carolina) March, 2008

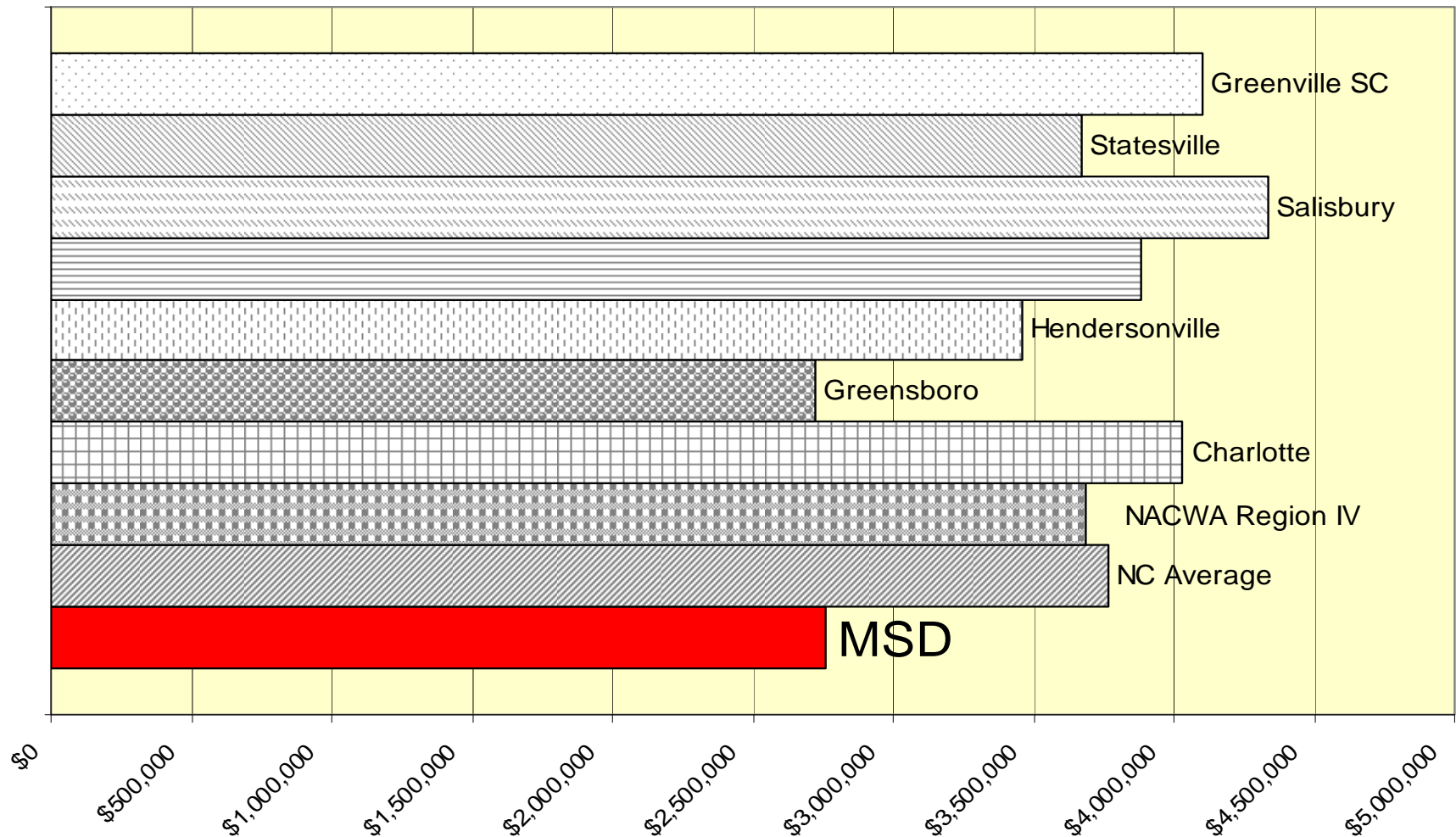
Comparative Monthly Residential Bills (AMSA - 2005)



Note: Average monthly consumption within MSD is 5 CCF as compared to the national average of 9.9 CCF

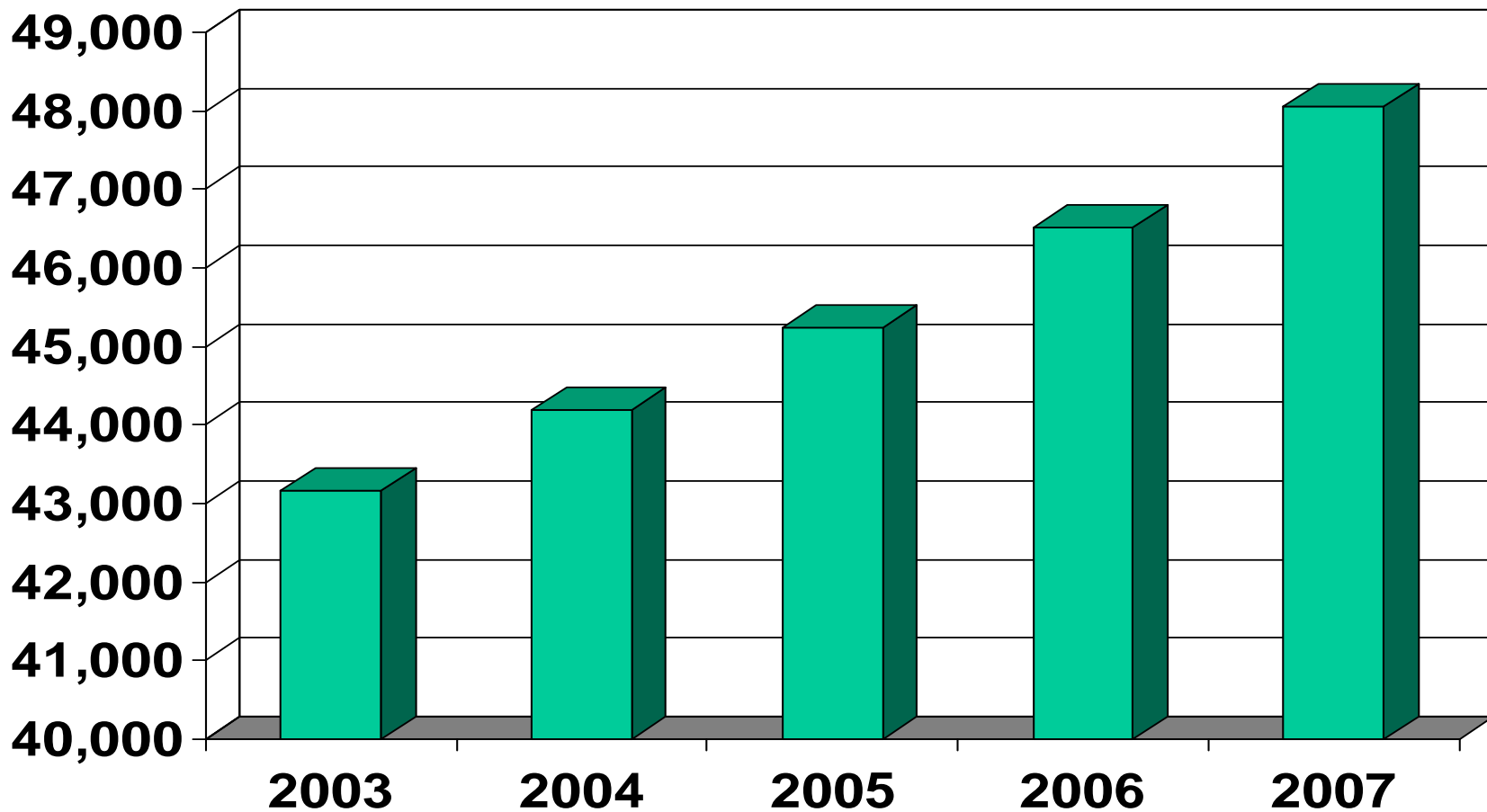
Metropolitan Sewerage District of Buncombe County (North Carolina) March, 2008

Comparison of Industrial Rates 2005 Revenues For MSD Industries



**Metropolitan Sewerage District of Buncombe County (North Carolina)
March, 2008**

Expanding Customer Base



Financial Reporting Awards

- GFOA Excellence in Financial Reporting for CAFR 1995-2006
- GFOA Distinguished Budget Presentation Award FY 1999-2008



4. Capital Improvement Program

Metropolitan Sewerage District of Buncombe County (North Carolina)

March, 2008

Master Planning Efforts Form Capital Improvement Program

- **2001 Master Plan** – Camp, Dresser & Mckee (CDM): Collection, Treatment, and Operations.
 - ✓ Management, Operations and Maintenance
 - ✓ Sewer Rehabilitation Program
 - ✓ Capacity Improvements for wet and dry flows
- **2007 Facilities Plan** – CDM: Detailed look at the Treatment Plant
 - ✓ Grit and Grease upgrade
 - ✓ Intermediate Pump Replacements
 - ✓ Secondary Microscreen Replacements
- **2008 Collection System Master Plan** – McGill & Assoc.:
 - ✓ Incorporated new Buncombe County Land Use Plan and Zoning Ordinance
 - ✓ Incorporated all member agency planning/zoning efforts
 - ✓ Plan for orderly growth of sewer system
 - ✓ Replacement of existing sewers sized for future growth

Metropolitan Sewerage District of Buncombe County (North Carolina)
March, 2008

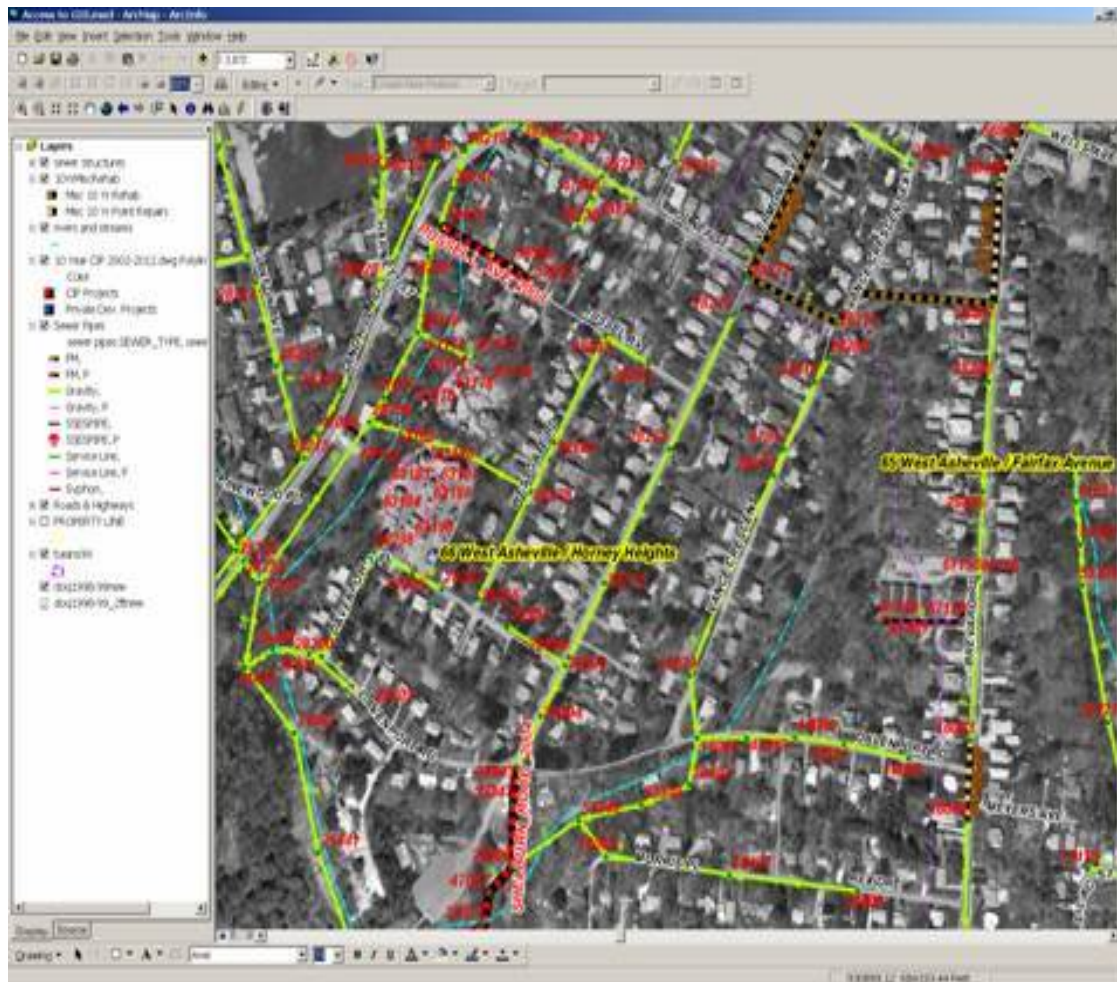
Capital Improvement Plan
FY08 through FY17 (10 years)

Interceptors/Wet Weather Rehab.	\$ 26.0 Million (18.5%)
Collection Rehabilitation	\$ 98.7 Million (70.2%)
Reimbursements	\$ 2.5 Million (1.7%)
Treatment Plant / P.S.	<u>\$ 13.5 Million (9.6%)</u>
Total	\$ 140.7 Million

* 1990-2007 Total Construction of \$ 166 million

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Pipe Rating Program



- Proactive program to focus rehabilitation dollars where most needed
- Featured in February 2004 issue of “Water Environment & Technology” magazine

AMSA Award for Pipe Rating Project



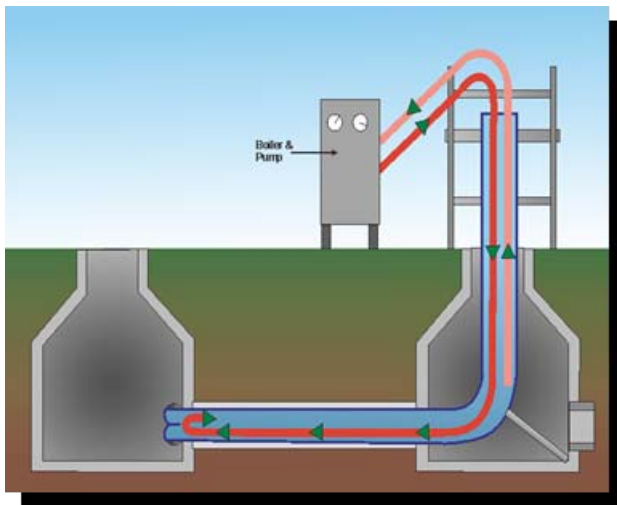
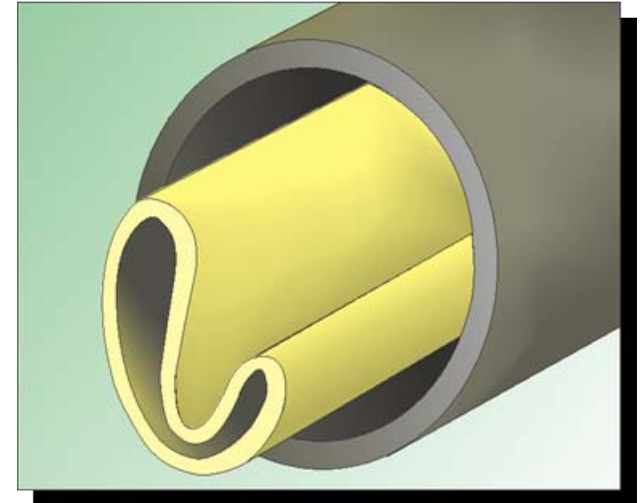
- In May of 2003, MSD received an AMSA National Environmental Achievement Award for the Pipe Rating Program
- Developed by interdepartmental team using off-the-shelf software
- MSD and Los Angeles only two US utilities to receive this award



Metropolitan Sewerage District of Buncombe County (North Carolina)

March, 2008

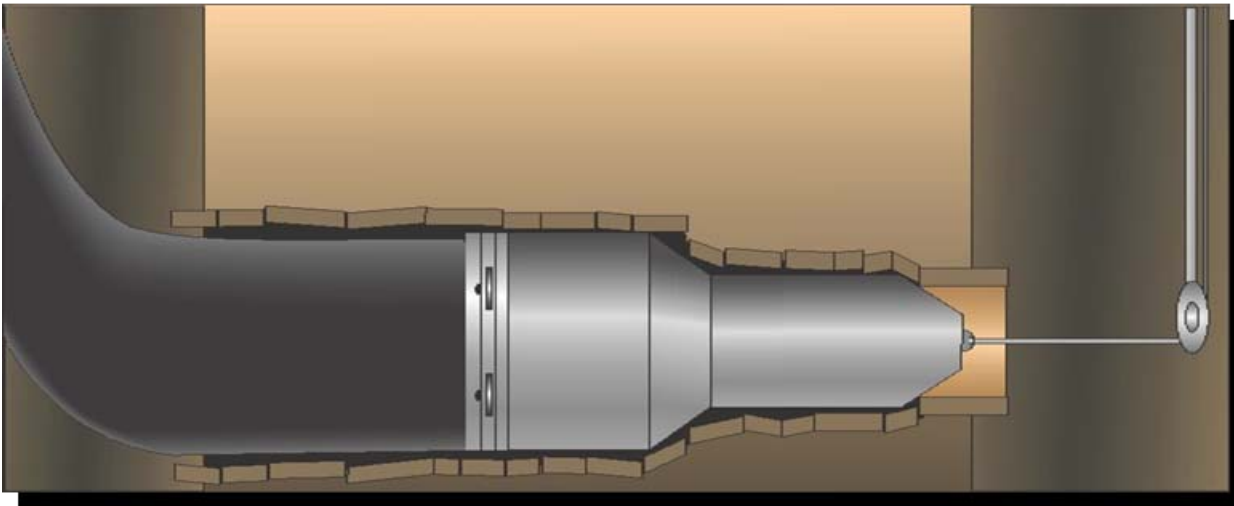
Trenchless Technologies Pipe Lining



Metropolitan Sewerage District of Buncombe County (North Carolina)

March, 2008

Trenchless Technologies Pipe Bursting



Metropolitan Sewerage District of Buncombe County (North Carolina) March, 2008

In-House IRS Repair/Rehab “BEFORE”



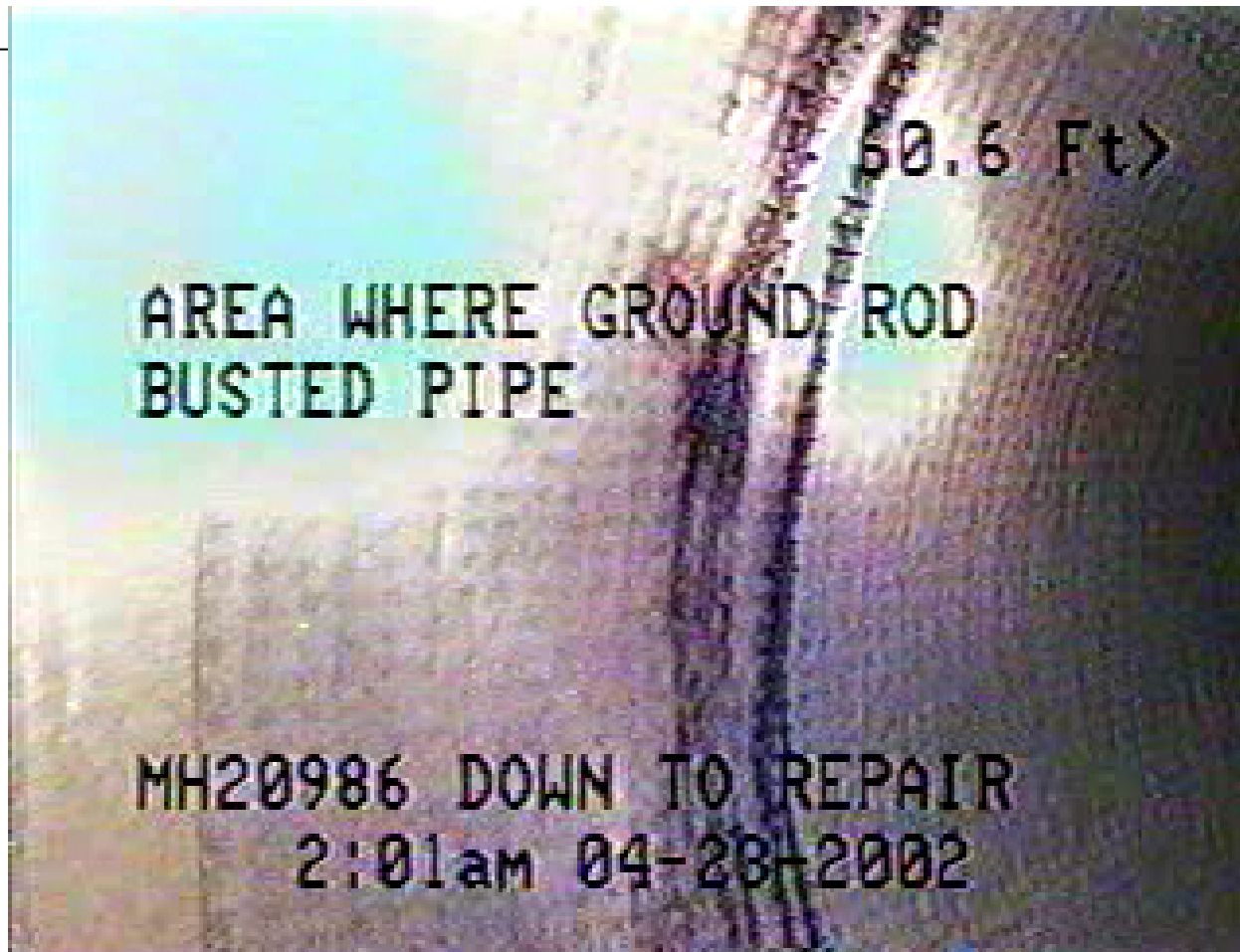
**Metropolitan Sewerage District of Buncombe County (North Carolina)
March, 2008**

**In-House IRS Repair/Rehab
“During”**



Metropolitan Sewerage District of Buncombe County (North Carolina)
March, 2008

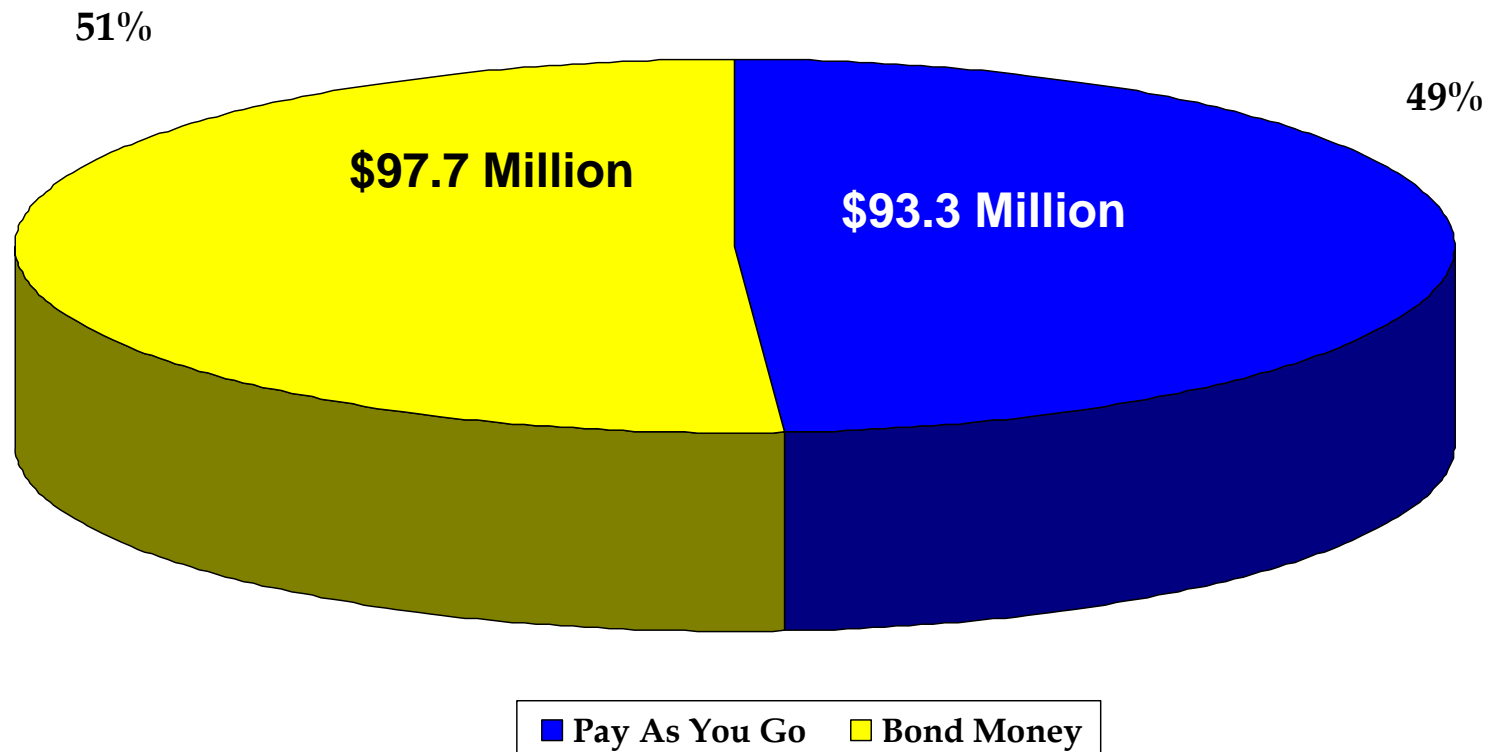
In-House IRS Repair/Rehab
“AFTER”



Metropolitan Sewerage District of Buncombe County (North Carolina)
March, 2008

Capital Improvements and Sources of Funding
FY 2000 to FY 2012

\$191 Million



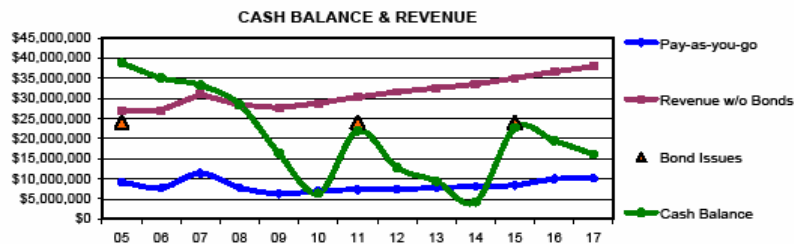
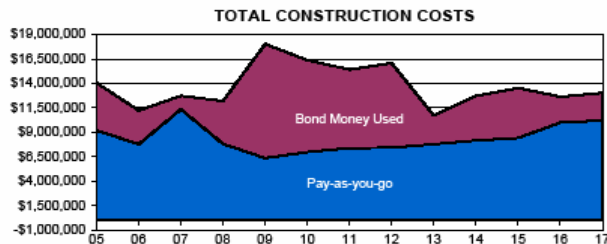
Metropolitan Sewerage District of Buncombe County (North Carolina)

March, 2008

MSD Business Plan

MSD Financial Forecast	2.0%	3.0%	4.5%	4.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	Sewer Rate Increase
	\$20.83	\$21.45	\$22.41	\$23.28	\$23.97	\$24.69	\$25.43	\$26.20	\$26.98	\$27.79	\$28.63	\$29.48	\$30.37	Average Monthly Bill
February, 2008	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
July 1- Available for Construction	19,824,646	38,827,187	35,046,692	33,290,778	28,420,576	16,291,891	6,438,365	21,937,488	12,809,988	9,378,940	4,274,684	22,655,535	19,485,902	
REVENUE:														
Domestic Users	18,757,943	19,840,872	21,523,457	22,638,907	23,279,829	24,238,910	25,219,272	26,221,211	27,300,350	28,403,204	29,530,330	30,739,086	31,974,415	1% growth in Domestic Revenue
Industrial Users (No growth)	2,912,188	2,817,298	2,693,328	1,527,458	1,438,311	1,501,472	1,567,048	1,635,854	1,707,202	1,782,524	1,861,613	1,943,030	2,028,192	No growth in Industrial
Billing and Collections (User Fee)	499,450	522,799	554,317	582,077	578,940	596,308	614,197	632,623	651,602	671,150	691,284	712,023	733,384	
Tap Fees	177,000	199,600	203,370	252,000	128,000	147,000	157,500	157,500	157,500	157,500	157,500	157,500	157,500	
Facility Fees	1,592,620	2,282,250	2,851,580	1,920,000	1,140,000	1,540,000	1,875,000	1,875,000	1,875,000	1,875,000	1,875,000	1,875,000	1,875,000	
Interest & Non-operating Revenues	936,448	1,520,926	2,582,983	1,176,250	784,000	480,000	575,000	706,000	458,000	296,000	565,000	875,000	750,000	20-year Industrial Rate Parity
City of Asheville (annex.-Enka)	88,217	37,003	37,003	37,000	37,000	37,000	45,000	75,000	103,000	36,000	49,000	37,000	37,000	
Rental Income	58,538	58,056	37,578	58,750	58,750	58,750	58,750	58,750	58,750	58,750	58,750	55,000	55,000	
Transfer from Reserves (to / from)	1,773,190	(51,926)	500,980	200,000	225,000	225,000	225,000	225,000	250,000	250,000	250,000	250,000	275,000	
Miscellaneous	828	2,689	4,324											
Total Revenues	26,794,420	27,029,567	30,988,920	28,372,443	27,667,630	28,804,440	30,336,785	31,586,938	32,561,404	33,529,128	35,038,478	36,643,639	37,885,491	
State and Federal (EPA) Grants	396,484													
Revenue Bonds	24,000,000						24,000,000			24,000,000				
Total Funds Available	71,015,550	65,856,754	68,035,612	61,663,221	56,088,206	45,098,431	60,775,130	53,524,427	45,371,392	42,906,068	63,313,162	59,299,174	57,381,393	
EXPENSES:														
Operations & Maintenance	10,856,532	11,264,280	11,584,471	12,446,159	13,209,005	13,720,017	14,253,324	14,810,056	15,391,410	15,998,653	16,633,127	17,296,254	17,989,542	
Replacement Funds (WRF & Fleet)	400,000	350,000	360,000	400,000	450,000	450,000	475,000	475,000	500,000	525,000	525,000	525,000	550,000	
Debt Service	6,876,240	7,982,730	8,068,069	8,102,946	8,111,159	8,109,510	8,706,250	9,356,429	9,387,937	9,377,042	9,982,025	9,353,111	9,691,389	3% inflation in O & M, Replacement Funds and Engineering Force Account
CIP (including Bond Projects)	14,055,591	11,213,052	12,732,294	12,203,540	18,026,051	16,378,539	15,403,067	16,072,953	10,715,105	12,730,889	13,517,475	12,628,907	13,025,180	Bond Issues figured at 5.0% yield
Total Expenses	32,188,363	30,810,062	32,744,834	33,242,645	39,796,215	38,658,066	38,837,642	40,714,439	35,994,452	38,631,394	40,657,627	39,803,272	41,256,091	
Pay-as-you-go (Current Revenue only)	9,196,773	7,782,557	11,336,380	7,810,238	6,347,466	6,974,913	7,377,190	7,420,452	7,782,057	8,153,433	8,423,326	9,994,274	10,204,560	
Debt Coverage (User Fees only)	2.0	1.5	1.8	1.6	1.6	1.7	1.6	1.6	1.6	1.7	1.6	1.8	1.8	Minimum Debt Coverage 1.5
Debt Coverage with Total Revenue	2.3	2.0	2.4	1.9	1.8	1.9	1.8	1.8	1.8	1.8	1.9	1.8	2.1	
February 8, 2008	10-Year Capital Improvement Program													
Active Plan CIP	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	
Interceptor/Wet Weather Rehabilitation				4,430,837	1,990,688	4,826,218	3,750,432	431,394	1,568,681	1,511,738	2,834,792	0	0	
General Sewer Rehabilitation				2,035,799	5,769,316	3,399,048	4,032,268	8,002,258	4,386,696	6,170,505	8,352,071	7,972,314	8,230,310	
Pipe Rated Projects				1,876,425	1,247,810	1,589,479	3,239,388	3,960,092	1,882,328	1,805,332	1,346,557	1,381,950	1,427,278	
Unclaimed Sewer Rehabilitation				145,630	73,525	503,490	150,775	314,965	5,689	123,387	127,434	131,814	135,931	
Treatment Plant / Pump Stations				882,384	5,431,500	3,753,195	1,653,881	716,832	170,670	323,157	182,049	188,020	194,187	
Engineering Force Account				2,174,672	2,239,912	2,307,109	2,376,323	2,447,812	2,521,041	2,596,572	2,674,572	2,754,809	2,837,454	
Reimbursements				657,793	273,500	200,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	
Contingency					1,000,000									
Capital Improvement Program Totals	14,514,875	11,213,052	12,732,294	12,203,540	18,026,051	16,378,539	15,403,067	16,072,953	10,715,105	12,730,889	13,517,475	12,628,907	13,025,180	

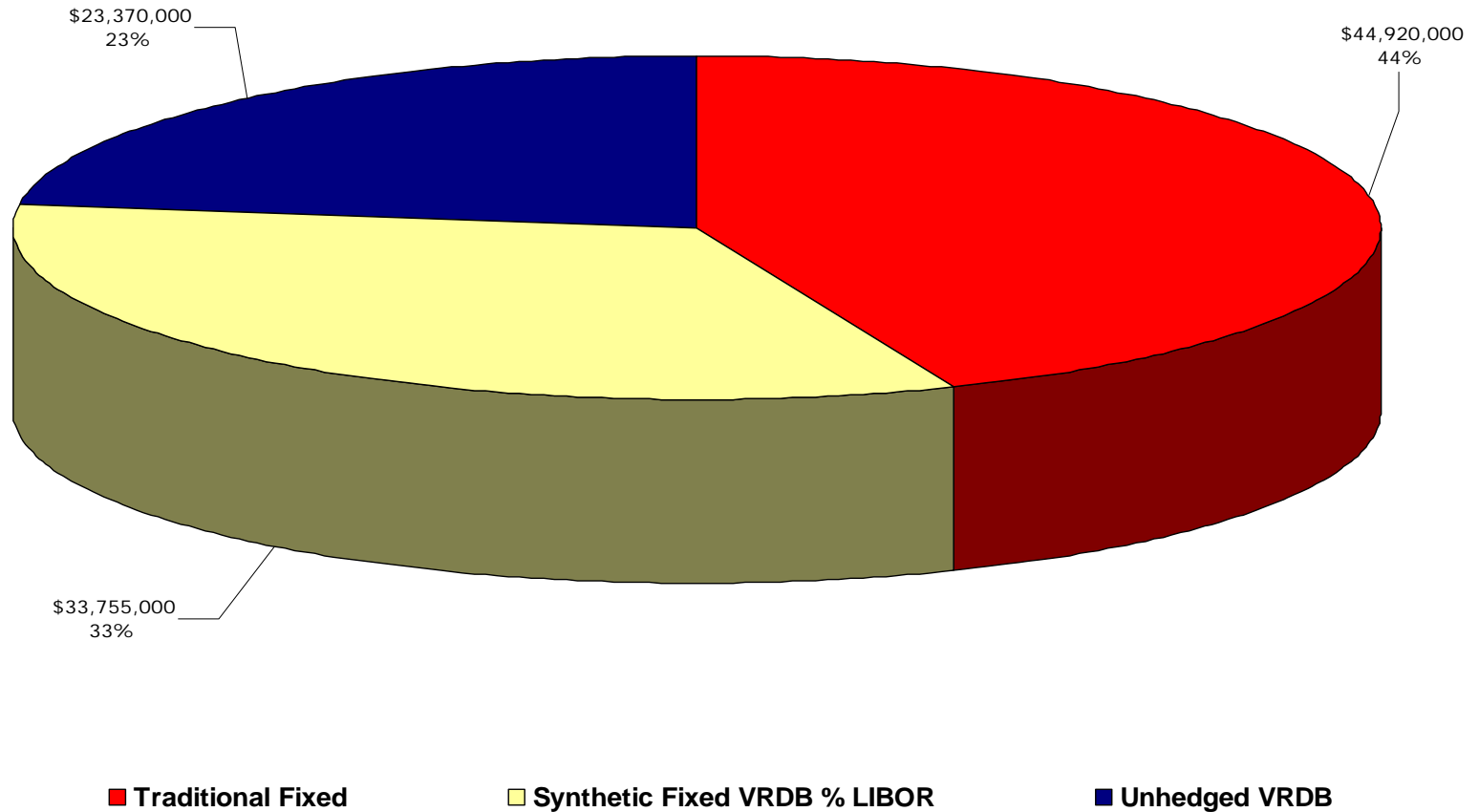
Assumptions
1% growth in Domestic Revenue
No growth in Industrial
20-year Industrial Rate Parity
General Sewer Rehab to cover 50,000 lineal ft / year
ENR 10-year Construction Index @ 3.28%
3% inflation in O & M, Replacement Funds and Engineering Force Account
Bond Issues figured at 5.0% yield
Minimum Debt Coverage 1.5
Minimum Carry-over for Construction \$3,000,000
Reserve Fund contributions match Expenses



5. Existing Debt Service

Metropolitan Sewerage District of Buncombe County (North Carolina) March, 2008

Aggregate Debt Composition



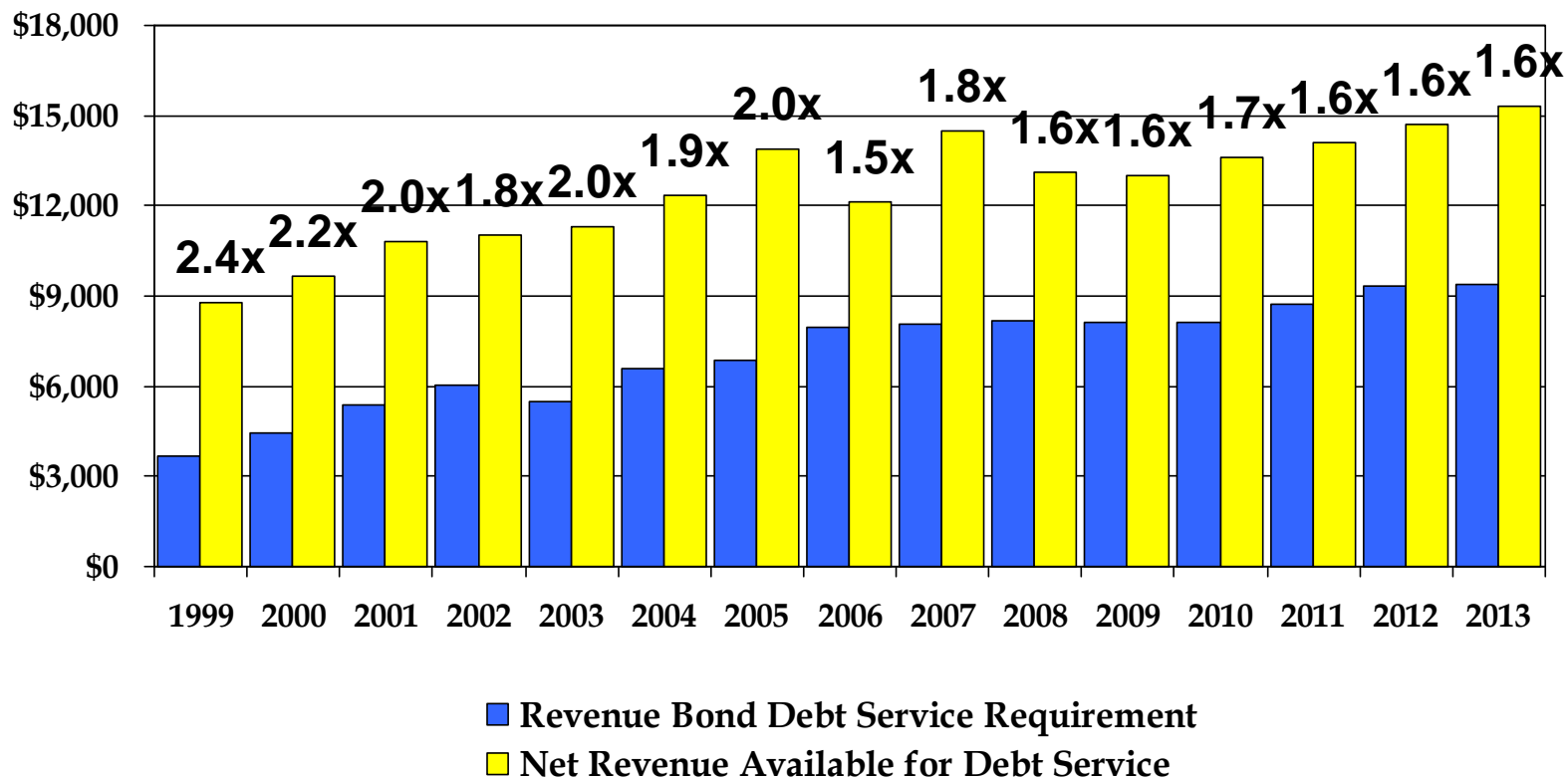
Metropolitan Sewerage District of Buncombe County (North Carolina)

March, 2008

Strong financial position

- Coverage is projected to be no lower than 1.5x through the year 2013
- Does NOT include Facility Fees

Debt Service Coverage (Net Revenue)



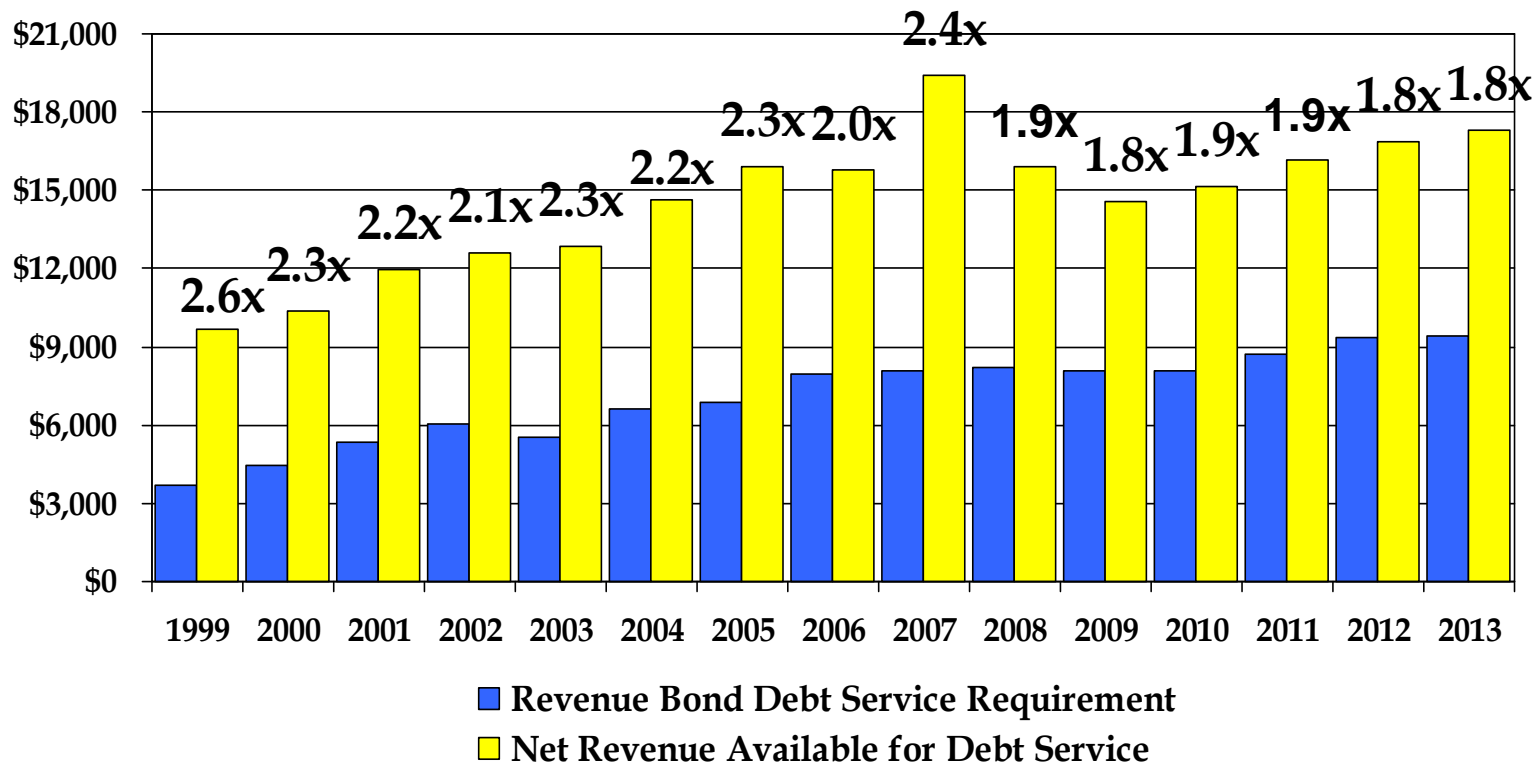
Metropolitan Sewerage District of Buncombe County (North Carolina)

March, 2008

Strong financial position

- Debt service coverage is projected to be no lower than 1.8x through the year 2013.
- Includes Tap and Facility Fees

Debt Service Coverage (Gross Revenue)



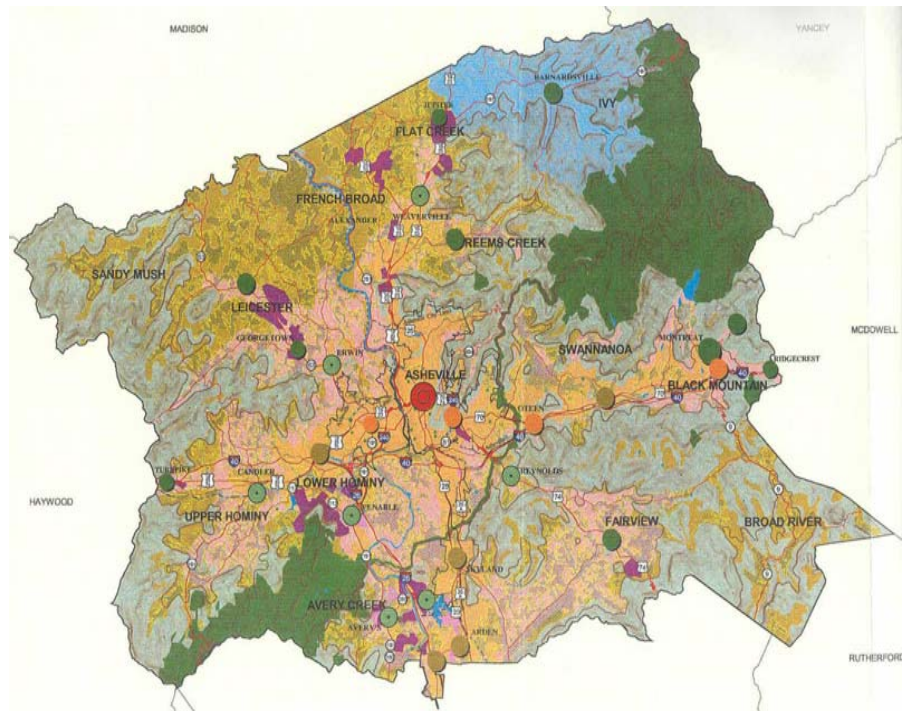
Conclusion

Metropolitan Sewerage District of Buncombe County (North Carolina)

March, 2008

Comprehensive Long Term Planning

- Collection System Master Plan and Treatment Plant Facilities Plan guide MSD in developing its 10 year Capital Improvement Plan (CIP).
- In-house engineering staff continuously update pipe rating and other programs to improve efficiency of rehabilitation planning.
- The 10 year Financial Forecast serves as a business plan to provide funding for operations, debt and for the aggressive 10 year CIP.



System Size, Demand, and Capacity

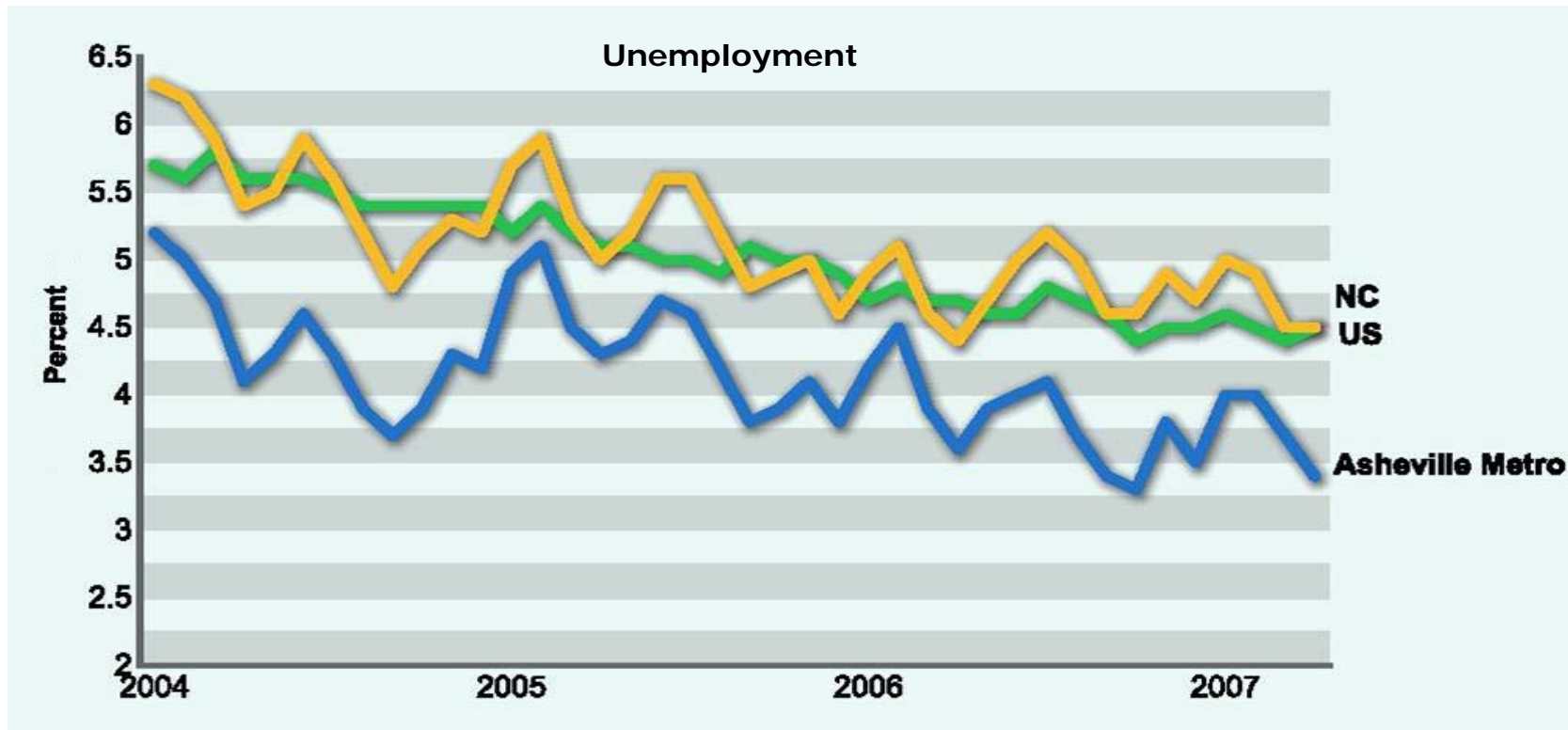
- Currently using about 16.7 MGD of 40 MGD capacity at the Treatment Plant.
- Rehabilitation and replacement of existing lines include upgrades necessary for future growth.
- MSD provides incentives for the orderly growth of the sewer system into new areas as identified by Member Agencies and the Collection System Master Plan.



Metropolitan Sewerage District of Buncombe County (North Carolina) March, 2008

Local Economy

- Diverse, growing regional economy
- Low unemployment as compared to NC, US



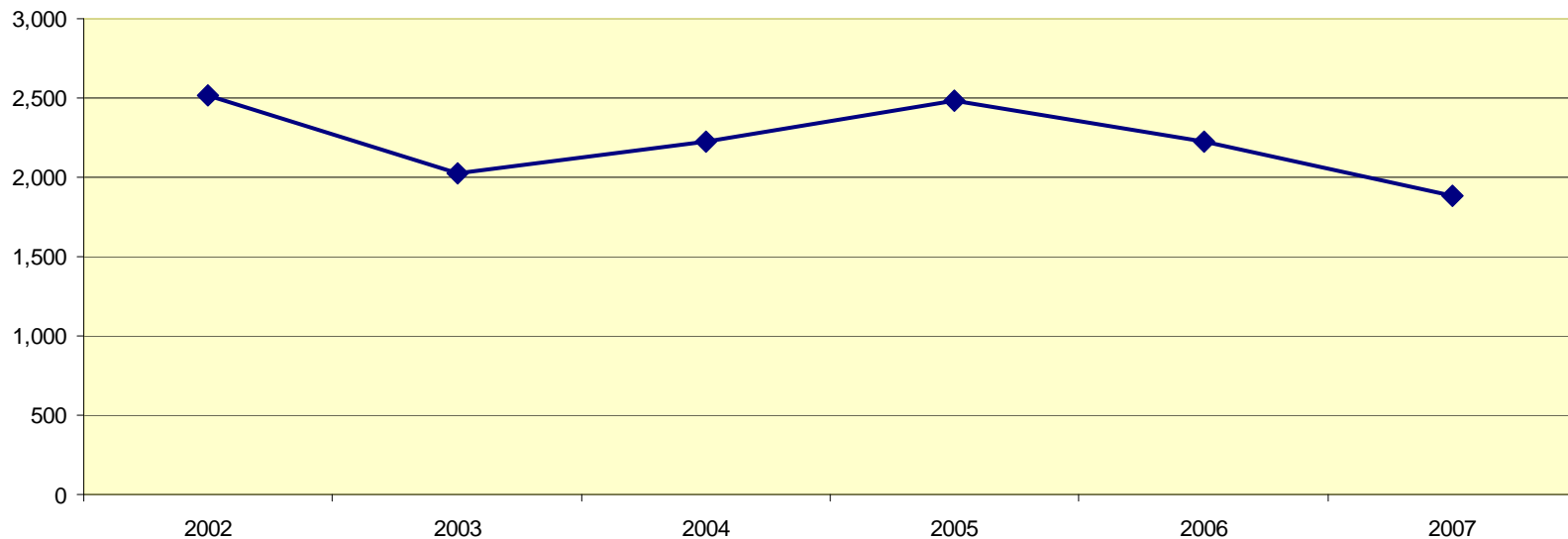
Source: Asheville Metro Business Research Center

Metropolitan Sewerage District of Buncombe County (North Carolina) March, 2008

Expanding Customer Base

- Buncombe County has continued residential and commercial growth
- Varied industrial customers, none greater than 2% of revenues

New Building Permits



Source: Asheville Metro Business Research Center

Governance and Management

- Engaged and independent Board
- Proactive, innovative management
- Highly skilled, trained, and professionally-certified employees
- Collaborative, team-centered workplace
- Operational statistics meet or exceed comparable utilities



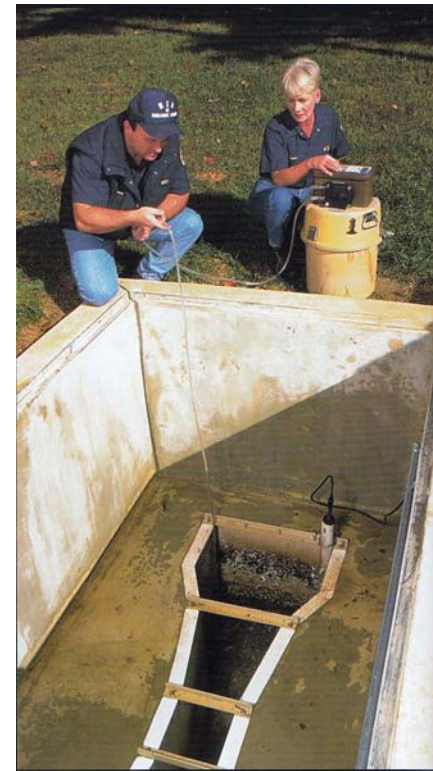
Strategic Focus on Assets & Maintenance

- Ten-year CIP and funding projections
- Support from in-house and consulting engineers in planning for and performing maintenance and upgrades
- Proactive cleaning of over 15% of lines annually
- Adequate reserves for fleet and treatment plant equipment renovation and replacement



Regulatory Compliance

- Excellent track record with all regulatory permits. Recognized as a leader in the industry by NCDENR.
- Decreasing spills due to focused CIP and preventative maintenance.
- Effluent from treatment plant consistently below permit limits.
- Comprehensive Water Quality monitoring in cooperation with local environmental organizations.
- Reclassification of the French Broad River from Class C to Class B – recreation.



Rates and Rate Structure

- Independent Board
- Affordable domestic and industrial rates
- Rates cover full cost of service
- Rates provide adequate reserves
- Rate structure considers both fixed and variable costs
- Moderate and consistent rate increases



Metropolitan Sewerage District of Buncombe County (North Carolina)

March, 2008

Liquidity

- Debt service coverage ratios well in excess of legal minimums using recurring revenues
- Roughly equal contributions of cash and debt to CIP program
- Steadily increasing recurring revenues
- Moderate expenditure increases
- Track record of GFOA financial and budget awards
- Prudent bond-holder covenants



**Metropolitan Sewerage District of Buncombe County (North Carolina)
March, 2008**

Our End Product

