

BUILDING A WORLD OF DIFFERENCE®



SEWERAGE & WATER BOARD OF NEW ORLEANS, LOUISIANA

Report on Operations for 2009

BRUNO & TERVALON

JULIEN ENGINEERING AND CONSULTING



BLACK & VEATCH
Building a **world** of difference.®

MISSION STATEMENT

To be one of the best and most respected suppliers of sewer, water, and drainage services in the south-central United States by providing quality, reliable, and cost effective services to our Customers while maintaining fair and ethical treatment of our well-trained and highly motivated employees.

OUR VALUES

Open, honest communication
Trust and respect for each other
Offering and encouraging education and opportunity to employees
Fostering enthusiasm among employees through example of the managers/supervisors
Providing direction and planning and encouraging interdepartmental team work
Assuring reliability in providing services to customers

KEY RESULT AREAS

Customer Satisfaction
Cost Effectiveness
Employee Satisfaction
Capabilities Improvement through Training

November 29, 2010

Sewerage & Water Board of New Orleans
625 St. Joseph Street
New Orleans, LA 70165

Dear Board Members:

In accordance with our agreement, we are submitting this Report on Operations of the Water, Sewerage, and Drainage Departments for the year 2009. The report presents the findings of analyses to confirm compliance with covenants of the General Water Revenue Bond Resolution and the General Sewerage Revenue Bond Resolution.

The report also contains projections of expected future financial activity for the three departments for the period 2010 through 2014. These projections are based upon historical trends and the Board's operating and capital budgets. Projected costs provide for changes in operating procedures resulting from completion of major plant facilities, and include an allowance for anticipated future price inflation.

Bound separately is the Executive Summary for the Report on Operations for 2009.

We wish to acknowledge the cooperation and assistance of utility staff in providing guidance and information for the study.

We appreciate the opportunity to be of service to the Sewerage and Water Board.

Very truly yours,

BLACK & VEATCH CORPORATION



Peggy Howe
Vice-President

Enclosure

Contents

Introduction.....	1
Purpose and Scope	1
Definitions	1
History	1
Water Department.....	2
Sewerage Department.....	2
Drainage Department.....	3
General.....	5
Sources of Financial Data.....	6
Summary of Findings.....	6
Water Department.....	7
Sewerage Department.....	8
Drainage Department.....	9
Other Findings	10
Facilities Evaluation	12
Operation, Maintenance, and Reconstruction.....	12
Introduction.....	12
Staffing Issues.....	13
Water Purification Plants	13
Carrollton Water Purification Plant	14
Algiers Water Purification Plant.....	15
Water Quality Laboratory at the Carrollton Plant	16
Water Pumping and Power	17
Sewage Treatment Plants.....	18
East Bank Wastewater Treatment Plant.....	18
West Bank Wastewater Treatment Plant	20
Sewage and Drainage Pumping Stations	22
Facility Maintenance.....	22
Engineering.....	23
Networks.....	24
Support Services	25
Fleet Management.....	25
Environmental Affairs Department.....	26
Status of the Consent Decree	27

Summary of Findings.....	27
Water Department.....	30
Adherence to Water Revenue Bond Resolution Requirements	30
Powers as to Bonds and Pledge	30
The Extension of Payment of Bonds	30
The Establishment of Rates and Charges	31
The Sale, Lease, and Encumbrance of the System	31
The Operation, Maintenance, and Reconstruction of the System.....	31
Insurance and Condemnation.....	31
The Preparation of an Annual Operating Budget	32
The Preparation of the Capital Improvement Budget.....	33
Employment of Consulting Engineer.....	33
The Maintenance of Accounts and Reports	33
Issuance of Additional Bonds	33
2009 Water Department Operations	34
Water Use.....	34
Operating Revenues	35
Non-operating Revenues.....	35
Operation and Maintenance Expenses.....	36
Capital Budget and Expenditures	36
Summary of Operations	37
Proposed Capital Improvement Program.....	37
Ability to Finance Proposed Capital Expenditures.....	37
Operating Revenues	37
Other Revenue Sources.....	37
Operation and Maintenance Expenses.....	38
Debt Service Requirements	38
Adequacy of Revenues to Finance Proposed Capital Improvements	39
Sewerage Department.....	53
Adherence to Sewerage Service Revenue Bond Resolution	53
2009 Sewerage Department Operations	53
Wastewater Volumes	53
Operating Revenues	54
Non-operating Revenues.....	54
Operation and Maintenance Expenses.....	55
Capital Budget and Expenditures	55

Summary of Operations	56
Proposed Capital Improvement Program.....	56
Ability to Finance Proposed Capital Expenditures.....	56
Operating Revenues	57
Other Revenue Sources.....	57
Operation and Maintenance Expense	57
Debt Service Requirements	57
Adequacy of Revenues to Finance Proposed Capital Improvements	58
Drainage Department.....	71
2009 Drainage Department Operations	71
Revenues	71
Operation and Maintenance Expenses.....	72
Capital Budget and Expenditures	72
Summary of Operations	72
Proposed Capital Improvement Program.....	73
Ability to Finance Proposed Capital Expenditures.....	73
Revenues	73
Operation and Maintenance Expenses.....	74
Debt Service Requirements	74
Adequacy of Revenues to Finance Proposed Capital Improvements	74

List of Tables

Table 1	Insurance in Force as of December 31, 2009.....	42
Table 2	Water Department - Historical and Projected Sales and Average Number of Customers	43
Table 3	Water Department - Existing Water Rates.....	44
Table 4	Water Department - Statement of Historical Revenues.....	45
Table 5	Water Department - Historical Operation and Maintenance Expenses	46
Table 6	Water Department - Capital Expenditures - 2009	47
Table 7	Water Department - Proposed Capital Improvements	48
Table 8	Water Department - Projected Operating Revenues.....	49
Table 9	Water Department - Projected Operation and Maintenance Expenses.....	50
Table 10	Water Department - Debt Service Requirements.....	51
Table 11	Water Department - Analysis of Ability of Forecasted Revenue to Finance Projected Revenue Requirements	52
Table 12	Sewerage Department – Historical and Projected Billed Volumes and Average Number of Customers	61
Table 13	Sewerage Department - Existing Sewer Rates	62
Table 14	Sewerage Department - Statement of Historical Revenues	63
Table 15	Sewerage Department - Historical Operation and Maintenance Expenses	64
Table 16	Sewerage Department - Capital Expenditures – 2009	65
Table 17	Sewerage Department - Proposed Capital Improvements	66
Table 18	Sewerage Department - Projected Operating Revenues	67
Table 19	Sewerage Department - Projected Operation and Maintenance Expenses	68
Table 20	Sewerage Department - Debt Service Requirements.....	69
Table 21	Sewerage Department - Analysis of Ability of Forecasted Revenue to Finance Projected Revenue Requirements	70
Table 22	Drainage Department – Rainfall	77
Table 23	Drainage Department - Historical Revenues Received	78

Table 24	Drainage Department - Historical Operation and Maintenance Expenses	79
Table 25	Drainage Department - Capital Expenditures – 2009	80
Table 26	Drainage Department - Proposed Capital Improvements	81
Table 27	Drainage Department – Projected Participation by Others.....	82
Table 28	Drainage Department – Projected Operating Revenues	83
Table 29	Drainage Department - Projected Operation and Maintenance Expenses	84
Table 30	Drainage Department - Debt Service Requirements.....	85
Table 31	Drainage Department - Analysis of Ability of Forecasted Revenue to Finance Projected Revenue Requirements	86

List of Figures

Figure 1. Carrollton Water Purification Plant.....14

Figure 2. Turbine 417

Figure 3. New Belt Press20

Figure 4. Site Drainage Pumps21

**Report on Operations
for 2009
Sewerage and Water Board
of New Orleans**

Introduction

Purpose and Scope

This report covers operations of the Sewerage and Water Board of New Orleans for the year ended December 31, 2009. The report presents findings of studies made in compliance with covenants of the 1998 and Supplemental Water Revenue Bond Resolutions and the 1997 and Supplemental Sewerage Revenue Bond Resolutions. The report includes recommendations designed to assist the Sewerage and Water Board of New Orleans and its staff in planning future operational policies. Subjects covered include the following:

1. Adherence to covenants of the Water Revenue Bond Resolutions and the Sewerage Revenue Bond Resolutions.
2. Ability to finance projected revenue requirements including proposed capital improvements.
3. Operations of the water, sewerage, and drainage systems.

Definitions

In this report, "Sewerage and Water Board of New Orleans," "Sewerage and Water Board," and "Board" are used synonymously. "General Resolution" refers to either the 1998 and Supplemental Water Revenue Bond Resolution or the 1997 and Supplemental Sewerage Revenue Bond Resolutions.

"Water Department" is the Sewerage and Water Board organization providing domestic water service to residents of the City of New Orleans. "Sewerage Department" is the organization providing wastewater service, and "Drainage Department" is the organization providing stormwater conveyance and pumping. The Board organization includes some groups who participate in two or more operational activities.

History

The Sewerage and Water Board of New Orleans was created by Act No. 6 of the Louisiana Legislature in 1899 as a special board independent of City government to develop, operate, and maintain the water and sewerage systems in the City of New Orleans. In 1903, the

Louisiana Legislature gave control of the City's drainage system to the Board. Since that time growth of the service area and increased service requirements have expanded the magnitude and complexity of operations.

Available sources of funds prior to 1958 for financing utility operations and improvements included ad valorem taxes, contributions-in-aid-of-construction, general obligation bonds of the City of New Orleans, and water revenues.

In 1974, the American Institute of Certified Public Accountants expanded their reporting guidelines for government operated utilities to include depreciation accounting. As a result, the Board initiated a preliminary system of accounting recognizing estimated historical investment as a basis for annual depreciation accruals. Implementation of the detailed plant accounting and record keeping required was started in 1979.

The Board's computer based budget code system provides a method of identification of operation and maintenance expenses for the Water, Sewerage, and Drainage Departments. Allocation of expenses is based upon actual or direct expenses of each Department together with an apportionment of joint expenses. The procedures permit utility plant accounting with annual costs charged to the appropriate property account instead of being charged to current Department income. In accounting for debt service, interest is charged to current year's income and principal and debt service reserve payments are charged to the respective account balances. Historical operating costs, discussed later in this report, reflect the functional classifications.

Water Department

Act No. 541 increased the Board's ability to finance needed water system improvements by authorizing the Board to issue water revenue bonds. Subsequently, water revenue bonds in the amounts of \$6,200,000 in 1960, \$1,500,000 in 1961, \$2,500,000 in 1964, \$4,000,000 in 1971, \$6,000,000 in 1978, \$17,000,000 in 1980, \$3,000,000 in 1981, and \$5,000,000 in 1982 were issued. All water system revenue bonds outstanding in 1986 were defeased by the \$31,350,000 Series 1986 Water Revenue Refunding bond issue. Additional revenue bonds in the amount of \$16,000,000 were issued in 1998 and \$34,000,000 were issued in 2002. As of December 31, 2009, \$37,750,000 remains outstanding on the 1998 and 2002 issues.

Act No. 566 reauthorized the Board to fix and administer a schedule of water rates to meet the operational and capital costs of the public water system, to issue water revenue bonds, and discontinue the free water allowance for sewerage purposes effective November 9, 1966.

Sewerage Department

Act No. 567 gave the Board authority to set and collect sewerage service charges, to be used for operational and capital costs of the Sewerage Department, and to issue sewerage service

revenue bonds. This Act permitted the Board, for the first time in its history, to charge users of the sewerage system directly for related costs. Under the authority of Act No. 567, sewerage service charges were implemented May 1, 1967; and subsequently, sewerage service revenue bonds totaling \$33,000,000 were sold in 1968, 1976, 1982 (2 issues), and 1983. All sewerage system revenue bonds outstanding in 1986 were defeased by the \$21,280,000 Series 1986 Sewerage Service Revenue bonds. These bonds were fully retired in 1994. Sewerage system revenue bonds in the amount of \$30,000,000 were issued in 1997; \$25,000,000 in 1998; \$47,100,000 in 2000 (two issues); \$32,720,000 in 2001; \$57,000,000 in 2002; and \$5,500,000 in 2003. \$33,000,000 in revenue bonds, \$25,200,000 in Bond Anticipation Notes (BANs), and \$111,800,000 in Refunding BANs were issued in 2004. The 2004 BANs were defeased by the \$137,000,000 Refunding BANs Series 2005A. A portion of the 2005 BANs was refinanced with the Refunding BANs Series 2006. The remaining balance on the 2005 BANs were paid from funds on hand. The Refunding BANs Series 2006 were due July 15, 2009 and were paid in full by the issuance of Refunding Bonds Series 2009 in the amount of \$23,375,000. Outstanding principal on revenue bonds totaled \$184,055,000 as of December 31, 2009 and is summarized in the table on the following page.

Drainage Department

In 1966 three constitutional amendments, Acts No. 565, 566, and 567 were enacted by the Louisiana Legislature and subsequently approved by the State's voters. Act No. 565 authorized the City of New Orleans to levy a three-mill ad valorem tax, effective January 1, 1967, to be used solely for operations and capital costs of the drainage system. Provision for issuance of bonds repayable solely from the three-mill tax was also included in the Act. In 1967, the Board issued \$15,000,000 of three-mill tax bonds. These bonds were fully retired in 1992.

Under the Louisiana State Constitution, all assessments beginning in 1978 were equalized, with residential property assessed at 10 percent of its market value and commercial and personal property assessed at 15 percent of market value. The constitution also provides that no tax revenues shall be lost by reassessments; thus, it has been necessary to revise the millage rates in effect at various times. If reassessment results in a lower tax base, the millage rate may be adjusted upward. If a larger tax base results, the millage rates must be rolled back. However, by state law, the City Council, upon request and after a public hearing, may increase the millage rates to the prior year's level. The three-mill tax rate, 6.01 mills since 1988, was increased to 6.40 mills in 1992 due to reassessment, and remained at that level through 2008.

Passage of a referendum in April 1977, authorized the collection of an additional six-mill, ad valorem tax for drainage purposes, effective January 1, 1978. The six-mill ad valorem

Outstanding Sewerage Utility Debt Issues		
Description	Issue Amount	Amount Outstanding (a)
	\$	\$
Revenue Bonds		
Series 1997	30,000,000	16,115,000
Series 1998	25,000,000	14,360,000
Series 2000A	26,800,000	18,425,000
Series 2000B	20,300,000	14,010,000
Series 2001	37,720,000	23,015,000
Series 2002	57,000,000	43,485,000
Series 2003	5,500,000	4,260,000
Series 2004	33,000,000	27,010,000
Series 2009	23,375,000	23,375,000
Total	258,695,000	184,055,000
Bond Anticipation Notes		
2004 BANs (b)	25,200,000	
2004 Refunding BANs (b)	111,800,000	
2005A BANs	137,000,000	
2006 BANs (c)	24,030,000	
Total	298,030,000	0
(a) As of December 31, 2009		
(b) Paid in full by 2005A BANs.		
(c) Paid in full by 2009 Refunding Bonds in July 2009.		

tax was increased to 6.09 mills in 1988 and to 6.48 mills in 1992 due to reassessment and remained at that level through 2008. In 1978, the State Legislature authorized a debt limit of \$18,000,000 as sought by the Board of Liquidation, City Debt. That debt limit was eliminated by Legislative action in 2003. The Board issued \$18,000,000 in Series A, six-mill tax bond in November 1978. During 1994 the Board issued Drainage System Refunding Bonds, Series 1994, for the purpose of refunding the six-mill 1978 bonds. The 1994 bonds were considered to be an obligation of the six-mill ad valorem tax revenue and have been repaid.

In 1980, a constitutional amendment, Act No. 844, authorized an increase in the exemption of each homestead from ad valorem taxes from \$5,000 to \$7,500, and provided for periodic reassessment.

In 1981, a nine-mill ad valorem tax was approved and became effective January 1, 1982. The purpose of the nine-mill tax levy is to provide funds for the operation, maintenance, and construction of the drainage system. State law set the authorized debt limit for nine-mill bonds

at \$68,000,000. That debt limit was eliminated by Legislative action in 2003. The Board sold nine-mill bond issues of \$22,000,000 in 1982 and \$30,000,000 in 1983. In 1986, \$12,525,000 Drainage System Bonds Series 1986A and \$15,755,000 Drainage System Bonds Series 1986B were authorized and sold for the purpose of refunding a portion the 1982 nine-mill bonds and a portion of the 1983 nine-mill bonds, respectively.

In 1992 the Drainage System Bonds, Series 1982, was fully refunded, and beginning in 1993, debt service payments on the Drainage System Bonds, Series 1986A was paid from nine-mill tax revenue. In 1993, proceeds from the Drainage System Bonds, Series 1986B fully refunded the Drainage System Bonds, issue of 1983, and the debt service on these bonds became the obligation of nine-mill tax revenue. All Series 1986A and Series 1986B bonds have been retired. In 1998 nine-mill bonds in the amount of \$10,000,000 were issued and as of December 31, 2009, the outstanding balance was \$5,675,000. Additional nine-mill bonds in the amount of \$20,000,000 were issued in 2002, bringing the total of six-mill and nine-mill Drainage System Bonds outstanding as of December 31, 2009 to \$15,850,000.

In 1988, reassessment caused the nine-mill ad valorem tax to be increased to 9.13 mills, and it was increased due to reassessment again in 1992 to 9.71 mills remained at this level through 2008. A reassessment occurred in 1999, which effectively increased millage receipts by approximately 10 percent.

Collection of the three-mill ad valorem tax levy is authorized until the year 2017; six-mill tax until 2028; and nine-mill tax until 2032.

General

In July of 2006 the Board entered into a Cooperative Endeavor Agreement with the State of Louisiana to secure proceeds from the State's Gulf Opportunity Tax Credit Bond Loan Program to assist in payment of debt service requirements from 2006 through 2008. As of December 31, 2009, the Board had borrowed \$77,465,247, which was the total amount available to the Board. Of that amount, \$31,500,000 was used to make a partial payment on the Sewerage Service Refunding BANs Series 2005A that matured on July 26, 2006. The remainder was used to make debt service payments on the Drainage System special tax bonds, the Sewerage Service revenue bonds, and the Water revenue bonds that were due on December 1, 2006; June 1, 2007; December 1, 2007; and June 1, 2008. Principal payments on the bonds are scheduled to begin in July 2012; however, the Board has the right to request one extension of its obligation to begin payments under the loan not to exceed five years. The Board plans to request that payments be schedule to start July 2017.

The Board provides free water and sewer services to the City of New Orleans and its public institutions as mandated by state law in accordance with R.S. 33:4096 and R.S. 33:4121,

respectively. During 2009, the Board provided 561,147,300 gallons of water free of charge to agencies of the City of New Orleans. The value of this free water, at current rates, is \$1,447,828.64. The value of the sewerage charges is \$2,394,062.19.

The three revenue-generating public agencies - the New Orleans Museum of Art, City Park, and Audubon Park – continued to receive free water under “caps”, or maximum annual limits, established by the Legislature in 1982. The Museum of Art used 2,534,200 gallons or 19,600 above its annual “cap” of 2,553,800 gallons. City Park used 417,924,900 gallons or 182,601,500 above its annual “cap” of 235,323,400 gallons. Audubon Park used 102,106,300 gallons or 137,893,700 gallons below its annual “cap” of 240,000,000 gallons.

The Sewerage and Water Board and the Orleans Parish School Board (OPSB) reached an agreement effective July 1, 1992, whereby the schools would be charged for any water exceeding an allowance of six gallons per day, for 365 days per year, for each student enrolled and any other person regularly assigned to that campus or facility. The allowance was lowered to four gallons per day effective July 1, 1993.

Sources of Financial Data

Financial information included in this report is obtained from audited financial reports provided by the Board.

Summary of Findings

This section contains a summary of the financial operations of the Water, Sewerage, and Drainage Departments for the year 2009. Projections of future operations are also presented as a basis for determining the adequacy of present revenue sources to finance projected operating expenses and proposed capital program costs of the respective departments.

The statistical data maintained by the Board includes the compilation of detailed information on water sales and revenues. Information provided for 2009 includes a summary of the number of bills issued, billed volume, and revenues by customer class for both the Water and Sewerage Departments.

Under the current budget code system, costs are identified by general functional categories. Supplemental accounts are used for internal purposes to identify the cost in each functional category that is incurred for personal services, services and utilities, material and supplies, replacement and maintenance, and other special charges.

Water Department***Water Revenue Bond Resolution Requirements***

Sewerage and Water Board financial operations for 2009 have complied with the requirements set forth in the 1998 and Supplemental Water Revenue Bond Resolutions.

Summary of 2009 Operations

Based upon a tabulation of water bills rendered during the year, the Water Department provided water service to an average of 109,640 regular billed customers and 906 governmental accounts, the latter of which are served without charge. According to the December 31, 2009 Comprehensive Annual Financial Report, of the 54,451.2 million gallons of water pumped by the Department during the year, 13,378.6 million gallons were sold, 561.1 million gallons were metered to customers without charge, treatment plant process water totaled 410.7 million gallons, and unmetered uses accounted for the remaining 40,100.8 million gallons. Unmetered water uses include fire protection; flushing streets, sewers, and drains; chlorinating and flushing new water mains; construction of streets; Sewerage and Water Board plant uses; and unaccounted for system losses.

The total revenue from water sales, delinquent fees, interest income and other income increased from \$45,797,672 in 2008 to \$65,551,122 in 2009. In 2009, the Board received \$16,600,790 in operating and maintenance grants from Federal Emergency Management Agency (FEMA) for operating expenses incurred from water repairs performed by Board crews. This amount is included in other income. Operation and maintenance expenses (excluding claims paid) decreased from \$66,778,929 in 2008 to \$51,889,761 in 2009. After adding claims of \$94,108 and debt service payments of \$3,868,853, a balance of \$9,698,400 was available for capital related expenditures in 2009, unadjusted for depreciation.

Ability to Finance Future Operations and Proposed Improvements

A summary of projected financial operations of the Water Department for the period 2010 through 2014 is shown in Table 11 of the report. Revenues shown on Line 1 of Table 11 are based on rates that became effective July 1, 2009. *A Report on Revenue Requirements, Costs of Service and Rates for Water Service* was issued in April of 2005. The series of revenue increases proposed in that study were approved by the City Council on October 4, 2007. The last two remaining revenue increases approved by the City Council are shown on Lines 2 and 3 of Table 11. Additional sources of revenue will be required to meet revenue requirements during the study period. Future annual water system revenue increases of 10 percent effective July 1, 2012, July 1, 2013, and July 1, 2014 are indicated as shown on Lines 4 through 6 of Table 11. The Water Department has borrowed funds from the Sewerage and Drainage

Departments in order to fund operating expenses. As of December 31, 2009, the Water Department had borrowed approximately \$21,398,000 from the Sewerage Department and \$7,436,000 from the Drainage Department. As of the issue date of this report, the Water Department has reimbursed the Sewerage Department \$5,000,000. The projected revenue increases do not reflect repayment of the amount outstanding. In February 2010, the Department of Health and Hospitals (DHH) provided a \$3,400,000 loan to the Board with a \$1,000,000 principal forgiveness. Additional long term debt financing of \$70,000,000 in 2011, \$45,300,000 in 2012, \$25,300,000 in 2013, and \$22,000,000 in 2014 is indicated to fund the proposed capital improvement program.

As demonstrated in Table 11, it is anticipated that the capital projects in 2010 will exceed the amount of funding available; therefore, \$38,500,000 in capital projects will need to be deferred until revenue bonds can be issued in 2011. Assuming that these projects are deferred as shown on Line 37 of Table 11, current revenue sources will be adequate to readily finance both projected capital program requirements and estimated future operation expenses of the Water Department during the 2010-2014 study period examined herein.

Sewerage Department

Sewerage Service Revenue Bond Resolution Requirements

Sewerage and Water Board financial operations for 2009 have complied with the requirements set forth in the 1997 and Supplemental Sewer Revenue Bond Resolutions with the exception of debt service coverage in 2009.

Summary of 2009 Operations

The total revenue from sewer charges, delinquent fees, interest income and other income increased from \$63,841,782 in 2008 to \$70,038,076 in 2009. In 2009, the Board received \$2,772,395 in operating and maintenance grants from FEMA for operating expenses incurred from sewer repairs performed by Board crews. This amount is included in other income. Operation and maintenance expenses (excluding claims paid) increased from \$42,367,349 in 2008 to \$49,401,760 in 2009. After adding claims of \$478,112 and debt service payments of \$18,668,540, a balance of \$1,489,664 was available for capital related expenditures in 2009, unadjusted for depreciation.

Ability to Finance Future Operations and Proposed Improvements

A summary of projected financial operations of the Sewerage Department for the period 2010 through 2014 is shown in Table 21 of the report. Revenues shown on Line 1 of Table 21 are based on rates that became effective July 1, 2006. To meet the total projected revenue

requirements through 2014 additional annual sewer system revenue increases of 20 percent effective October 1, 2011, July 1, 2012, July 1, 2013, and July 1, 2014 are recommended.

It is anticipated that the Capital Projects will be funded from the issuance of revenue bonds in the amounts of \$65,000,000 in 2012, \$85,000,000 in 2013, and \$101,800,000 in 2014.

As demonstrated in Table 21, it is anticipated that the capital projects in 2010 and 2011 will exceed the amount of funding available; therefore, \$94,000,000 in capital projects will need to be deferred until revenue bonds can be issued in 2012. Assuming that these projects are deferred as shown on Line 37 of Table 21, current revenue sources will be adequate to readily finance both projected capital program requirements and estimated future operation expenses of the Sewerage Department during the 2010-2014 study period examined herein.

The Water Department has borrowed funds from the Sewerage and Drainage Departments in order to fund operating expenses. As of December 31, 2009, the Water Department had borrowed approximately \$21,398,000 from the Sewerage Department. As of the issue date of this report, the Water Department has reimbursed the Sewerage Department \$5,000,000.

Drainage Department

Summary of 2009 Operations

Total revenues received from all sources including interest income and two-mill ad valorem tax receipts totaled \$38,377,827 in 2009, a decrease of approximately 11 percent from \$43,075,847 reported for the same sources in 2008. Total operation and maintenance expenses increased about 15.5 percent from \$28,491,530 in 2008 to \$32,917,502 in 2009. After adding claims reflecting a credit of \$513,360 and debt service payments of \$2,195,589, a balance of \$3,778,096 was available for capital related expenditures in 2009.

Ability to Finance Future Operations and Proposed Improvements

An analysis of financial operations projected for the Drainage Department for the period 2010 through 2014 is summarized in Table 31 of the report. Revenue from the three-mill, six-mill, and nine-mill ad valorem taxes may be used for operating expenses, debt service, and capital expenditures.

The analysis indicates that current revenue sources are adequate to meet operation and maintenance expenses and total debt service on the existing 1998 and 2002 bond issues for each year of the study period; however, current revenue sources are not adequate to fund the capital projects. As shown on Line 27 of Table 31, either the existing millages need to be rolled forward to the maximum authorized amounts or \$436,300,000 of capital projects will need to be deferred until a funding source can be identified.

The Water Department has borrowed funds from the Sewerage and Drainage Departments in order to fund operating expenses. As of December 31, 2009, the Water Department had borrowed approximately \$7,436,000 from the Drainage Department. As of the issue date of this report, the Drainage Department has not received any reimbursed from the Water Department.

Other Findings

The Board operates a power plant at the Carrollton Water Purification Plant which provides power for the water purification process as well backup power in the event that commercial power fails or becomes unavailable. The Board's analysis of power purchased and produced is shown in the supplemental section of the 2009 Comprehensive Annual Financial Report. In 2009, approximately 80.9 million kilowatt hour (kWh) of power was purchased and 37.7 million kWh of power was generated.

On a unit cost basis, the average cost of purchased power has decreased over the past five years from about 15.3¢ per kWh in 2005 to about 14.1¢ per kWh in 2009. During the same period, the Board's unit cost for generated power has decreased from about 43.2¢ per kWh to about 31¢ per kWh. The cost of Board generated power is almost 2.2 times higher than that of purchased power. The cost of fuel to generate power in 2009 amounted to approximately 28.2¢ per kWh.

In conducting our analyses and in forming an opinion of the projection of future operations summarized in this report, Black & Veatch has made certain assumptions with respect to conditions, events, and circumstances that may occur in the future. The methodology utilized by Black & Veatch in performing the analysis follows generally accepted practices for such projections. Such assumptions and methodologies are summarized in this report and are reasonable and appropriate for the purpose for which they are used. While Black & Veatch believes the assumptions are reasonable and the projection methodology valid, actual results may differ materially from those projected, as influenced by the conditions, events, and circumstances that actually occur.

Subject to the limitations set forth herein, this report is based on information not within the control of Black & Veatch. Black & Veatch has not been requested to make an independent analysis, to verify the information provided to us, or to render independent judgment of the validity of information provided by others. As such, Black & Veatch cannot, and does not, guarantee the accuracy thereof to the extent that such information, data, or opinions were based on information provided by others.

Facilities Evaluation

Operation, Maintenance, and Reconstruction

This section summarizes the findings of the onsite inspections of the Sewerage and Water Board of New Orleans (Board) facilities conducted by the Black & Veatch and Julien Engineering team (team) from March 1, to March 5, 2010. Site visits were conducted at the water and wastewater treatment plants, Carrollton power plant facilities, Central Yard facilities, and a majority of the aboveground water, sewer and drainage facilities to evaluate their condition and operating capabilities. Interviews were conducted with management and supervisory level Board personnel to assess the current status of the operations of the various facilities.

Introduction

The Operations Division of the Board is comprised of four departments: Water Purification, Sewage Treatment, Water Pumping and Power, and Drainage and Sewage Pumping.

The Carrollton and Algiers Water Purification Plants (WWP) are operated by the Board, and purify raw water from the Mississippi River and supply potable water to the City's residents. The Carrollton plant currently purifies approximately 140 million gallons per day (mgd) of water for the East Bank of Orleans Parish. The Algiers plant, which serves the predominantly residential West Bank portion of the parish, purifies roughly 11 mgd of water. The treated water from the two plants is pumped through approximately 1,610 miles of mains to the service connections within the City.

The Board also has two sewage treatment plants, one on the East Bank and one on the West Bank. The West Bank Sewage Treatment Plant has a treatment capacity of 20 mgd (dry weather) and serves the West Bank community of New Orleans. The East Bank Sewage Treatment Plant has a treatment capacity of 122 mgd (dry weather) and treats sewage from the East Bank community. Both plants were built in the 1970s and have been upgraded or expanded to increase reliability or meet growing population demands within the community. The plants are currently operated and maintained by Veolia Water.

These collection system receives flow from gravity collection systems consisting of many miles of lateral sewers, trunk sewers, and 84 electrically operated pump stations. Sewage is conveyed to the two treatment plants through a force main system. Sewage Pumping Stations (SPS) A and D on the East Bank, and SPS C on the West Bank, are attended stations. SPS A houses a supervisory control and data acquisition (SCADA) system that will monitor the operation of all other sewage stations.

The Board also has responsibility for operating and maintaining the 24 major drainage pumping stations in New Orleans. The majority of those stations are manned 24 hours a day, 7 days a week. Each station has multiple pumps which activate automatically in response to increasing water levels. Personnel monitor these pumps and the many miles of drainage canals on a regular basis.

The 25-cycle power plant operated by the Board provides power for portions of the water purification plant and approximately 60 percent of the drainage pumps. The following sections summarize each operation department within the Board.

Staffing Issues

The Board has maintained staffing levels in alignment with current customer levels. However, there are still vacancies in several departments reflecting pre-Katrina customer levels, as well as a shortage of qualified, skilled personnel in the region. These shortages are reflected within the more technical departments such as engineering, mechanical maintenance, electrical maintenance, and operations.

The Board has suspended the domicile policy, which required Board employees to live in the City of New Orleans. This action will allow personnel hired by the Board to live outside city limits, as well as permit the Board to recruit from a wider base, providing employees with a greater sense of stability. The City Council initially waived the domicile policy for a period of three years in 2005, but the Council decided in 2008 to waive the policy for an additional three years. The policy is set to expire in 2011. Many departments continue to actively recruit from local college campuses, career job fairs, and trade schools to fill vacancies.

Water Purification Plants

The Water Purification Superintendent accompanied the Black & Veatch team on the facility tours. The Carrollton and Algiers Water Purification Plants are currently operational and are producing water which meets the Federal Drinking Water Standards. Treatment systems at both plants are operational and functioning well and continue to produce water for the East and West Banks.

The staffing levels at the water purification plants have been able to consistently produce finished water that complies with regulations and meets the needs of the service population. However, the Board is facing the industry wide problem of an aging workforce and, there is a need to hire and train operators in the next 5 years to provide for future sustainability of plant operations. The plant is in the process of hiring utility service workers to begin addressing those long-term needs.

Carrollton Water Purification Plant

The Carrollton plant, which has a design capacity of 232 mgd, is treating approximately 140 mgd of water for the East Bank of Orleans Parish. The water treatment process at the plant consists of flocculation with a polymer and ferric sulfate, followed by pH adjustment with lime. The flocculated particles are allowed to settle in two sedimentation basins; the settled solids are removed from the sedimentation basins by traveling mechanical rakes and discharged to the Mississippi River.

The clarified water is disinfected by adding free chlorine. Anhydrous ammonia is then added to aid the formation of chloramines for residual disinfection. Additional settling time and disinfection contact time are allowed in the secondary settling basins. The clarified water is also treated with sodium hexametaphosphate for calcium sequestration and hydrofluorosilicic acid for fluoride addition. Filtration is the final step in the treatment process, where the water is filtered through rapid sand filters. Finished water from the plant is pumped out to the service areas.



Figure 1. Carrollton Water Purification Plant

As a result of the leaks in the water distribution system, the Carrollton plant is currently treating approximately 140 mgd of water in spite of serving only 80 percent of the pre-Katrina population. Chemical costs have stabilized over the past year. At present, the Board is feeding all chemicals at appropriate dosages and maintaining chemical storage at each site.

Leaks in the distribution network are a source of persistent problems in maintaining adequate pressure in the distribution system. Normal system pressure is 70 pounds per square inch (psi), but has been limited to 65 psi to control the loss of water through leaks in the distribution system. The water delivery pressure has been consistent throughout the last year.

Improvements completed during 2009 at the plant are as follows:

- The G3 basin has been undergoing rehabilitation and was expected to be placed back in service in 2008; however, equipment problems with the flocculator have hampered

efforts to return the basin to service. Additional resources will need to be spent to correct equipment issues and place the basin back in service.

- Design of a new disinfection storage and feed facility, complete with a second chlorine and ammonia addition point for an emergency chlorine addition point. The project started construction in early 2010.

Maintenance and/or improvement projects the Board has planned on existing facilities include:

- Investigation and mitigation of a hydraulic leak between Sedimentation Basin L4 and Chlorine Contact Basin C5. Currently, L4 and C5 are out of service pending completion of work on those basins.
- A second sludge line to the river is approximately 65 percent designed, but awaiting funding. This second sludge line will add redundancy and flexibility to the operations.
- A SCADA system is to be installed at the plant to control and monitor chemical feed and raw water pumping.
- Headloss pressure cells are to be added to the filters to monitor pressure loss through the filters. Currently, approximately 10 percent of the filters have been retrofitted with headloss pressure cells.
- Repairs to the L4 flocculation equipment and mono-rake system are almost complete.
- Repairs need to be completed on the chemical feed building pending FEMA funding.
- Resumption of the filter rehabilitation program and replacement of the filter backwash pumps. Both activities are hampered due to limited funds.

Algiers Water Purification Plant

The Algiers plant has a design capacity of 40 mgd. The treatment process at the plant is similar to that at the Carrollton facility, utilizing the same chemicals with a slightly modified application scheme in the upflow clarifiers. Currently, the plant is treating approximately 11 mgd of water and is serving the predominantly residential West Bank portion of the Parish.

The facility has commissioned a new sodium hypochlorite generation system within the last year; however, the system is experiencing equipment and controls issues. These problems should be rectified by the end of the warranty period. Other improvements needed or ongoing at the plant include the following:

- The SCADA system is out of service and is impacting monitoring capabilities at the plant. Planned improvements to this system are on hold due to insufficient funding.
- The ferric system will be moved from the River Intake Station to the plant site. Currently, the containment area has been built for the chemical storage tanks, and there is a temporary pumping system onsite. This work is on hold until funding is available.
- One of the finish water tanks has been cleaned, disinfected, and placed back in service. The second tank also requires cleaning.
- The two EIMCO clarifiers need to be refurbished. One of the clarifiers is currently out of service, and is undergoing minor infrastructure repairs.

Water Quality Laboratory at the Carrollton Plant

The water quality laboratory conducts daily analyses of river water quality and purified water. Water samples from the distribution network are also analyzed regularly. The lab continues to meet the mandated analytical requirements of the water plants and is certified by the Louisiana Department of Health and Hospitals for analysis of coliform bacteria.

In addition to coliform analysis, the lab collects samples for protozoan analysis. Other regular analyses include hardness, turbidity, fluoride, ammonia, pH, alkalinity, and chlorine residual at different stages of treatment. The solids are analyzed for total suspended solids and total dissolved solids concentrations. River water and finished water samples are analyzed for volatile organic compounds.

The lab continues to maintain its involvement in the Early Warning Organics Contamination Detection System (EWOCDS) run by the State DEQ; however, several upstream stations have been unreliable, and the State of Louisiana has under-funded the program. Monitoring stations connected by telecommunications notify DEQ if any of the 60 listed pollutants are detected in the river water samples. The DEQ disseminates the information to the program participants, allowing an early warning of possible problems. The EWOCDS equipment is maintained at all participating locations by the DEQ; the program participants provide manpower to collect and run the samples.

The laboratory is currently staffed with one microbiologist, three chemists, and four technicians. The laboratory is in need of an additional microbiologist to fully staff the lab in order to accommodate the typical amount of work performed.

Water Pumping and Power

The primary function of the Water Pumping and Power Department is steam production and the generation of 25 hertz power. The facilities at the Carrollton power plant include three steam turbines and one gas turbine, for a total theoretical capacity of 61 megawatts (MW). The steam required for the turbines is generated in the five original boilers and a new boiler, which was commissioned last year, for a total capacity of 650,000 pounds of steam per hour.

The generating station at the Algiers facility is capable of generating 60 cycle power using diesel generators. The facility can generate enough power to support operations at the Algiers plant and one drainage pumping station. The station is also capable of performing a frequency change from 25 cycle power supplied from the Carrollton power plant to 60 cycle power.

The total capacity of the Carrollton power plant is presently 43 MW, down from its 61 MW design capacity. Turbine 4 was repaired following hurricane Katrina, but has since been de-rated, and is to only be used during emergencies.



Figure 2. Turbine 4

A major improvement at the Carrollton power plant includes installation of a new 200 psi high pressure natural gas line to supply fuel for the new 15 MW 60-cycle generator. Entergy shall complete installation of the new natural gas line by the end of 2010. The Corps of Engineers (Corps) is installing a new generator to supplement the current commercial power available from Entergy and to offer power redundancy and continued service in the event of a commercial power loss due to storms, hurricanes, etc. The generator will serve the plant, raw water intake stations, and provide additional drainage station capacity. This project is currently under construction. Two steam-driven distribution pumps are located at the power plant. One is

in the process of being reconditioned, and the other is scheduled to be reconditioned, pending approval of funding by FEMA.

Storm-proofing projects in the area, including the power buildings by the Corps, are currently under design. The improvements for the power buildings include reinforcing the walls and roofing systems. A berm is being designed to protect the power plant and other critical plant assets during a flood event. The contract to build the berm is scheduled to be awarded in late 2010. The project will be completed by the end of 2011.

One pump at the New River Station has been reconditioned, but all three pumps are presently in service. An engineering consultant performed a study on the Old River Station and concluded that the pumps are in need of reconditioning and the inlet to the plant needs to be cleaned, as debris has blocked most of the intake to the water pumps. The consultant also indicated that valves at both the Old and New River Stations are in need of repair.

All water intake and effluent pumping stations are currently operational. Typically, the Claiborne Pumping Station, consisting of four water distribution pumps and two steam driven turbine pumps, are adequate for pumping, with two pumps at the Panola Station serving as a backup.

Additional hurricane damage related work primarily includes valve replacement, electrical components, and controls related items for the Water Pumping and Power division. The Water Pumping and Power Department has 76 employees, with 43 vacancies. Power for continued operations of the water, drainage, and sewage systems requires staffing 24 hours per day, 7 days a week. This has required staff to work additional hours.

Sewage Treatment Plants

The team, accompanied by the plant superintendent, visited both the East Bank and West Bank Wastewater Treatment Plants (WTP). Operations and maintenance of both plants has been contracted to Veolia Water. Currently, there is not a representative from the Board to oversee the contractor operator. Both wastewater treatment plants were operational at the time of the site visits and were meeting the discharge limits according to the treatment plant personnel.

East Bank Wastewater Treatment Plant

The East Bank WTP has a treatment capacity of 122 mgd (dry weather). The plant is currently receiving approximately 95 mgd of flow, which is 5 percent less than the amount of flow received in 2007 due to the efforts of inflow and infiltration mitigation by the Board. The treatment facilities at the plant include bar screens, grit removal, pure oxygen activated sludge system, final clarification, and disinfection. The solids generated during sewage treatment are thickened, dewatered in belt filter presses, and incinerated. The Board shall be installing a

sludge dryer as an alternative sludge treatment system to supplement the fluid bed incinerator (FBI).

- The following list summarizes the findings at the East Bank Wastewater Treatment Plant:
- The plant is well maintained and has a state-of-the-art SCADA system to control and monitor the plant.
 - The Board should assign an employee to work with the contract operator and review their operations on a routine basis.
 - The plant has experienced damage to structures and equipment from salt water due to the hurricane. Most equipment has been repaired and is operational. The final clarifiers show corrosion to the skimmer arms caused by salt water. Three of the final clarifiers have been rehabilitated and three more are to be rehabilitated this year. The last clarifier will be completed in 2011. This work is funded by the Board.
 - The new belt filter press is installed and operational. The FBI is back in service for use in solids disposal. A sludge dryer will supplement solids disposal and will be designed and bid in 2010.
 - A waste heat recovery system for the FBI has been evaluated. It is expected that 950 kW of power will be produced from a turbine generator, with annual cost savings of \$750,000 to \$1 million. This project has been placed on hold pending funding.
 - The oxygen generation system has been purchased and will be installed in approximately 12 months. Oxygen is currently trucked in at significant cost; the new oxygen plant will reduce the cost of oxygen to the plant. The plant uses approximately 30 tons of oxygen a day.
 - A new 4 MW generator has been purchased to power the effluent pumps in the event of a power outage. Currently, the building to house the generator is in the design stage and is expected to be bid in mid 2010.
 - In 2010, the Board will be bidding a project to raise the height of the berm (barrier) that protects the plant from flooding. This project, with an estimated cost of \$30 million, will be reimbursed by FEMA.
 - A new Administration Building is to be designed and constructed onsite.



Figure 3. New Belt Press

- Additional diesel tanks and a biodiesel tank are to be constructed onsite to support the new generator and FBI. The use of biodiesel will provide a cost savings to the Board, as the biodiesel is \$1 per gallon cheaper than regular diesel.
- The ash from the FBI has been approved for industrial use as a supplement to filler in cement or soil amendment.
- There is evidence of rain water penetrating the building in the effluent pump Electrical Room. The plant superintendent indicated this was only a problem during strong winds and rain.

At present, the influent TSS and BOD concentration are approximately 130 milligrams per liter (mg/L) and 95 mg/L, respectively. These concentrations are significantly lower than normal, which is likely the result of a significant increase in the amount of inflow and infiltration in the collection system requiring treatment at the plant. Effluent quality has been adequate over the last year; the plant experienced one permit violation last year. The permit violation was related to fecal coliform, in which the daily limit was exceeded on one day. It is believed the violation was caused by a sample line which had frozen and insufficient flushing of the line prior to sampling that day.

West Bank Wastewater Treatment Plant

The West Bank facility has a treatment capacity of 20 mgd (dry weather). Currently, the plant is receiving approximately 10.5 mgd flow. The West Bank treatment facility consists of bar screens, primary clarifiers, trickling filters, final clarifiers, and disinfection. Primary and

secondary solids are co-thickened in a gravity thickener and hauled to the East Bank facility for further dewatering at the belt filter presses. A summary of findings for the West Bank treatment plant follows below:

- A new Solids Treatment Building and belt filter press are currently at 30 percent level of design for the plant; however, the project is on hold due to funding limitations.
- A new sodium hypochlorite system, including tanks and pumps, is at 65 percent level of design; however, the project is on hold due to funding limitations.
- The drainage pumps were replaced.



Figure 4. Site Drainage Pumps

- Two of three aerated grit system blowers were out of service at the time of the inspections, but maintenance staff indicated they would be back in service within a few days.

The monthly average TSS and BOD influent concentration are approximately 150 mg/L and 120 mg/L, respectively. Treatment at the plant is exceptional for a trickling filter plant, as the monthly average effluent TSS and BOD concentration has been approximately 12 mg/L and 10 mg/L, respectively.

Sewage and Drainage Pumping Stations

The team visited 82 out of the 84 sewage pumping stations and 23 of the 24 major drainage pumping stations. A summary of these sewage pumping and drainage pumping stations visited by the team is included in the Appendix.

All drainage stations are near full pumping capacity. The construction of the Dwyer Drainage Pumping Station at Downman Road and Dwyer Road in eastern New Orleans will be completed by the end of 2010. Since the 2009 evaluation, mitigation improvements have not been performed to drainage stations that would minimize the damage caused by future flood events comparable to Hurricane Katrina. Overall, the East and West Bank stations are in good operating condition. Pump repair at these stations is a normal element of operation and should not be attributed to lack of recovery from the past flood.

The rehabilitation of the sewage pumping stations (SPS) has yielded measurable progress. In past years, the rehabilitation of storm damaged stations was stalled in the planning process. This year, the construction of two elevated SPS stations replacing two flood damaged sub-surface stations was the start of many planned rehabilitation projects. Michoud SPS at 14201 Michoud Boulevard is complete and fully operational as of November 2009. The Lamb SPS located at 6450 Morrison Road is currently under construction and should be completed by the end of 2010. These new stations are examples of the repairs taken by the board to alleviate future interruptions in service. Although the repair of these two stations represents a small portion of the work to be done, when combined with the 62 other SPS currently in the bid process, next year should yield considerably greater improvements of the damaged SPS.

The use of portable pumps has decreased significantly when compared to the 2009 facilities evaluation. The vast majority of SPS which presently use the temporary pumps are can type stations, where motors and electrical components are vulnerable to flood damage. Repairs to several SPS housing the motors above ground have been made, while only one subsurface station, Lakewood South, is in the process of being repaired. Excluding normal repair and required maintenance, the West Bank SPS are in the same condition recorded during 2009 facilities evaluation.

Facility Maintenance

The Facility Maintenance Division provides major electrical and mechanical maintenance for all Board facilities throughout the System, except the Veolia Water operated wastewater treatment plants. The Facility Maintenance Division has the specialized equipment and technology to maintain the plant process equipment, drainage pumping stations, sewage pump stations, power generation equipment, and water meter servicing. Automated lathes and

mills provide the ability to fabricate parts when replacement parts are excessively expensive or no longer available due to equipment vintage.

While the Facility Maintenance Division is well equipped, the lack of an adequate number of trained personnel has hampered the ability of the division to perform in-house repairs. The Facility Maintenance Division has 128 authorized positions; however, only 62 positions are currently staffed, with most of the highly skilled areas remaining vacant. Overtime is necessary to compensate for the limited work force, and more work is being contracted out to contractors than previously. The division is currently facing a situation where they do not have enough personnel to adequately supervise or oversee contractors. The division is actively recruiting at job fairs and trade schools to hire additional workers.

Engineering

The Engineering Division includes Mechanical Engineering, Electrical Engineering, Civil Engineering, Construction Administration and Inspection, and Networks Engineering. The division administers major contracts throughout the City and coordinates with other agencies for the design and construction activities impacting Board maintained facilities. There is a critical shortage of licensed Professional Engineers at this time.

Following is the status of some of the contracts administered through the Engineering Division:

- Contracts issued for repairing roofs of non-critical facilities. (Note: This is being administered by the Operations Division.)
- The design for a second sludge line to the Mississippi River is approximately 65 percent designed, but awaiting funding.
- Review of design for a sodium hypochlorite storage and pumping system at the Carrollton Water Purification Plant. This is a \$2.8 million project and has recently provided a notice to proceed to the contractor.
- A new belt filter press system at the West Bank Sewage Treatment Plant is currently on hold pending the selection of the biosolids treatment system at the East Bank Sewage Treatment Plant. Currently, the Board plans on adding a sludge dryer at the East Bank plant. The Board wishes to have a cost effective comprehensive solids treatment plan to treat biosolids at the East and West Bank facilities.

Currently, the Engineering Division is in the process of working with the Corps on storm-proofing projects for the most critical drainage pump stations. At present, 16 storm-

proofing projects have been identified and are in various stages of design. The following is a list of the most critical projects and projects to be completed as funding is available from the Corps:

- A 15 MW generator is currently in construction at the Carrollton facility to provide additional power to the Carrollton Water Purification Plant and Power plant.
- The provision of an underground electrical feeder power line from the Carrollton Power Plant to Drainage Pump Station No. 1. Currently, this project is in the preliminary stages of design.
- The addition of a berm to protect critical areas of the Carrollton plant. This project is currently at 65 percent design.
- Storm-proofing of the Power Building and river pumping stations which supply water to the Carrollton plant. The project is currently ready to bid, and is valued at approximately \$30 million.
- Drainage Pump Station No. 5 will have additional pumps and emergency power generation installed; additional storm-proofing of the existing building will protect the building from water infiltration. The project is at 100 percent design and will be completed by July 2011.
- Another Corps project will provide storm-proofing of buildings and backup generator power for Drainage Pump Stations Nos. 3, 6, and 20.
- A new backup generator and storm-proofing of Drainage Pump Stations No. 7 will occur under one storm-proofing project.
- Drainage Pumping Station No. 13 will receive storm-proofing, as well as backup power generation under a Corp project.

Networks

The Networks Division is charged with maintaining the sanitary sewer system and the potable water distribution system. The water distribution network damaged by uprooted trees and other debris during Katrina still has not been fully repaired. Consequently, the Carrollton plant is currently purifying approximately 140 mgd of water in spite of serving almost 80 percent of the pre-Katrina population. Service has been restored to all affected areas.

According to Board personnel, the biggest challenge in restoring normal operations at the water purification plants has been the detection and repair of leaks in the distribution system.

The Board, with the aid of contractors, is currently conducting a system evaluation of the piping system to detect leaks. The Board is employing engineering approaches and has planned an evaluation of a leak detection system for over 40 miles of pipeline using acoustic leak detection techniques. A contractor has been hired to use acoustic technology to determine leaks in larger water mains (those exceeding 20 inches in diameter). Over 12,000 leaks have been repaired in the last year. Manholes are also being inspected as an ongoing inspection of the sewer system. A Phase II assessment of the system has been instituted to continue inspecting all reaches of the collection system.

The Networks Division works in conjunction with the Fire Department to monitor and maintain all fire hydrants. The Networks Division has resumed inspection of all fire hydrants within the system. All hydrants in the City have been assigned an identification number and have been mapped. The fire hydrants program requires the 16,500 fire hydrants in the database to be inspected once every two years to supplement the biannual inspection cycle of the Fire Department.

The Networks Division completed over 3,700 paving projects in 2009, both in house and with contractors. Networks has several maintenance contracts to assist with the maintenance of the water distribution, wastewater collection, and drainage stations. These contracts have subsequently increased the amount of work accomplished in the division.

Staffing, in combination with overtime and FEMA funded contracts, has been able to perform the work required and address the needs of customers. However, approximately 10 percent of the staff within this division is eligible for retirement within the next 5 years, including nearly all departmental management positions. This is not a unique problem for the Networks Division, as all Divisions have similar staffing issues. These conditions demonstrate the need for an effective succession action plan for the division heads and supervisors.

Support Services

Fleet Management

The Board has 602 pieces of rolling stock, which includes trucks, backhoes, and sewer cleaning equipment. Approximately 140 pieces are at least 13 years old and will require replacement in the next few years. The Board has plans to purchase approximately 171 pieces of heavy equipment worth \$8 million. Of the 171 pieces to be purchased, 73 pieces have been received or are pending and will be received in the near future. This order will be funded with FEMA monies designated to replace equipment. Some of this new rolling stock will replace the older pieces of equipment. The new equipment includes vacuum trucks, trailers, crew trucks, backhoes, etc. The available equipment is being assigned to the various divisions based on the

needs of the Operations and Networks Divisions. It is expected that up to two years will be necessary to acquire all the equipment needed for normal functioning of the Board maintained facilities, based on information obtained from the Fleet Manager.

The Division has 145 total staff on their payroll and is inadequately staffed based on the current needs of the Board, with the exception of fleet mechanics. Approximately 10 percent of the staff within this division is eligible for retirement within the next 5 years. This is not a unique problem for the Support Services Division, as all Divisions have similar staffing issues. These conditions demonstrate the need for an effective succession action plan for the division heads and supervisors. Large mechanical work and some ground maintenance functions have been contracted out to other firms. In particular, the ground maintenance contract is for 2 years, with an option for a third year. Currently, the contract is in the third year and, after the contract expires, the Board expects to resume performing those functions in house.

In addition, the warehouse, Garage 1, and Garage 2 are scheduled to be rehabilitated in 2010. Equipment and materials are limited for use in the garages to maintain heavy equipment and vehicles. FEMA will be reimbursing equipment and tools for each garage lost due to the hurricane.

Environmental Affairs Department

The Environmental Affairs Department oversees the consent decree and all administrative orders. This department also undertakes special projects for the Executive Director's office and reports sewer bypasses and overflow to Region 6 Environmental Protection Agency. Some activities being undertaken by the department include those listed below:

- Taking the lead among other agencies to ensure wastes are disposed of in an environmentally friendly manner and assisting State agencies with environmental cleanup.
- Providing technical assistance to the pumping station crews.
- Permit compliance in water, wastewater, solid waste, and underground storage tanks.

The department has a shortage of supervisors, and the head of the department plans to retire next year. A succession plan needs to be established for key personnel within the department.

The Environmental Affairs Department was able to obtain a \$10 million grant from the state's Coastal Impact Assistance Program (CIAP) to construction the first phase of the estimated \$65 million wetland assimilation project. Construction consists of a 20 acre demonstration project adjacent to the East Bank Sewage Treatment Plant. In addition, the

evaluation of ferrate as an alternative disinfectant is included in the wetlands assimilation program. This evaluation shows promise not only as a disinfectant, but as a treatment for emerging pollutants of concern, such as trace pharmaceuticals in the wastewater.

Status of the Consent Decree

The Board is complying with the Environmental Protection Agency (EPA) Region 6 and Department of Justice Consent Decree that requires cessation of unauthorized discharges and the development of a schedule for repairs to both the collection system and the treatment plant.

In January of 2010, the Board successfully completed negotiations for a modification of the consent decree. A phased approach in response to the Board's claim for unanticipated delays and violations of the Decree due to the hurricane has been accepted. Some provisions outlined in the document include those listed below:

- Quarterly and annual reporting requirements are to be submitted regularly.
- Preventive maintenance requirements of the consent decree will be met.
- Repair to the collection systems will begin once the sewage pump stations have been repaired from hurricane damage.

The Board is in compliance with the EPA Consent Decree, as it has met every construction and reporting deadline in the decree, and has had no fines relative to construction or reporting schedules.

Summary of Findings

- The Board has a clear understanding of the existing condition of the water and sewage treatment facilities and is aware of the immediate needs within each division and area; however, funding is needed for the Board to address these issues.
- The potable water distribution network and the sanitary sewer collection system present the two biggest challenges and are being addressed in a systematic manner with the aid of contractors.
- The Board is servicing 100 percent of the population within the collection system. The Board is currently utilizing portable diesel pumps at some of the sewer pump stations due to the hurricane damage. Only 33 of the 66 East Bank sewage pumping stations are on local utility power, with the rest relying on diesel pumps. Major construction is scheduled to begin within the next year to rehabilitate most of the sewage pump stations and the costs will be reimbursed by FEMA.

- The Corps has installed temporary drainage pumping systems at the Orleans, London, and 17th Street Canals near the mouth of Lake Ponchartrain to prevent storm surge from entering the City of New Orleans during a flood. The Corps intends to rely upon both to maintain the existing drainage pump stations and install a permanent station at Lake Ponchartrain on each of these canals. Portions of the drainage canals shall be strengthened to accommodate safe water elevation.
- In an effort to alleviate personnel issues, the Board has suspended the domicile policy, which required Board employees to live in the City of New Orleans. This will allow personnel hired by the Board to live outside the City and retain the right to receive promotions during the suspension and after the suspension expires. In addition, it would be beneficial if the Board would consider succession planning for key areas of the operations where personnel are close to retirement age to allow for easier transition of daily responsibilities once retirements are announced.
- A \$10 million pilot study was awarded by the Coastal Impact Assistance Program to the Board for additional work on the wetlands assimilation program. This pilot test includes planting 20 acres of cypress trees and pumping approximately 0.12 mgd of final effluent flow from the East Bank Wastewater Treatment Plant to the wetlands area.
- It is important that the Board concentrate on filling vacancies of highly skilled technical positions such as engineers, machinists, and electricians, especially during this economic downturn, as it may be easier to recruit staff with the required skills.
- The Board needs to assign staff to work directly with the contractor operator operating the wastewater treatment plants to ensure smooth communication and oversight of the contract operator.
- The Board should continue efforts to storm-proof critical facilities as funding becomes available.
- The Board should proceed to build the new sludge dryer at the East Bank Sewage Plant, as there is a potential for cost savings from using less fuel to incinerate the sludge.
- The Board should reinstate the filter rehabilitation program at the Carrollton Water Purification Plant, as the system is becoming critical due to valves, actuators, and filter media requiring replacement.

- Debris needs to be removed from the Old River Station intake for the water plant. In addition, critical valves and actuators should be replaced and/or repaired.

Water Department

Adherence to Water Revenue Bond Resolution Requirements

In 1998, the Sewerage and Water Board sold \$16,000,000 of Water Revenue Bonds. The sale of these bonds, as well as the 2002 Series Water Revenue bonds, has obligated the Board to fulfill the covenants of the current bond resolutions. The covenants are designed to protect the interests of the bond holders. Particular covenants of the Board in the General Water Revenue Bond Resolution pertain to the power to issue bonds and the pledge of system revenues; the extension of payment of bonds; the establishment of rates and charges; the sale, lease, and encumbrance of the system; the operation, maintenance, and reconstruction of the system; insurance; the preparation of an annual operating budget; the preparation of the capital improvements budget; the maintenance of accounts and reports; further assurances; and the issuance of additional bonds. The Requirements of the 1998 General Water Revenue Bond Resolution and Supplemental Resolutions adopted on August 21, 2002, (hereafter collectively called the General Resolution) are discussed in this section. Water Department tables are included at the end of this section.

The Board is in compliance with the 1998 General Water Revenue Bond Resolution and subsequent amendments.

Powers as to Bonds and Pledge

The General Resolution gives the Board the power to issue bonds and to pledge the revenues according to the resolution. The Resolution state that ". . . the revenues and other monies, securities and funds so pledged are and will be free and clear of any pledge, lien, charge or encumbrance thereon with respect thereto prior to, or of equal rank with, the pledge created by the resolution except to the extent expressly permitted hereby. The Board shall at all times, to the extent permitted by law, defend, preserve and protect the pledge of the revenue and other monies, securities and lands pledged under the resolution and all the rights of the bondholders under the resolution against all claims and demands of all persons whomsoever."

The Extension of Payment of Bonds

The Board is obligated not to extend the maturity of the bonds. The Board still has the right to issue refunding bonds because the issuance of refunding bonds shall not constitute an extension of maturity of the bonds.

The Establishment of Rates and Charges

The General Resolution obligates the Board to establish and maintain rates and charges at levels sufficient so that total revenues over and above the amount required for operation and maintenance of the system be at least one hundred thirty percent (130%) of the bond debt service requirement.

The Board must engage a Consulting Engineer to annually review the adequacy of the rates and charges to satisfy the requirements of the resolution for the next succeeding year.

In addition, ". . . the Board shall not... furnish or supply any facilities, services or commodities afforded by it in connection with the system free of charge (except as required by law). The Board will promptly enforce in the manner and to the extent provided by law the payment of any and all delinquent accounts except when the Board determines that such enforcement is no longer practicable or economically justified."

The Sale, Lease, and Encumbrance of the System

The General Resolution requires that, with exceptions, ". . . no part of the System shall be sold, mortgaged, leased (with the Board as lessor) or otherwise disposed of or encumbered." However, the Board may sell, mortgage, or lease any property that has become worn out or that is not useful.

The Operation, Maintenance, and Reconstruction of the System

The Board is obligated to ". . . operate, or cause to be operated, the System properly and in a sound, efficient and economical manner and shall maintain, preserve, and keep the same or cause the same to be maintained, preserved, and kept in good repair, working order and condition, and shall from time to time make, or cause to be made, all necessary and proper repairs, replacements and renewals so that the operation of the System may be properly and advantageously conducted . . ." The Board must reconstruct damaged or destroyed parts of the system, except in those cases where the market value of that part of the system is more than \$100,000 and a Consulting Engineer certifies that the abandonment is economically justified and is not prejudicial to the interest of the bond owners and that failure to reconstruct the part will not impair the Board's ability to comply with the requirements of the rates and charges covenant in the current or any future fiscal year. The Board is actively engaged in repairing or replacing facilities damaged in 2005 by Hurricane Katrina.

Insurance and Condemnation

The Board agrees to ". . . keep all property which is a part of the System and which is of an insurable nature and of the character usually insured by operating systems similar to the

Board insured against loss or damage by fire and from other causes customarily insured against and in such relative amounts as are customary. The Board will also at all times maintain insurance against loss or damage from such hazards and risks to the persons and property of others as are usually insured against by those operating systems similar to the Board."

The Board also agrees that all insurance proceeds shall be applied to the restoration of the lost or damaged facilities, unless the Board determines not to replace the facilities according to the previous covenant. Any excess proceeds not applied to the reconstruction of facilities or remaining after the work is complete shall be deposited into the Water System Account.

The Board may also elect to insure itself if it determines that any policies required are not reasonably obtainable or may not be obtained at a reasonable cost.

The Board carries fire and extended coverage insurance on buildings connected with the treatment and supplying of water, and the collection and treatment of sewage. In addition, the Board carries the generally accepted coverage for water and wastewater utilities. This coverage consists of personal liability and property damage liability coverage; forgery, money, and securities dishonesty and disappearance coverage; and employees' faithful performance bonds. The Board also carries coverage on vehicles and equipment used in the operation of the water, sewerage and drainage systems. A summary of the insurance program of the Board is shown in Table 1.

The Board is self-insured for worker's compensation and comprehensive general liability. In addition, the Board maintains a self-insurance program of hospitalization benefits. Anticipated expenditures are budgeted annually.

The Preparation of an Annual Operating Budget

The Board agrees to prepare and adopt an annual operating budget not less than one day prior to the beginning of each fiscal year. The Board may adopt an amended or supplemental budget from time to time but not more than once a month. The Board is required not to " . . . incur aggregate Operating Expenses in any Fiscal Year in excess of the aggregate amount of Operating Expenses shown in the Annual Budget as amended and supplemented for such Fiscal Year except in case of emergency or as required by law."

The Board agrees that the " . . . amounts expended by the Board in any Fiscal Year for Current Expenses shall not exceed the reasonable and necessary amounts thereof and such amounts so expended in any Fiscal Year from Revenues shall not exceed the amounts provided therefore in the Annual Budget for such Fiscal Year as amended and supplemented from time to time."

The Preparation of the Capital Improvement Budget

The Board is required to prepare a proposed program of Capital Improvements for the current and next two fiscal years prior to the beginning of each fiscal year. The program must identify the capital improvements to be carried out, the estimated costs of the improvements, the period of construction, and a proposed budget for the capital improvements to be undertaken in the first fiscal year of the budget period. The capital improvements budget is to be prepared showing projected quarterly requirements and can be amended or supplemented from time to time, but not more than once a month for the fiscal year in progress.

Employment of Consulting Engineer

The General Resolution requires the Board to employ a Consulting Engineer no later than the last day of each third full fiscal year following the delivery of the initial bonds to report on the properties and operations of the System. However, any report prepared by the Consulting Engineers for the issuance of additional bonds within a three year period will satisfy this requirement.

The Maintenance of Accounts and Reports

The Board is required to ". . . maintain its books and accounts in accordance with generally accepted accounting principles and in accordance with such other principles of accounting as the Board shall deem appropriate."

The Board is also required to file with the Board of Liquidation, City Debt an annual report with financial statements audited by and containing the report of a nationally recognized independent public accountant. The auditor's report is to include a statement that during their examination, made in accordance with generally accepted auditing standards, nothing came to their attention that would lead them to believe that a default had occurred under the resolution, or to state the nature of the default.

The Board engaged the firms of Postlethwaite & Netterville and Bruno & Tervalon to comply with this covenant. Financial reports with the Accountants' Certificate have been furnished to the Board of Liquidation, City Debt and have been reproduced for public distribution. The Government Finance Officers Association (GFOA) has awarded to the Board the "Certificate of Achievement for Excellence in Financial Reporting" for their annual financial reports for 26 years.

Issuance of Additional Bonds

Additional bonds may be issued, but only after certain conditions have been met. These conditions are described in the following paragraphs.

The Board must deliver to the Board of Liquidation, City Debt a certificate of an authorized officer stating that the Resolution has not been repealed, and a certified copy of every supplemental resolution previously adopted by the Sewerage and Water Board.

The Board must deliver to the Board of Liquidation, City Debt the documents and monies, if any, required by this resolution and any applicable supplemental resolution.

The Board must provide to the Board of Liquidation, City Debt a certificate of an authorized officer stating that as of the delivery of the additional bonds no event of default has occurred.

The Board of Liquidation, City Debt is required to have a certificate of an authorized officer stating that for the two full fiscal years prior to the year of issuance, the average net revenues were equal to at least (1) the amount required by Louisiana law, and (2) 110 percent of the average bond debt service requirement on all bonds outstanding plus the average bond debt service requirement on the additional bonds.

The Board must provide to the Board of Liquidation, City Debt a certificate of the Consulting Engineer stating that projected net revenues for each of the five fiscal years following issuance of the additional bonds will be at least 130 percent of the debt service reserve fund requirement.

2009 Water Department Operations

Funds for the operation and maintenance of Water Department properties were derived from sales of water, delinquent fees, plumbing inspection and license fees, charges for disconnections and reconnections, and from interest earned on available funds. Analyses of the 2009 Water Department operations are discussed in the following paragraphs.

Water Use

According to statistics found in the December 31, 2009 Comprehensive Annual Financial Report, during the year, 54,451,220,000 gallons of water were pumped by the Water Department. Water sales accounts for 13,378,635,500 gallons and 561,147,300 gallons were metered to City departments without charge. Metered treatment plant process water totaled 410,735,500 gallons. The remaining 40,100,701,700 gallons resulted from unmetered uses, such as fire protection; flushing streets, sewers, drains, and gutters; and unaccounted for system losses.

Number of Customers

Table 2 presents a summary of the historical and projected average number of treated water customers for the period 2005 through 2014. Based on year-end billing summaries, the

number of monthly billed customers during 2009 averaged 109,640 compared with 102,575 for 2008. It is projected that the Board will average approximately 111,834 open accounts in 2010 and that the number of accounts will continue to grow at approximately 2.0 percent each year.

In addition to regular customers, water is sold to construction contractors and other customers on an irregular basis. The Board, by law, also provides water service free of charge to certain municipal and public connections including the Board itself. In 2009 there were 906 connections in this group, compared with 896 for 2008.

Billed Water Usage

Table 2 also presents a summary of historical and projected treated water sales. Based on year-end billing summaries, a total of 13,309 million gallons of water sales were billed on a monthly basis in 2009, compared with a total of 13,438 million gallons in 2008. Projected water sales assume a growth rate of approximately 2.0 percent per year.

Operating Revenues

The 2009 schedule of rates for retail treated water service is presented in Table 3. The rates consist of monthly service charges, which vary by meter size, plus a 4-step declining block volume charge, with the exception of the first block, which is a life-line related charge. Current rates for flat rate fire service are also shown in Table 3. Separate rate schedules, not shown, are used for billing water sold to construction projects and other purposes.

A summary of historical treated water billings and other Water Department revenue is presented in Table 4 for the period 2005 through 2009. The historical revenues shown in Table 4 were developed from detailed records provided by Board Staff. Operating revenues are derived from charges for sale of water and delinquent fees. Sales of water in 2009 were \$49,689,747 which, when compared with \$42,913,744 for 2008, shows an increase of approximately 16 percent. Delinquent fee revenues were \$987,307 in 2009 which represent a 9 percent decrease over 2008 delinquent fees.

Non-Operating Revenues

Also shown in Table 4, non-operating revenue of the Water Department includes interest earned on invested funds, and other income from miscellaneous sources. During 2009, non-operating revenue included \$84,560 of interest earned from the investment of available funds in the Water System Fund and the Water Revenue Bond Account and \$18,789,508 from other sources.

In 2009, the Board received \$16,600,790 in operating and maintenance grants from FEMA for operating expenses incurred from water repairs performed by Board crews. This revenue is included as Other Income in Table 4.

Operation and Maintenance Expenses

The Sewerage and Water Board uses a system of accounts for budget purposes which groups expenses by water system function. Under the present system of accounts, expenses are categorized under the general classifications of management and general, operations expenses, and other expenses. Management and general expenses include wages, materials and supplies, services, and other costs of the Executive Director, Deputy Director, Office of the Management Services Director, Personnel Administration, Finance Department, Information Systems, Purchasing Administration, Customer Services Department, and Legal Department. Operations expenses encompass the costs of source of supply, treatment, and delivery of potable water. Other expenses include such items as general insurance, outside services employed, social security, pension and medical insurance contributions, and miscellaneous expenditures.

Table 5 presents a summary of historical expenses as recorded under the present system of accounts by the Sewerage and Water Board. Expenditures in 2009 decreased about 22 percent from 2008 expenditures and about 12 percent from 2007 expenditures. Water related power and pumping expenses decreased approximately 4 percent in 2009 due to a decrease in the cost of natural gas and maintenance of general plant decreased about 25 percent due to lack of personnel to address repairs and lack of funds to purchase parts and materials. Additionally, the allocation of administrative and general expenses to the Water Department decreased in 2009. Historical operation and maintenance expenses shown in Table 5 do not include the non-cash portion of Provision for Claims as recorded in the Comprehensive Annual Financial Report. Estimates of future Water Department claims are included on Line 16 of Table 11.

Capital Budget and Expenditures

Capital expenditures of the Water Department include the cost of replacements and improvements to waterworks facilities, the water distribution system, and the Water Department pro rata share of power projects and general budget costs.

The Water Department's 2009 capital expenditures, exclusive of prorated interest expense, totaled \$22,383,156. The Water Department's capital improvement expenditures for the year are shown in Table 6.

Summary of Operations

The following tabulation shows a summary of the receipts and expenditures of the Water Department during 2009:

Total Revenues (a)	\$65,551,122
Operation and Maintenance Expense	51,889,761
Claims	94,108
Debt Service Payments	<u>3,868,853</u>
Revenue Primarily Available for Capital Expenditures (b)	\$9,698,400

(a) Includes operating and maintenance grant of \$16,660,790.

(b) Excludes depreciation.

Proposed Capital Improvement Program

Table 7 presents a summary of the projected major capital improvement program for the period 2010 through 2014. Table 7 is based on the Board's 2010 adopted Capital Budget and the preliminary 2011-2020 proposed Capital Program. The five-year major capital improvement program costs are estimated to total \$316,951,164. About 52 percent of this amount, or \$163,786,164, is for recurring annual capital improvements, with the remaining \$153,165,000 for major improvements. The proposed routine annual capital expenditures for water system improvements and extensions include \$7,522,250 for the Water Department's share of power projects, and \$25,601,914 for its share of general budget items.

Ability to Finance Proposed Capital Expenditures

This section of the report analyzes the adequacy of projected revenues to finance the proposed capital improvements shown in Table 7.

Operating Revenues

Operating revenues of the Water Department consist of revenues from water sales. Projected operating revenues for the years 2010 through 2014 are shown in Table 8. These estimates reflect the rate schedule effective July 1, 2009 applied to the projected number of customers and water usage and are projected to increase, on average, about 2.0 percent per year throughout the study period.

Other Revenue Sources

Based upon past practices, the Water Department can expect to obtain revenues or funds from non-operating sources. These include interest earned on available funds, participation by

others, house connection charges, fire connections, fire hydrant relocations, and various other income sources. Also, by Board policy, the Water Department receives one-half of the plumbing inspection and license fees currently projected at \$350,000 per year, and \$125,000 for three-mill revenue sharing. Operating and maintenance grants are projected at an average of about \$15,800,000 per year.

Interest income from the investment of funds held for future use depends upon the level of water revenue available for investment and the amount of revenue accrued towards payment of future capital expenditures.

Projections of other revenue sources are presented in a subsequent table, which summarizes the Department's financial position during the financing of projected operating and capital requirements.

Operation and Maintenance Expenses

A summary of projected operation and maintenance expense for the period 2010 through 2014 is shown in Table 9. Expenses are categorized by system function as now reflected in the accounting system of the Sewerage and Water Board. Estimates of future expenses are based on anticipated future operating conditions and allowances for inflationary factors.

Projected expenses shown for 2010 reflect the Board's adopted 2010 operating budget. Projected expenses shown for 2011 reflect the Board's recommended 2011 operating budget. Based on historical trends and conversations with utility staff, all costs are projected to increase 3.0 percent per year from the Board's recommended budget for 2011.

Debt Service Requirements

Future debt service requirements of the Water Department are made up of principal, interest, and reserve fund payments for currently outstanding and future water revenue bond issues. As of December 31, 2009, outstanding debt obligations consisted of \$9,190,000 Water Revenue Bonds, Series 1998 and \$27,560,000 Water Revenue Bonds Series 2002.

To adequately fund the proposed capital improvements, additional revenue bonds are indicated as shown in Table 10. In February 2010, the Department of Health and Hospitals (DHH) provided a \$3,400,000 loan to the Board with a \$1,000,000 principal forgiveness. The term of this loan is 20 years with an average annual interest rate of 3.45 percent and the actual principal and interest payments are included in Table 10. All other projected bonds that are shown in Table 10 are assumed to be sold at an average annual interest rate of 6.0 percent for a term of 30 years.

Adequacy of Revenues to Finance Proposed Capital Improvements

Total revenue requirements for the Water Department recognized for purposes of this report include operation and maintenance expense, allowance for claims, debt service costs on major capital improvements financed through the sale of bonds, and expenditures for capital improvements not financed from bond proceeds. Table 11 summarizes the financing of operation and maintenance expense, debt service costs on outstanding and proposed bonds, and the transfer of operating funds for major capital improvement financing. It also examines the financing of the major capital improvement program.

Operating Fund

Line 1 of Table 11 shows projected Revenue from Charges under 2009 rates as previously presented in Table 8.

Lines 2 through 6 show any indicated increases in water revenues associated with rate increases assumed to be in effect the number of months shown. The rate increases shown for 2010 and 2011 reflect the increases proposed in our *Report on Revenue Requirements, Costs of Service and Rates for Water Service* that was issued in April of 2005. The series of revenue increases proposed in that study were approved by the City Council on October 4, 2007. Additional revenue increases of 10 percent effective July 1 of 2012, 2013, and 2014 are projected as shown on Lines 4 through 6.

Other revenue available for system operations, shown on Lines 9 through 14, consist of Interest Income on operating funds, Three-Mill Revenue Sharing, Plumbing Inspection and License Fees, Other Miscellaneous Income, Operating and Maintenance Grants, and Interest from Bond Reserve Fund. Interest Income available to the operating fund, shown on Line 9, is estimated to be 0.5 percent of the average of the beginning and end of year Net Annual Balance, except as the average is affected by identifiable nonrecurring major receipts, transfers, or expenditures during the year.

The Board has received funds from FEMA to assist with the expense associated with filing forms with FEMA. This reimbursement is shown on Line 14. The Board has submitted Project Worksheets to FEMA for operating expenses incurred from water repairs performed by Board crews. Line 15 indicates the amount projected to be reimbursed by FEMA for these repairs during the study period. Total Operating Revenue is shown on Line 16.

Operation and Maintenance expense, previously projected in Table 9, is shown on Line 17 of Table 11. Line 18 shows the estimated allowance for claims. Bad debt expense is assumed to be 2 percent of projected revenue and is shown on Line 19. Projected Net Operating Revenue from system operations is shown on Line 20.

Lines 21 through 23 present debt service requirements on currently outstanding and proposed revenue bonds. Additional bond issues in the amount of \$70,100,000 in 2011, \$45,300,000 in 2012, \$25,300,000 in 2013, and \$22,000,000 in 2014 are projected. Debt service requirements for the 2010 bonds reflect actual amounts for the February Water Revenue Bonds, Series 2010 issue. The Series 2010 is a 20-year bond with an average annual interest cost of 3.45 percent. All other debt is assumed to be 30 year, 6.0 percent interest rate bonds issued in October, with equal annual payments of principal and interest.

Line 24 reflects the projected transfer of accumulated net earnings from system operations to assist in major capital financing. Typically, such accumulated net earnings may be used to help recover portions of the annual costs of system operations or to assist in major capital improvement financing.

Line 25 indicates the estimated Net Annual Balance from operations remaining at the end of each year.

The \$13,590,300 balance of operating funds available at the beginning of the year 2010, shown on Line 26, is comprised of the current cash assets.

The End of Year Balance is shown on Line 27. It is intended that, in all years of the period 2010 through 2014, the End of Year Balance should equal or exceed the assumed adequate emergency capital reserve of 45 days operation and maintenance expense. It is anticipated that the End of Year Balance will be equal to or greater than the targeted emergency capital reserve for each year of the study period.

Capital Projects Funding

Major capital improvement financing is examined in Lines 28 through 41 of Table 11. The amount of Funds Available at Beginning of Year, shown on Line 30, is a deficit of \$27,174,400. This amount is based on audited data provided by the Board.

Projected revenue bond proceeds are shown on Line 29. The amounts and years of issue are developed considering capital program needs, current policies, other sources of major capital improvement financing, and the debt service coverage requirements of the bond covenants regarding the issuance of parity revenue bonds.

Financing of the major capital improvement program anticipates the transfer of a total of \$82,800,000 of operating revenue as shown on Line 30. Other sources of funds available to meet major capital improvement expenditures are Participation by Others and interest income. Participation by Others, as shown on Line 31 includes anticipated funding by the EPA, U.S. Army Corps of Engineers (COE), and FEMA. Interest earnings recognize an assumed 0.5 percent average annual interest rate and are shown on Line 32. Line 33 of the table shows the projected major capital improvement funds available each year.

As of December 31, 2009, the Board had \$11,542,500 obligated for open contracts and capital jobs as shown on Line 34 of Table 11. Lines 35 and 36 show the projected Reinvestment in Assets and Major Capital Additions to be funded as shown in Table 7. The projected capital projects shown on Lines 35 and 36 for 2010 exceed the amount of funding available shown on Line 33; therefore, \$38,500,000 in capital projects will need to be deferred until revenue bonds can be issued in 2011. This deferral is shown on Line 37 and assumes 3 percent inflation each year the projects are deferred.

Estimated issuance costs related to the proposed bond issue amounts are shown on Line 38. Line 38 shows the required deposits into the Revenue Bond Reserve Fund associated with proposed bond issues.

The Total Application of Funds is shown on Line 40 of Table 11. The net End of Year Balance is shown on Line 41.

As demonstrated in Table 11, it is anticipated that current revenue sources will not be adequate to readily finance both projected capital program requirements as currently scheduled and estimated future operation expenses of the Water Department during the 2010-2014 study period examined herein. It is recommended that the Board defer capital projects until an adequate funding source has been identified.

Bond Coverage Requirements

A requirement of the Water Bond Resolution provides that rates must be adopted that will provide revenues in excess of operation and maintenance expense of at least 130 percent of the current year's Bond Debt Service Requirement. As shown on Line 42 of Table 11, the indicated revenue increases will provide sufficient net revenues to meet coverage requirements beginning in 2010.

The results of the Additional Bonds Test, described in an earlier section of this report, are shown on Lines 43 through 45 of Table 11. All of these tests will be met beginning in 2011 with the proposed revenue increases.

While Table 11 indicates that the Board will meet the minimum requirements to issue additional revenue bonds beginning in 2011, it is not clear whether the Board will be able to meet the increased key performance indicators that the market is currently requiring. Without a strong service area economy, healthy debt service coverage, and strong liquidity, the Board may be required to pay a premium to issue additional debt.

Table 1

Insurance in Force as of December 31, 2009

Coverage	Kind and / or Location	Amount of Coverage \$	Policy Period	
			From	To
Travelers/St. Paul Fire	Primary Fleet Liability	Limit: \$1,000,000 (\$200,000 Deductible)	06/20/09	06/20/10
Colony National	Excess Fleet Liability	Limit \$4,000,000 (\$1,200,000 Deductible)	06/20/09	06/20/10
Westport/Lancashire/RSUI Indemnity	Property - Building and Contents	\$46,401,255 Building \$22,114,000 Contents (\$100,000 Deductible)	09/01/08	03/20/10
Lexington Insurance Co.	Fleet Physical Damage	\$12,625,966 (\$250,000 Deductible)	08/17/08	03/20/10
National Flood Insurance	Flood	\$29,634,300 (\$404,000 Deductible)	08/06/08	08/06/09
Fidelity & Deposit Company of Maryland	Commercial Crime and Employee Theft	\$525,000 (\$10,500 Deductible)	05/01/07	05/01/10
National Union Fire Insurance Co.	Public Officials and Employees Liability	\$5,000,000 (\$100,000 Deductible)	11/20/09	11/20/10
Travelers Casualty & Surety	Fiduciary Liability	\$1,000,000 (\$50,000 Deductible)	08/01/07	08/01/10

Table 2
Water Department
Historical and Projected Sales and
Average Number of Customers (a)

	Historical					Projected				
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Single Family Residential (b)										
Customers	94,379	104,843	97,218	87,691	94,547	96,438	98,367	100,334	102,341	104,388
Sales (1,000,000 gal.)	6,471	5,207	6,110	5,734	6,196	6,320	6,447	6,576	6,707	6,841
Sales Per Customer (1,000 gal.)	69	50	63	65	66	66	66	66	66	66
Multi-family Residential										
Customers	4,184	4,818	4,626	4,194	4,267	4,353	4,440	4,529	4,620	4,712
Sales (1,000,000 gal.)	1,285	895	887	825	832	849	866	883	901	919
Sales Per Customer (1,000 gal.)	307	186	192	197	195	195	195	195	195	195
Commercial										
Customers	9,095	13,390	10,448	9,475	9,558	9,749	9,944	10,143	10,346	10,553
Sales (1,000,000 gal.)	4,140	3,874	4,144	4,070	3,570	3,642	3,715	3,789	3,865	3,942
Sales Per Customer (1,000 gal.)	455	289	397	430	374	374	374	374	374	374
Industrial										
Customers	19	47	24	22	21	22	22	22	22	22
Sales (1,000,000 gal.)	92	148	123	91	80	83	83	83	83	83
Sales Per Customer (1,000 gal.)	4,910	3,157	5,086	4,222	3,771	3,773	3,773	3,773	3,773	3,773
Dual Service & Metered Fire Service (c)										
Customers	1,020	929	1,197	1,193	1,247	1,272	1,297	1,323	1,349	1,376
Sales (1,000,000 gal.)	2,629	2,467	2,663	2,718	2,630	2,683	2,736	2,790	2,845	2,902
Sales Per Customer (1,000 gal.)	2,578	2,656	2,225	2,278	2,109	2,109	2,109	2,109	2,109	2,109
Total										
Customers	108,697	124,027	113,513	102,575	109,640	111,834	114,070	116,351	118,678	121,051
Sales (1,000,000 gal.)	14,616	12,592	13,927	13,438	13,309	13,577	13,846	14,121	14,401	14,688

(a) Excludes customers receiving free service.

(b) Includes duplex.

(c) Does not include flat rate fire protection customers.

Table 3

**Water Department
Existing Water Rates
(Effective July 1, 2009)**

		General Service	Dual Service (a)
		\$	\$
Monthly Water Service Charge			
<u>Meter Size</u>			
Inches			
	5/8	3.70	5.05
	3/4	4.50	6.20
	1	5.80	8.10
	1-1/2	9.50	12.60
	2	12.60	17.90
	3	28.50	40.00
	4	49.50	69.50
	6	97.00	135.00
	8	144.00	202.00
	10	195.00	273.00
	12	229.00	321.00
	16	305.00	427.00

Monthly Water Quantity Charge - per 1,000 Gallons

First	3,000 gallons	2.47	2.47
Next	17,000 gallons	4.21	4.21
Next	980,000 gallons	3.31	3.31
Over	1,000,000 gallons	2.78	2.78

Flat Rate Fire Service

<u>Meter Size</u>		
Inches		
	2	8.40
	3	11.50
	4	21.00
	6	36.00
	8	49.00
	10	77.00
	12	100.00
	16	137.00

(a) Includes Dual Service and all metered fire services.

Table 4

**Water Department
Statement of Historical Revenue**

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
	\$	\$	\$	\$	\$
Operating Revenue					
Sales of Water	37,997,862	33,718,910	36,198,631	42,913,744	49,689,747
Delinquent Fee	<u>729,404</u>	<u>80,850</u>	<u>1,596,891</u>	<u>1,081,988</u>	<u>987,307</u>
Total Operating Revenue	38,727,266	33,799,761	37,795,522	43,995,732	50,677,054
Nonoperating Revenue					
Interest Earned	666,889	834,088	493,003	302,558	84,560
Plumbing Inspection and License Fees	87,630	295,122	271,170	295,302	242,224
Revenue Sharing	281,159	282,273	197,190	229,502	165,098
Other Income (a)	<u>1,901,997</u>	<u>2,283,384</u>	<u>1,281,819</u>	<u>974,578</u>	<u>18,382,186</u>
Total Nonoperating Revenue	2,937,675	3,694,867	2,243,181	1,801,940	18,874,068
Total Revenue	41,664,942	37,494,628	40,038,704	45,797,672	69,551,122

(a) Includes \$16,600,790 in operating and maintenance grants in 2009.

Table 5

**Water Department
Historical Operation and Maintenance Expenses (a)**

	2005	2006	2007	2008	2009
	\$	\$	\$	\$	\$
Management and General Expenses					
Administrative	1,799,005	1,290,870	2,056,157	3,696,400	(1,754,217)
Management Services Director	99,251	75,410	26,676	31,034	24,121
Building and Grounds and Support Services	948,310	1,128,139	1,383,923	1,554,301	1,095,617
Personnel Administration	397,340	297,352	372,108	393,557	261,102
Finance Administration	777,050	691,849	741,562	835,575	713,007
Information Systems	2,443,907	2,230,138	2,037,654	1,933,589	1,487,421
Revenue and Customer Service	2,882,398	2,325,713	2,746,344	3,482,268	3,774,758
Purchasing	268,376	216,849	235,090	269,051	206,955
Total Management and General	<u>9,615,637</u>	<u>8,256,320</u>	<u>9,599,514</u>	<u>12,195,776</u>	<u>5,808,764</u>
Operations Expenses					
General Superintendent	229,857	164,123	196,374	236,623	148,527
Chief of Operations	100,915	71,717	77,769	62,507	75,851
Water Pumping and Power	15,037,043	8,870,268	14,866,810	17,695,920	14,393,332
Central Control	748,612	470,418	431,312	573,855	619,641
Water Purification	6,685,610	7,026,675	8,199,532	10,313,493	9,566,964
Chief of Facilities Maintenance	118,707	61,042	66,631	76,786	94,029
Facilities Maintenance	3,479,142	2,990,353	3,326,563	3,846,125	3,086,098
Central Yard	2,472,046	1,995,190	2,499,556	2,511,570	1,617,507
Office of Chief of Networks	113,222	90,770	357,326	120,178	143,700
Networks	12,451,563	9,274,448	12,490,047	12,324,603	11,091,848
Engineering	1,391,081	1,051,807	1,184,106	1,401,279	1,038,809
Plumbing	461,852	400,927	441,830	499,622	477,796
Total Operations	<u>43,289,650</u>	<u>32,467,738</u>	<u>44,137,856</u>	<u>49,662,562</u>	<u>42,354,102</u>
Other Expenses					
Special Accounts	1,194,655	1,506,011	1,661,998	1,292,730	1,081,741
Payroll Related Expenses	2,970,428	3,090,892	7,629,127	8,002,409	5,725,534
Overhead Allocation	(4,124,375)	(3,535,924)	(4,271,666)	(4,374,549)	(3,080,380)
Total Other	<u>40,708</u>	<u>1,060,979</u>	<u>5,019,459</u>	<u>4,920,590</u>	<u>3,726,895</u>
Total Operation and Maintenance (b)	<u>52,945,995</u>	<u>41,785,037</u>	<u>58,756,829</u>	<u>66,778,929</u>	<u>51,889,761</u>

(a) Historical operation and maintenance expenses do not include the non-cash portion of provision for claims as recorded in the Comprehensive Annual Financial Report. Estimates of future Water Department claims payable are included in Table 11.

(b) Source: Expenditure Analysis by Group Report.

Table 6

**Water Department
Capital Expenditures (a)
2009**

C.P. #	Project	Actual Expenditures
		\$
	Waterworks	
110	Normal Extensions & Replacements	209,808
112	Modification to Oak St Raw Water Intake Station	60,510
135	Improvements to Chemical System	520,078
160	Hurricane Katrina Expense for Water	(78,725)
175	Water Hurricane Recovery Bonds	11,398,501
	Total Waterworks	12,110,172
	Water Distribution	
214	Normal Extensions & Replacements	1,480,208
215	Rehabilitation - Mains, Hydrants & Services	71,468
216	Water Systems Replacement Program	18,000
239	Mains DPW Contracts	2,830,564
	Total Water Distribution	4,400,240
	Power Projects and General Budget	
600	Water Share of Power Projects	109,305
800	Water Share of General Budget Items	5,763,440
	Total Water Department	22,383,156

(a) Expenditures do not include proration of interest expense.

Table 7

**Water Department
Projected Capital Improvements (a)**

C.P. #	Project	2010	2011	2012	2013	2014	Total
		\$	\$	\$	\$	\$	\$
Reinvestment in Assets							
110	Normal Extension & Replacement	2,800,000	7,275,000	10,050,000	9,700,000	6,600,000	36,425,000
112	Modification to Oak St. Raw Water Intake Station	2,350,000	2,000,000	2,000,000	25,000		6,375,000
122	Filter Rehabilitation	1,500,000	1,500,000	3,900,000	3,000,000	6,500,000	16,400,000
214	Normal Extensions & Replacements	1,762,000	1,200,000	1,200,000	1,200,000	1,200,000	6,562,000
215	Rehabilitation - Mains, Hydrants and Services	1,350,000					1,350,000
216	Water System Replacement Program	3,600,000	10,500,000	10,750,000	10,000,000	10,000,000	44,850,000
239	Mains In Streets Department Contracts	5,200,000	3,200,000	3,200,000	3,200,000	3,200,000	18,000,000
600	Water Share of Power Projects	160,000	1,004,750	5,955,000	192,500	210,000	7,522,250
701	Water Reserve for Emergencies	700,000					700,000
800	Water Share of General Budget Items	6,769,000	6,314,748	4,246,592	2,604,367	5,667,207	25,601,914
	Total Routine Capital Improvements	26,191,000	32,994,498	41,301,592	29,921,867	33,377,207	163,786,164
Major Capital Improvements							
135	Improvements to Chemical System	675,000	500,000	1,800,000	500,000	1,100,000	4,575,000
156	Advanced Carrollton Water Treatment	10,800,000	7,200,000	500,000	5,000,000	4,560,000	28,060,000
157	Advanced Algiers Water Treatment	710,000	2,650,000	9,210,000	1,710,000	50,000	14,330,000
159	Water Plant Security Improvements	3,380,000	2,000,000	1,170,000	4,520,000	2,000,000	13,070,000
175	Water Hurricane Recovery Bonds	8,630,000	21,000,000	20,500,000	20,000,000	20,000,000	90,130,000
221	Feeder Main Extension, General	600,000	600,000	600,000	600,000	600,000	3,000,000
	Total Major Capital Improvements	24,795,000	33,950,000	33,780,000	32,330,000	28,310,000	153,165,000
	Total Water Department Improvements	50,986,000	66,944,498	75,081,592	62,251,867	61,687,207	316,951,164

(a) The improvements for the 2010 are based on the budget approved December 16, 2009. The improvements for the 2011-2014 period are based on preliminary 2011-2020 Capital Program.

Table 8

**Water Department
Projected Operating Revenue**

Year	(1)	(2)	(3)
	Revenue From Charges	Additional Revenue	Total Service Charge Revenue
	\$	\$	\$
2010	53,109,900	1,106,500	54,216,400
2011	54,140,000	3,654,500	57,794,500
2012	55,193,700	7,589,100	62,782,800
2013	56,265,600	14,136,800	70,402,400
2014	57,361,800	21,589,600	78,951,400

Historical and Projected Operating Revenue

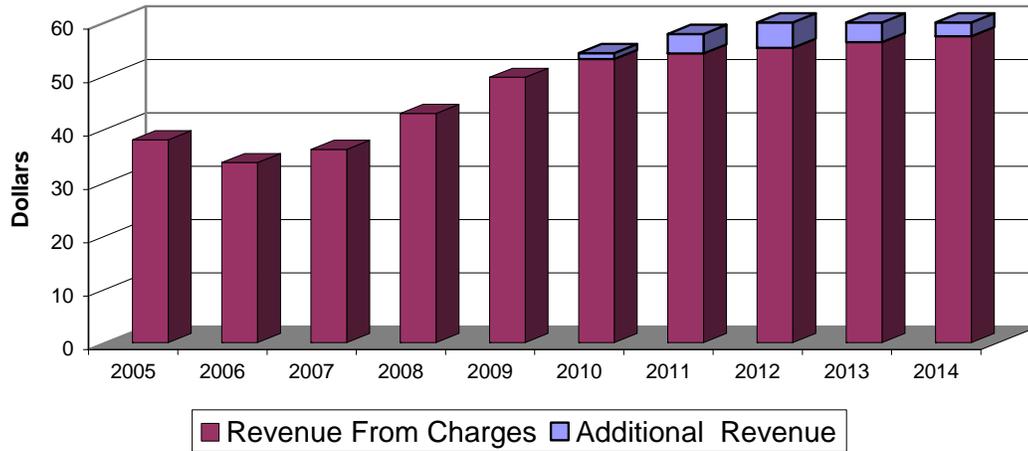


Table 9

**Water Department
Projected Operation and Maintenance Expenses**

	2010 (a)	2011 (b)	2012	2013	2014
	\$	\$	\$	\$	\$
Management and General Expenses					
Administrative	2,325,300	2,663,700	2,743,600	2,825,900	2,910,700
Management Services Director	23,600	23,500	24,200	25,000	25,700
Building and Grounds and Support Services	1,064,200	1,138,100	1,172,300	1,207,400	1,243,700
Personnel Administration	279,800	397,000	408,900	421,200	433,800
Finance Administration	663,300	952,900	981,500	1,010,900	1,041,300
Information Systems	1,893,100	1,962,200	2,021,100	2,081,700	2,144,200
Revenue and Customer Service	3,757,100	4,226,700	4,353,500	4,484,100	4,618,600
Purchasing	245,400	298,200	307,100	316,400	325,800
Total Management and General	10,251,800	11,662,300	12,012,200	12,372,600	12,743,800
Operations Expenses					
General Superintendent	184,900	227,200	234,000	241,000	248,200
Chief of Operations	68,300	68,700	70,800	72,900	75,100
Water Pumping and Power	11,828,600	12,122,100	12,485,800	12,860,300	13,246,100
Central Control	672,000	284,200	292,800	301,600	310,600
Water Purification	10,443,100	10,498,400	10,813,300	11,137,700	11,471,900
Chief of Facilities Maintenance	100,200	80,400	82,800	85,300	87,800
Facilities Maintenance	3,069,600	4,378,300	4,509,700	4,645,000	4,784,300
Central Yard	1,607,400	1,897,700	1,954,600	2,013,200	2,073,600
Office of Chief of Networks	142,800	133,700	137,700	141,900	146,100
Networks	8,166,200	10,316,300	10,625,800	10,944,500	11,272,900
Engineering	1,059,500	1,403,600	1,445,700	1,489,100	1,533,800
Plumbing	484,600	427,000	439,900	453,000	466,600
Total Operations	37,827,200	41,837,600	43,092,900	44,385,500	45,717,000
Other Expenses					
Special Accounts	1,195,800	1,539,900	1,586,000	1,633,600	1,682,600
Payroll Related Expenses	2,376,000	4,497,700	4,632,600	4,771,600	4,914,800
Overhead Allocation	(2,800,000)	(3,298,700)	(3,397,700)	(3,499,600)	(3,604,600)
Total Other	771,800	2,738,900	2,820,900	2,905,600	2,992,800
Total Operation and Maintenance	48,850,800	56,238,800	57,926,000	59,663,700	61,453,600

(a) Represents the adopted operating budget as of December 16, 2009.

(b) Represents the recommended 2011 operating budget.

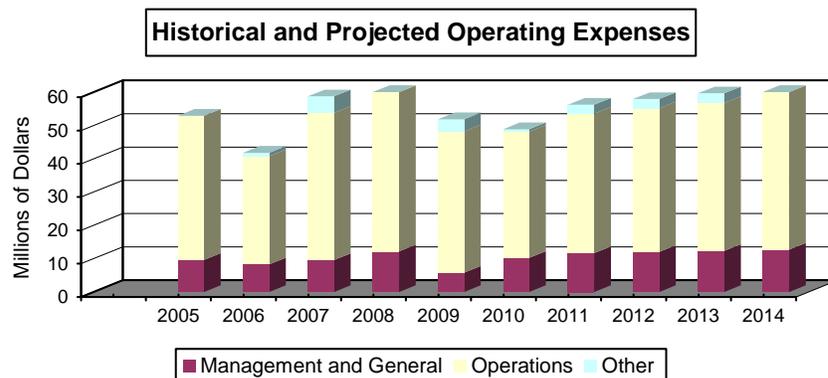


Table 10
Water Revenue Bond
Debt Service Requirements

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
	\$	\$	\$	\$	\$
Existing Bonds					
Series 1998	1,281,700	1,283,500	1,283,400	1,281,000	1,284,500
Series 2002	2,606,200	2,623,100	2,634,900	2,646,600	2,633,300
Total Existing Debt Service	<u>3,887,900</u>	<u>3,906,600</u>	<u>3,918,300</u>	<u>3,927,600</u>	<u>3,917,800</u>
Projected Bonds (a)					
	<u>Amount of Issue</u>				
	\$				
2010	2,400,000	0	308,513	167,280	168,342
2011	70,100,000	1,273,200	5,092,700	5,092,700	5,092,700
2012	45,300,000		822,800	3,291,000	3,291,000
2013	25,300,000			459,500	1,838,000
2014	22,000,000				399,600
Total Projected Debt Service	<u>0</u>	<u>1,581,713</u>	<u>6,082,780</u>	<u>9,011,542</u>	<u>10,791,393</u>
Total Debt Service	<u>3,887,900</u>	<u>5,488,313</u>	<u>10,001,080</u>	<u>12,939,142</u>	<u>14,709,193</u>

(a) Projected bonds are assumed to be issued in October of indicated year.

Table 11

**Water Department
Analysis of Ability of Forecasted Revenue to
Finance Projected Revenue Requirements**

Line No.				2010	2011	2012	2013	2014
				\$	\$	\$	\$	\$
Operating Fund								
1	Revenue from Charges			53,109,900	54,140,000	55,193,700	56,265,600	57,361,800
Additional Revenue Required								
	Year	Revenue Increase	Months Effective					
2	2010	5.0%	5.0	1,106,500	2,707,000	2,759,700	2,813,300	2,868,100
3	2011	4.0%	5.0		947,500	2,318,100	2,363,200	2,409,200
4	2012	10.0%	5.0			2,511,300	6,144,200	6,263,900
5	2013	10.0%	5.0				2,816,100	6,890,300
6	2014	10.0%	5.0					3,158,100
7	Total Additional Revenue			1,106,500	3,654,500	7,589,100	14,136,800	21,589,600
8	Total Service Charge Revenue			54,216,400	57,794,500	62,782,800	70,402,400	78,951,400
9	Interest Income			77,700	61,900	61,900	62,900	64,100
10	Three-Mill Revenue Sharing			125,000	125,000	125,000	125,000	125,000
11	Plumbing Insp. & License Fees			350,000	350,000	350,000	350,000	350,000
12	Other Miscellaneous Income			1,300,000	1,300,000	1,300,000	1,300,000	1,300,000
13	Operating & Maintenance Grants			16,672,900	16,172,669	15,839,200	15,339,000	15,005,600
14	Interest from Bond Reserve Fund			25,000	38,000	59,000	72,000	80,000
15	FEMA Federal Assistance Fees			1,093,400	1,093,400	0	0	0
16	Total Operating Revenue			73,860,400	76,935,469	80,517,900	87,651,300	95,876,100
17	Operation & Maintenance			(48,850,800)	(56,238,800)	(57,926,000)	(59,663,700)	(61,453,600)
18	Provision for Claims			(190,600)	(196,300)	(202,200)	(208,200)	(214,500)
19	Provision for Doubtful Accounts			(1,062,200)	(1,082,800)	(1,103,900)	(1,125,300)	(1,147,200)
20	Net Operating Revenue			23,756,800	19,417,569	21,285,800	26,654,100	33,060,800
Debt Service								
21	Existing			(3,887,900)	(3,906,600)	(3,918,300)	(3,927,600)	(3,917,800)
22	Projected			0	(1,581,700)	(6,082,800)	(9,011,500)	(10,791,400)
23	Total Debt Service			(3,887,900)	(5,488,300)	(10,001,100)	(12,939,100)	(14,709,200)
24	Transfer to Construction			(26,000,000)	(14,100,000)	(11,100,000)	(13,500,000)	(18,100,000)
25	Net Annual Balance			(6,131,100)	(170,731)	184,700	215,000	251,600
26	Beginning of Year Cash Balance			13,590,300	7,459,200	7,288,469	7,473,169	7,688,169
27	End of Year Balance			7,459,200	7,288,469	7,473,169	7,688,169	7,939,769
Capital Projects Funding								
28	Funds Available at Beginning of Year			(27,174,400)	188,100	184,702	199,110	141,443
29	Revenue Bond Proceeds			2,400,000	70,100,000	45,300,000	25,300,000	22,000,000
30	Operation Fund Transfers			26,000,000	14,100,000	11,100,000	13,500,000	18,100,000
31	Participation By Others			22,991,000	28,873,000	22,870,000	25,720,000	23,530,000
32	Interest Income			0	17,800	23,000	18,200	17,800
33	Total Funds Available			24,216,600	113,278,900	79,477,702	64,737,310	63,789,243
34	Obligated Contracts & Capital Jobs			(11,542,500)	0	0	0	0
35	Reinvestment in Assets			(26,191,000)	(32,994,498)	(41,301,592)	(29,921,867)	(33,377,207)
36	Major Capital Additions			(24,795,000)	(33,950,000)	(33,780,000)	(32,330,000)	(28,310,000)
37	Deferred Capital Improvements			38,500,000	(39,655,000)	0	0	0
38	Bond Issuance Expense			0	(1,402,000)	(906,000)	(506,000)	(440,000)
39	Revenue Bond Reserve Fund			0	(5,092,700)	(3,291,000)	(1,838,000)	(1,598,300)
40	Total Application of Funds			(24,028,500)	(113,094,198)	(79,278,592)	(64,595,867)	(63,725,507)
41	End of Year Balance			188,100	184,702	199,110	141,443	63,736
Debt Service Coverage								
42	Annual Test			611%	354%	213%	206%	225%
Additional Bonds Test								
43	Prior Two-Year Test			-16%	138%	41%	31%	53%
44	Maximum Future Debt Service Test			564%	211%	171%	186%	208%
45	Coverage 5 Years after Sale			229%	138%	137%	135%	132%

Sewerage Department

Adherence to Sewerage Service Revenue Bond Resolution

In 1997, the Board issued \$30,000,000 Sewerage Service Revenue Bonds. Issuance of these bonds obligated the Board to adhere to the covenants of the Bond Resolution. Briefly, the covenants are concerned with:

- Powers as to bonds and pledge.
- Extension of payment of bonds.
- Establishment of rates and charges.
- Sale, lease, and encumbrance of the system.
- Operation, maintenance, and reconstruction of the system.
- Insurance and condemnation.
- Preparation of an annual operating budget.
- Preparation of the capital improvement budget.
- Employment of Consulting Engineer
- Maintenance of accounts and reports.
- Issuance of additional bonds.

The provisions of the Sewerage Service Revenue Bond Resolution are virtually identical to those of the Water Revenue Bond Resolution described in the preceding section of this report. The Board is in compliance with these covenants with the exception of debt service coverage in 2009. Sewerage Department tables are included at the end of this section.

2009 Sewerage Department Operations

Funds for the operation, maintenance, and debt service requirements of the Sewerage Department are obtained from sewerage service charges. The balance of revenue remaining after meeting these costs may be used for cash financing capital improvements as required. Other fund sources include participation by others, interest earned on invested funds, and other minor sources.

Revenues and expenditures related to the 2009 operations of the Sewerage Department are discussed in the following paragraphs.

Wastewater Volumes

Number of Customers

Table 12 presents a summary of the historical and projected average number of sewer customers for the period 2005 through 2014. Based on year-end billing summaries, the number

of monthly billed customers during 2009 average 107,765 compared with 100,812 for 2008. It is projected that the Board will average approximately 109,921 open accounts in 2010 and that the number of accounts will continue to grow at approximately 2.0 percent each year.

Billed Wastewater Volume

Table 12 also presents a summary of historical and projected billed wastewater volumes. Based on year-end billing summaries, a total of 11,050 million gallons of wastewater volume was billed in 2009, compared with a total of 11,152 million gallons in 2008.

Operating Revenues

Sewerage Department operating revenue for 2009 consisted of sales revenues based on the schedule of sewerage service charges shown in Table 13. The rates consist of monthly service charges, which vary by meter size, plus a volume charge. Quantity charges for single family residential and multi-residential customers are based on 85 percent of the metered water consumption to allow 15 percent for lawn watering and other uses, which contribute no flow to the sanitary sewer. All other classes are based on 100 percent of water consumption. Water from private wells or other non-Board sources that is discharged to the sanitary sewer system is to be metered and the consumption included in computing sewerage service charges. Any customer who can show that only a portion of his metered water usage is discharged to the sanitary sewer system is to be charged for only that portion of the total water quantity. A residential customer may have either the 15 percent allowance or a special exemption, but not both.

A summary of historical sewer billings and other Sewerage Department revenue is presented in Table 14 for the period 2005 through 2009. The historical revenues shown in Table 14 were developed from detailed records provided by Board staff. Operating revenues are derived from sewerage service charge revenue, which includes excess strength charges, and delinquent fees. Sewerage service charge revenues in 2009 were \$65,442,893 which, when compared with \$61,154,472 for 2008, shows an increase of approximately 7.0 percent. Delinquent fee revenues were \$660,053 in 2009 which represent a decrease over 2008 delinquent fees.

Non-Operating Revenues

Also shown in Table 14, Sewerage Department non-operating revenue includes interest earned on the investment of available funds and other minor items of revenue. Interest earned in 2009 consisted of \$326,075 from investments in the Sewerage System fund, the capital projects and construction fund. Miscellaneous income was \$3,609,055 for 2009.

In 2009, the Board received \$2,772,395 in operating and maintenance grants from FEMA for operating expenses incurred from sewer repairs performed by Board crews. This revenue is included as Other Income in Table 14.

Operation and Maintenance Expenses

As previously discussed in the section of this report covering Water Department Operation and Maintenance Expenses, the Sewerage and Water Board utilizes a system of accounts designed to group expenses by function for budget purposes. Under the present system of accounts, expenses are categorized under the general classifications of management and general, operations expenses, and other expenses. Management and general expenses include wages, materials and supplies, services, and other costs of operating the Office of the Management Services Director, Personnel Administration, Finance Department, Information Systems, Purchasing Administration, Customer Services Department, and other administrative services including the Deputy Director, Executive Director, and Legal Department. Operations expenses encompass the costs of collecting, transporting, treating, and disposing of wastewater. Other expenses include such items as general insurance, outside services employed, social security, worker's compensation insurance, pension and medical insurance contributions, and miscellaneous expenditures.

Table 15 presents a summary of 2005 through 2009 historical operation and maintenance expenses of the Sewerage Department. Expenditures for 2009 increased about 16.7 percent from 2008 expenditures and about 27.4 percent from 2007 expenditures. The largest increase from 2006 expenses is reflected in Payroll Related Expenses. Expenses associated with pumping and power decreased due to a decrease in the cost of natural gas while expenses associated with treatment increased due to an increase in the cost of chemicals. Payroll related expenses increased approximately 31 percent in 2009 due to the accrual of Other Post Employment Benefits (OPEB) to comply with GASB 45, salary increases in accordance with City of New Orleans Civil Service, and an increased number of employees. Historical operation and maintenance expenses shown in Table 15 do not include the non-cash portion of Provision for Claims as recorded in the Comprehensive Annual Financial Report. Estimates of future Sewerage Department claims are shown on Line 16 in Table 21.

Capital Budget and Expenditures

Capital expenditures of the Sewerage Department include the cost of replacements and improvements to wastewater treatment and collection facilities and the Sewerage Department pro rata share of power projects and general budget costs.

The Sewerage Department's 2009 capital expenditures, exclusive of prorated interest expense, totaled \$49,345,193. Capital improvement expenditures for the year are shown in Table 16.

Summary of Operations

The following tabulation shows a summary of the receipts and expenditures of the Sewerage Department during 2009:

Total Revenues (a)	\$70,038,076
Operation and Maintenance Expense	49,401,760
Claims	478,112
Debt Service Payments	<u>18,668,540</u>
Revenue Primarily Available for Capital Expenditures (b)	\$1,489,664

(a) Includes operating and maintenance grant of \$2,772,395

(b) Excludes depreciation.

Proposed Capital Improvement Program

Table 17 presents a summary of the projected major capital improvement program for the period 2010 through 2014. Table 17 is based on the Board's 2010 adopted Capital Budget and the preliminary 2011-2020 proposed Capital Program. The five-year major capital improvement program costs are estimated to total \$547,524,755. Of the projected total, \$488,635,755 is considered to be for recurring annual capital improvements. The remaining \$58,889,000 is for proposed major capital expenditures. Costs of power projects and general budget items are prorated between the Water, Sewerage and Drainage Departments on the basis of relative use. The projected Sewerage Department pro rata share of power project and general budget item costs for the five-year period 2010 through 2014 total \$6,875,750 and \$26,113,914, respectively.

The Board is currently complying with the EPA Region 6 Administrative Order. In January of 2010, the Board successfully completed negotiations for a modification of the Consent Decree. The Capital Improvement Program shown in Table 17 represents the schedule for complying with the modified Consent Decree.

Ability to Finance Proposed Capital Expenditures

This section of the report analyzes the adequacy of projected revenues to finance the proposed capital improvements shown in Table 17.

Operating Revenues

Future operating revenues of the Sewerage Department consist of sewerage service charge revenues which are summarized for 2010 through 2014 in Table 18. Future revenues reflect the existing rate schedule, which became effective July 1, 2006 applied to the projected number of customers and water usage.

Other Revenue Sources

Based upon past practices, the Sewerage Department can expect to obtain revenues or funds from non-operating sources. These include interest earned from the investment of available funds, participation by others, and miscellaneous other income. By Board policy, the Sewerage Department receives one-half of the plumbing inspection and license fees, currently projected at \$350,000 per year. Additionally, about \$150,000 is currently anticipated for three-mill revenue sharing. Operating and maintenance grants are projected at an average of about \$6,300,000 per year.

Interest income from the investment of funds held for future use depends upon the level of sewerage revenue available for investment and the amount of revenue accrued towards payment of future capital expenditures.

Projections of other revenue sources are presented in a subsequent table, which summarizes the Department's financial position during the financing of projected operating and capital requirements.

Operation and Maintenance Expense

A summary of projected operation and maintenance expense for the period 2010 through 2014 is shown in Table 20 and is categorized by the present system of accounts. Estimates of future expenses are based on anticipated future operating conditions and allowances for inflationary factors.

Projected expenses shown for 2010 reflect the Board's adopted 2010 operating budget. Projected expenses shown for 2011 reflect the Board's recommended 2011 operating budget. Based on historical trends and conversations with utility staff, all costs are projected to increase 3.0 percent per year from the Board's recommended budget for 2011.

Debt Service Requirements

Future debt service requirements of the Sewerage Department are made up of principal, interest, and reserve fund payments for currently outstanding and future sewerage revenue bond issues. As of December 31, 2009 outstanding debt obligations consisted of \$16,115,000 Sewerage Revenue Bonds Series 1997, \$14,360,000 Sewerage Revenue Bonds Series 1998,

\$18,425,000 Sewerage Revenue Bonds Series 2000A, \$14,010,000 Sewerage Revenue Bonds Series 2000B, \$23,015,000 Sewerage Revenue Bonds Series 2001, \$43,485,000 Sewerage Revenue Bonds Series 2002, \$4,260,000 Sewerage Revenue Bonds Series 2003, \$27,010,000 Sewerage Revenue Bonds Series 2004, and \$23,375,000 Sewerage Revenue Bonds Series 2009.

To adequately fund the proposed capital improvements, additional revenue bonds are indicated as shown in Table 19. It is assumed that the terms of all other new debt incurred will be 6.0 percent for a term of 30 years.

Adequacy of Revenues to Finance Proposed Capital Improvements

Total revenue requirements for the Sewer Department recognized for purposes of this report include operation and maintenance expense, allowance for claims, debt service costs on major capital improvements financed through the sale of bonds, and expenditures for capital improvements not financed from bond proceeds. Table 21 summarizes the financing of operation and maintenance expense, debt service costs on outstanding and proposed bonds, and the transfer of operating funds for capital improvement financing. It also examines the financing of the major capital improvement program.

Operating Fund

Line 1 of Table 21 shows projected Revenue from Charges under 2009 rates as previously presented in Table 18.

Lines 2 through 6 show indicated increases in sewer revenues associated with rate increases assumed to be in effect the number of months shown. Additional annual revenue increases of 20 percent effective October 1, 2011, July 1, 2012, July 1, 2013 and July 1, 2014 are projected.

Other revenue available for system operations, shown on Lines 9 through 14, consist of Interest Income on operating funds, Three-Mill Revenue Sharing, Plumbing Inspection and License Fees, Miscellaneous Revenue, Operating and Maintenance Grants, and Interest from Bond Reserve Fund. Interest Income available to the operating fund, shown on Line 9, is estimated to be 0.5 percent of the average of the beginning and end of year Net Annual Balance, except as the average is affected by identifiable nonrecurring major receipts, transfers, or expenditures during the year.

The Board has submitted Project Worksheets to FEMA for operating expenses incurred from sewer repairs performed by Board crews. Line 15 indicates the amount projected to be reimbursed by FEMA for these repairs during the study period. Total Operating Revenue is shown on Line 16.

Operation and Maintenance expense, previously projected in Table 19, is shown on Line 17 of Table 21. Line 18 shows the estimated allowance for claims. Bad debt expense is assumed to be 2 percent of projected revenue and is shown on Line 19. Projected Net Operating Revenue from system operations is shown on Line 20.

Lines 21 through 23 present debt service requirements on currently outstanding and proposed revenue bonds. Additional revenue bond debt financing of \$65,000,000 in 2012, \$85,000,000 in 2013, and \$101,800,000 in 2014 is assumed. This debt is assumed to be 30 year, 6.0 percent fixed interest rate bonds issued in October, with equal annual payments of principal and interest.

Line 24 reflects the projected transfer of accumulated net earnings from system operations to assist in major capital financing. Typically, such accumulated net earnings may be used to help recover portions of the annual costs of system operations or to assist in major capital improvement financing.

Line 25 indicates the estimated Net Annual Balance from operations remaining at the end of each year.

The balance of operating funds available at the beginning of year 2010, shown on Line 26, is comprised of the current cash assets and reflects a deficit of \$260,700.

The End of Year Balance is shown on Line 27. It is intended that, in all years of the period 2010 through 2014, the End of Year Balance should equal or exceed the assumed adequate emergency capital reserve of 45 days of operation and maintenance expense. It is anticipated that the End of Year Balance will be equal to or greater than the targeted emergency capital reserve for each year of the study period.

Capital Projects Funding

Major capital improvement financing is examined in Lines 28 through 41 of Table 21. The amount of Funds on Hand, shown on Line 30, is \$65,638,400. This amount is based on audited data provided by the Board.

Projected revenue bond proceeds are shown on Line 29. The amounts and years of issue are developed considering capital program needs, current policies, other sources of major capital improvement financing, and the debt service coverage requirements of the bond covenants regarding the issuance of parity revenue bonds.

Financing of the major capital improvement program anticipates the transfer of a total of \$140,900,000 of operating reserves as shown on Line 30. Other sources of funds available to meet major capital improvement expenditures are Participation by Others and interest income. Participation by Others, as shown on Line 31, includes anticipated funding by the COE and

FEMA. Interest earnings recognize an assumed 0.5 percent average annual interest rate. Line 33 of the table shows the projected major capital improvement funds available each year.

As of December 31, 2009, the Board had \$33,228,000 obligated for open contracts and capital jobs as shown on Line 34 of Table 21. Lines 35 and 36 show the projected Reinvestment in Assets and Major Capital Additions to be funded. The projected capital projects shown on Lines 35 and 36 for 2010 and 2011 exceed the amount of funding available shown on Line 33; therefore, \$94,000,000 in capital projects will need to be deferred until revenue bonds can be issued in 2012. This deferral is shown on Line 37 and assumes 3 percent inflation each year the projects are deferred.

Estimated issuance costs related to the proposed bond issue amounts is shown on Line 38. Line 39 shows the required deposits into the Revenue Bond Reserve Fund associated with proposed bond issues.

The Total Application of Funds is shown on Line 40 of Table 21. The net End of Year Balance is shown on Line 41.

As demonstrated in Table 21, it is anticipated that current revenue sources will not be adequate to readily finance both projected capital program requirements as currently scheduled and estimated future operation expenses of the Sewerage Department during the 2010-2014 study period examined herein. It is recommended that the Board defer capital projects until an adequate funding source has been identified.

Bond Coverage Requirements

A requirement of the Sewerage Service Revenue Bond Resolution provides that rates must be adopted that will provide revenues in excess of operation and maintenance expense of at least 130 percent of the current year's Bond Debt Service Requirements. As shown on Line 42 of Table 21, the indicated revenue increases will provide sufficient net revenues to meet coverage requirements during the study period.

The results of the Additional Bonds Test, described in an earlier section of this report, are shown on Lines 43 through 45 of Table 21. All of these tests will be met with the proposed revenue increases.

While Table 21 indicates that the Board will meet the minimum requirements to issue additional revenue bonds beginning in 2012, it is not clear whether the Board will be able to meet the increased key performance indicators that the market is currently requiring. Without a strong service area economy, healthy debt service coverage, and strong liquidity, the Board may be required to pay a premium to issue additional debt.

Table 12
Sewerage Department
Historical and Projected Billed Volumes
and Average Number of Customers (a)

	Historical					Projected				
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Single Family Residential (b)										
Customers	93,897	104,312	96,611	87,079	93,901	95,779	97,695	99,649	101,642	103,675
Sales (1,000,000 gal.)	5,403	4,316	5,096	4,770	5,145	5,248	5,353	5,460	5,569	5,680
Sales Per Customer (1,000 gal.)	58	41	53	55	55	55	55	55	55	55
Multifamily Residential										
Customers	4,176	4,811	4,616	4,187	4,260	4,345	4,432	4,521	4,611	4,703
Sales (1,000,000 gal.)	1,094	766	747	703	710	724	738	753	768	784
Sales Per Customer (1,000 gal.)	262	159	162	168	167	167	167	167	167	167
Commercial										
Customers	9,292	13,623	10,513	9,514	9,574	9,766	9,961	10,160	10,363	10,570
Sales (1,000,000 gal.)	5,751	5,368	5,529	5,393	5,109	5,212	5,316	5,422	5,530	5,641
Sales Per Customer (1,000 gal.)	618	394	525	566	533	533	533	533	533	533
Industrial										
Customers	28	71	35	32	30	31	32	33	34	35
Sales (1,000,000 gal.)	57	67	94	287	87	88	91	94	97	100
Sales Per Customer (1,000 gal.)	2,023	937	2,675	8,889	2,847	2,848	2,847	2,845	2,847	2,846
Total										
Customers	107,393	122,817	111,775	100,812	107,765	109,921	112,120	114,363	116,650	118,983
Sales (1,000,000 gal.)	12,305	10,517	11,466	11,152	11,050	11,271	11,498	11,729	11,964	12,204

(a) Excludes customers receiving free service.

(b) Includes duplex.

Table 13

**Sewerage Department
Existing Sewer Rates
(Effective July 1, 2006)**

Monthly Sewerage Service Charge

<u>Meter Size</u>	<u>Total Monthly Charge</u>
Inches	\$
5/8	11.60
3/4	16.50
1	23.50
1-1/2	43.25
2	63.25
3	150.00
4	250.00
6	500.00
8	750.00
10	1,000.00
12	1,150.00
16	1,550.00

Monthly Quantity Charge

Per 1,000 Gallons	4.04
-------------------	------

Excessive Strength Charge per Pound

BOD	0.2619
TSS	0.1494

Table 14
Sewerage Department
Statement of Historical Revenue

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
	\$	\$	\$	\$	\$
Operating Revenue					
Sewerage Service Charges	56,842,180	62,603,447	67,236,089	61,154,472	65,442,893
Delinquent Fee	487,783	54,189	1,068,458	722,775	660,053
Total Operating Revenue	<u>57,329,963</u>	<u>62,657,636</u>	<u>68,304,547</u>	<u>61,877,246</u>	<u>66,102,946</u>
Nonoperating Revenue					
Interest Income	4,218,505	4,568,292	1,273,048	1,094,327	326,075
Plumbing Inspection and License Fees	87,630	295,122	271,170	295,302	242,224
Revenue Sharing	350,659	352,048	245,933	286,233	205,908
Other Income (a)	256,648	58,556	266,798	288,674	3,160,923
Total Nonoperating Revenue	<u>4,913,443</u>	<u>5,274,017</u>	<u>2,056,949</u>	<u>1,964,536</u>	<u>3,935,130</u>
Total Revenue	62,243,406	67,931,653	70,361,496	63,841,782	70,038,076

(a) Includes \$2,772,395 in operating and maintenance grants in 2009.

Table 15

**Sewerage Department
Historical Operation and Maintenance Expenses (a)**

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
	\$	\$	\$	\$	\$
Management and General Expenses					
Administrative	1,575,719	2,630,861	2,341,636	2,710,619	5,635,970
Management Services Director	72,370	54,986	19,451	22,630	23,641
Building and Grounds and Support Services	704,393	833,341	1,020,976	1,148,020	1,063,852
Personnel Administration	289,726	216,821	271,329	286,969	255,645
Finance Administration	588,646	525,451	546,981	617,079	701,627
Information Systems	1,782,016	1,626,143	1,485,788	1,409,909	1,479,827
Revenue and Customer Service	2,882,380	2,325,703	2,746,331	3,482,253	3,774,740
Purchasing	195,690	158,120	171,419	196,183	203,652
Total Management and General	<u>8,090,940</u>	<u>8,371,426</u>	<u>8,603,911</u>	<u>9,873,660</u>	<u>13,138,954</u>
Operations Expenses					
General Superintendent	167,604	119,672	143,189	172,537	136,268
Drainage Pumping and Central Control	335,715	210,012	333,390	335,881	253,466
Sewerage Pumping	2,404,140	2,018,413	2,962,907	3,530,071	2,991,929
Chief of Operations	73,583	52,294	56,706	45,578	70,309
Water Pumping and Power	1,949,523	3,023,657	342,093	1,931,804	351,013
Sewerage Treatment	8,982,281	8,091,279	9,989,978	10,001,042	12,384,026
Chief of Facilities Maintenance	86,558	44,510	48,584	55,990	87,943
Facilities Maintenance	2,739,218	2,342,667	2,607,184	3,035,342	2,915,271
Central Yard	1,835,205	1,467,353	1,876,880	1,879,518	1,591,341
Office of Chief of Networks	82,558	66,186	260,551	87,629	104,781
Networks	6,885,272	5,741,081	7,494,584	7,713,092	9,881,454
Engineering	1,014,334	766,945	863,407	1,021,766	962,712
Plumbing	461,851	400,924	441,827	499,620	477,792
Total Operations	<u>27,017,842</u>	<u>24,344,993</u>	<u>27,421,280</u>	<u>30,309,870</u>	<u>32,208,305</u>
Other Expenses					
Special Accounts	1,281,688	1,393,262	1,420,981	937,175	1,081,546
Payroll Related Expenses	1,856,416	1,818,997	4,815,145	4,823,058	6,301,921
Overhead Allocation	(3,371,886)	(2,890,799)	(3,492,313)	(3,576,413)	(3,328,966)
Total Other	<u>(233,782)</u>	<u>321,460</u>	<u>2,743,813</u>	<u>2,183,819</u>	<u>4,054,501</u>
Total Operation and Maintenance (b)	<u>34,875,000</u>	<u>33,037,879</u>	<u>38,769,004</u>	<u>42,367,349</u>	<u>49,401,760</u>

(a) Historical operation and maintenance expenses do not include the non-cash portion of provision for claims as recorded in the Comprehensive Annual Financial Report. Estimates of future Water Department claims payable are included in Table 22.

(b) Source: Expenditure Analysis by Group Report.

Table 16

**Sewerage Department
Capital Expenditures (a)
2009**

C.P. #	Project	Actual Expenditures
		\$
Sewerage Systems		
313	Extensions & Replacements - Sewer Force Mains EPA Consent Decree	3,390,996
317	Normal Extensions & Replacement of Gravity Mains	15,167,637
318	Rehabilitation Gravity Sewer System	2,748,534
326	Extensions & Replacements to Sewer Pumping Stations	176,192
339	Mains in Street Dept. Contracts	2,429,134
348	Normal Extensions & Replacements	1,654,637
367	Collection System Eval/Survey Uptown	3,439
368	Wetlands Assimilation Project	119,437
369	Hurricane Katrina Expenses for Sewer System	27,914
375	Sewerage Hurricane Recovery Bonds	19,088,354
381	Modification & Extension of WBSTP to 20/50 MGD	73,873
	Total Sewerage System	44,880,147
Power Projects and General Budget		
600	Sewerage Share of Power Projects	27,326
800	Sewerage Share of General Budget Items	4,437,719
	Total Sewerage Department	49,345,193

(a) Expenditures do not include proration of interest expense.

Table 17

**Sewerage Department
Projected Capital Improvements (a)**

C.P. #	Project	2010	2011	2012	2013	2014	Total
		\$	\$	\$	\$	\$	\$
Reinvestment in Assets							
317	Extensions and Replacements - Gravity Mains	46,273,000	44,900,259	49,473,425	70,238,861	18,260,968	229,146,513
318	Rehabilitation Gravity Sewer System	6,092,000	6,300,000	6,300,000	6,300,000	6,600,000	31,592,000
319	Extension and Replacements - Sanitary Sewer Mains Algiers	0	500,000	500,000	10,650,000	10,725,000	22,375,000
326	Extensions and Replacements to Pumping Stations	25,050,000	2,800,000	8,256,578	4,550,000	5,000,000	45,656,578
339	Mains in Streets Department Contracts	9,300,000	10,000,000	10,000,000	10,000,000	5,300,000	44,600,000
348	Extensions and Replacements - Treatment Plants	27,344,000	46,307,000	2,272,000	2,423,000	3,930,000	82,276,000
600	Sewer Share of Power Projects	40,000	1,783,250	735,000	2,847,500	1,470,000	6,875,750
800	Sewer Share of General Budget Items	6,281,000	5,814,748	3,746,592	5,604,367	4,667,207	26,113,914
	Total Routine Annual Improvements	120,380,000	118,405,257	81,283,595	112,613,728	55,953,175	488,635,755
Major Capital Improvements							
300	Engineering/Inspection of Developer Installations	0	10,000	10,000	10,000	10,000	40,000
313	Extensions and Replacements - Sewer Force Mains	1,800,000					1,800,000
358	EBSTP Expansion	10,000					10,000
368	Wetland Assimilation	10,150,000	200,000	200,000	200,000	200,000	10,950,000
375	Sewerage Hurricane Recovery Bonds	720,000	10,000,000	10,000,000	10,000,000	10,000,000	40,720,000
381	Modification and Expansion of WBSTP to 20/50 MGD	650,000	1,078,000	2,829,000	469,000	343,000	5,369,000
	Total Major Improvements	13,330,000	11,288,000	13,039,000	10,679,000	10,553,000	58,889,000
	Total Sewerage System Improvements	133,710,000	129,693,257	94,322,595	123,292,728	66,506,175	547,524,755

(a) The improvements for the 2010 are based on the budget approved December 16, 2009. The improvements for the 2011-2014 period are based on preliminary 2011-2020 Capital Program.

Table 18

**Sewerage Department
Projected Operating Revenue**

Year	(1)	(2)	(3)
	Revenue From Charges	Additional Revenue	Total Service Charge Revenue
	\$	\$	\$
2010	67,459,400	0	67,459,400
2011	68,795,600	3,439,800	72,235,400
2012	70,158,800	21,047,700	91,206,500
2013	71,547,700	40,066,600	111,614,300
2014	72,964,000	63,624,600	136,588,600

Historical and Projected Operating Revenue

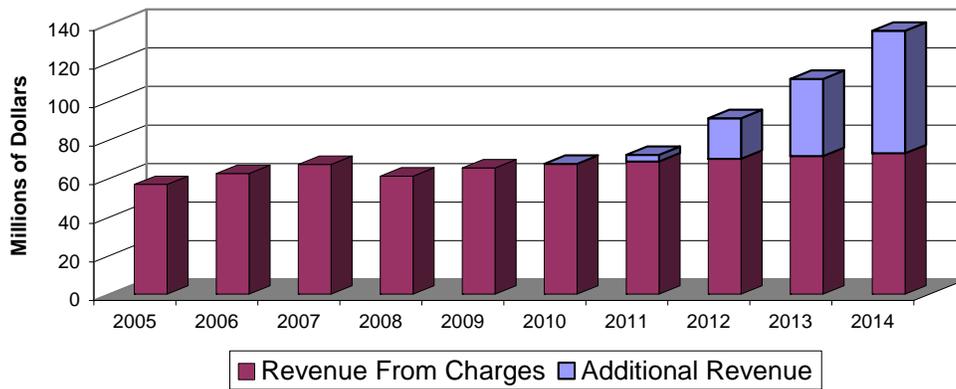


Table 19

**Sewerage Department
Projected Operation and Maintenance Expenses**

	2010 (a)	2011 (b)	2012	2013	2014
	\$	\$	\$	\$	\$
Management and General Expenses					
Administrative	2,856,400	2,873,200	2,959,400	3,048,200	3,139,600
Management Services Director	23,600	23,500	24,200	25,000	25,700
Building and Grounds and Support Services	1,064,200	1,138,500	1,172,700	1,207,800	1,244,100
Personnel Administration	279,800	252,900	260,500	268,400	276,400
Finance Administration	663,300	717,700	739,300	761,400	784,300
Information Systems	1,898,100	1,955,300	2,013,900	2,074,300	2,136,600
Revenue and Customer Service	3,757,100	4,251,400	4,378,900	4,510,300	4,645,600
Purchasing	245,400	248,300	255,800	263,400	271,300
Total Management and General	10,787,900	11,460,800	11,804,700	12,158,800	12,523,600
Operations Expenses					
General Superintendent	184,900	158,500	163,300	168,200	173,200
Drainage Pumping and Central Control	360,300	371,100	382,200	393,700	405,500
Sewerage Pumping	2,584,600	2,691,500	2,772,300	2,855,400	2,941,100
Chief of Operations	68,300	68,700	70,800	72,900	75,100
Water Pumping and Power	307,700	483,200	497,700	512,600	528,000
Sewerage Treatment	12,003,600	12,145,500	12,509,900	12,885,200	13,271,700
Chief of Facilities Maintenance	100,200	80,400	82,800	85,300	87,800
Facilities Maintenance	3,069,600	1,809,200	1,863,400	1,919,300	1,976,900
Central Yard	1,617,400	1,907,700	1,965,000	2,023,900	2,084,600
Office of Chief of Networks	104,100	93,300	96,100	99,000	102,000
Networks	9,481,800	8,685,000	8,945,600	9,214,000	9,490,400
Engineering	1,059,500	937,700	965,900	994,800	1,024,700
Plumbing	484,600	4,497,700	4,632,600	4,771,600	4,914,800
Total Operations	31,426,600	33,929,500	34,947,600	35,995,900	37,075,800
Other Expenses					
Special Accounts	1,195,800	1,423,100	1,465,800	1,509,700	1,555,000
Payroll Related Expenses	2,376,000	2,447,300	2,520,700	2,596,400	2,674,300
Overhead Allocation	(2,800,000)	(2,800,000)	(2,980,000)	(3,069,400)	(3,161,500)
Total Other	771,800	1,070,400	1,006,500	1,036,700	1,067,800
Total Operation and Maintenance	42,986,300	46,460,700	47,758,800	49,191,400	50,667,200

(a) Represents the adopted operating budget as of December 16, 2009.

(b) Represents the recommended 2011 operating budget.

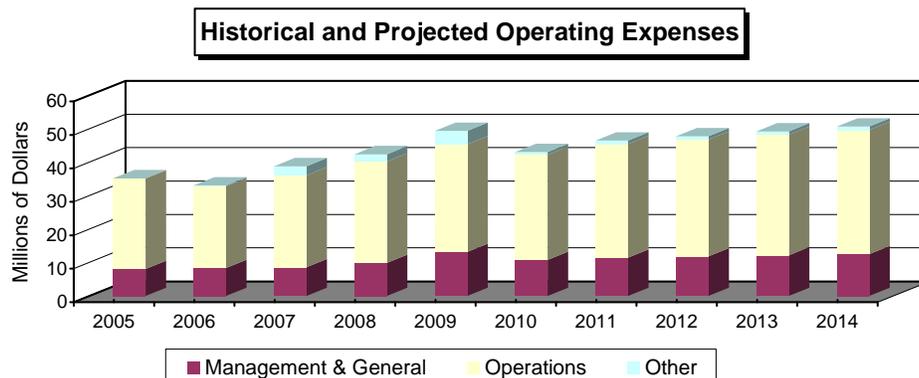


Table 20

**Sewerage Service Revenue Bond
Debt Service Requirements**

	2010	2011	2012	2013	2014
	\$	\$	\$	\$	\$
Existing Bonds					
Series 1997	2,515,400	2,519,000	2,522,400	2,528,600	2,537,700
Series 1998	2,004,900	2,007,400	2,007,500	2,009,100	2,007,700
Series 2000A	2,235,000	2,245,100	2,252,400	2,261,300	2,269,800
Series 2000B	1,699,000	1,703,900	1,709,900	1,717,500	1,725,600
Series 2001	2,614,800	2,612,800	2,609,600	2,603,700	2,597,600
Series 2002	4,550,800	4,570,800	4,582,200	4,596,500	4,613,400
Series 2003	408,100	408,100	405,500	402,700	401,600
Series 2004	2,448,100	2,457,200	2,461,900	2,463,500	2,453,700
Series 2009	2,078,300	2,021,100	2,023,500	2,026,200	2,029,400
Total Existing Debt Service	20,554,400	20,545,400	20,574,900	20,609,100	20,636,500
Projected Bonds					
	Amount of Issue				
	\$				
2010	0	0	0	0	0
2011	0	0	0	0	0
2012	65,000,000		1,180,600	4,722,200	4,722,200
2013	85,000,000			1,543,800	6,175,200
2014	101,800,000				1,848,900
Total Projected Debt Service	0	0	1,180,600	6,266,000	12,746,300
Total Debt Service	20,554,400	20,545,400	21,755,500	26,875,100	33,382,800

(a) Projected bonds are assumed to be issued in October of indicated year.

Table 21

**Sewerage Department
Analysis of Ability of Forecasted Revenue to
Finance Projected Revenue Requirements**

Line No.				2010	2011	2012	2013	2014
			\$	\$	\$	\$	\$	
Operating Fund								
1	Revenue from Charges			67,459,400	68,795,600	70,158,800	71,547,700	72,964,000
Additional Revenue Required								
		Revenue	Months					
	Year	Increase	Effective					
2	2010	0.0%	5.0	0	0	0	0	0
3	2011	20.0%	3.0		3,439,800	14,031,800	14,309,500	14,592,800
4	2012	20.0%	5.0			7,015,900	17,171,400	17,511,400
5	2013	20.0%	5.0				8,585,700	21,013,600
6	2014	20.0%	5.0					10,506,800
7	Total Additional Revenue			0	3,439,800	21,047,700	40,066,600	63,624,600
8	Total Service Charge Revenue			67,459,400	72,235,400	91,206,500	111,614,300	136,588,600
9	Interest Income			38,100	53,500	55,000	55,600	56,400
10	Three-Mill Revenue Sharing			150,000	150,000	150,000	150,000	150,000
11	Plumbing Insp. & License Fees			350,000	350,000	350,000	350,000	350,000
12	Other Miscellaneous Income			175,000	175,000	175,000	175,000	175,000
13	Operating & Maintenance Grants			6,597,200	6,399,300	6,267,400	6,069,400	5,937,500
14	Interest from Bond Reserve Fund			125,000	125,000	137,000	164,000	198,000
15	FEMA Federal Assistance Fees			1,680,300	1,680,300	0	0	0
16	Total Operating Revenue			76,575,000	81,168,500	98,340,900	118,578,300	143,455,500
17	Operation & Maintenance			(42,986,300)	(46,460,700)	(47,758,800)	(49,191,400)	(50,667,200)
18	Provision for Claims			(154,500)	(159,100)	(163,900)	(168,800)	(173,900)
19	Provision for Doubtful Accounts			(1,349,200)	(1,444,700)	(1,824,100)	(2,232,300)	(2,731,800)
20	Net Operating Revenue			32,085,000	33,104,000	48,594,100	66,985,800	89,882,600
Debt Service								
21	Existing			(20,554,400)	(20,545,400)	(20,574,900)	(20,609,100)	(20,636,500)
22	Projected			0	0	(1,180,600)	(6,266,000)	(12,746,300)
23	Total Debt Service			(20,554,400)	(20,545,400)	(21,755,500)	(26,875,100)	(33,382,800)
24	Transfer to Construction			(5,800,000)	(12,100,000)	(26,700,000)	(40,000,000)	(56,300,000)
25	Net Annual Balance			5,730,600	458,600	138,600	110,700	199,800
26	Beginning of Year Cash Balance			(260,700)	5,469,900	5,928,500	6,067,100	6,177,800
27	End of Year Balance			5,469,900	5,928,500	6,067,100	6,177,800	6,377,600
Capital Projects Funding								
28	Funds Available at Beginning of Year			65,638,400	167,600	136,343	180,948	195,720
29	Revenue Bond Proceeds			0	0	65,000,000	85,000,000	101,800,000
30	Operation Fund Transfers			5,800,000	12,100,000	26,700,000	40,000,000	56,300,000
31	Participation by Others			52,168,000	66,562,000	14,100,000	11,100,000	11,530,000
32	Interest Income			99,200	0	0	0	12,100
33	Total Funds Available			123,705,600	78,829,600	105,936,343	136,280,948	169,837,820
34	Obligated Contracts & Capital Jobs			(33,228,000)	0	0	0	0
35	Reinvestment in Assets			(120,380,000)	(118,405,257)	(81,283,595)	(112,613,728)	(55,953,175)
36	Major Capital Additions			(13,330,000)	(11,288,000)	(13,039,000)	(10,679,000)	(10,553,000)
37	Deferred Capital Improvements			43,400,000	51,000,000	(5,410,600)	(4,917,300)	(93,771,300)
38	Bond Issuance Expense			0	0	(1,300,000)	(1,700,000)	(2,036,000)
39	Revenue Bond Reserve Fund			0	0	(4,722,200)	(6,175,200)	(7,395,700)
40	Total Application of Funds			(123,538,000)	(78,693,257)	(105,755,395)	(136,085,228)	(169,709,175)
41	End of Year Balance			167,600	136,343	180,948	195,720	128,645
Debt Service Coverage								
42	Annual Test			156.1%	161.1%	223.4%	249.2%	269.2%
Additional Bonds Test								
43	Prior Two-Year Test			119%	111%	104%	111%	134%
44	Maximum Future Debt Service Test			204%	216%	339%	319%	354%
45	Coverage 5 Years after Sale			465%	582%	752%	963%	1385%

Drainage Department

2009 Drainage Department Operations

The Sewerage and Water Board has provided for the drainage needs of New Orleans since 1903. The City encompasses a saucer-shaped depression between the Mississippi River and Lake Pontchartrain on the East Bank and an area bordered by the river and adjoining wet lands on the West Bank. Prior to January 1, 1967, when the three-mill drainage tax became effective, the City of New Orleans was obligated to reimburse the Board for the cost of operating and maintaining drainage facilities.

In 1969, studies of projected capital improvement financing needs and revenue requirements indicated the need for additional sources of funds. Constitutional amendments, which would have provided the required funds from an additional three-mill ad valorem tax, were offered in 1970, and again in 1972. The State's electorate rejected both amendments. However, an additional six-mill ad valorem tax was approved April 16, 1977 and became effective January 1, 1978. Subsequently, a nine-mill property tax increase was approved May 16, 1981 and implemented January 1, 1982. The nine-mill tax is to be used for operation and maintenance, as well as funding of capital improvements.

Water entering the City in the form of rain or underground flow must be continually removed by pumping to minimize the danger of flooding, and pumping costs are significantly impacted by rainfall events. Rainfall in 2005 was 3.25 inches above average annual rainfall. Rainfall in 2006 and 2007 was 13.43 inches and 6.11 inches, respectively, below average annual rainfall. Rainfall in 2008 and 2009 was 2.27 inches and 5.11 inches, respectively, above average annual rainfall. A summary of rainfall for 2005 through 2009 is shown in Table 22 at the end of this section.

The Board is charged with operating, maintaining, repairing, and expanding the major drainage system located throughout the City.

Revenues

Revenues that were available to the Drainage Department for operation and maintenance expenses, and capital additions, consisted of proceeds from the three-mill, six-mill, and nine-mill ad valorem tax, interest on investments, and miscellaneous income. Other revenues available for Drainage Department capital improvements included interest income and other miscellaneous sources.

A summary of historical revenues received by source is shown in Table 23 for the period 2005 through 2009. The historical revenue shown in Table 23 was developed from detailed records provided by Board Staff.

Operation and Maintenance Expenses

The present system of accounts categorizes expenses under the functional classifications of management and general expenses, operations expenses, and other expenses, including such items as general insurance, outside services employed, social security, worker's compensation insurance, pension and medical insurance contributions, and miscellaneous expenditures.

Table 24 presents a summary of 2005 through 2009 operation and maintenance expenses of the Drainage Department. Expenditures for 2009 increased about 15.5 percent from 2008 expenditures. The increase in payroll related expenses in 2009 is primarily due to the accrual of OPEB to comply with GASB 45, salary increases in accordance with City of New Orleans Civil Service, and an increased number of employees. Operation and maintenance expenses have increased an average of 11.8 percent per year over the five-year period shown. Historical operation and maintenance expenses shown in Table 24 do not include the non-cash portion of Provision for Claims as recorded in the Comprehensive Annual Financial Report. Estimate of future Drainage Department claims are included on Line 9 in Table 31.

Capital Budget and Expenditures

Capital expenditures of the Drainage Department include the cost of replacements and improvements to pumping stations and canals, and the Drainage Department's pro rata share of power projects and general budget costs.

The Drainage Department capital improvement expenditures for 2009, exclusive of prorated interest expenses totaled \$22,643,177. The Drainage Department's capital improvement expenditures for the year are shown in Table 25.

Summary of Operations

The following tabulation shows a summary of receipts and expenditures of the Drainage Department during 2009:

Total Revenues	\$38,377,827
Operating and Maintenance Expense	32,917,502
Claims	-513,360
Debt Service Payments	<u>2,195,589</u>
Revenue Primarily Available for Capital Expenditures (a)	\$3,778,093

(a) Excludes depreciation

Proposed Capital Improvement Program

Table 26 presents a summary of the projected major capital improvement program for the period 2010 through 2014. Table 26 is based on the Board's 2010 adopted Capital Budget and the preliminary 2011-2020 proposed Capital Program. The five-year major capital improvement program costs are expected to total \$2,625,073,122. Major budget items include extension and enlargement of canals plus increased pumping capacity.

Participation by others consists of monies collected from developers and individuals for the extension of drainage service to new customers and from governmental agencies for replacement and expansion of system facilities. As shown in Table 27, future revenues from these sources are estimated by the Board in the 2010 through 2014 Capital Budget according to capital project and amount to \$1,982,936,000, most of which is provided by the COE.

The Sewerage and Water Board is currently receiving funds from the COE sponsored and congressionally authorized Southeast Louisiana Urban Flood Control (SELA) Project. This funding will allow additional construction of projects which were identified in the 1970's, but which have not been completed because of funding limitations. The identified projects are to be funded either 100 percent from federal funds or 75 percent from federal funds and 35% from local funds. In September of 2008, Congress appropriated additional funds to serve as up-front funding of the local share, with payback via a 30-year plan. Although it is assumed that payback funding of the local share will not begin during the 2010-2014 study period, it is recommended that the Board begins to identify a funding source for the payback portion. In the event that the Board has not identified a funding source prior to construction of a SELA project, then the entire project is subject to cancellation.

Ability to Finance Proposed Capital Expenditures

Drainage Department future operating and capital cost requirements are to be met by the revenue sources previously discussed. In 2009, the three-mill, six-mill, and nine-mill ad valorem taxes were the principal source of operating funds for the Drainage Department.

Revenues

Projected operating income of the drainage system is shown in Table 28. Projections include proceeds from the three-mill, the six-mill, and the nine-mill ad valorem tax and other revenue and are based on the 2010 and 2011 assessed taxable value.

Other sources of income include interest earned from the investment of funds held for future use; sales of three-mill, six-mill, and nine-mill ad valorem tax bonds; and participation by others. Projections of interest income, which vary according to the balance of funds held for future use, are shown in a later section of this report.

The projection of millage revenue for 2010 through 2014 is based on 6.40, 6.48, and 9.71 mills for three-mill, six-mill, and nine-mill taxes, respectively.

Operation and Maintenance Expenses

A summary of projected of operation and maintenance expenses are shown in Table 29. Expenses are categorized by system function as now reflected in the accounting system of the Sewerage and Water Board. Estimates of future expenses are based on anticipated future operating conditions and allowances for inflationary factors.

Projected expenses shown for 2010 reflect the Board's adopted 2010 operating budget. Projected expenses shown for 2011 reflect the Board's recommended 2011 operating budget. Based on historical trends and conversations with utility staff, all costs are projected to increase 3.0 percent per year from the Board's recommended budget for 2011.

Debt Service Requirements

Nine-mill bonds in the amount of \$10,000,000 were issued in 1998, and as of December 31, 2009, \$5,675,000 remained outstanding. Additional nine-mill bonds in the amount of \$20,000,000 were issued in 2002, and as of December 31, 2009, \$15,850,000 remained outstanding.

Collection of the three-mill ad valorem tax levy is authorized until the year 2017; six-mill tax until 2028; and nine-mill tax until 2032.

To adequately fund the proposed capital improvements, additional revenue bonds are indicated as shown in Table 30. It is assumed that the terms of new debt incurred will be 6.0 percent for a term of 30 years.

Adequacy of Revenues to Finance Proposed Capital Improvements

Total revenue requirements for the Drainage Department recognized for purposes of this report include operation and maintenance expense, allowance for claims, debt service costs on major capital improvements financed through the sale of bonds, and expenditures for capital improvements not financed from bond proceeds. Table 31 summarizes the financing of operation and maintenance expense, debt service costs on outstanding and proposed bonds, and the transfer of operating funds for major capital improvement financing. It also examines the financing of the major capital improvement program.

Operating Fund

Money deposited in the Drainage System Fund is obtained primarily from the three-mill, six-mill, and nine-mill ad valorem tax as shown on Lines 1 through 3 of Table 31.

Other revenue available for system operations, shown on Lines 4 and 5, consist of other income and interest income. Interest Income available to the operating fund, shown on Line 5, is estimated to be 0.5 percent of the average of the beginning and end of year Net Annual Balance, except as the average is affected by identifiable nonrecurring major receipts, transfers, or expenditures during the year. The Board has received funds from FEMA to assist with the expense associated with filing forms with FEMA. This reimbursement is shown on Line 6.

Operation and Maintenance expense, previously projected in Table 29, is shown on Line 8 of Table 31. Line 9 shows the estimated allowance for claims. Projected Net Operating Revenue from system operations is shown on Line 10.

Lines 11 through 13 present debt service requirements on currently outstanding and proposed revenue bonds. Additional debt financing as shown in Table 30 is assumed to fund proposed capital improvements. These bonds are assumed to be 30 year, 6.0 percent fixed interest rate bonds issued in October of each year, with equal annual payments of principal and interest.

Line 14 reflects the projected transfer of accumulated net earnings from system operations to assist in major capital financing. Typically, such accumulated net earnings may be used to help recover portions of the annual costs of system operations or to assist in major capital improvement financing.

Line 15 indicated the estimated Net Annual Balance from operations remaining at the end of each year. The \$7,829,300 net balance of operating funds available at the beginning of the year 2010, shown on Line 16, is comprised of the current cash assets.

The End of Year Balance is shown on Line 17. It is intended that, in all years of the period 2010 through 2014, the End of Year Balance should equal or exceed the assumed adequate emergency capital reserve of 45 days operation and maintenance expense. It is anticipated that the End of Year Balance will be equal to or greater than the targeted emergency capital reserve for each year of the study period.

Capital Projects Funding

Major capital improvement financing is examined in Lines 18 through 30 of Table 31. The amount of Funds on Hand, shown on Line 18, is \$76,840,300. This amount is based on audited data provided by the Board.

Bond issue amounts for a total of \$132,000,000 are projected and shown on Line 19 of Table 31. The amounts and year of issue are developed considering capital program needs, current policies, and other sources of major capital improvement financing.

Financing of the major capital improvement program anticipates the transfer of a total of \$25,000,000 of operating reserves as shown on Line 20. Other sources of funds available to

meet major capital improvement expenditures are Participation by Others and Interest Income. Interest earnings recognize an assumed 0.5 percent average annual interest rate. Lines 21 and 22 indicate the estimated annual funds from each of these sources. Line 23 of the table shows the projected major capital improvement funds available each year.

As of December 31, 2008, the Board had \$25,285,800 obligated for open contracts and capital jobs as shown on Line 24 of Table 31. Lines 25 and 26 show the projected Reinvestment of Assets and Major Capital Additions to be funded. The projected capital projects shown on Lines 25 and 26 exceed the amount of funding available shown on Line 23; therefore, either the existing millages need to be rolled forward to the maximum authorized amounts or \$436,300,000 in capital projects will need to be deferred until a funding source can be identified. This deferral is shown on Line 27.

Estimated issuance costs related to the proposed bond issue amounts are shown on Line 28. The net End of Year Balance is shown on Line 30.

As demonstrated in Table 31, it is anticipated that current revenue sources will not be adequate to readily finance both projected capital program requirements as currently scheduled and estimated future operation expenses of the Drainage Department during the 2010-2014 study period examined herein. It is recommended that the Board defer capital projects until an adequate funding source has been identified.

Table 22
Drainage Department
Rainfall

Year	Year to Date (inches)												Deviation from Average
	January	February	March	April	May	June	July	August	September	October	November	December	
2005	3.65	12.68	16.54	23.02	27.03	31.32	42.94	57.49	58.35	58.41	59.64	62.60	3.25
Average (a)	4.60	9.14	14.39	19.25	24.05	29.67	35.13	42.12	47.53	54.18	54.72	59.35	
2006	2.60	5.32	5.57	8.73	9.49	11.65	20.05	26.45	29.34	32.37	35.31	45.86	(13.43)
Average (a)	4.58	9.23	14.33	19.24	24.01	69.69	36.22	42.13	47.74	50.90	54.64	59.29	
2007	4.12	5.93	7.31	9.12	17.63	22.06	29.72	31.36	35.78	47.40	48.61	53.13	(6.11)
Average (a)	4.58	9.20	14.27	19.15	23.95	29.63	36.16	42.04	47.64	50.87	54.58	59.24	
2008	6.32	11.96	14.53	22.41	30.17	36.69	40.60	48.37	56.24	57.60	59.66	61.52	2.27
Average (a)	4.60	9.22	14.27	19.18	24.01	29.69	36.20	42.09	47.71	50.93	54.63	59.25	
2009	5.16	8.13	14.30	15.51	17.96	20.36	24.18	28.80	36.25	43.82	44.60	64.41	5.11
Average (a)	4.60	9.21	14.27	19.15	23.95	29.61	36.09	41.98	47.61	50.87	54.54	59.30	

(a) Average of Year 1894 to Date.

Table 23
Drainage Department
Statement of Historical Revenue

	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
	\$	\$	\$	\$	\$
Three-mill Ad Valorem Tax	12,990,040	9,682,028	11,388,731	11,294,822	10,302,545
Six-mill Ad Valorem Tax	13,152,643	9,803,052	11,525,043	11,406,361	10,410,524
Nine-mill Ad Valorem Tax	19,707,787	13,686,249	17,271,271	17,001,253	15,485,030
Two-mill Ad Valorem Tax	1,407	3,699	120	0	0
Plumbing License and Inspection Fees	0	0	0	0	0
Interest Earned	2,539,391	3,571,415	4,663,955	2,148,679	475,088
Other	1,013,058	948,743	1,378,453	1,224,732	1,704,640
Total Revenue	<u>49,404,326</u>	<u>37,695,186</u>	<u>46,227,574</u>	<u>43,075,847</u>	<u>38,377,827</u>
Total Less Interest	46,864,935	34,123,771	41,563,618	40,927,168	37,902,739

Table 24

**Drainage Department
Historical Operation and Maintenance Expenses (a)**

	2005	2006	2007	2008	2009
	\$	\$	\$	\$	\$
Management and General Expenses					
Administrative	(79,477)	1,540,850	2,026,248	1,442,470	1,641,001
Management Services Director	35,152	26,708	9,447	10,991	22,977
Building and Grounds and Support Services	1,970,916	1,401,622	1,536,920	2,222,454	3,773,499
Personnel Administration	140,723	105,314	131,787	139,385	248,085
Finance Administration	246,375	217,596	254,449	285,726	677,215
Information Systems	865,551	789,841	721,668	684,813	1,469,310
Purchasing	95,051	76,801	83,257	95,289	199,076
Total Management and General	3,274,291	4,158,732	4,763,776	4,881,129	8,031,163
Operations Expenses					
General Superintendent	81,407	58,127	69,548	83,804	119,297
Drainage Pumping and Central Control	6,322,322	5,137,257	5,994,057	6,810,440	6,525,528
Chief of Operations	35,742	25,400	27,543	22,138	62,634
Water Pumping and Power	5,830,473	8,948,644	7,797,775	8,722,654	4,628,952
Chief of Facilities Maintenance	42,042	21,619	23,597	27,195	79,517
Facilities Maintenance	1,479,832	1,295,357	1,438,726	1,621,548	2,296,478
Central Yard	893,468	713,516	915,088	915,986	1,554,592
Office of Chief of Network	40,100	32,148	126,553	42,563	50,894
Networks	2,100,297	1,640,000	2,272,004	2,332,643	3,750,657
Engineering	706,332	618,892	626,482	743,445	1,198,838
Total Operations	17,532,015	18,490,960	19,291,373	21,322,417	20,267,387
Other Expenses					
Special Accounts	705,482	824,875	831,999	593,650	954,917
Payroll Related Expenses	1,171,313	1,129,437	3,471,996	3,350,223	6,583,416
Overhead Allocation	(1,555,240)	(1,335,750)	(1,617,116)	(1,655,889)	(2,919,381)
Total Other	321,555	618,562	2,686,879	2,287,984	4,618,952
Total Operation and Maintenance (b)	21,127,861	23,268,254	26,742,028	28,491,530	32,917,502

(a) Historical operation and maintenance expenses do not include the non-cash portion of provision for claims as recorded in the Comprehensive Annual Financial Report. Estimates of future Water Department claims payable are included in Table 32.

(b) Source: Expenditure Analysis by Group Report.

Table 25

**Drainage Department
Capital Expenditures (a)
2009**

C.P. # Project	Actual Expenditures
	\$
Canals	
418 Normal Extensions & Replacements	30,027
439 Major Drainage Participation in DPW Projects	2,930,585
471 SELA Program Management	1,154,943
476 Hollygrove Canals (SELA-A)	86,256
486 Napoleon Canal Improvements 9 SELA-B)	106,836
496 General DeGaulle Canal (SELA-C)	6,272,038
497 Florida Ave. Canad - DPS#19 to Peoples Ave. (SELA-B)	159,892
498 Dwyer Intake Canal (St. Charles to Dwyer DPS) (SELA-A)	1,048,147
Total Drainage Canals	<u>11,788,724</u>
Pumping Stations	
511 Normal Extensions & Rep./Stations	2,111,291
554 Expansion of Dwyer DPS (SELA-A)	16,220
575 Drainage Hurricane Recovery Bonds	1,819,925
Total Drainage Pumping Stations	<u>3,947,436</u>
Power Projects and General Budget	
600 Drainage Share of Power Projects	3,244,671
800 Drainage Share of General Budget Items	3,662,346
Total Drainage Department	<u>22,643,177</u>

(a) Expenditures do not include proration of interest expense.

Table 26

**Drainage Department
Projected Capital Improvements (a)**

C.P.#	Project	2010	2011	2012	2013	2014	Total
		\$	\$	\$	\$	\$	\$
Reinvestment in Assets							
418	Normal Ext. & Replacements	3,291,000	1,055,000	650,000	3,450,000	350,000	8,796,000
511	Normal Ext. & Replacement - Stations	16,720,000	4,900,000	5,400,000	15,100,000	7,760,000	49,880,000
600	Drainage Share of Power Projects	23,320,000	5,857,000	20,310,000	8,485,000	7,095,000	65,067,000
800	Drainage Share of General Budget Items	4,633,000	4,993,998	1,280,092	441,367	2,402,207	13,750,664
	Total Routine Capital Improvements	47,964,000	16,805,998	27,640,092	27,476,367	17,607,207	137,493,664
Major Capital Improvements							
400	Eng. & Inspt. of Devlp. Installations	0	10,000	10,000	10,000	10,000	40,000
439	Mains, Over 36" in Street Dept. Contracts	4,300,000	4,300,000	4,300,000	4,300,000	4,300,000	21,500,000
453	Improvements to Metairie Relief Canal	0	450,000	6,100,000	100,000		6,650,000
466	Louisiana Ave. Canal	0		105,825,000	22,975,000	2,900,000	131,700,000
471	SELA Program Management	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	7,500,000
472	Tchoupitoulas Corridor	0			250,000	12,000,000	12,250,000
474	Melpomene Street Canal	150,000	50,000				200,000
476	Hollygrove Canals	150,000	50,000				200,000
478	S. Claib - Lowerline to Monticello St.	59,300,000	116,550,000	800,000	650,000	600,000	177,900,000
483	Airline & Monticello Canal Improvements	0		475,000	8,400,000		8,875,000
486	Napoleon Canal Improvements	127,250,000	131,510,000	1,000,000	600,000	500,000	260,860,000
492	Donner Canal Improvements	0		1,750,000	25,275,000	50,975,000	78,000,000
496	De Gaulle Canal	20,450,000	250,000	39,000,000	50,000,000	25,500,000	135,200,000
497	Florida Ave. Canal, DPS #19 to Peoples	51,200,000	93,250,000		3,000,000	128,750,000	276,200,000
498	Dwyer Canal - Lamb to Jourdan	750,000	750,000	250,000			1,750,000
499	Jefferson Ave. Canal	72,500,000	105,065,000	22,185,000	500,000	250,000	200,500,000
512	Expansion of DPS #15	750,000	1,500,000		15,000,000		17,250,000
535	DPS #6	1,650,000	400,000				2,050,000
554	Expansion of Dwyer DPS	75,000	200,000				275,000
557	Flood Gate - DPS #16 Discharge Tunnel	0			1,000,000		1,000,000
573	DPS #13 Improvements	500,000	500,000	32,325,000	1,725,000		35,050,000
576	COE Storm Proofing Projects	142,200,000	79,871,309	77,848,898	9,509,251		309,429,458
578	Permanent Pump Stations at the Laek Elaine DPS Repairs	3,200,000	800,000,000				803,200,000
	Total Major Capital Improvements	485,925,000	1,336,206,309	293,368,898	144,794,251	227,285,000	2,487,579,458
	Total Drainage Department Improvements	533,889,000	1,353,012,307	321,008,990	172,270,618	244,892,207	2,625,073,122

(a) The improvements for the 2010 are based on the budget approved December 16, 2009. The improvements for the 2011-2014 period are based on preliminary 2011-2020 Capital Program.

Table 27

**Drainage Department
Projected Participation by Others (a)**

C.P.#	Project	2010	2011	2012	2013	2014	Total
		\$	\$	\$	\$	\$	\$
418	Normal Extensions& Replacements	486,000	1,055,000	300,000	300,000	350,000	2,491,000
453	Improvements to Metairie Relief Canal	0	108,000	1,464,000	24,000		1,596,000
466	Louisiana Ave. Canal	0		105,525,000			105,525,000
472	Tchoupitoulas Corridor	0				1,850,000	1,850,000
478	S. Claib - Lowerline to Monticello St.	36,400,000	74,133,000				110,533,000
483	Airline & Monticello Canal Improvements	0		114,000	2,016,000		2,130,000
486	Napoleon Canal Improvements	78,000,000	83,207,000				161,207,000
492	Donner Canal Improvements	0			25,275,000	30,950,000	56,225,000
496	De Gaulle Canal	15,000,000		39,000,000	45,500,000		99,500,000
497	Florida Ave. Canal, DPS #19 to Peoples	40,770,000	52,650,000			81,250,000	174,670,000
499	Jefferson Ave. Canal	44,200,000	76,765,000				120,965,000
511	Normal Ext. & Replacement - Stations		750,000				750,000
535	DPS #6	396,000	128,000				524,000
554	Expansion of Dwyer DPS	75,000					75,000
557	Flood Gate - DPS #16 Discharge Tunnel	0			1,000,000		1,000,000
573	DPS #13 Improvements	0		20,150,000	325,000		20,475,000
576	COE Storm Proofing Projects	142,200,000	77,875,000	64,604,000	7,863,000		292,542,000
578	Permanent Pump Stations at the Laek Elaine DPS Repairs	3,200,000	800,000,000				803,200,000
600	Drainage Share of Power Projects	0	4,627,000	18,500,000			23,127,000
800	Drainage Share of General Budget Items	0	4,221,000			330,000	4,551,000
	Total	360,727,000	1,175,519,000	249,657,000	82,303,000	114,730,000	1,982,936,000

(a) The improvements for the 2010 are based on the budget approved December 16, 2009. The improvements for the 2011-2014 period are based on preliminary 2011-2020 Capital Program.

Table 28

**Drainage Department
Projected Operating Revenue**

Year	Ad Valorem Tax Revenue				Total
	Three-Mill	Six-Mill	Nine-Mill	Other	
	\$	\$	\$	\$	
2010	11,998,200	12,139,600	18,006,700	144,000	42,288,500
2011	12,415,800	12,562,200	18,633,500	144,000	43,755,500
2012	12,415,800	12,562,200	18,633,500	144,000	43,755,500
2013	12,415,800	12,562,200	18,633,500	144,000	43,755,500
2014	12,415,800	12,562,200	18,633,500	144,000	43,755,500

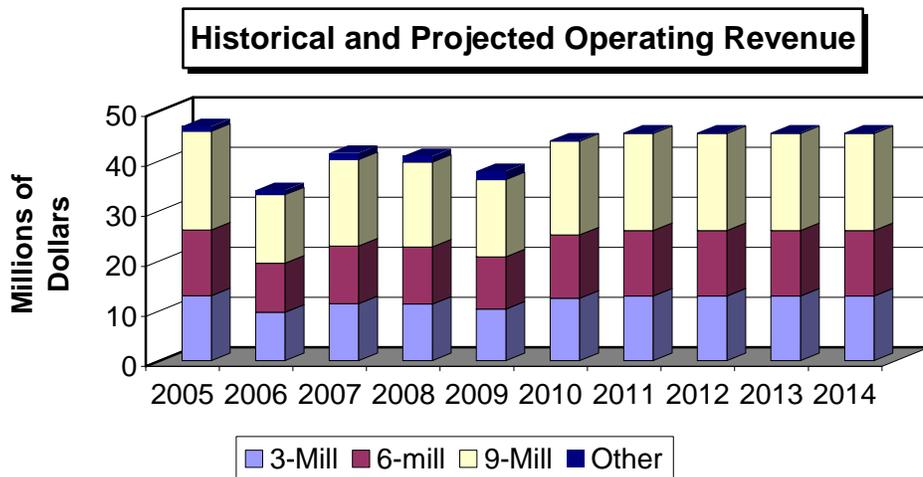


Table 29

**Drainage Department
Projected Operation and Maintenance Expenses**

	2010 (a)	2011 (b)	2012	2013	2014
	\$	\$	\$	\$	\$
Management and General Expenses					
Administrative	2,541,400	2,617,600	2,696,100	2,777,000	2,860,300
Management Services Director	23,600	24,300	25,000	25,800	26,500
Building and Grounds and Support Services	3,818,800	3,933,400	4,051,400	4,172,900	4,298,100
Personnel Administration	279,900	288,300	296,900	305,800	315,000
Finance Administration	663,400	683,400	703,900	725,000	746,700
Information Systems	1,936,500	1,994,600	2,054,400	2,116,000	2,179,500
Purchasing	245,500	252,900	260,500	268,300	276,300
Total Management and General	9,509,100	9,794,500	10,088,200	10,390,800	10,702,400
Operations Expenses					
General Superintendent	185,000	190,500	196,200	202,100	208,200
Drainage Pumping and Central Control	6,880,800	7,087,200	7,299,800	7,518,800	7,744,400
Chief of Operations	68,300	70,300	72,500	74,600	76,900
Water Pumping and Power	5,748,300	5,920,800	6,098,400	6,281,300	6,469,800
Chief of Facilities Maintenance	100,200	103,200	106,300	109,500	112,800
Facilities Maintenance	2,757,800	2,840,500	2,925,700	3,013,500	3,103,900
Central Yard	1,591,600	1,639,400	1,688,600	1,739,200	1,791,400
Office of Chief of Network	50,600	52,100	53,700	55,300	56,900
Networks	2,266,500	2,334,500	2,404,500	2,476,700	2,551,000
Engineering	1,516,400	1,561,900	1,608,800	1,657,000	1,706,700
Total Operations	21,165,500	21,800,400	22,454,500	23,128,000	23,822,000
Other Expenses					
Special Accounts	1,171,900	1,207,100	1,243,300	1,280,600	1,319,000
Payroll Related Expenses	2,376,800	2,448,100	2,521,500	2,597,100	2,675,100
Overhead Allocation	(2,800,000)	(2,884,000)	(2,970,500)	(3,059,600)	(3,151,400)
Total Other	748,700	771,200	794,300	818,100	842,700
Total Operation and Maintenance	31,423,300	32,366,100	33,337,000	34,336,900	35,367,100

(a) Represents the adopted operating budget as of December 16, 2009.

(b) Represents the recommended 2011 operating budget.



Table 30

**Drainage Department
Debt Service Requirements**

	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>
	\$	\$	\$	\$	\$
Nine-Mill Tax Bonds					
Series 1998	792,900	794,600	794,700	793,400	795,000
Series 2002	<u>1,391,000</u>	<u>1,403,100</u>	<u>1,412,300</u>	<u>1,423,400</u>	<u>1,425,100</u>
Total Nine-Mill Debt Service	2,183,900	2,197,700	2,207,000	2,216,800	2,220,100
Projected Bonds					
	Amount of Issue				
	<u>\$</u>				
2010	0	0	0	0	0
2011	33,000,000	599,400	2,397,400	2,397,400	2,397,400
2012	33,000,000		599,400	2,397,400	2,397,400
2013	33,000,000			599,400	2,397,400
2014	33,000,000				599,400
Total Projected Debt Service	<u>0</u>	<u>599,400</u>	<u>2,996,800</u>	<u>5,394,200</u>	<u>7,791,600</u>
Total Debt Service	2,183,900	2,797,100	5,203,800	7,611,000	10,011,700

(a) Projected bonds are assumed to be issued in October of indicated year.

Table 31

**Drainage Department
Analysis of Ability of Forecasted Revenue to
Finance Projected Revenue Requirements**

Line No		2010 \$	2011 \$	2012 \$	2013 \$	2014 \$
Operating Fund						
1	Three-Mill Ad Valorem Tax Revenue (6.40 Mills)	11,998,200	12,415,800	12,415,800	12,415,800	12,415,800
2	Six-Mill Ad Valorem Tax Revenue (6.48 Mills)	12,139,600	12,562,200	12,562,200	12,562,200	12,562,200
3	Nine-Mill Ad Valorem Tax Revenue (9.71 Mills)	18,006,700	18,633,500	18,633,500	18,633,500	18,633,500
4	Other Miscellaneous Income	144,000	144,000	144,000	144,000	144,000
5	Interest Income	57,300	75,900	84,900	75,900	49,100
6	FEMA Federal Assistance Fees	172,600	172,600	0	0	0
7	Total Operating Revenue	42,922,400	44,327,000	44,050,400	43,936,400	43,841,600
8	Operation & Maintenance	(31,423,300)	(32,366,100)	(33,337,000)	(34,336,900)	(35,367,100)
9	Provision for Claims	(515,000)	(530,500)	(546,400)	(562,800)	(579,600)
10	Net Operating Revenue	10,984,100	11,430,400	10,167,000	9,036,700	7,894,900
Debt Service						
11	Existing	(2,183,900)	(2,197,700)	(2,207,000)	(2,216,800)	(2,220,100)
12	Projected	0	(599,400)	(2,996,800)	(5,394,200)	(7,791,600)
13	Total Debt Service	(2,183,900)	(2,797,100)	(5,203,800)	(7,611,000)	(10,011,700)
14	Transfer to Construction	(5,000,000)	(5,000,000)	(5,000,000)	(5,000,000)	(5,000,000)
15	Net Annual Balance	3,800,200	3,633,300	(36,800)	(3,574,300)	(7,116,800)
16	Beginning of Year Cash Balance	7,829,300	11,629,500	15,262,800	15,226,000	11,651,700
17	End of Year Balance	11,629,500	15,262,800	15,226,000	11,651,700	4,534,900
Capital Projects Funding						
18	Funds Available at Beginning of Year	76,840,300	168,900	115,593	203,603	175,985
19	Revenue Bond Proceeds	0	33,000,000	33,000,000	33,000,000	33,000,000
20	Operation Fund Transfers	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
21	Participation by Others	360,727,000	1,175,519,000	249,657,000	82,303,000	114,730,000
22	Interest Income	76,400	0	0	0	0
23	Total Funds Available	442,643,700	1,213,687,900	287,772,593	120,506,603	152,905,985
24	Obligated Contracts & Capital Jobs	(25,285,800)	0	0	0	0
25	Reinvestment in Assets	(47,964,000)	(16,805,998)	(27,640,092)	(27,476,367)	(17,607,207)
26	Major Capital Additions	(485,925,000)	(1,336,206,309)	(293,368,898)	(144,794,251)	(227,285,000)
27	Deferred Capital Improvements	116,700,000	140,100,000	34,100,000	52,600,000	92,800,000
28	Bond Issuance Expense	0	(660,000)	(660,000)	(660,000)	(660,000)
29	Total Application of Funds	(442,474,800)	(1,213,572,307)	(287,568,990)	(120,330,618)	(152,752,207)
30	End of Year Balance	168,900	115,593	203,603	175,985	153,778

Assessment of East Bank Sewage Stations				
Date	Facility Name	Route	Location	Status
03/09/2010	Chickasaw	A	Chickasaw at Metropolitan	One pump out of service; two pumps total
03/09/2010	K-Mart	A	Desire at Gentilly	Both pumps out of service, portable pump in use
03/09/2010	Station 23	A	4500 Mithra	Both pumps out of service, portable pump in use
03/09/2010	Station 17	A	4975 Spain at Selma	One pump out of service, two pumps total
03/09/2010	Station 22	A	5705 Perlita	Both pumps out of service, portable pump in use
03/09/2010	Station 19	A	3730 Jumonville at Milton	One pump out of service, two pumps total
03/09/2010	Station 21	A	6670 Memphis At Filmore	One pump out of service, two pumps total
03/09/2010	Station 18	A	Vicksburg at Florida	Both pumps in service
03/09/2010	City Park	A	5701 Marconi Drive	One pump out of service, two pumps total
03/09/2010	Station 20	A	328 37th Street	One pump out of service, two pumps total with additional portable pump in use
03/09/2010	Station 4	A	5899 Fleur de Leis	Both pumps in service
03/09/2010	Lakewood South	A	Country Club Drive near Marconi	Both pumps out of service, portable pump in use, repairs to station in progress
03/09/2010	Station 6	A	242 S Solomon at Palmyra	Both pumps out of service, portable pump in use
03/09/2010	Station 3	A	8720 Olive near Eagle	Both pumps out of service, portable pump in use
03/09/2010	Station 1	A	7336 Cohn	Both pumps out of service, portable pump in use
03/09/2010	Station 14	A	4000 Clara	Four pumps out of service, five total pumps
03/09/2010	Station 5	A	3912 Erato St	One pump out of service, two pumps total
03/09/2010	Station 15	A	2431 Palmyra near Rocheblave	Three pumps out of service, four total pumps.
03/09/2010	Station 8	A	Corner of N Broad and Toulouse	Both pumps out of service, portable pump in use
03/09/2010	Station 9	A	2540 Annette at Law	Both pumps in service
03/08/2010	Station 16	B	3751 N Miro at Pauline	One pump out of service, two pumps total

Assessment of East Bank Sewage Stations				
Date	Facility Name	Route	Location	Status
03/08/2010	Station 24	B	5027 N Tonti at Forstall	One pump out of service, two pumps total.
03/08/2010	Station 25	B	2245 Charbonnet	Both pumps in service
03/08/2010	Station 26	B	2244 St Maurice at Tonti	Portable pump, both pumps out of service.
03/08/2010	Southern Scrap	B	Southern Scrap Rd Harbor Rd	Portable pump, both pumps out of service.
03/08/2010	France and Florida	B	2701 France Road	Portable pump, both pumps out of service.
03/08/2010	MECO-Mechanical Equipment Company	B	3855 France Road	Portable pump, both pumps out of service.
03/08/2010	Victoria at Gentilly	B	3620 Victoria	Portable pump, both pumps out of service.
03/08/2010	American Marine	B	4045 Jourdan Rd	Portable pump, both pumps out of service.
03/08/2010	Plum Orchard	B	7300 Chef Menteur Highway	Portable pump, both pumps out of service.
03/08/2010	Dodt	B	8118 Chef Menteur Highway	Portable pump, both pumps out of service.
03/08/2010	Castle Manor	B	4950 Gwain at Dwyer	Both pumps are in service.
03/08/2010	Cerise	B	5001 Cerise	Both pumps in service
03/08/2010	McCoy	B	McCoy at Gentilly	In service
03/08/2010	Amid	B	6800 Almonaster Road	Portable pump; both pumps out of service.
03/08/2010	Lakeland Terrace	B	5057 Warren Drive	Both pumps in service
03/08/2010	Lake Forest	B	10451 Lake Forest Blvd	Portable pump, both pumps out of service.
03/08/2010	Wright Road	B	Wright Road at Lake Forest	Portable pump, both pumps out of service.
03/08/2010	Bullard	B	5501 Bullard Road	Portable pump, both pumps out of service.
03/08/2010	Wilson	B	7709 Wilson Avenue	Both pumps in service
03/08/2010	America	B	6789 Dwyer Road at Westlake	Both pumps in service
03/08/2010	Pines Village	B	6155 Dwyer Road at Foch	In service
03/08/2010	Crowder	B	5500 Crowder Road	Portable pump, both pumps out of service.

Assessment of East Bank Sewage Stations				
Date	Facility Name	Route	Location	Status
03/08/2010	Station B	B	4725 St Claude Avenue	One pump out of service, two pumps total
03/08/2010	Station A Municipal Auditorium	B	1321 Orleans Avenue	6 pumps total, 3 out of service
03/17/2010	Venetian Isles # 2	C	20711 Old Spanish Trail	Portable pump, both pumps out of service
03/17/2010	Industrial Parkway	C	4200 Industrial Parkway	Portable pump, both pumps out of service
03/17/2010	Folgers	C	14601 Gentilly Boulevard	Portable pump, both pumps out of service
03/17/2010	Michoud	C	4400 Michoud Boulevard	New Station, both pumps in service
03/17/2010	Blvd " X"	C	4433 Chef Menteur Highway	2 pumps out of service, three pumps total
03/17/2010	Alcee Fortier	C	Alcee Fortier Blvd at the Levee	Both pumps in service
03/17/2010	Village De Lest	C	11324 Dwyer	Portable pump, both pumps out of service.
03/17/2010	Willow Brook	C	Willowbrook off of Michoud	Both pumps in service
03/17/2010	Oak Island	C	14201 Michoud Blvd	One pump out of service, two pumps total
03/17/2010	Eastover	C	6051 Eastover Drive	One pump out of service, two pumps total
03/17/2010	Paris Road	C	Dwyer West of Paris Road	Both pumps in service
03/17/2010	Shorewood	C	14441 Morrison Road	Portable pump, both pumps out of service
03/17/2010	Briarwood Station	C	13701 Morrison Road	Portable pump, both pumps out of service
03/17/2010	Liggett	C	12501 Morrison Road	Portable pump, both pumps out of service
03/17/2010	Berg	C	11501 Morrison Road	Portable pump, both pumps out of service
03/17/2010	Weber	C	10141 Morrison Road	Portable pump, both pumps out of service
03/17/2010	Burke	C	9001 Morrison Road	Portable pump, both pumps out of service
03/17/2010	Lawrence	C	7900 Morrison Road	Portable pump, both pumps out of service

Assessment of East Bank Sewage Stations				
Date	Facility Name	Route	Location	Status
03/17/2010	Lamb	C	6450 Morrison Road	Portable pump in use, new station under construction
03/17/2010	Gentilly Oaks	C	5000 Papania Road at Vienna	Both pumps in service

Assessment of West Bank Sewage Stations			
Date	Facility Name	Location	Status
03/15/2010	Horace	3301 Lawrence Street	Both pumps in service
03/15/2010	Holiday	2799 Holiday Drive	Both pumps in service
03/15/2010	Huntlee	3201 Huntlee	Both pumps in service
03/15/2010	Eton	3440 Eton Street	Both pumps in service
03/15/2010	Aurora	6000 Carlisle Court	Both pumps in service
03/15/2010	Blair	3800 Blair Street	Both pumps in service
03/15/2010	Lower Coast	3700 Old Woodland	Both pumps in service
03/15/2010	English Turn I	2201 Stanton Road	Both pumps in service
03/15/2010	English Turn II	123 ½ Oak Alley	Both pumps in service
03/15/2010	English Turn III		Both pumps in service
03/15/2010	Woodland	4150 Woodland Drive	Both pumps in service
03/15/2010	Park Timbers	4100 Lennox Blvd	One pump out of service; two pumps total
03/15/2010	Tall Timbers	3800 Tall Pines Drive	Both pumps in service
03/15/2010	Forest Isle	5631 West Forest Park Drive	Both pumps in service
03/15/2010	Garden Oaks	3201 Memorial Park Drive	Both pumps in service
03/15/2010	Memorial	2501 Memorial Park Drive	Portable pump; both pumps out of service
03/15/2010	Bridge Plaza	2914 Vespasian Street	Portable pump; both pumps out of service

Assessment of East Bank Drainage Stations			
Date	Facility Name	Location	Status
03/01/2010	Station 6	345 Orpheum	13 pumps total, 2 out of service
03/01/2010	Station 4	5700 Warrington Drive	6 pumps total, one out of service
03/17/2010	Station 12	Robert E Lee and Ponchartrain Boulevard	1 pumps total, in service
03/02/2010	I-10 Pump Station	I-10 Service Road	4 pumps total, all in service
03/02/2010	St. Charles Station 16	Danube Road at Wales	4 pumps total, all in service
03/02/2010	Citrus Station 10		4 pumps total, all in service
03/02/2010	Station 14	Oneida at Haynes	4 pumps total, all in service
03/02/2010	Maxent	Alcee Fortier	2 pumps total, all in service
	Industrial Boulevard	Industrial Boulevard	
03/02/2010	Grant Street	Grant Street at Gentilly Boulevard	5 pumps total, all in service
03/02/2010	Amid Station 20	6300 Intercoastal Waterway at Terminal Road	2 pumps total, all in service
03/02/2010	Elaine		Both pumps out of service, repair in progress
03/01/2010	Station 5	Florida Avenue	5 pumps total, one out of service
03/01/2010	Station 3	2251 N Broad Street	7 pumps total, all in service
03/01/2010	Station 7	5741 Orleans Avenue at Marconi Drive	5 pumps total, all in service
03/01/2010	Station 2	444 N Broad Street	6 pumps total, all in service
03/01/2010	Station 1	2501 S Broad Street	9 pumps total, one out of service
03/01/2010	Canal Boulevard	5500 Canal Boulevard	3 pumps total, all in service
03/02/2010	Oleander	9400 Oleander	3 pumps total, all in service
03/02/2010	Pritchard	2901 Monticello	2 pumps total, all in service
03/01/2010	Station 19	4500 Florida Avenue	5 pumps total, all in service
	Station 17	2801 Florida Avenue	

Assessment of West Bank Drainage Stations			
Date	Facility Name	Location	Status
03/11/2010	Station 11	5301 East Sixth Street	5 pumps total, 3 out of service
03/11/2010	Station 13	4201 Tall Spruce Drive	7 pumps total, all in service