

REPORT ON OPERATIONS FOR 2013

BLACK & VEATCH PROJECT NO. 183103

PREPARED FOR

Sewerage and Water Board of New Orleans

17 NOVEMBER 2014

MISSION STATEMENT

Our mission is to provide safe drinking water to everyone in New Orleans;
To remove waste water for safe return to the environment;
To drain away storm water;
To provide water for fire protection;
To provide information about products and services;
And to do all of this continuously at a reasonable cost to the community

VISION STATEMENT

Our vision is to have the trust and confidence of our customers
for reliable and sustainable water services

OUR VALUES

We will focus on our customer and stakeholders
We will teach each customer and employee with dignity and respect
We will value each employee, their work, and their commitment
We will be trustful, trustworthy and transparent
We will be knowledgeable and diligent in the performance of our duties
We will use financial resources prudently
We will be accountable for our performance
We will continuously improve our performance
We will ensure that the systems that provide our services remain viable for future generations
We will remain on the job and will be prepared for storms and other risks

November 17, 2014

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 2013. The report presents the findings of our analysis to confirm compliance with the 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 2014 through 2018. These projections are based upon historical trends and the Board's operating and capital budgets. Projected costs include an allowance for anticipated future price inflation.

Bound separately is the Executive Summary for the Report on Operations for 2013.

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



Les K. Lampe
Vice President



Anna White
Project Manager

Enclosure

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Introduction

PURPOSE AND SCOPE

This report covers operations of the Sewerage and Water Board of New Orleans for the year ended December 31, 2013. The report presents findings of studies made in compliance with covenants of the 1997 and Supplemental Sewerage Revenue Bond Resolutions and the 1998 and Supplemental Water 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 1997 and Supplemental Sewerage Revenue Bond Resolutions or the 1998 and Supplemental Water Revenue Bond Resolution.

“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, 2013, \$27,655,000 remained outstanding on the 1998 and 2002 issues, as shown in the table below.

Outstanding Water Utility Debt Issues

DESCRIPTION	ISSUE AMOUNT	AMOUNT OUTSTANDING ^a
Series 1998	\$16,000,000	\$5,570,000
Series 2002	\$34,000,000	\$22,085,000
Total	\$50,000,000	\$27,655,000

^a As of December 31, 2013

In February 2010, the Department of Health and Hospitals (DHH) committed to loan to the Board up to \$3,400,000 with a \$1,000,000 principal forgiveness to fund the installation of a new sodium hypochlorite storage and feed facility as well as the installation of a new sludge line into the Mississippi River. A total of \$3,185,740 has been drawn from the loan fund and as of December 31, 2013, \$2,185,875 has been repaid, \$1,000,000 has been forgiven, and the remaining amount outstanding is \$3,865.

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.

In November 2011, the Board and Louisiana Department of Environmental Quality (LADEQ) entered into a loan agreement whereby \$9,000,000 of proceeds from the Revolving Loan Fund were borrowed through the issuance of Sewerage Service Subordinate Revenue Bonds, Series 2011. Debt service payments assume a 20-year term with a 0.45 percent interest rate plus an administrative fee of 0.5 percent. The Board began drawing down the funds during the first quarter of 2012 and as of December 31, 2013, had received a total of \$8,831,402 in disbursements. The Board began making payments in November of 2013. Total outstanding principal on revenue bonds totaled \$143,985,000 as of December 31, 2013 and is summarized in the table below.

Outstanding Sewerage Utility Debt Issues

DESCRIPTION	ISSUE AMOUNT	AMOUNT OUTSTANDING ^a
Series 1997	\$30,000,000	\$8,935,000
Series 1998	\$25,000,000	\$8,705,000
Series 2000A	\$26,800,000	\$13,040,000
Series 2000B	\$20,300,000	\$9,875,000
Series 2001	\$37,720,000	\$16,685,000
Series 2002	\$57,000,000	\$33,160,000
Series 2003	\$5,500,000	\$3,270,000
Series 2004	\$33,000,000	\$21,400,000
Series 2009	\$23,375,000	\$20,495,000
Series 2011 ^b	\$9,000,000	\$8,420,000
Total	\$267,695,000	\$143,985,000

^a As of December 31, 2013

^b The LADEQ has committed \$9,000,000, the actual amount outstanding will be based on the project costs incurred.

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 2007. In 2007, it was reduced to 4.544 and in 2010 it was increased to the current rate of 4.66 mills.

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 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 2007. In 2007, it was reduced to 4.60 and in 2010 it was increased to the current rate of 4.71 mills. 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, 2013, the outstanding balance was \$3,445,000. 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, 2013 to \$16,205,000 as shown in the table on the following page.

Outstanding Drainage Utility Debt Issues

DESCRIPTION	ISSUE AMOUNT	AMOUNT OUTSTANDING ^a
Series 1998	\$10,000,000	\$3,445,000
Series 2002	\$20,000,000	\$12,760,000
Total	\$30,000,000	\$16,205,000

^a As of December 31, 2013

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, and remained at this level through 2007. In 2007, it was reduced to 6.89 and in 2010 it was increased to the current rate of 7.06 mills.

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

During January 2006, the Board entered into a long-term agreement with the Federal Emergency Management Agency (FEMA) under the Community Disaster Loan Act of 2005. The Board has drawn down \$61,956,747 of the funds available. In December 2010, the Board was granted a partial forgiveness in the amount of \$36,790,000 of principal and \$4,648,410 of accrued interest, leaving a balance of \$25,166,747 in principal. In September of 2013, the Board was granted full forgiveness of the remaining balance of \$25,166,747.

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. The Board has 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 began in July 2012 and continue through July 2026. As of December 31, 2013, the amount outstanding was \$69,617,529.

The Board is currently receiving funds from the U.S. Army Corps of Engineers (COE) sponsored and congressionally authorized Southeast Louisiana Urban Flood Control (SELA) Project. This funding will allow additional construction 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 65 percent from federal funds and 35 percent from local funds. The payback period for the local share is 30 years and is anticipated to begin in 2016.

The Board provides water and sewer for public 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 2013, the Board provided 745,453,200 gallons of water for public services to agencies of the

City of New Orleans. The value of this water, at current rates, is \$2,648,570. The value of the sewerage charges is \$3,432,896.

The three revenue-generating public agencies - the New Orleans Museum of Art, City Park, and Audubon Park – continued to receive water for public services under “caps”, or maximum annual limits, established by the Legislature in 1982. The Museum of Art used 162,400 gallons or 2,391,400 below its annual “cap” of 2,553,800 gallons. City Park used 28,044,900 gallons or 207,278,500 below its annual “cap” of 235,323,400 gallons. Audubon Park used 143,274,400 gallons or 96,725,600 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 2013. 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 2013 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 2013 have complied with the requirements set forth in the 1998 and Supplemental Water Revenue Bond Resolutions.

Summary of 2013 Operations

Based upon a tabulation of water bills rendered during the year, the Water Department provided water service to an average of 126,106 regular billed customers and 1,128 governmental accounts, the latter of which are served without charge. According to the December 31, 2013 Comprehensive Annual Financial Report, of the 55,901.9 million gallons of water pumped by the Department during the year, 13,599.6 million gallons were sold, 745.5 million gallons were metered to customers

without charge, treatment plant process water totaled 593.1 million gallons, and unmetered uses accounted for the remaining 40,963.7 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 decreased from \$71,668,008 in 2012 to \$70,257,896 in 2013. In 2013, the Board received \$1,981,568 in operating and maintenance grants from 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) increased from \$61,761,783 in 2012 to \$63,378,612 in 2013. After adding claims of \$791,721 and debt service payments of \$3,928,380, a balance of \$2,159,183 was available for capital related expenditures in 2013, unadjusted for depreciation.

Ability to Finance Future Operations and Proposed Improvements

A summary of projected financial operations of the Water Department for the period 2014 through 2018 is shown in Table 12 of the report. Revenues shown on Line 1 of Table 12 are based on rates that became effective January 1, 2014. Revenue from future annual water system revenue increases of 10 percent effective January 1, 2015 through January 1, 2018 are shown on Line 2 of Table 12.

In July of 2014 the Board issued Water Revenue and Refunding Bonds, Series 2014 in the amount of \$103,525,000. A portion of the proceeds were used to refund all outstanding water revenue bonds and the remaining \$77,000,000 will fund capital projects. Additional long term debt financing of \$47,000,000 in 2015, \$45,000,000 in 2016, \$39,000,000 in 2017, and \$42,000,000 in 2018 is indicated to fund the proposed capital improvement program.

The Board has recognized that the adopted five-year capital improvement program has a significant amount of expense in the first three years and therefore, in an effort to more evenly spread the costs throughout the period, identified projects that could be deferred from 2015 and 2016 until later years. As demonstrated in Tables 11 and 12, it is anticipated that current revenue sources will be adequate to readily finance both projected capital program requirements, reflecting the deferment of capital from 2015 and 2016, and estimated future operation expenses of the Water Department during the 2014-2018 study period examined herein.

Sewerage Department

Sewerage Service Revenue Bond Resolution Requirements

Sewerage and Water Board financial operations for 2013 have complied with the requirements set forth in the 1997 and Supplemental Sewer Revenue Bond Resolutions.

Summary of 2013 Operations

The total revenue from sewer charges, delinquent fees, interest income and other income increased from \$72,399,088 in 2012 to \$80,081,051 in 2013. Operation and maintenance expenses (excluding claims paid) increased from \$44,293,232 in 2012 to \$45,566,211 in 2013. After adding claims reflecting a credit of \$188,081 and debt service payments of \$20,268,460, a balance of \$14,434,460 was available for capital related expenditures in 2013, unadjusted for depreciation.

Ability to Finance Future Operations and Proposed Improvements

A summary of projected financial operations of the Sewerage Department for the period 2014 through 2018 is shown in Table 24 of the report. Revenues shown on Line 1 of Table 24 are based on rates that became effective January 1, 2014. Revenue from future annual wastewater system revenue increases of 10 percent effective January 1, 2015 through January 1, 2018 are shown on Line 2 of Table 24.

In July of 2014 the Board issued Sewerage Revenue and Refunding Bonds, Series 2014 in the amount of \$158,990,000. A portion of the proceeds were used to refund all outstanding sewerage revenue bonds and the remaining \$47,300,000 will fund capital projects. Additional long term debt financing of \$23,500,000 in 2015, \$24,500,000 in 2016, \$21,000,000 in 2017 and \$28,500,000 in 2018 is indicated to fund the proposed capital improvement program.

It is anticipated that 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 2014-2018 study period examined herein.

Drainage Department

Summary of 2013 Operations

Total revenues received from all sources including interest income totaled \$46,619,029 in 2013, an increase of approximately 3 percent from \$45,275,067 reported for the same sources in 2012. Total operation and maintenance expenses decreased about 0.2 percent, from \$31,831,734 in 2012 to \$31,893,808 in 2013. After adding claims of \$1,197,474 and debt service payments of \$2,216,497, a balance of \$11,311,249 was available for capital related expenditures in 2013.

Ability to Finance Future Operations and Proposed Improvements

An analysis of financial operations projected for the Drainage Department for the period 2014 through 2018 is summarized in Table 35 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. It is assumed that the three-mill ad valorem tax will be reauthorized in 2017.

The analysis indicates that current revenue sources are not adequate to meet operation and maintenance expenses and total debt service on the proposed bond issues for each year of the study period. As indicated in the *Financial Plan and Rate Study 2011-2020* additional operating revenue is needed to help fund the capital program. The alternative source of operating revenue is shown on Lines 4 and 5 of Table 35.

It is anticipated that in November of 2014 the Board will issue Drainage Refunding Bonds, Series 2014 in the amount of \$14,945,000. The proceeds of the bonds will be used to refund all outstanding drainage revenue bonds. Additional long term debt financing of \$15,000,000 in 2015, \$15,000,000 in 2016, \$60,000,000 in 2017, and \$60,000,000 in 2018 is indicated to fund the proposed capital improvement program.

Under the existing General Drainage Bond Resolution, the amount of additional debt that can be issued is limited to the additional bonds test which states that revenues derived from the nine-mill ad valorem tax are equal to a least one and one third (1-1/3) times the maximum debt service on all

outstanding and the additional bonds. Black & Veatch suggests that when a new funding source is developed, the Board work with its bond counsel and financial advisor to refund all outstanding debt at that time and issue new parity bonds reflecting a new general bond resolution that includes the new funding source in the coverage calculation and reflects covenants more consistent with the 2014 water and sewerage resolutions. Due to the requirements of the existing additional bonds test, it is anticipated that the capital projects in 2014 through 2017 will exceed the amount of funding available from the Drainage Department during the 2014-2018 study period examined herein. It is recommended that the Board defer capital projects in 2014 through 2017 until the general bond resolution has been revised and the Board has the capacity to debt finance more projects. This deferment is shown on Line 11 of Table 34.

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 2013 Comprehensive Annual Financial Report. In 2013, approximately 68 million kilowatt hour (kWh) of power was purchased and 35 million kWh of power was generated.

On a unit cost basis, the average cost of purchased power has increased over the past five years from about 9.5¢ per kWh in 2009 to about 9.9¢ per kWh in 2013. During the same period, the Board's unit cost for generated power has increased from about 28.2¢ per kWh to about 33.3¢ per kWh. The cost of Board generated power is almost 3.4 times higher than that of purchased power.

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.

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Facilities Evaluation - Operation, Maintenance, and Reconstruction

This evaluation summarizes the findings of the onsite assessments of the Sewerage and Water Board of New Orleans (SWBNO) facilities conducted by Black & Veatch from March 10 to March 14, 2014. Site visits were conducted at the water and wastewater treatment plants, Carrollton power plant facilities, and Central Yard facilities to evaluate the condition and operational capabilities of these facilities. In addition, the sewage and drainage pump stations were inspected to evaluate the condition of those facilities. Interviews were conducted with management and supervisory level SWBNO personnel during the site visit to assess the current operations statuses of the various facilities.

INTRODUCTION

The Operations Department of the SWBNO comprises four units: (1) Water Purification, (2) Sewage Treatment, (3) Water Pumping and Power, and (4) Sewerage and Drainage Pumping. The SWBNO operates the Carrollton and Algiers Water Purification Plants (WPPs), which purify raw water from the Mississippi River and supply potable water to New Orleans residents. The Carrollton plant currently purifies approximately 135 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 1,800 miles of mains to the service connections within the City, as well as to several customers in adjacent parishes.

The collection system includes several miles of lateral sewers, trunk sewers, and 83 electrically operated pump stations. Raw sewage is conveyed through a force main system. Sewage Pumping Stations (SPSs) 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 which monitors operation of all other sewage stations.

The SWBNO operates two sewage treatment plants, one on the East Bank and one on the West Bank. The East Bank Sewage Treatment Plant has a treatment capacity of 122 mgd (dry weather) and treats sewage from the East Bank community. The West Bank Sewage Treatment Plant has a treatment capacity of 20 mgd (dry weather) and serves the West Bank community of New Orleans, as well as a few customers in Plaquemine Parish. Both plants were built or expanded in the 1970s and have been upgraded or expanded to increase reliability and capacity. The contract operator, Veolia Water, currently operates and maintains the plants for SWBNO.

In addition, the SWBNO is responsible for operating and maintaining the 24 major drainage pumping stations in New Orleans. The majority of those stations are manned 24 hours per day, 7 days per week. Each station is equipped with multiple pumps which are activated in response to increasing water levels. Personnel monitor these pumps and the numerous miles of drainage canals on a routine basis to ensure proper drainage in the area.

The 25 cycle power plant operated by the SWBNO provides power for portions of the WPPs and approximately 60 percent of the drainage pumps. Two large vertical sewage pumping units at Station A are also run on 25 cycle power. The following sections summarize key issues within several departments of the SWBNO.

STAFFING

Adequate staffing continues to be an issue for some departments of the SWBNO. Additional maintenance is required for the SWBNO facilities as equipment ages and more equipment is added at the facilities. Staffing levels have decreased as the system has aged and expanded within the SWBNO owned facilities. Vacancies still exist in several departments, especially those departments requiring highly educated and skilled personnel. These shortages are reflected within the more technical disciplines such as mechanical maintenance, electrical maintenance, plant maintenance, welding and fabrication, and operations. Engineering is still understaffed despite the addition of several new hires.

The SWBNO suspended the domicile policy following Hurricane Katrina, which required employees to live in the City of New Orleans. This suspension action allowed personnel hired by the SWBNO to live outside city limits, thus providing more housing options for employees. However, the City Council reinstated the residency requirements as of January 1, 2013. This reinstated requirement has slowed the hiring of individuals with an interest in working for the SWBNO but live outside City limits. Departments within the SWBNO continue to actively recruit from local college campuses, career job fairs, and trade schools to fill vacancies.

In addition to those highly skilled positions, a significant portion of the SWBNO's leadership will retire within the next 5 years. Very few potential successors have been identified to assume those leadership positions facing retirement.

All departments have staffing issues related to being inadequately staffed based on the current needs of the SWBNO. The table on the following page summarizes the number of staff on the payroll for each department and the percentage of staff eligible for retirement within the next 5 years as of April 2014. These conditions demonstrate the need for an effective succession action plan for the department heads and supervisors.

WATER PURIFICATION PLANTS

The Black & Veatch representative accompanied the WPP Superintendent on the facility tours of the Carrollton and Algiers WPPs. The Carrollton and Algiers WPPs are currently operational and producing water that meets or exceeds federal drinking water standards. Treatment systems at both plants are functioning well, and continue to produce potable water for the East and West Banks.

The staffing levels at the Carrollton and Algiers WPPs have been able to consistently produce finished water that complies with federal and state regulations and meets the capacity of the service population. The SWBNO is facing the industry-wide problem of an aging workforce; therefore, there is an immediate need to hire and train personnel for the future sustainability of plant operations. The SWBNO is in the process of hiring entry level personnel to begin addressing those long-term needs. In addition, licensed operators are in short supply, and are necessary to successfully operate the plants around the clock. The most senior operators will be retiring within the next few years and will need to be replaced in order to maintain compliance with the state requirements for operator certification in water treatment.

Current Number of Board Employees and Eligible for Retirement

DEPARTMENT	EMPLOYEES ON PAYROLL	ELIGIBLE FOR RETIREMENT	% ELIGIBLE FOR RETIREMENT
Operations - Water Purification Plants	54	22	40.7
Operations - Water Quality Laboratory at Carrollton Plant	11	2	18.2
Operations - Water Pumping and Power	78	18	23.1
Operations - Sewage and Drainage Pumping Stations	94	28	29.8
Facility Maintenance	65	18	27.7
Engineering	43	19	44.2
Networks	297	66	22.2
Support Services	71	30	42.3
Environmental Compliance	12	4	33.3
Total	726	208	28.7

Carrollton Water Purification Plant

The Carrollton WPP, which has a design capacity of 232 mgd, is currently treating approximately 135 mgd of water for the East Bank of Orleans Parish. The water treatment processes at the plant consist of flocculation with a polymer and ferric sulfate followed by pH adjustment with lime. The flocculated particles are allowed to settle in sedimentation basins, and traveling mechanical rakes remove the settled solids from the sedimentation basins for discharge to the Mississippi River.

Chlorine in the form of sodium hypochlorite is used to disinfect the clarified water. Anhydrous ammonia is then added to form chloramines for residual disinfection. Additional settling time and disinfection contact time occur in the secondary settling basins. The clarified water is also treated with sodium hexametaphosphate for calcium sequestration and hydrofluorosilicic acid for fluoride addition. At present, the SWBNO is feeding all chemicals at appropriate dosages and maintaining adequate chemical storage at each site.

Filtration is the final step in the treatment process, where the water is filtered through rapid sand filters. Finished water is then pumped to the populace through the distribution network.

The Carrollton WPP is currently treating approximately 135 mgd of water due to leaks in the water distribution system. Leaks in the distribution network are a source of persistent problems. These leaks are currently being addressed under the water main replacement program funded by the Federal Emergency Management Agency (FEMA). The water delivery pressure at 70 psi has been consistent throughout the last year.



Sedimentation Basin under Repair



Wash Water Pump at Carrollton WPP

Figure 1 - Carrollton Water Purification Plant

Improvements completed at the Carrollton WPP during 2013 are listed below:

- The G4 sedimentation basin has been removed from service for repairs to the flocculation equipment and to clean material from the sedimentation basin. Work on the flocculator needs to be completed before G4 can be returned to service.
- The sodium hypochlorite feed system commissioning was completed in 2013 and is performing well.

Maintenance and/or improvement projects the SWBNO has planned for existing facilities include the following:

- A filter rehabilitation program is needed for the Sycamore and Claiborne filter galleries. Valves, actuators, corroded piping supports, and leaking pipes associated with the filters need to be repaired or replaced. In addition, the media within the filters has reached the end of its service life and requires replacement. These activities are being hampered due to limited funds.
- The wash water pump for the filters needs replacement. The packing seal is currently leaking and the pump is nearing the end its service life.
- The recycle basin pumps need to be replaced. Two of the four pumps are currently inoperable, and the other two pumps are nearing the end of their service life. The design for the pump replacement is complete, and the project is awaiting funds prior to sending the project to bid.
- Design for a new 30 to 36 inch sludge discharge line needs to be completed. This new line will provide for much needed capacity and redundancy improvements for the Carrollton WPP. Construction of the new sludge discharge line is delayed due to limited funds.

Algiers Water Purification Plant

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

The facility has partially commissioned a new ferric storage and feed system for flocculation at the WPP. This equipment, along with the existing temporary ferric storage and feed equipment, is supporting the needs of the plant with the goal of complete transition to the new facility by the end of 2014. Other improvements needed or ongoing at the plant include the following:

- The sodium hypochlorite generation system was not functioning at the time of inspection due to equipment issues. The manufacturer was contacted, and the system is now operational and supporting the needs of the plant, although mechanical problems continue to present challenges for the system. The system was not operational for 4 out of 12 months in 2013.
- The SCADA system is out of service, and its absence is impacting plant monitoring capabilities. Planned improvements to this system are on hold due to insufficient funding.
- EIMCO Clarifier No. 1 needs to be replaced. Clarifier components to be fixed include sludge trough, valves, and steel structure. EIMCO Clarifier No. 2 has been repaired and was placed in service in 2013.
- The raw water pumping and piping systems need to be improved in order to provide redundancy to the intake system.

WATER QUALITY LABORATORY

The water quality laboratory located at the Carrollton WPP conducts daily analyses of river water quality and purified water for both WPPs. Water samples from the distribution network are also analyzed at the laboratory facility. The lab continues to meet the state and federal mandated analytical requirements of the water plants, and is certified by the Louisiana Department of Health and Hospitals for analysis of coliform bacteria.

The laboratory collects samples for protozoan analysis in addition to coliform analysis. Other regular analyses include hardness, turbidity, fluoride, ammonia, pH, alkalinity, total organic carbon (TOC), dissolved organic carbon (DOC), phosphorus, corrosion monitoring, and chlorine residual at different stages of treatment. The solids are analyzed for total suspended solids (TSS) and total dissolved solids concentrations. The laboratory also analyzes river water and finished water samples for volatile organic compounds.

The laboratory continues to maintain its involvement in the Early Warning Organics Contamination Detection System (EWOCDS) run by the State Department of Environmental Quality (LDEQ); however, several upstream stations have proved unreliable. The EWOCDS program has also been underfunded by the State of Louisiana, which has caused a reduction in sampling and analysis.

Monitoring stations connected by telecommunications notify LDEQ if any of the 60 Environmental Protection Agency (EPA) listed pollutants are detected in the river water samples. The LDEQ disseminates the information to the program participants, allowing an early warning of possible problems. The LDEQ maintains EWOCDS equipment at all participating locations; the program participants provide the manpower to collect and analyze the samples.

The laboratory is currently adequately staffed with one supervisor, one microbiologist, four chemists, and four technicians. Much of the lab instrumentation and equipment is reaching or has reached the end of its service life and is in need of replacement. Analytical instruments and equipment, such as a

new gas chromatograph/mass spectrometer (GC/MS), autoclaves for the microbiology lab, and fume hoods in the chemistry lab are needed to perform other analyses. Currently, the laboratory staff is working toward certification of TOC analysis in order for TOC analysis to be performed at the SWBNO facility.

WATER PUMPING AND POWER

The primary function of the Water Pumping and Power unit of the Operations Department is the production of steam for the generation of 25 hertz (Hz) power in addition to providing potable water to the City of New Orleans. The facilities at the Carrollton power plant include three pumping 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 six boilers at a total capacity of 650,000 pounds of steam per hour. In addition to the 25 Hz turbine, newly installed Turbine No. 6 produces 15 MW of 60 Hz power, but is not yet operational.

The generating station at the Algiers facility is capable of generating 60 cycle power using a diesel generator. The power generation facility can generate enough power to support operations at the Algiers plant. This station is also capable of performing a frequency change from 25 Hz power supplied from the Carrollton power plant to 60 Hz power.

The current capacity of the Carrollton power plant is 40 MW, which is less than the 61 MW design capacity. Turbine No. 4 is currently out of service and being repaired, and is scheduled to be back in service by early 2015. Boiler No. 6 and its associated equipment have been rehabbed and are presently in service.

A 200 psi high pressure natural gas line supplies fuel for the 15 MW 60 cycle, dual fuel generator turbine package (Turbine No. 6) and the existing Turbine No. 5. The 15 MW, 60 Hz generator facility supplements the commercial power available from Entergy to provide power redundancy and continued service in the event of a commercial power loss due to storms, hurricanes, etc. The generator serves the majority of the plant and raw water intake stations, and provides additional drainage station capacity.

Two steam-driven distribution pumps are located at the power plant. Pump A rehabilitation was completed in March 2014, and Pump B will be completed by the second quarter of 2015. The Claiborne Pumping Station, consisting of four water distribution pumps (two 60 Hz drive and two 25 Hz drive), and Panola Station, consisting of two pumping units (one with a 25 or 60 Hz motor and the other 25 Hz motor), are usually adequate for pumping finished water to the distribution network. The 25 Hz pump at Panola Station has been converted to operate on both 25 and 60 Hz power for more pumping operation redundancy. The water hammer program will provide for the replacement of equipment and associated valves at the Panola A & B Pump Room and Claiborne Pumping Stations. Two elevated tanks will also be installed to provide surge protection to the distribution system.

Storm-proofing projects for critical SWBNO facilities, including the power buildings, are currently under construction. Improvements for the power buildings include reinforcing the walls, roofing, doors, and windows. Additional hurricane damage-related work primarily includes valve replacement and repair to electrical components and controls. Related items for the Water Pumping and Power unit are in various stages of design or construction.



Steam Driven Water Distribution Pump A



Turbine 6

Figure 2 - Power Plant

The Water Pumping and Power unit has 78 current employees with 42 vacancies. Power for continued operations of the water, sewerage, and drainage systems requires staffing 24 hours per day, 7 days a week. Given the current levels of staffing, overtime is required to cover all the necessary areas within the Pumping and Power unit. In addition, approximately 18 senior operators or supervisors are set to retire in 5 years or less.

Central Control

The Central Control Power Dispatching Department is primarily responsible for the delivery of an adequate supply of Board generated electrical power, the continuous monitoring of the operational status of all electrical switchgear, and the testing of related electrical feeders and equipment. This Department also is responsible for verifying and enforcing the Board's safety clearance procedures and associated clearances within the power distribution system. In addition, this Department monitors local and regional weather in order to provide advance warning of storms which could affect power generation requirements for the drainage and sewerage systems. Coordination of various power supplies, including alternative backup power supplies such as diesel generators and frequency changers, also comprise part of this Department's responsibilities. The Central Control Power Dispatching Department plays a vital role in many emergency operational situations. Serving as a hub of communications, Central Control informs the Board's management and senior level staff of changes in conditions that will affect the Board's ability to provide adequate sewerage, water, and drainage services. Central Control also provides valuable information during emergencies such as hurricanes, floods, freezes, etc., to the Office of Emergency Preparedness (OEP) through established Board protocols. Lack of staffing continues to be a major issue for this Department.

SEWAGE TREATMENT PLANTS

Black & Veatch, accompanied by the Plant Superintendent, visited both the East Bank and West Bank sewage treatment plants. Operations and maintenance activities of both plants have been contracted to Veolia Water. A representative of the SWBNO is to oversee the contract operator. This representative works in the Engineering Department within the SWBNO for the Operations Department. Both treatment plants were operational at the time of the site visits and were meeting the discharge limits according to treatment plant personnel. The contract to operate both facilities

was recently bid; Veolia won the contract and will continue to be the contract operator for the next 10 years.

East Bank Sewage Treatment Plant

The East Bank Plant has a treatment capacity of 122 mgd (dry weather). The plant is currently receiving approximately 98 mgd of flow, which is approximately 5 percent more than the flow received in 2012. The treatment facilities at the plant include bar screens, grit removal, a pure oxygen activated sludge system, final clarification, and disinfection. The solids generated during sewage treatment are thickened, dewatered (using belt filter presses), and finally incinerated. A new sludge dryer is currently under design as an alternative sludge treatment system to supplement the existing fluid bed incinerator (FBI).



Influent Screen



Liquid Oxygen Tank

Figure 3 - East Bank Sewage Treatment Plant

The following items summarize the improvements that will be or have been performed at the East Bank Plant:

- Reactors Nos. 1 and 4 were out of service for rehabilitation. There is excess solids buildup within the reactors which will require cleanout and disposal. Removal and rehabilitation of the reactors were delayed by limited funds.
- New Administrative Building has recently been completed.
- There is no automation for mechanical rake on the bar screens; raking must be conducted manually at regular intervals.
- Cyclone grit separators exhibited corrosion.
- Operator noted two channels from the grit chambers to the aerobic reactors will require cleaning.
- Return sludge line was corroded and out of service. A temporary, aboveground replacement line is being used to return sludge from the return activated sludge pump stations to the influent channel. Permanent repair is under design.
- Operator noted liquid oxygen tank is nearing the end of its useful life. High purity oxygen system components appeared in good condition.

- Several mechanical mixers on aerobic reactors were out of service, impacting the reliability of the treatment system.
- Effluent pumps appeared in fair condition. The operator noted there have been difficulties keeping these pumps operating reliably due to electrical system issues. The electrical system is being evaluated and will likely require upgrades to increase the reliability of the effluent pumps.
- Electrical controls and switchgear appeared in fair condition. The operator noted the older electrical equipment has ongoing maintenance issues.
- A flood protection berm is being completed at the plant to minimize future plant flooding.
- The effluent line requires minor repairs, as cracks have formed due to the berm construction.

The average influent TSS and BOD concentration for 2013 are approximately 150 milligrams per liter (mg/L) and 115 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, with an average effluent TSS concentration of 16 mg/L and an average effluent BOD concentration of 21 mg/L. One permit violation, the fecal coliform permit limit, occurred during December 2013. This violation was attributed to a sampling error, and was immediately corrected by the plant staff.

West Bank Sewage Treatment Plant

The West Bank Plant has a treatment capacity of 20 mgd (dry weather). The plant is currently receiving approximately 10.1 mgd of flow. The West Bank treatment facility consists of bar screens, primary clarifiers, trickling filters, final clarifiers, and chlorine disinfection. Primary and secondary solids are co-thickened in a gravity thickener and hauled to the East Bank facility for incineration.



Corrosion of Primary Clarifier Weir



Existing Emergency Generator

Figure 4 - West Bank Sewage Treatment Plant

A summary of findings for the West Bank Plant follows below:

- Concrete and pavement adjacent to the bar screens and aerated grit basins showed cracks and settling.
- The second bar screen (of four bar screens) was inoperable, as the chain had jumped the sprocket.

- Grit cyclones for collecting grit from the grit basins exhibited significant corrosion.
- Two grit pumps are in need of replacement.
- Weirs and rotating arms of primary sedimentation basins show significant corrosion.
- Operator noted all five pumps in the main collection basin need to be rehabbed.
- The structural condition of the trickling filters appeared to be good. Minor structural issues with Trickling Filter No. 1 were noted.
- The drive motor for the arms on the trickling filters is currently inoperable and operates based on hydraulics; however, treatment is still acceptable.
- Check valve on effluent pump was leaking. Crews were onsite performing maintenance.
- Standby generator was out of service. A temporary emergency generator will be onsite until the repair parts arrive.

The monthly average TSS and BOD influent concentrations are approximately 86 and 85 mg/L, respectively. The monthly average effluent TSS and BOD concentrations for the last year have been approximately 10.4 and 8.8 mg/L, respectively.

SEWAGE AND DRAINAGE PUMPING STATIONS

Inspections of the drainage pump stations (DPSs) and sanitary sewage pump stations (SPSs) for both the East and West Banks of New Orleans were conducted over a 4 day period, beginning Monday, March 10, 2014, and ending Thursday, March 13, 2013. The observation report details the operational status of each SPS and DPS throughout the City of New Orleans. Pumps which were not turned on at the time of the observations were deemed to be either “in service” or “out of service” based on direction from SWBNO supervisors or pump station operators.

Upon inspection, all DPSs and SPSs were operational using either permanent or temporary pumps. All stations have either completed or are still under storm related construction repair or upgrades. These repairs will increase the probability the stations will remain functional in the event of a major storm or power loss. The repairs include, but are not limited to, the installation of industrial capacity generators, fuel storage tanks, electrical transformers, and storm proofing of pump motors. Several stations have also undergone structural related storm proofing measures, including new storm windows and doors. Finally, many station rooftops and wall framings have been reinforced to provide greater wind gust resistance.

A few stations still have not been repaired or are out of service due to maintenance issues in spite of all the repairs and upgrades to the DPS and SPSs. Two DPSs have remaining equipment damage which does not appear to be storm related. DPS 11 has a total of four filtering screens, with only one being operational, while DPS 19 has a substantial crack atop the water basin, allowing water leakage. While all stations are operational, several stations are not operating at full capacity due to inoperable pumps or the use of temporary pumps. Staffing also continues to be an issue according to the staff. Current staffing levels are less than expected for the size and scope of the sewage and drainage stations due to retirements and lack of qualified candidates.

FACILITY MAINTENANCE

The Facility Maintenance Department consists of four units: (1) Plant Maintenance, (2) Welding & Fabrication, (3) Electrical Maintenance, and (4) Mechanical Maintenance. These units provide meter repairs, removals and installations, major electrical, welding, and fabrication, as well as mechanical maintenance for all SWBNO facilities throughout the system, with the exception of Veolia Water operated sewage treatment plants. The Facility Maintenance Department possesses the specialized equipment and technology necessary to maintain the plant process equipment, drainage pumping stations, sewage pump stations, power generation equipment, and water meter servicing. Automated lathes and mills located in the machine shop and break press, as well as shear and other specialized repair equipment located in the welding and fabrication shop, provide the ability to fabricate parts when replacement parts are excessively expensive or no longer available due to equipment vintage.

In addition, new facilities such as Turbine No. 6 have been built within the SWBNO system which require additional staff to both operate and maintain. While the Facility Maintenance Department is well equipped, the lack of adequate numbers of trained personnel has hindered the Department's ability to perform in-house repairs. The Facility Maintenance Department has 65 authorized positions; however, only 60 positions are currently staffed, with most of the highly skilled positions remaining vacant. Overtime is necessary to compensate for the limited workforce, and more work is currently being contracted out to subcontractors than what was done in-house prior to Hurricane Katrina. The Department is presently facing a lack of qualified personnel to adequately supervise or oversee subcontractors. Approximately 28 percent of the Facility Maintenance employees are currently eligible for retirement or will be eligible to retire within 5 years, including the department head. The department is actively recruiting at job fairs and trade schools to hire additional personnel.

ENGINEERING

The Engineering Department includes Mechanical Engineering, Electrical Engineering, Civil Engineering, Construction Administration and Inspection, and Networks Engineering. The Engineering Department administers major contracts throughout the SWBNO facilities and coordinates with other agencies for the design and construction activities impacting SWBNO maintained facilities.

The present statuses of major contracts administered through the Engineering Department are itemized in the following list:

- The SWBNO plans on adding a sludge dryer at the East Bank plant. Engineering is currently working with the consultant to review bids from the contractors.
- Refurbishment of steam driven Pump B in the Power Generation Facility will be completed by the second quarter of 2015. Pump A was placed back in service in March of 2014.
- Flood mitigation contracts for nine sewage pump stations were awarded; the Engineering Department is supervising these contracts. A couple of the stations may experience delayed construction due to access and/or funds deficiencies to complete the flood mitigation. These delays will not impede the function of the station, only the facilities' storm proofing.

Additional projects planned by the Engineering Department include the following:

- Building or upgrading the City canal system at Florida and Louisiana Avenues.

- Rehabilitation of Turbine No. 4 followed by Turbines Nos. 5 and 3.
- Various water projects, including filter rehab, valve rehab, and pump replacement.
- Replacement of major electrical feeders throughout the SWBNO facilities.

In addition to contract administration, the Engineering Department has added geographical information system (GIS) technology to further enhance tracking water distribution and sewer piping capabilities. The FEMA funded water main replacement and emergency sewer system assessment require GIS to identify and fix broken or leaking pipes in the water distribution and collection system.

NETWORKS

The Networks Department 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 WPP is currently purifying approximately 135 mgd of water despite serving only 82 percent of the pre-Katrina population.

The Networks Department is divided into seven zones. Zone 2 performs preventive maintenance activities such as exercising valves and fire hydrant maintenance. Zone 7 comprises the after-hours crews which respond to emergency calls. Zones 1, 3, 4, 5, and 6 represent geographical areas in New Orleans which provide repair services for their respective areas. Each zone has a staff of approximately 20 to 35 persons responsible for repairs within the designated areas. A three-man crew will typically complete a work order. More complex work orders may require additional crews on a single work order. Contractors are used to supplement repair work performed within each of the areas if sufficient manpower within the SWBNO is not available to perform necessary repairs.

According to SWBNO personnel, the biggest challenge in restoring normal operations at the WPPs has been the detection and repair of leaks in the distribution system. The SWBNO is currently conducting a system evaluation of the piping system to detect leaks. Contractor Ecologic has been hired to use acoustic technology to determine leaks in larger water mains (those exceeding 16 inches in diameter). Over 14,500 leaks have been repaired in the last year. Identification of leaks is ongoing, and will continue to incorporate identified leaks into the water main replacement program funded by FEMA. As part of the ESSA program, manholes are also being inspected as an ongoing inspection of the sewer system. In addition, over 2,100 sewer repairs were completed in 2013.

The Networks Department works in conjunction with the New Orleans Fire Department to monitor and maintain all fire hydrants located in the SWBNO's service area. The Networks Department inspects all fire hydrants within the system. All City hydrants have been mapped and assigned an identification number. The fire hydrants program requires the 16,500 fire hydrants in the database to be inspected once every 2 years to supplement the semiannual inspection cycle of the Fire Department.

The Networks Department completed over 4,300 paving projects in 2013, both in-house and in cooperation with Contractors. This Department 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 within the division.

SUPPORT SERVICES

The SWBNO owns 731 pieces of rolling stock, which includes trucks, backhoes, and sewer cleaning equipment. Approximately 80 pieces are at least 10 years old, and will require replacement in the next few years. The available equipment is being assigned to the various divisions based on the needs of all departments.

The Support Services Department performs most all-ground maintenance functions. In addition, Support Services operates the warehouse which stores valves, pipe, hydrants, tools, etc., required by the Networks Department for repair of existing water distribution and sewer pipelines.

Support Services also operates garages for vehicle repair. The garage areas were heavily damaged during Hurricane Katrina. Garages 1 and 2 are scheduled to be rehabilitated in 2014. FEMA will be reimbursing equipment and tools for each garage lost to the hurricane in addition to replacing some of the buildings, such as the Annex Building which will be used to house locker rooms, shower facilities, training rooms, etc. A new Site Relocation Facility will be constructed to house personnel until the garage renovations are completed. The Site Relocation Building will also be used to house the Body Repair Shop of Garage 2.

ENVIRONMENTAL COMPLIANCE

The Environmental Compliance Department oversees the Consent Decree and all administrative orders. This department reports sewer bypasses and overflow to the Region 6 EPA. Some activities being undertaken by the department include those listed below:

- Continuing to monitor industrial users through the pretreatment program.
- Permit compliance in air, water, wastewater, storm water management, solid waste, and underground fuel storage tanks.

The East Bank Sewage Treatment Plant wetlands assimilation project site is still under construction. The two demonstration cells adjacent to the East Bank Plant were constructed in 2013. The ferrator disinfection system treating the effluent was installed by June 2013. The construction of the effluent pipe has not been completed; the Engineering Department is currently working closely with the contractor to finish installing the effluent piping.

The components of the pretreatment program include the discharge monitoring of the East and West Bank Sewage Treatment Plants in addition to other significant industrial users during the year. An annual report is also submitted to LDEQ to demonstrate pretreatment performance.

In addition, yearly revenue has been received from the following sources associated with the pretreatment program:

- Industrial users billed monthly for excess strength surcharges.
- Sanitary sewerage discharged to the wastewater plant from special events.
- Septage disposal program.

The total revenue received in 2013 from these sources was approximately \$500,000.

Air permits for 18 SWBNO facilities containing 50 emergency engines and generators were obtained in 2013. The use of diesel powered units to provide emergency power to drainage pump stations and other SWBNO facilities required these facilities to meet air quality regulations.

Currently, the SWBNO has an engineering consultant under contract to provide engineering services to the Environmental Compliance Department for the air quality program. The scope of work includes conducting environmental compliance audits for 23 SWBNO facilities, preparing all required air compliance reports, developing an environmental management system, developing a web-based compliance system, and training the SWBNO on air compliance procedures and the compliance tools developed. The cost of the project is \$200,000 and will be completed in 2015.

On November 27, 2012, the LDEQ proposed to reissue the Louisiana Pollutant Discharge Elimination System (LPDES) Permit No. LAS000301 issued for discharge from the regulated Municipal Separate Storm Sewer Systems (MS4) within Orleans Parish owned or operated by the SWBNO. The permit was issued for public notice on February 13, 2013; the public comment period ended March 20, 2013. The new storm water permit has been in effect since the end of 2013.

The Environmental Compliance Department appears to have adequate staffing to perform the tasks necessary to maintain compliance with all the various rules and regulations which apply to the SWBNO. The Department is in the process of obtaining training and software systems to better track compliance within the SWBNO facilities.

STATUS OF CONSENT DECREE FOR SEWERAGE SYSTEM

The SWBNO is complying with the EPA Region 6 and Department of Justice Consent Decree, which requires cessation of unauthorized discharges and the development of a schedule for repairs to both the collection system and the treatment plant.

Some provisions outlined in the Consent Decree include those listed below:

- Quarterly and annual reporting requirements are to be submitted to the regulatory agency.
- The SWBNO will meet the preventive maintenance requirements of the Consent Decree.
- Repair to the collection systems will begin once the sewage pump stations have been repaired from hurricane damage.

The SWBNO is in compliance with the 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 in 2013.

SUMMARY OF FINDINGS

The following items comprise a summary of findings during the 2013 site inspections:

- The management team consists of individuals with significant water, sewerage, and drainage experience. This experience has been developed both internally at SWBNO and at other respected major water and sewer utilities.
- Similar to water and sewer utilities across the U.S., the departments that comprise SWBNO are faced with a significant number of pending retirements. Approximately 40 percent of current employees are either on the Deferred Retirement Option Plan (DROP) program or are eligible for retirement. Unless these employees are replaced with a steady influx of qualified replacements,

these pending retirements pose a significant threat to SWBNO's ability to perform its core operational and administrative functions. Succession planning and recruitment of qualified employees will be a key element for SWBNO to mitigate the pending retirements.

- Several departments are experiencing vacancies, including the Water Purification unit of the Operations Department, as well as the Facilities Maintenance and Networks Departments. SWBNO needs to address these vacancies as soon as possible to ensure effective operational and maintenance performance and administrative oversight.
- The SWBNO has a clear understanding of the existing conditions of the drainage water and sewage facilities, and is aware of the immediate needs within each division and area; however, funding is needed for the SWBNO to address these issues. Only water and sewer customer rates increases have been approved, and the SWBNO is currently prioritizing immediate needs such as filter rehabilitation at the Carrollton WWP.
- The SWBNO should initiate the filter rehabilitation program at the Carrollton WPP, as the filter system is in need of extensive repairs due to leaking pipes, broken valves, broken actuators, and filter media being at the end of its expected service life.
- The recycle basin pumps at the Carrollton WPP need to be replaced; however, replacement is hampered by limited funding.
- 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 to identify leaks within each system. Continuation of the water main replacement program and ESSA through FEMA will reduce the number of major leaks in the water and sewer systems, respectively.
- The SWBNO is servicing 100 percent of the population within the collection system. Most of the sewer pump stations on the East and West Banks have been repaired and are operational.
- The sewage plants are meeting permit except for two excursions in 2013. One excursion was attributed to a sampling error, and the other was due to a contractor issue. The SWBNO and the contract operator, Veolia, have addressed each issue.

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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 was in compliance with the 1998 General Water Revenue Bond Resolution and subsequent amendments in 2013.

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 continuing to repair or replace 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 28 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.

2013 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 2013 Water Department operations are discussed in the following paragraphs.

Water Use

According to statistics provided by the Board during 2013 55,901,910,000 gallons of water were pumped by the Water Department. Water sales accounts for 13,599,636,000 gallons and 745,453,200 gallons were metered to City departments without charge. Metered treatment plant process water totaled 593,075,100 gallons. The remaining 40,963,745,700 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 2009 through 2018. Based on year-end billing summaries, the number of monthly billed customers during 2013 averaged 126,106 compared with 121,435 for 2012. It is

projected that the Board will average approximately 128,628 open accounts in 2014 and that the number of accounts will continue to grow at approximately 1.20 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 2013 there were 1,128 connections in this group, compared with 955 for 2012.

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 13,573 million gallons of water sales were billed on a monthly basis in 2013, compared with a total of 13,752 million gallons in 2012. Projected water sales assume a growth rate of approximately 1.20 percent per year.

Operating Revenues

The 2014 schedule of rates for retail treated water service is presented in Table 3 and reflects a 10 percent rate increase over 2013 rates. 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 2009 through 2013. 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 2013 were \$63,248,555 which, when compared with \$59,208,198 for 2012, shows an increase of approximately 6.8 percent. Delinquent fee revenues were \$1,150,054 in 2013 which represent a 9.7 percent decrease over 2012 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 2013, non-operating revenue included \$82,893 of interest earned from the investment of available funds in the Water System Fund and the Water Revenue Bond Account and \$5,776,393 from other sources.

In 2013, the Board received \$1,981,568 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 2013 increased about 2.6 percent from 2012 expenditures and decreased about 1.8 percent from 2011 expenditures. 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 14 of Table 12.

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 2013 capital expenditures, exclusive of prorated interest expense, totaled \$36,210,871. 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 2013:

Total Revenues ^a	\$70,257,896
Operation and Maintenance Expense	63,378,612
Claims	791,721
Debt Service Payments	3,928,380
Revenue Primarily Available for Capital Expenditures ^b	\$2,159,183

^a Includes operating and maintenance grant of \$1,981,568.

^b Excludes depreciation.

PROPOSED CAPITAL IMPROVEMENT PROGRAM

Table 7 presents a summary of the projected major capital improvement program for the period 2014 through 2018. Table 7 is based on the Board’s 2014 -2023 Capital Program. The five-year major capital improvement program costs are estimated to total \$475,731,000. About 63 percent of this amount, or \$300,582,000, is for recurring annual capital improvements, with the remaining \$175,149,000 for major improvements. The proposed routine annual capital expenditures for water system improvements and extensions include \$71,050,000 for the Water Department’s share of power projects, and \$62,544,000 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 2014 through 2018 are shown in Table 8. These estimates reflect the rate schedule effective January 1, 2014 applied to the projected number of customers and water usage and are projected to increase, on average, about 1.4 percent per year throughout the study period due to growth in the customer base. Projected revenue from adopted revenue increases is also shown in Table 8.

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 \$343,900 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 2014 through 2018 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 2014 reflect the Board's adopted 2014 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 2014.

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, 2013, outstanding debt obligations consisted of \$5,570,000 Water Revenue Bonds, Series 1998 and \$22,085,000 Water Revenue Bonds Series 2002 for a total of \$27,655,000. In February 2010, the Department of Health and Hospitals (DHH) committed a loan to the Board up to \$3,400,000 with a \$1,000,000 principal forgiveness. A total of \$3,185,740 has been drawn from the loan fund and as of December 31, 2013, \$2,185,875 has been repaid, \$1,000,000 has been forgiven, and the remaining amount outstanding is \$3,865.

To adequately fund the proposed capital improvements, additional revenue bonds are indicated as shown in Table 10. In July of 2014 the Board issued Water Revenue and Refunding Bonds, Series 2014 in the amount of \$103,525,000. Approximately 74 percent of the proceeds are anticipated to provide new money to help fund planned major capital program needs, with the balance to be used to

refund outstanding Series 1998 and Series 2002 bonds. The debt service for the existing bonds shown in Table 10 reflects the refunding. The debt service on the 2014 bonds reflects an average annual interest rate of 5.0 percent for a term of 30 years and 2 years of capitalized interest. Projected bonds that are shown in Table 10 for 2015 through 2018 are assumed to be sold at an average annual interest rate of 6.0 percent for a term of 25 years with 2 years of capitalized interest.

The Water Department has borrowed from the City of New Orleans Department of Public Works (DPW) and from the Drainage Department. It is anticipated that these funds will be reimbursed during the study period.

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 examines the financing of the major capital improvement program and Table 12 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.

Capital Projects Funding

Table 11 presents the major capital improvement financing plan which summarizes the projected source and application of funds over the five-year study period. The amount of Funds Available at Beginning of Year, shown on Line 1, is \$21,674,900. This amount is based on audited data provided by the Board.

Projected revenue bond proceeds are shown on Line 2. 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. A portion of the Series 2014 bonds will be used to refund outstanding senior lien revenue bonds, with the balance to be used to help fund planned major capital program needs.

Financing of the major capital improvement program anticipates the transfer of a total of \$48,000,000 of operating revenue as shown on Line 3. 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 4 includes anticipated funding by the U.S. Army Corps of Engineers (COE) and FEMA. Interest earnings recognize an assumed 1.0 percent average annual interest rate and are shown on Line 8. Lines 5 through 7 reflect additional sources of revenue related to the Series 2014 Bonds which include the original issue premium on the bonds and the release of the debt service reserve and debt service sinking fund for the defeased debt. Line 9 of the table shows the projected major capital improvement funds available each year.

As of December 31, 2013, the Board had \$3,879,500 obligated for open contracts and capital jobs as shown on Line 10 of Table 11. Lines 11 and 12 show the projected Reinvestment in Assets and Major Capital Additions to be funded as shown in Table 7. The Board has recognized that the adopted five-year capital improvement program has a significant amount of expense in the first three years and therefore, in an effort to more evenly spread the costs throughout the period, identified projects that could be deferred from 2015 and 2016 until later years. This deferral is shown on Line 13 and

assumes 3 percent inflation each year the projects are deferred. Estimated issuance costs and capitalized interest related to the proposed bond issue amounts are shown on Lines 14 and 15.

Line 16 shows the required deposits into the Revenue Bond Reserve Fund associated with proposed bond issues. The debt service reserve on proposed debt is a three-prong test estimated as the lesser of (i) 10 percent of the original principal amount, (ii) the maximum annual debt service, or (iii) 125 percent of the average annual debt service.

Line 17 reflects the refunding of the Series 1998 and Series 2002 debt from the proceeds of the Series 2014 bonds. The Total Application of Funds is shown on Line 17 of Table 11. The net End of Year Balance is shown on Line 18.

Operating Fund

Line 1 of Table 12 shows projected Revenue from Charges under 2014 rates as previously presented in Table 8. In 2012, the New Orleans City Council approved eight consecutive annual 10 percent water rate increases beginning January 1, 2013. Revenue from these future annual revenue increases of 10 percent effective January 1, 2015 through January 1, 2018 is shown on Line 2.

Other revenue available for system operations is shown on Lines 4 through 9. Interest Income available to the operating fund, shown on Line 4, is estimated to be 1.0 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. Revenue from Plumbing Inspection and License Fees and Other Miscellaneous Revenue are shown on Lines 5 and 6 of Table 12. The Board began conducting field account reviews in 2012 to determine whether meters are working accurately and bills are being computed correctly. Revenue from these reviews is shown on Line 7 and projected to be 1 percent of Total Service Charge Revenue on Line 3. The Board currently provides water service free of charge to the New Orleans School District; however, due to the amount of lost revenue from this source, the Board is considering eliminating free water for the School District for water service. It is anticipated that a resolution will be passed this year reflecting this change to become effective January 1, 2015. Projected revenue from this source is shown on Line 8.

Interest from the Bond Reserve Fund, shown on Line 9, is estimated to be 1.0 percent. Total Operating Revenue is shown on Line 10.

Operation and Maintenance expense, previously projected in Table 9, is shown on Line 11 of Table 12. Based on the *Financial Plan and Rate Study 2011-2020* report, additional operating costs required to achieve desired benchmarking levels is shown on Line 12 and projected operating cost savings due to efficiencies resulting from achieving these benchmarks are shown on Line 13. Line 14 shows the estimated allowance for claims. Bad debt expense is assumed to be 2 percent of projected revenue and is shown on Line 15. Projected Net Operating Revenue from system operations is shown on Line 16.

Lines 17 through 19 present debt service requirements on currently outstanding and proposed senior revenue bonds. Existing debt includes the Series 1998 and Series 2002 bonds which were refunded with the Series 2014 bonds that were issued in July. The amount shown on Line 17 reflects the projected principal and interest due on the existing debt prior to the refunding. Line 18 reflects the projected principal and interest payments on the Series 2014 revenue bonds as well as additional

revenue bond debt financing of \$47,000,000 in 2015, \$45,000,000 in 2016, \$39,000,000 in 2017, and \$42,000,000 in 2018. This debt is assumed to be 25 year, 6.0 percent fixed interest rate bonds issued in July, with 2 years of capitalized interest and equal annual payments of principal and interest.

Subordinate revenue bonds are shown on Line 20 of Table 12 and reflect the final payment on the loan provided by the Louisiana Department of Health and Hospitals in 2010 to fund the installation of a new sodium hypochlorite storage feed facility.

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. The Board has borrowed \$77,465,247 on this agreement. No principal or interest was payable during the initial five-year period of the loan, but after that period, the loan began to bear an interest rate of 4.64 percent. Payments for the water portion of principal and interest began in July 2012 and are shown on Line 21 of Table 12.

Line 23 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 24 reflects repayment to the Department of Public Works and the Drainage Department as well as claimants.

The general bond resolution for the Series 2014 bonds sets forth the requirement to maintain an operating reserve equal to 90 days of the previous year's operation and maintenance expense. Line 25 indicates the amount available to fund the operating reserve in 2014 followed by projected annual transfers to meet this requirement throughout the study period. It is anticipated that the balance in the reserve in 2014 will equal approximately 83 days of 2013 operation and maintenance expense. The general bond resolution also sets forth the option to maintain a rate stabilization fund. The amount to be transferred to this fund, as well as the timing, is determined by the Executive Director. There are no transfers currently anticipated during the study period as shown on Line 26 of Table 12.

Line 27 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 the year 2014, shown on Line 28, is comprised of the current cash assets and reflects a negative balance of \$16,029,700. The End of Year Balance, which is exclusive of the operating reserve fund and rate stabilization fund, is shown on 29.

As demonstrated in Tables 11 and 12, it is anticipated that 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 2014-2018 study period examined herein assuming that a portion of the adopted capital costs in the early years are deferred to later years within the five-year period.

Bond Coverage Requirements

An additional consideration in measuring the adequacy of revenues is the provision of sufficient debt service coverage to meet the bond covenant requirements for the issuance of parity revenue bonds.

With the defeasement of the Series 1998 and Series 2002 bonds, the 1998 General Water Bond Resolution is no longer applicable and in its place is the 2014 General Water Service Revenue Bond Resolution. The resolution provides that rates shall be maintained at levels which are expected to yield net revenues (as defined in the resolution) equal to at least 125 percent of the annual principal and interest requirement for senior debt and 110 percent for senior and subordinate debt in each fiscal year. In addition, net revenue excluding transfers from the rate stabilization fund and the proceeds of grants shall be equal to at least 100 percent of the annual principal and interest requirement for senior and subordinate debt in each fiscal year.

The calculation of net revenue is shown on Lines 1 through 14 of Table 13. The ability of the Water Department revenues to meet revenue bond coverage requirements is shown on Lines 15 through 24. The Adjusted Rate Covenant Coverage test reflects the exclusion of transfers from the rate stabilization fund and grant proceeds. As shown on Lines 17, 19, 20, and 24, the indicated projected revenue and revenue increases will provide sufficient net revenue to meet coverage requirements during the study period.

The General Water Bond Resolution further prescribes that additional parity revenue bonds may be issued if net revenue from a previous test year (any 12 consecutive months of the last 24 months) is equal to at least 125 percent of the maximum annual principal and interest requirement for senior debt and 110 percent for senior and subordinate debt. For purposes of the additional bonds test, net revenue may be adjusted to reflect any increases not in effect during the selected test year but have been approved by the Board, Board of Liquidation and City Council and will go into effect within the following five years.

The results of the additional bonds test are shown on Lines 25 through 31 of Table 13. Lines 29 and 31 of the table indicate that with the magnitude of the adopted annual revenue increases, required minimum levels of coverage are met in each year with indicated coverage levels ranging from 230 percent to 583 percent.

Table 1
Insurance in Force as of December 31, 2013

Coverage	Kind and/ or Location	Amount of Coverage	Policy Period	
			From	To
		\$		
Lexington Insurance Company	Fleet Physical Damage	\$18,942,139 (\$250,000 Deductible)	03/20/14	03/20/15
Zurich	Commercial Crime		05/01/11	05/01/14
		\$100,000,000 Building and Contents		
	Property - Building, Contents, Mobile Equipment, Boiler/Machinery/ Gross Earnings/Extra Expense	\$6,568,829 Mobile Equipment, \$25,000 Boiler/Machinery, \$9,000,000 Gross Earnings/Extra Expense (\$1,000,000 Deductible)	05/20/13	05/20/2014
Westport, Westchester				
		Limit: \$6,000,000 (\$350,000 Deductible)		
Travelers/RSUI	Automobile Liability	(\$200,000 Deductible)	06/20/13	06/20/14
Travelers	Fiduciary Liability		08/01/13	08/01/14
Wright Flood	Flood	\$1,000,000,000	08/01/2013	08/01/2014
National Union	Public Officials/ Employees Liability Insurance	\$10,000,000 (\$250,000 Deductible)	11/20/13	11/20/14

Table 2

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

Customer Class	Historical					Projected				
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Single Family Residential (b)										
Customers	94,547	100,798	102,979	105,537	109,836	112,032	114,273	116,558	118,889	121,267
Sales (1,000,000 gal.)	6,196	6,276	6,592	6,461	6,475	6,605	6,737	6,872	7,009	7,149
Sales Per Customer (1,000 gal.)	66	62	64	61	59	59	59	59	59	59
Multi-family Residential										
Customers	4,267	4,416	4,439	4,467	4,549	4,640	4,640	4,640	4,640	4,640
Sales (1,000,000 gal.)	832	810	788	767	731	746	746	746	746	746
Sales Per Customer (1,000 gal.)	195	183	177	172	161	161	161	161	161	161
Commercial										
Customers	9,558	9,872	9,918	9,969	10,193	10,397	10,397	10,397	10,397	10,397
Sales (1,000,000 gal.)	3,570	3,682	3,683	3,694	3,681	3,754	3,754	3,754	3,754	3,754
Sales Per Customer (1,000 gal.)	374	373	371	371	361	361	361	361	361	361
Industrial										
Customers	21	20	17	19	20	20	20	20	20	20
Sales (1,000,000 gal.)	80	53	42	44	46	47	47	47	47	47
Sales Per Customer (1,000 gal.)	3,771	2,674	2,407	2,343	2,324	2,325	2,325	2,325	2,325	2,325
Dual Service & Metered Fire Service (c)										
Customers	1,247	1,321	1,392	1,443	1,509	1,539	1,570	1,601	1,633	1,666
Sales (1,000,000 gal.)	2,630	2,832	2,821	2,786	2,640	2,693	2,747	2,801	2,857	2,915
Sales Per Customer (1,000 gal.)	2,109	2,144	2,027	1,931	1,750	1,750	1,750	1,750	1,750	1,750
Total										
Customers	109,640	116,426	118,745	121,435	126,106	128,628	130,900	133,216	135,579	137,990
Sales (1,000,000 gal.)	13,309	13,653	13,925	13,752	13,573	13,844	14,030	14,219	14,413	14,611

(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 January 1, 2014)**

Rate Components	General Service	Dual Service (a)
	\$	\$

Monthly Water Service Charge

<u>Meter Size</u>		
Inches		
5/8	4.91	6.66
3/4	6.00	8.11
1	7.62	10.65
1-1/2	12.58	16.58
2	16.58	23.72
3	37.51	52.64
4	65.34	91.96
6	128.26	179.08
8	189.97	266.20
10	257.73	360.58
12	302.50	423.50
16	402.93	563.86

Monthly Water Quantity Charge - per 1,000 Gallons

First	3,000 gallons	3.26	3.26
Next	17,000 gallons	5.57	5.57
Next	980,000 gallons	4.38	4.38
Over	1,000,000 gallons	3.67	3.67

Flat Rate Fire Service

<u>Meter Size</u>	
Inches	
2	11.13
3	15.13
4	27.83
6	48.40
8	64.13
10	101.64
12	131.89
16	181.50

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

Table 4
Water Department
Statement of Historical Revenue

Revenue Source	2009	2010	2011	2012	2013
	\$	\$	\$	\$	\$
Operating Revenue					
Sales of Water	49,689,747	54,013,282	58,804,719	59,208,198	63,248,555
Delinquent Fee	987,307	1,066,491	1,085,593	1,048,107	1,150,054
Total Operating Revenue	<u>50,677,054</u>	<u>55,079,773</u>	<u>59,890,312</u>	<u>60,256,305</u>	<u>64,398,610</u>
Nonoperating Revenue					
Interest Earned	84,560	32,383	44,752	92,849	82,893
Plumbing Inspection and License Fees	242,224	373,213	379,036	343,903	321,518
Revenue Sharing	165,098	148,528	140,655	123,885	219,877
Other Income (a)	18,382,186	9,497,548	15,944,157	10,851,066	5,234,998
Total Nonoperating Revenue	<u>18,874,068</u>	<u>10,051,672</u>	<u>16,508,600</u>	<u>11,411,703</u>	<u>5,859,286</u>
Total Revenue	<u>69,551,122</u>	<u>65,131,445</u>	<u>76,398,912</u>	<u>71,668,008</u>	<u>70,257,896</u>

(a) Includes 16,600,790 in operating and maintenance grants in 2009, \$6,251,855 in 2010, \$11,514,936 in 2011, \$7,617,063 in 2012, and \$1,981,568 in 2013.

Table 5
Water Department
Historical Operation and Maintenance Expenses (a)

Department	2009	2010	2011	2012	2013
	\$	\$	\$	\$	\$
Management and General Expenses					
Administrative	(1,754,217)	4,063,842	4,432,935	3,086,750	3,030,392
Management Services Director	24,121	23,226	23,619	24,351	26,912
Building and Grounds and Support Services	1,095,617	1,035,972	1,146,187	1,145,004	1,243,462
Personnel Administration	261,102	284,354	276,123	349,217	313,814
Finance Administration	713,007	785,102	847,924	829,391	778,042
Information Systems	1,487,421	1,421,701	1,491,718	1,429,881	1,412,490
Revenue and Customer Service	3,774,758	4,072,735	3,990,470	4,028,447	4,127,219
Purchasing	206,955	225,852	212,508	204,325	208,849
Total Management and General	5,808,764	11,912,784	12,421,483	11,097,366	11,141,180
Operations Expenses					
General Superintendent	148,527	178,217	172,673	182,266	197,524
Chief of Operations	75,851	67,543	68,776	137,430	62,056
Water Pumping and Power	14,393,332	11,142,039	12,092,473	11,422,585	14,464,899
Central Control	619,641	670,229	651,457	673,444	650,391
Water Purification	9,566,964	9,955,835	9,192,313	10,386,299	10,107,199
Chief of Facilities Maintenance	94,029	92,316	130,206	252,134	128,281
Facilities Maintenance	3,086,098	2,904,614	2,997,107	3,234,867	3,630,021
Central Yard	1,617,507	1,789,058	1,935,170	2,234,033	2,188,673
Office of Chief of Networks	143,700	142,919	255,061	179,573	191,238
Networks	11,091,848	8,586,257	19,866,368	18,062,377	15,374,918
Engineering	1,038,809	1,014,126	1,080,169	1,105,298	1,444,644
Plumbing	477,796	469,925	450,070	523,151	542,937
Total Operations	42,354,102	37,013,077	48,891,843	48,393,458	48,982,782
Other Expenses					
Special Accounts	1,081,741	932,188	897,154	926,912	1,122,683
Payroll Related Expenses	5,725,534	5,548,877	5,759,876	4,984,381	5,876,697
Overhead Allocation	(3,080,380)	(3,058,748)	(3,413,817)	(3,640,334)	(3,744,731)
Total Other	3,726,895	3,422,317	3,243,212	2,270,958	3,254,649
Total Operation and Maintenance (b)	51,889,761	52,348,178	64,556,538	61,761,783	63,378,612

(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

(b) Source: Expenditure Analysis by Group Report.

Table 6
Water Department
Capital Expenditures (a)
2013

C.P. #	Project	Actual Expenditures
		\$
	Waterworks	
110	Normal Extensions & Replacements	1,754,050
156	Advanced Water Treatment	76,031
175	Water Hurricane Recovery Bonds	25,876,082
	Total Waterworks	<u>27,706,162</u>
	Water Distribution	
214	Normal Extensions & Replacements	1,137,597
215	Rehabilitation - Mains, Hydrants & Services	1,008
216	Water Systems Replacement Program	414,353
239	Mains DPW Contracts	64,585
	Total Water Distribution	<u>1,617,543</u>
	Power Projects and General Budget	
600	Water Share of Power Projects	2,061,555
800	Water Share of General Budget Items	4,825,611
	Total Power Projects and General Budget	<u>6,887,166</u>
	Total Water Department	36,210,871

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

Table 7
Water Department
Projected Capital Improvements (a)

C.P. #	Project	2014	2015	2016	2017	2018	Total
		\$	\$	\$	\$	\$	\$
	Reinvestment in Assets						
110	Normal Extension & Replacement	21,463,000	32,830,000	24,820,000	18,345,000	14,645,000	112,103,000
112	Modification to Oak St. Raw Water Intake Station	0	500,000	0	0	0	500,000
122	Sycamore and Claiborne Filter Rehabilitation	6,100,000	2,800,000	7,950,000	5,000,000	0	21,850,000
214	Normal Extensions & Replacements	1,430,000	1,430,000	1,450,000	1,450,000	1,475,000	7,235,000
216	Water System Replacement Program	1,800,000	1,000,000	1,000,000	1,000,000	1,000,000	5,800,000
239	Mains In Streets Department Contracts	3,200,000	3,200,000	3,200,000	3,200,000	3,200,000	16,000,000
600	Water Share of Power Projects	69,930,000	280,000	280,000	280,000	280,000	71,050,000
701	Water Reserve for Emergencies	700,000	700,000	700,000	700,000	700,000	3,500,000
800	Water Share of General Budget Items	16,908,000	11,009,000	12,715,000	10,390,000	11,522,000	62,544,000
	Total Routine Capital Improvements	121,531,000	53,749,000	52,115,000	40,365,000	32,822,000	300,582,000
	Major Capital Improvements						
135	Improvements to Chemical System	250,000	3,000,000	100,000	0	0	3,350,000
156	Advanced Carrollton Water Treatment	360,000	12,620,000	9,620,000	12,000	60,000	22,672,000
157	Advanced Algiers Water Treatment	1,900,000	2,700,000	6,750,000	0	0	11,350,000
159	Water Plant Security Improvements	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	10,000,000
175	Water Hurricane Recovery Bonds	64,777,000	15,000,000	15,000,000	15,000,000	15,000,000	124,777,000
221	Feeder Main Extension, General	600,000	600,000	600,000	600,000	600,000	3,000,000
	Total Major Capital Improvements	69,887,000	35,920,000	34,070,000	17,612,000	17,660,000	175,149,000
	Total Water Department Improvements	191,418,000	89,669,000	86,185,000	57,977,000	50,482,000	475,731,000

(a) The improvements for 2014-2018 are based on the 2014-2023 Capital Program approved December 18, 2013.

Table 8

**Water Department
Projected Operating Revenue**

	(1)	(2)	(3)
Year	Revenue From Charges	Additional Revenue (a)	Total Service Charge Revenue
	\$	\$	\$
2014	72,722,400	0	72,722,400
2015	73,707,200	7,343,300	81,050,500
2016	74,705,700	15,580,000	90,285,700
2017	75,727,700	24,812,900	100,540,600
2018	76,773,600	35,220,900	111,994,500

(a) Reflects additional revenue from adopted revenue inci

Table 9
Water Department
Projected Operation and Maintenance Expenses

Department	2014 (a)	2015	2016	2017	2018
	\$	\$	\$	\$	\$
Management and General Expenses					
Administrative	2,918,800	3,006,400	3,096,600	3,189,500	3,285,200
Management Services Director	26,700	27,500	28,300	29,100	30,000
Building and Grounds and Support Services	1,147,200	1,181,700	1,217,100	1,253,600	1,291,200
Personnel Administration	441,900	455,200	468,800	482,900	497,400
Finance Administration	1,115,700	1,149,200	1,183,700	1,219,200	1,255,800
Information Systems	2,029,000	2,089,900	2,152,600	2,217,200	2,283,700
Revenue and Customer Service	4,352,700	4,483,300	4,617,800	4,756,300	4,899,000
Purchasing	294,800	303,600	312,800	322,100	331,800
Total Management and General	<u>12,326,800</u>	<u>12,696,800</u>	<u>13,077,700</u>	<u>13,469,900</u>	<u>13,874,100</u>
Operations Expenses					
General Superintendent	254,500	262,100	270,000	278,100	286,400
Chief of Operations	73,300	75,400	77,700	80,000	82,400
Water Pumping and Power	10,802,000	11,126,100	11,459,900	11,803,700	12,157,800
Central Control	284,200	292,800	301,600	310,600	319,900
Water Purification	11,220,200	11,556,800	11,903,500	12,260,600	12,628,500
Chief of Facilities Maintenance	139,900	144,100	148,400	152,800	157,400
Facilities Maintenance	4,394,200	4,526,100	4,661,900	4,801,700	4,945,800
Central Yard	2,379,400	2,450,800	2,524,300	2,600,100	2,678,100
Office of Chief of Networks	311,800	321,100	330,700	340,700	350,900
Networks	20,778,000	21,401,300	22,043,400	22,704,700	23,385,800
Engineering	1,621,100	1,669,700	1,719,800	1,771,400	1,824,500
Plumbing	665,500	685,500	706,000	727,200	749,000
Total Operations	<u>52,924,100</u>	<u>54,511,800</u>	<u>56,147,200</u>	<u>57,831,600</u>	<u>59,566,500</u>
Other Expenses					
Special Accounts	1,944,500	2,002,800	2,062,900	2,124,800	2,188,500
Payroll Related Expenses	3,838,300	3,953,400	4,072,000	4,194,200	4,320,000
Overhead Allocation	<u>(3,471,000)</u>	<u>(3,575,100)</u>	<u>(3,682,400)</u>	<u>(3,792,900)</u>	<u>(3,906,600)</u>
Total Other	<u>2,311,800</u>	<u>2,381,100</u>	<u>2,452,500</u>	<u>2,526,100</u>	<u>2,601,900</u>
Total Operation and Maintenance	<u>67,562,700</u>	<u>69,589,700</u>	<u>71,677,400</u>	<u>73,827,600</u>	<u>76,042,500</u>

(a) Represents the adopted operating budget as of December 18, 2013.

Table 10
Water Department
Debt Service Requirements

Debt Issue	2014	2015	2016	2017	2018
	\$	\$	\$	\$	\$
Existing Bonds					
Series 1998	154,300	0	0	0	0
Series 2002	644,100	0	0	0	0
Series 2010 LADHH	3,900	0	0	0	0
Total Existing Debt Service	802,300	0	0	0	0
Projected Bonds					
	Amount of Issue				
	\$				
2014 103,525,000	2,142,400	3,500,000	5,501,300	7,700,000	7,693,000
2015 47,000,000		0	0	2,058,950	4,117,900
2016 45,000,000			0	0	1,971,300
2017 39,000,000				0	0
2018 42,000,000					0
Total Projected Debt Service	2,142,400	3,500,000	5,501,300	9,758,950	13,782,200
Total Debt Service	2,944,700	3,500,000	5,501,300	9,758,950	13,782,200

Table 11
Water Department
Capital Improvement Program Financing

Line No.	Description	Fiscal Year Ending December 31,					Total
		2014	2015	2016	2017	2018	
		\$	\$	\$	\$	\$	\$
1	Funds Available at Beginning of Year	21,674,900	42,102,100	17,189,700	7,791,600	2,510,100	21,674,900
2	Revenue Bond Proceeds (a)	103,525,000	47,000,000	45,000,000	39,000,000	42,000,000	276,525,000
3	Operation Fund Transfers	0	2,000,000	10,500,000	15,500,000	20,000,000	48,000,000
4	Participation By Others	138,178,000	18,982,900	19,573,600	20,160,800	20,793,800	217,689,100
5	Net Original Issue Premium	7,699,200	0	0	0	0	7,699,200
6	Debt Service Reserve Fund Release	2,477,100	0	0	0	0	2,477,100
7	Transfer from Sinking Fund for Prior Bonds	1,599,100	0	0	0	0	1,599,100
8	Interest Income	546,700	410,500	286,300	258,500	274,100	1,776,100
9	Total Funds Available	275,700,000	110,495,500	92,549,600	82,710,900	85,578,000	577,440,500
10	Obligated Contracts & Capital Jobs	(3,879,500)	0	0	0	0	(3,879,500)
11	Reinvestment in Assets	(121,531,000)	(55,361,500)	(55,288,800)	(44,107,900)	(36,941,500)	(313,230,700)
12	Major Capital Additions	(69,887,000)	(36,997,600)	(36,144,900)	(19,245,100)	(19,876,500)	(182,151,100)
13	Deferred Capital Improvements	0	9,516,200	16,693,300	(8,165,900)	(19,125,800)	(1,082,200)
14	Bond Issuance Expense (b)	(1,040,100)	(705,000)	(675,000)	(585,000)	(630,000)	(3,635,100)
15	Capitalized Interest Requirement	(1,676,300)	(5,640,000)	(5,400,000)	(4,680,000)	(5,040,000)	(22,436,300)
16	Revenue Bond Reserve Fund	(7,700,000)	(4,117,900)	(3,942,600)	(3,416,900)	(3,679,800)	(22,857,200)
17	Refunding Escrow Deposits	(27,884,000)	0	0	0	0	(27,884,000)
18	Total Application of Funds	(233,597,900)	(93,305,800)	(84,758,000)	(80,200,800)	(85,293,600)	(577,156,100)
19	End of Year Balance	42,102,100	17,189,700	7,791,600	2,510,100	284,400	284,400

(a) 2014 Bond Proceeds includes the use of Debt Service Funds for refunded bond issues.

(b) 2014 Issuance Expense includes Underwriter's Discount.

Table 12

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

Line No.	Description	Fiscal Year Ending December 31,				
		2014	2015	2016	2017	2018
		\$	\$	\$	\$	\$
1	Revenue from Charges	72,722,400	73,707,200	74,705,700	75,727,700	76,773,600
2	Total Additional Revenue (a)	0	7,343,300	15,580,000	24,812,900	35,220,900
3	Total Service Charge Revenue	72,722,400	81,050,500	90,285,700	100,540,600	111,994,500
4	Interest Income	210,400	72,600	66,100	67,700	70,500
5	Plumbing Insp. & License Fees	343,900	343,900	343,900	343,900	343,900
6	Other Miscellaneous Income	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
7	Revenue from Internal field Review (b)	727,200	810,500	902,900	1,005,400	1,119,900
8	Sale of Water to School District	0	968,000	1,064,800	1,171,300	1,288,400
9	Interest from Bond Reserve Fund	92,000	126,000	167,000	204,000	238,000
10	Total Operating Revenue	75,595,900	84,871,500	94,330,400	104,832,900	116,555,200
11	Operation & Maintenance	(67,562,700)	(69,589,700)	(71,677,400)	(73,827,600)	(76,042,500)
12	Additional Operating & Maintenance	0	(687,800)	(1,375,500)	(2,063,300)	(2,751,000)
13	Operating & Maintenance Savings	0	401,600	461,700	524,900	554,900
14	Provision for Claims	(738,300)	(760,500)	(783,300)	(806,800)	(831,000)
15	Provision for Doubtful Accounts	(1,454,400)	(1,474,100)	(1,494,100)	(1,514,600)	(1,535,500)
16	Net Operating Revenue	5,840,500	12,761,000	19,461,800	27,145,500	35,950,100
	Debt Service					
	Senior Lien Revenue Bonds					
17	Existing	(798,500)	0	0	0	0
18	Projected	(2,142,400)	(3,500,000)	(5,501,300)	(9,759,000)	(13,782,200)
19	Total Senior Lien Revenue Bonds	(2,940,900)	(3,500,000)	(5,501,300)	(9,759,000)	(13,782,200)
	Subordinate Revenue Bonds					
20	Existing	(3,900)	0	0	0	0
21	Gulf Opportunity Zone Act Loan	(639,900)	(639,900)	(639,900)	(639,900)	(639,900)
22	Total Debt Service	(3,584,700)	(4,139,900)	(6,141,200)	(10,398,900)	(14,422,100)
23	Transfer to Construction	0	(2,000,000)	(10,500,000)	(15,500,000)	(20,000,000)
24	Due from/(to) Other Departments	(3,891,044)	(3,891,044)	(2,186,000)	(436,000)	(436,000)
25	Transfer to Operating Reserve Fund	(14,327,600)	(2,331,700)	(570,400)	(669,500)	(684,200)
26	Transfer from/(to) Rate Stabilization Fund	0	0	0	0	0
27	Net Annual Balance	(15,962,844)	398,356	64,200	141,100	407,800
28	Beginning of Year Cash Balance	16,029,700	66,856	465,212	529,412	670,512
29	End of Year Balance	66,856	465,212	529,412	670,512	1,078,312

(a) Reflects revenue from an eight-year series of annual 10% rate increases effective January 1, 2013; adopted by the City Council in 2012.

(b) Estimated as 1% of Total Service Charge Revenue.

Table 13
Water Department
Coverage Requirements

Line No.	Coverage Requirements	2013	2014	2015	2016	2017	2018
		\$	\$	\$	\$	\$	\$
Projected Net Revenues							
1	Revenue Under Existing Rates	64,398,600	72,722,400	73,707,200	74,705,700	75,727,700	76,773,600
2	Additional Revenue Under Proposed Rates		0	7,343,300	15,580,000	24,812,900	35,220,900
3	Interest Income	82,900	849,100	609,100	519,400	530,200	573,000
4	Plumbing and Inspection Fees	321,500	343,900	343,900	343,900	343,900	343,900
5	Revenue Sharing	219,900					
6	Other Miscellaneous Revenue	3,253,400	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
7	Revenue from Internal field Review		727,200	810,500	902,900	1,005,400	1,119,900
8	Sale of Water to School District		0	968,000	1,064,800	1,171,300	1,288,400
9	Operation & Maintenance Grants	1,981,600	0	0	0	0	0
10	Transfer from Rate Stabilization Fund		0	0	0	0	0
11	Operation & Maintenance	(63,378,600)	(67,562,700)	(69,875,900)	(72,591,200)	(75,366,000)	(78,238,600)
12	Claims	(226,400)	(738,300)	(760,500)	(783,300)	(806,800)	(831,000)
13	Provision for Doubtful Accounts	(1,072,600)	(1,454,400)	(1,474,100)	(1,494,100)	(1,514,600)	(1,535,500)
14	Net Revenue	5,580,300	6,387,200	13,171,500	19,748,100	27,404,000	36,214,600
Rate Covenant Coverage							
15	Projected Net Revenues		6,387,200	13,171,500	19,748,100	27,404,000	36,214,600
	Annual Debt Service						
16	Senior Debt		2,940,900	3,500,000	5,501,300	9,759,000	13,782,200
17	Coverage (a)		217%	376%	359%	281%	263%
18	All Debt		3,584,700	4,139,900	6,141,200	10,398,900	14,422,100
19	Coverage (b)		178%	318%	322%	264%	251%
Adjusted Rate Covenant Coverage							
20	Projected Net Revenues (c)		6,387,200	13,171,500	19,748,100	27,404,000	36,214,600
	Annual Debt Service						
21	Senior Debt		2,940,900	3,500,000	5,501,300	9,759,000	13,782,200
22	Coverage (d)		217%	376%	359%	281%	263%
23	All Debt		3,584,700	4,139,900	6,141,200	10,398,900	14,422,100
24	Coverage (d)		178%	318%	322%	264%	251%
Additional Bond Coverage							
25	Preceding Year Projected Net Revenues		5,580,300	6,387,200	13,171,500	19,748,100	27,404,000
26	Future Additional Revenue (e)		39,316,000	44,397,800	44,999,000	34,670,900	25,065,900
27	Adjusted Projected Net Revenues		44,896,300	50,785,000	58,170,500	54,419,000	52,469,900
	Maximum Debt Service						
28	Senior Debt		7,700,000	11,817,900	15,760,500	19,167,400	22,665,500
29	Coverage (a)		583%	430%	369%	284%	231%
30	All Debt		7,700,000	11,817,900	15,760,500	19,167,400	22,665,500
31	Coverage (b)		583%	430%	369%	284%	231%

(a) The General Bond Resolution requires net revenue to equal or exceed 125% of debt service.

(b) The General Bond Resolution requires net revenue to equal or exceed 110% of debt service.

(c) Net Revenue excludes transfers from the Rate Stabilization Fund and proceeds of Operation & Maintenance Grants.

(d) The General Bond Resolution requires net revenue to equal or exceed 100% of debt service.

(e) Reflects revenue from an eight-year series of annual 10% rate increases effective January 1, 2013; adopted by the City Council in 2012.

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 was in compliance with these covenants in 2013. Sewerage Department tables are included at the end of this section.

2013 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 2013 operations of the Sewerage Department are discussed in the following paragraphs.

Wastewater Volumes

Number of Customers

Table 14 presents a summary of the historical and projected average number of sewer customers for the period 2009 through 2018. Based on year-end billing summaries, the number of monthly billed customers during 2013 average 123,701 compared with 119,162 for 2012. It is projected that the Board will average approximately 126,175 open accounts in 2014 and that the number of accounts will continue to grow at approximately 1.20 percent each year.

Billed Wastewater Volume

Table 14 also presents a summary of historical and projected billed wastewater volumes. Based on year-end billing summaries, a total of 11,317 million gallons of wastewater volume was billed in 2013, compared with a total of 11,491 million gallons in 2012.

Operating Revenues

The 2014 schedule of rates for retail sewerage service is presented in Table 15 and reflects a 10 percent rate increase over 2013 rates. 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 16 for the period 2009 through 2013. The historical revenues shown in Table 16 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 2013 were \$77,767,114 which, when compared with \$70,707,230 for 2012, shows an increase of approximately 10 percent. Delinquent fee revenues were \$768,670 in 2013 which represent an increase of approximately 9.7 percent over 2012 delinquent fees.

Non-Operating Revenues

Also shown in Table 16, Sewerage Department non-operating revenue includes interest earned on the investment of available funds and other minor items of revenue. Interest earned in 2013 consisted of \$178,122 from investments in the Sewerage System fund, the capital projects and construction fund. Miscellaneous income was \$1,367,144 for 2013.

In 2013, the Board received \$5,367 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 16.

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 17 presents a summary of 2009 through 2013 historical operation and maintenance expenses of the Sewerage Department. Expenditures for 2013 increased about 2.9 percent from 2012 expenditures and about 5.6 percent from 2011 expenditures. Historical operation and maintenance expenses shown in Table 17 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 15 in Table 24.

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 2013 capital expenditures, exclusive of prorated interest expense, totaled \$54,393,889. Capital improvement expenditures for the year are shown in Table 18.

Summary of Operations

The following tabulation shows a summary of the receipts and expenditures of the Sewerage Department during 2013:

Total Revenues ^a	\$80,081,051
Operation and Maintenance Expense	45,566,211
Claims	-188,081
Debt Service Payments	20,268,460
Revenue Primarily Available for Capital Expenditures^b	\$14,434,460

^a Includes operating and maintenance grant of \$5,367.

^b Excludes depreciation.

PROPOSED CAPITAL IMPROVEMENT PROGRAM

Table 19 presents a summary of the projected major capital improvement program for the period 2014 through 2018. Table 19 is based on the Board's 2014-2023 Capital Program. The five-year major capital improvement program costs are estimated to total \$308,086,000. Of the projected total, \$225,534,000 is considered to be for recurring annual capital improvements. The remaining \$82,552,000 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 2014 through 2018 total \$32,113,000 and \$43,176,000, 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 19 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 19.

Operating Revenues

Future operating revenues of the Sewerage Department consist of sewerage service charge revenues which are summarized for 2014 through 2018 in Table 20. These estimates reflect the rate schedule effective January 1, 2014 applied to the projected number of customers and contributed wastewater flow and are projected to increase, on average, about 1.1 percent per year throughout the study period, due to growth in the customer base. Projected revenue from adopted revenue increases is also shown in Table 20.

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 \$343,000 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 2014 through 2018 is shown in Table 21 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 2014 reflect the Board's adopted 2014 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 2014.

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, 2013 outstanding debt obligations consisted of \$8,935,000 Sewerage Revenue Bonds Series 1997, \$8,705,000 Sewerage Revenue Bonds Series 1998, \$13,040,000 Sewerage Revenue Bonds Series 2000A, \$9,875,000 Sewerage Revenue Bonds Series 2000B, \$16,685,000 Sewerage Revenue Bonds Series 2001, \$33,160,000 Sewerage Revenue Bonds Series 2002, \$3,270,000 Sewerage Revenue Bonds Series 2003, \$21,400,000 Sewerage Revenue Bonds Series 2004, and \$20,495,000 Sewerage Revenue Bonds Series 2009.

In November 2011, the Board and Louisiana Department of Environmental Quality (LADEQ) entered into a loan agreement whereby \$9,000,000 of proceeds from the Revolving Loan Fund were borrowed through the issuance of Sewerage Service Subordinate Revenue Bonds, Series 2011. Debt service payments assume a 20-year term with a 0.45 percent interest rate plus an administrative fee of 0.5 percent. The Board began drawing down the funds during the first quarter of 2012 and as of

December 31, 2013, had received a total of \$8,831,402 in disbursements. The Board began making payment in November 2013. Total outstanding debt obligation on the Sewerage Revenue Bonds Series 2011 was \$8,420,000.

To adequately fund the proposed capital improvements, additional revenue bonds are indicated as shown in Table 22. In July of 2014 the Board issued Sewerage Revenue and Refunding Bonds, Series 2014 in the amount of \$158,990,000. Approximately 27 percent of the proceeds are anticipated to provide new money to help fund planned major capital program needs, with the balance to be used to refund outstanding Series 1997, Series 1998, Series 2000A, Series 2000B, Series 2001, Series 2002, Series 2003, Series 2004, and Series 2009 bonds. The debt service for the existing bonds shown in Table 22 reflects the refunding. The debt service on the 2014 bonds reflects an average annual interest rate of 5.0 percent for a term on 30 years and 2 years of capitalized interest. Projected bonds that are shown in Table 22 for 2015 through 2018 are assumed to be sold at an average annual interest rate of 6.0 percent for a term of 25 years with 2 years of capitalized interest.

The Sewerage Department has borrowed from the City of New Orleans Department of Public Works (DPW). It is anticipated that this amount will be reimbursed during the study period.

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 23 examines the financing of the major capital improvement program and Table 24 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.

Capital Projects Funding

Table 23 presents the major capital improvement financing plan which summarizes the projected source and application of funds over the six-year study period. The amount of Funds Available at Beginning of Year, shown on Line 1, is \$18,999,200. This amount is based on audited data provided by the Board.

Projected revenue bond proceeds are shown on Line 2. 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. A portion of the Series 2014 bonds will be used to refund outstanding senior lien revenue bonds, with the balance to be used to fund planned major capital program needs.

Financing of the major capital improvement program anticipates the transfer of a total of \$132,500,000 of operating reserves as shown on Line 3. 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 4 includes anticipated funding by the COE and FEMA. Interest earnings recognize an assumed 1.0 percent average annual interest rate and are shown on Line 8. Lines 5 through 7 reflect additional sources of revenue related to the Series 2014 Bond which include the original issue premium on the bonds and release of the debt service reserve and debt

service sinking fund for the defeased debt. Line 9 of the table shows the projected major capital improvement funds available each year.

As of December 31, 2013, the Board had \$14,231,000 obligated for open contracts and capital jobs as shown on Line 10 of Table 23. Lines 11 and 12 show the projected Reinvestment in Assets and Major Capital Additions to be funded as shown in Table 19. Estimated issuance costs and capitalized interest requirements related to the proposed bond issue amounts are shown on Lines 13 and 14.

Line 15 shows the required deposits into the Revenue Bond Reserve Fund associated with proposed bond issues. The debt service reserve on proposed debt is a three-pronged test estimated as the lesser of (i) 10 percent of the original principal amount, (ii) the maximum annual debt service, or (iii) 125 percent of the average annual debt service.

Line 16 reflects the refunding of the Series 1997, Series 1998, Series 2000, Series 2000B, Series 2001, Series 2002, Series 2003, Series 2004, and Series 2009 debt from the proceeds of the Series 2014 bonds. The Total Application of Funds is shown on Line 17 of Table 23. The net End of Year Balance is shown on Line 18.

Operating Fund

Line 1 of Table 24 shows projected Revenue from Charges under 2014 rates as previously presented in Table 20. In 2012, the New Orleans City Council approved eight consecutive annual 10 percent sewer rate increases beginning January 1, 2013. Revenue from these future annual revenue increases of 10 percent effective January 1, 2014 through January 1, 2018 is shown on Line 2.

Other revenue available for system operations is shown on Lines 4 through 10. Interest Income available to the operating fund, shown on Line 4, is estimated to be 1.0 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. Revenue from Plumbing Inspection and License Fees and Other Miscellaneous Revenue are shown on Lines 5 and 6 of Table 24. Board began conducting field account reviews in 2012 to determine whether meters are working accurately and bills are being computed correctly. Projected revenue from these reviews is shown on Line 7 and projected to be 1 percent of Total Service Charge Revenue on Line 3. The Board currently provides sewer service free of charge to the New Orleans School District; however, due to the amount of lost revenue from this source, the Board is considering eliminating free sewage treatment for the School District. It is anticipated that a resolution will be passed this year reflecting this change to become effective January 1, 2015. Projected revenue from this source is shown on Line 8.

The Board has submitted Project Worksheets to FEMA for operating expenses incurred from sewer repairs performed by Board crews. Line 9 indicates the amount projected to be reimbursed by FEMA for these repairs during the study period. Interest from the Bond Reserve Fund, shown on Line 10, is estimated to be 1.0 percent. Total Operating Revenue is shown on Line 11.

Operation and Maintenance expense, previously projected in Table 21, is shown on Line 12 of Table 24. Based on the *Financial Plan and Rate Study 2011-2020* report, additional operating costs required to achieve desired benchmarking levels is shown on Line 13 and projected cost savings due to efficiencies resulting from achieving these benchmarks are shown on Line 14. Line 15 shows the estimated allowance for claims. Bad debt expense is assumed to be 2 percent of projected revenue

and is shown on Line 16. Projected Net Operating Revenue from system operations is shown on Line 17.

Lines 18 through 20 present debt service requirements on currently outstanding and proposed senior revenue bonds. Existing bonds include the Series 1997, Series 1998, Series 2000, Series 2000B, Series 2001, Series 2002, Series 2003, Series 2004, and Series 2009 bonds which were refunded with the Series 2014 bonds that were issued in July. The amount shown on Line 18 reflects the projected principal and interest due on the existing debt prior to the refunding. Line 19 reflects projected principal and interest payment on the Series 2014 revenue bonds as well as additional revenue bond debt financing of \$23,500,000 in 2014, \$24,500,000 in 2016, \$21,000,000 in 2017 and \$28,500,000 in 2018. This debt is assumed to be 25 year, 6.0 percent fixed interest rate bonds issued in July with 2 years of capitalized interest and equal annual payments of principal and interest.

Subordinate revenue bonds are shown on Line 21 of Table 12 and reflect the loan provided by the LADEQ in 2011. Following the issuance of the Series 2014 bonds, the Series 2011 LADEQ loan will be on parity with the Series 2014 bonds. Therefore, the amount shown on Line 21 for 2014 reflects the principal and interest payment due prior to the issuance of the 2014 bonds. The remaining principal and interest due on the Series 2011 LADEQ loan is included on Line 18 as senior debt.

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. The Board has borrowed \$77,465,247 on this agreement. No principal or interest was payable during the initial five-year period of the loan, but after that period, the loan began to bear an interest rate of 4.64 percent. Payments for the sewerage portion of principal and interest began in July 2012 and are shown on Line 22 of Table 24.

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 reflects payment to the Department of Public Works as well as claimants.

The general bond resolution for the Series 2014 bonds sets forth the requirement to maintain an operating reserve equal to 90 days of the previous year's operation and maintenance expense. Line 26 indicates the amount needed to fully fund the operating reserve in 2014 followed by projected annual transfers to meet this requirement throughout the study period. The general bond resolution also sets for the option to maintain a rate stabilization fund. The amount to be transferred to this fund, as well as the timing, is determined by the Executive Director. There are not transfers currently anticipated during the study period as shown on Line 27 of Table 24.

Line 28 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 2014, shown on Line 29, is comprised of the current cash assets and reflects a balance of \$12,124,400. The End of Year Balance is shown on Line 30.

As demonstrated in Tables 23 and 24, it is anticipated that current revenue sources will be adequate to readily finance both projected capital program requirements as currently scheduled and estimated future operation expenses of the Sewerage Department during the 2014-2018 study period examined herein.

Bond Coverage Requirements

An additional consideration in measuring the adequacy of revenues is the provision of sufficient debt service coverage to meet the bond covenant requirements for the issuance of parity revenue bonds. With the issuance of the Series 2014 revenue bonds, the 1997 General Sewerage Service Revenue Bond Resolution is no longer applicable and in its place is the 2014 General Sewerage Service Revenue Bond Resolution. The resolution provides that rates shall be maintained at levels which are expected to yield net revenues (as defined in the resolution) equal to at least 125 percent of the annual principal and interest requirement for senior debt and 110 percent for senior and subordinate debt in each fiscal year. In addition, net revenue excluding transfers from the rate stabilization fund and the proceeds of grants shall be equal to at least 100 percent of the annual principal and interest requirement for senior and subordinate debt in each fiscal year.

The calculation of net revenue is shown on Lines 1 through 13 of Table 25. The ability of the Sewerage Department revenues to meet revenue bond coverage requirements is shown on Lines 14 through 23. The Adjusted Rate Covenant Coverage test reflects the exclusion of transfers from the rate stabilization fund and grant proceeds. As shown on Lines 16, 19, 21, and 23, the indicated projected revenue and revenue increases will provide sufficient net revenue to meet coverage requirements during the study period.

The General Sewerage Bond Resolution further prescribes that additional parity revenue bonds may be issued if net revenue from a previous test year (any 12 consecutive months of the last 24 months) is equal to at least 125 percent of the maximum annual principal and interest requirement for senior debt and 110 percent for senior and subordinate debt. For purposes of the additional bonds test, net revenue may be adjusted to reflect any increases not in effect during the selected test year but have been approved by the Board, Board of Liquidation and City Council and will go into effect within the following five years.

The results of the additional bonds test are shown on Lines 24 through 30 of Table 25. Lines 28 and 30 of the table indicate that with the magnitude of the adopted annual revenue increases, required minimum levels of coverage are met in each year with indicated coverage levels ranging from 405 percent to 535 percent.

Table 14
Sewerage Department
Historical and Projected Billed Volumes
and Average Number of Customers (a)

Customer Class	Historical					Projected				
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Single Family Residential (b)										
Customers	93,901	100,108	102,265	104,782	109,036	111,217	113,441	115,710	118,024	120,384
Sales (1,000,000 gal.)	5,145	5,203	5,433	5,374	5,392	5,500	5,610	5,723	5,837	5,954
Sales Per Customer (1,000 gal.)	55	52	53	51	49	49	49	49	49	49
Multifamily Residential										
Customers	4,260	4,406	4,429	4,455	4,534	4,625	4,625	4,625	4,625	4,625
Sales (1,000,000 gal.)	710	693	672	655	621	633	633	633	633	633
Sales Per Customer (1,000 gal.)	167	157	152	147	137	137	137	137	137	137
Commercial										
Customers	9,574	9,841	9,861	9,897	10,101	10,303	10,303	10,303	10,303	10,303
Sales (1,000,000 gal.)	5,109	5,304	5,292	5,312	5,258	5,363	5,363	5,363	5,363	5,363
Sales Per Customer (1,000 gal.)	533	538	536	536	520	520	520	520	520	520
Industrial										
Customers	30	29	27	28	30	30	31	32	33	34
Sales (1,000,000 gal.)	87	70	57	151	47	47	48	50	51	53
Sales Per Customer (1,000 gal.)	2,847	2,417	2,123	5,389	1,559	1,560	1,558	1,559	1,558	1,559
Total										
Customers	107,765	114,385	116,581	119,162	123,701	126,175	128,400	130,670	132,985	135,346
Sales (1,000,000 gal.)	11,050	11,270	11,454	11,491	11,317	11,543	11,654	11,768	11,884	12,002

(a) Excludes customers receiving free service.

(b) Includes duplex.

Table 15

**Sewerage Department
Existing Sewer Rates
(Effective January 1, 2014)**

Rate Components	General Service
-----------------	-----------------

\$

Monthly Sewerage Service Charge

Meter Size

Inches

5/8	14.04
3/4	19.97
1	28.44
1-1/2	52.34
2	76.54
3	181.50
4	302.50
6	605.00
8	907.50
10	1,210.00
12	1,391.50
16	1,875.50

Monthly Quantity Charge

Per 1,000 Gallons 4.88

Excessive Strength Charge per Pound

BOD 0.32
TSS 0.19

Table 16

Sewerage Department Statement of Historical Revenue

Revenue Source	2009	2010	2011	2012	2013
	\$	\$	\$	\$	\$
Operating Revenue					
Sewerage Service Charges	65,442,893	68,821,844	69,632,459	70,707,230	77,767,114
Delinquent Fee	660,053	712,935	725,617	700,605	768,670
Total Operating Revenue	66,102,946	69,534,779	70,358,076	71,407,835	78,535,785
Nonoperating Revenue					
Interest Income	326,075	74,774	253,547	196,435	178,122
Plumbing Inspection and License Fees	242,224	373,213	379,036	343,903	321,518
Revenue Sharing	205,908	185,243	175,424	154,509	274,229
Other Income (a)	3,160,923	3,218,248	3,009,211	296,406	771,397
Total Nonoperating Revenue	3,935,130	3,851,478	3,817,218	991,253	1,545,266
Total Revenue	70,038,076	73,386,257	74,175,294	72,399,088	80,081,051

(a) Includes \$2,772,395 in operating and maintenance grants in 2009 , \$2,957,463 in 2010, \$7,463 in 2012, and \$5,367 in 2013.

Table 17
Sewerage Department
Historical Operation and Maintenance Expenses (a)

Department	2009	2010	2011	2012	2013
	\$	\$	\$	\$	\$
Management and General Expenses					
Administrative	5,635,970	2,332,598	1,602,429	2,604,097	3,035,796
Management Services Director	23,641	23,225	23,618	24,350	26,912
Building and Grounds and Support Services	1,063,852	1,035,972	1,146,188	1,145,005	1,243,463
Personnel Administration	255,645	284,354	276,123	349,216	313,814
Finance Administration	701,627	785,102	847,924	829,390	778,041
Information Systems	1,479,827	1,421,701	1,491,718	1,429,882	1,412,491
Revenue and Customer Service	3,774,740	4,072,717	3,990,453	4,028,431	4,127,203
Purchasing	203,652	225,851	212,508	204,325	208,850
Total Management and General	13,138,954	10,181,521	9,590,960	10,614,697	11,146,570
Operations Expenses					
General Superintendent	136,268	178,217	172,673	182,265	197,524
Drainage Pumping and Central Control	253,466	284,458	282,983	305,901	305,531
Sewerage Pumping	2,991,929	2,994,092	2,761,304	3,125,171	3,101,431
Chief of Operations	70,309	67,543	68,777	137,430	62,056
Water Pumping and Power	351,013	897,824	910,258	360,672	375,849
Sewerage Treatment	12,384,026	11,219,427	10,953,890	10,770,661	10,337,838
Chief of Facilities Maintenance	87,943	92,316	130,206	252,133	128,279
Facilities Maintenance	2,915,271	2,904,608	2,997,106	3,234,864	3,630,021
Central Yard	1,591,341	1,789,445	1,935,487	2,234,033	2,188,672
Office of Chief of Networks	104,781	104,212	185,982	130,939	139,444
Networks	9,881,454	8,514,449	8,767,792	9,388,251	9,566,363
Engineering	962,712	1,014,125	1,080,168	1,105,298	1,444,644
Plumbing	477,792	469,921	450,067	523,148	542,934
Total Operations	32,208,305	30,530,637	30,696,692	31,750,766	32,020,587
Other Expenses					
Special Accounts	1,081,546	932,188	897,154	926,912	1,122,683
Payroll Related Expenses	6,301,921	5,522,151	5,710,844	5,008,698	5,396,131
Overhead Allocation	(3,328,966)	(3,388,621)	(3,747,859)	(4,007,841)	(4,119,759)
Total Other	4,054,501	3,065,718	2,860,139	1,927,769	2,399,055
Total Operation and Maintenance (b)	49,401,760	43,777,876	43,147,792	44,293,232	45,566,211

(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

(b) Source: Expenditure Analysis by Group Report.

Table 18

**Sewerage Department
Capital Expenditures (a)
2013**

C.P. #	Project	Actual Expenditures
		\$
	Sewerage Systems	
317	Normal Extensions & Replacement of Gravity Mains	1,983,167
318	Rehabilitation Gravity Sewer System	4,393,225
326	Extensions & Replacements to Sewer Pumping Stations	89,121
339	Mains in Street Dept. Contracts	49,265
340	Sewerage Hurricane Recovery Bonds (FEMA)	183,260
348	Normal Extensions & Replacements	1,900,430
368	Wetlands Assimilation Project	745,826
375	Sewerage Hurricane Recovery Bonds	37,816,130
	Total Sewerage System	<u>47,160,425</u>
	Power Projects and General Budget	
600	Sewerage Share of Power Projects	782,864
700	Sewer Reserve for Emergencies	2,727,066
800	Sewerage Share of General Budget Items	3,723,534
	Total Power Projects and General Budget	<u>7,233,464</u>
	Total Sewerage Department	54,393,889

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

Table 19

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

C.P. #	Project	2014	2015	2016	2017	2018	Total
		\$	\$	\$	\$	\$	\$
Reinvestment in Assets							
317	Extensions and Replacements - Gravity Mains	700,000	7,633,000	17,888,000	5,212,000	17,119,000	48,552,000
318	Rehabilitation Gravity Sewer System	7,300,000	6,600,000	6,600,000	6,600,000	6,900,000	34,000,000
319	Extension and Replacements - Sanitary Sewer Mains Algiers	0	500,000	0	0	0	500,000
326	Extensions and Replacements to Pumping Stations	3,003,000	5,570,000	8,200,000	1,700,000	1,700,000	20,173,000
339	Mains in Streets Department Contracts	5,300,000	5,300,000	5,300,000	5,300,000	5,300,000	26,500,000
348	Extensions and Replacements - Treatment Plants	3,270,000	3,425,000	3,280,000	3,920,000	3,125,000	17,020,000
600	Sewer Share of Power Projects	26,453,000	40,000	40,000	540,000	5,040,000	32,113,000
702	Sewer Reserve for Emergencies	700,000	700,000	700,000	700,000	700,000	3,500,000
800	Sewer Share of General Budget Items	12,913,000	7,883,000	8,013,000	6,947,000	7,420,000	43,176,000
	Total Routine Annual Improvements	59,639,000	37,651,000	50,021,000	30,919,000	47,304,000	225,534,000
Major Capital Improvements							
313	Extensions and Replacements - Sewer Force Mains	6,500,000	6,500,000	6,750,000	6,750,000	12,750,000	39,250,000
340	Sewerage Hurricane Recovery Bonds (FEMA)	10,518,000	0	0	0	0	10,518,000
358	WWTP Normal Extensions & Replacements	0	0	0	10,000	0	10,000
368	Wetland Assimilation	4,800,000	3,300,000	0	0	0	8,100,000
375	Sewerage Hurricane Recovery Bonds	11,660,000	2,000,000	0	0	0	13,660,000
381	Modification and Expansion of WBSTP to 20/50 MGD	3,474,000	2,770,000	4,290,000	235,000	245,000	11,014,000
	Total Major Improvements	36,952,000	14,570,000	11,040,000	6,995,000	12,995,000	82,552,000
	Total Sewerage System Improvements	96,591,000	52,221,000	61,061,000	37,914,000	60,299,000	308,086,000

(a) The improvements for 2014-2018 are based on the 2014-2023 Capital Program approved December 18, 2013.

Table 20

**Sewerage Department
Projected Operating Revenue**

	(1)	(2)	(3)
Year	Revenue From Charges	Additional Revenue (a)	Total Service Charge Revenue
	\$	\$	\$
2014	87,386,700	0	87,386,700
2015	88,344,400	8,800,100	97,144,500
2016	89,324,400	18,700,700	108,025,100
2017	90,322,400	29,655,900	119,978,300
2018	91,341,300	42,076,500	133,417,800

(a) Reflects additional revenue from adopted revenue increases.

Table 21
Sewerage Department
Projected Operation and Maintenance Expenses

Department	2014 (a)	2015	2016	2017	2018
	\$	\$	\$	\$	\$
Management and General Expenses					
Administrative	3,406,900	3,509,100	3,614,400	3,722,800	3,834,500
Management Services Director	26,700	27,500	28,300	29,100	30,000
Building and Grounds and Support Services	1,147,600	1,182,000	1,217,500	1,254,000	1,291,700
Personnel Administration	281,600	290,000	298,700	307,700	316,900
Finance Administration	844,600	870,000	896,100	922,900	950,600
Information Systems	2,016,800	2,077,300	2,139,600	2,203,800	2,270,000
Revenue and Customer Service	4,377,700	4,509,100	4,644,300	4,783,700	4,927,200
Purchasing	244,600	251,900	259,500	267,200	275,300
Total Management and General	<u>12,346,500</u>	<u>12,716,900</u>	<u>13,098,400</u>	<u>13,491,200</u>	<u>13,896,200</u>
Operations Expenses					
General Superintendent	177,600	182,900	188,400	194,100	199,900
Drainage Pumping and Central Control	0	0	0	0	0
Sewerage Pumping	2,718,600	2,800,200	2,884,200	2,970,700	3,059,900
Chief of Operations	73,300	75,500	77,700	80,000	82,400
Water Pumping and Power	473,900	488,200	502,800	517,900	533,400
Water Purification	230,400	237,400	244,500	251,800	259,400
Sewerage Treatment	12,262,000	12,629,900	13,008,800	13,399,000	13,801,000
Chief of Facilities Maintenance	139,900	144,100	148,400	152,800	157,400
Facilities Maintenance	1,905,300	1,962,400	2,021,300	2,082,000	2,144,400
Central Yard	2,389,500	2,461,200	2,535,000	2,611,100	2,689,400
Office of Chief of Networks	217,600	224,100	230,800	237,800	244,900
Networks	16,430,200	16,923,100	17,430,800	17,953,700	18,492,300
Engineering	1,089,500	1,122,200	1,155,800	1,190,500	1,226,200
Plumbing	665,500	685,500	706,000	727,200	749,000
Total Operations	<u>38,773,300</u>	<u>39,936,700</u>	<u>41,134,500</u>	<u>42,368,600</u>	<u>43,639,600</u>
Other Expenses					
Special Accounts	1,827,700	1,882,500	1,939,000	1,997,200	2,057,100
Payroll Related Expenses	2,445,400	2,518,800	2,594,400	2,672,200	2,752,400
Overhead Allocation	(3,909,000)	(4,026,300)	(4,147,100)	(4,271,500)	(4,399,600)
Total Other	<u>364,100</u>	<u>375,000</u>	<u>386,300</u>	<u>397,900</u>	<u>409,900</u>
Total Operation and Maintenance	<u>51,483,900</u>	<u>53,028,600</u>	<u>54,619,200</u>	<u>56,257,700</u>	<u>57,945,700</u>

(a) Represents the adopted operating budget as of December 18, 2013.

Table 22

Sewerage Department Debt Service Requirements

Debt Issue	2014	2015	2016	2017	2018
	\$	\$	\$	\$	\$
Existing Bonds					
Series 1997	2,311,800	0	0	0	0
Series 1998	1,813,700	0	0	0	0
Series 2000A	1,949,900	0	0	0	0
Series 2000B	1,474,300	0	0	0	0
Series 2001	2,222,500	0	0	0	0
Series 2002	3,887,600	0	0	0	0
Series 2003	337,100	0	0	0	0
Series 2004	2,156,300	0	0	0	0
Series 2009	1,391,100	0	0	0	0
Series 2011 LADEQ	487,400	513,300	531,700	528,700	527,500
Total Existing Debt Service	18,031,700	513,300	531,700	528,700	527,500
Projected Bonds					
	Amount of Issue				
	\$				
2014 158,990,000	1,980,500	15,898,000	18,042,400	19,309,800	17,642,500
2015 23,500,000		0	0	1,029,450	2,058,900
2016 24,500,000			0	0	1,073,250
2017 21,000,000				0	0
2018 28,500,000					0
Total Projected Debt Service	1,980,500	15,898,000	18,042,400	20,339,250	20,774,650
Total Debt Service	20,012,200	16,411,300	18,574,100	20,867,950	21,302,150

Table 23
Sewerage Department
Capital Improvement Program Financing

Line No.	Description	Fiscal Year Ending December 31,					Total
		2014	2015	2016	2017	2018	
		\$	\$	\$	\$	\$	\$
1	Funds Available at Beginning of Year	18,999,200	28,370,800	14,239,000	278,500	5,485,300	18,999,200
2	Revenue Bond Proceeds (a)	158,990,000	23,500,000	24,500,000	21,000,000	28,500,000	256,490,000
3	Operation Fund Transfers	19,000,000	15,000,000	30,500,000	29,000,000	39,000,000	132,500,000
4	Participation by Others	53,812,000	6,386,000	1,273,100	1,311,300	1,463,200	64,245,600
5	Net Original Issue Premium	13,680,700	0	0	0	0	13,680,700
6	Debt Service Reserve Fund Release	16,164,100	0	0	0	0	16,164,100
7	Transfer from Sinking Fund for Prior Bonds	2,062,800	0	0	0	0	2,062,800
8	Interest Income	81,600	1,200	0	0	0	82,800
9	Total Funds Available	282,790,400	73,258,000	70,512,100	51,589,800	74,448,500	504,225,200
10	Obligated Contracts & Capital Jobs	(14,231,000)	0	0	0	0	(14,231,000)
11	Reinvestment in Assets	(59,639,000)	(38,780,500)	(53,067,300)	(33,786,000)	(53,241,100)	(238,513,900)
12	Major Capital Additions	(36,952,000)	(15,007,100)	(11,712,300)	(7,643,600)	(14,626,000)	(85,941,000)
13	Bond Issuance Expense (b)	(1,345,400)	(352,500)	(367,500)	(315,000)	(427,500)	(2,807,900)
14	Capitalized Interest Requirement	(4,977,200)	(2,820,000)	(2,940,000)	(2,520,000)	(3,420,000)	(16,677,200)
15	Revenue Bond Reserve Fund (c)	(10,707,800)	(2,058,900)	(2,146,500)	(1,839,900)	(2,497,000)	(19,250,100)
16	Refunding Escrow Deposits	(126,567,200)	0	0	0	0	(126,567,200)
17	Total Application of Funds	(254,419,600)	(59,019,000)	(70,233,600)	(46,104,500)	(74,211,600)	(503,988,300)
18	End of Year Balance	28,370,800	14,239,000	278,500	5,485,300	236,900	236,900

(a) 2014 Bond Proceeds includes the use of Debt Service Funds for refunded bond issues and other miscellaneous sources.

(b) 2014 Issuance Expense includes Underwriter's Discount.

(c) Includes Debt Service Reserve Fund for 2011 DEQ Revenue Bonds.

Table 24

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

Line No.	Description	Fiscal Year Ending December 31,				
		2014	2015	2016	2017	2018
		\$	\$	\$	\$	\$
1	Revenue from Charges	87,386,700	88,344,400	89,324,400	90,322,400	91,341,300
2	Total Additional Revenue (a)	0	8,800,100	18,700,700	29,655,900	42,076,500
3	Total Service Charge Revenue	87,386,700	97,144,500	108,025,100	119,978,300	133,417,800
4	Interest Income	126,600	114,600	109,600	66,000	68,100
5	Plumbing Insp. & License Fees	343,900	343,900	343,900	343,900	343,900
6	Other Miscellaneous Income	288,900	288,900	288,900	288,900	288,900
7	Revenue from Internal Field Review (b)	873,900	971,400	1,080,300	1,199,800	1,334,200
8	Sale of Water to School District	0	1,512,500	1,663,800	1,830,200	2,013,200
9	Operating & Maintenance Grants	13,938,000	7,858,000	0	0	0
10	Interest from Bond Reserve Fund	336,000	237,000	258,000	278,000	300,000
11	Total Operating Revenue	103,294,000	108,470,800	111,769,600	123,985,100	137,766,100
12	Operation & Maintenance	(51,483,900)	(53,028,600)	(54,619,200)	(56,257,700)	(57,945,700)
13	Additional Operating & Maintenance	0	(2,159,300)	(4,318,500)	(6,607,300)	(8,964,800)
14	Operating & Maintenance Savings	0	293,900	605,100	647,700	691,800
15	Provision for Claims	(351,200)	(361,700)	(372,600)	(383,700)	(395,300)
16	Provision for Doubtful Accounts	(1,747,700)	(1,942,900)	(2,160,500)	(2,399,600)	(2,668,400)
17	Net Operating Revenue	49,711,200	51,272,200	50,903,900	58,984,500	68,483,700
	Debt Service					
	Senior Lien Revenue Bonds					
18	Existing	(18,011,600)	(513,300)	(531,700)	(528,700)	(527,500)
19	Projected	(1,980,500)	(15,898,000)	(18,042,400)	(20,339,300)	(20,774,700)
20	Subtotal	(19,992,100)	(16,411,300)	(18,574,100)	(20,868,000)	(21,302,200)
	Subordinate Revenue Bonds					
21	Existing	(20,100)	0	0	0	0
22	Gulf Opportunity Zone Act Loan	(7,290,700)	(7,290,700)	(7,290,700)	(7,290,700)	(7,290,700)
23	Total Debt Service	(27,302,900)	(23,702,000)	(25,864,800)	(28,158,700)	(28,592,900)
24	Transfer to Construction	(19,000,000)	(15,000,000)	(30,500,000)	(29,000,000)	(39,000,000)
25	Due from/(to) Other Departments	(2,765,950)	(2,911,000)	(2,911,000)	(486,000)	0
26	Transfer to Operating Reserve Fund	(11,235,500)	(1,459,200)	(840,800)	(847,900)	(957,900)
27	Transfer from/(to) Rate Stabilization Fund	0	0	0	0	0
28	Net Annual Balance	(10,593,150)	8,200,000	(9,212,700)	491,900	(67,100)
29	Beginning of Year Cash Balance	12,124,400	1,531,250	9,731,250	518,550	1,010,450
30	End of Year Balance	1,531,250	9,731,250	518,550	1,010,450	943,350

(a) Reflects revenue from an eight-year series of annual 10% rate increases effective January 1, 2013; adopted by the City Council in 2012.

(b) Estimated as 1% of Total Service Charge Revenue.

Table 25
Sewerage Department
Coverage Requirements

Line No.	Coverage Requirements	2013	2014	2015	2016	2017	2018
		\$	\$	\$	\$	\$	\$
Projected Net Revenues							
1	Revenue Under Existing Rates (a)	78,535,800	87,386,700	97,144,500	108,025,100	119,978,300	133,417,800
2	Additional Revenue Under Proposed Rates		0	8,800,100	18,700,700	29,655,900	42,076,500
3	Interest Income	178,100	544,200	352,800	367,600	344,000	368,100
4	Plumbing and Inspection Fees	321,500	343,900	343,900	343,900	343,900	343,900
5	Revenue Sharing	274,200					
6	Other Miscellaneous Revenue	766,000	288,900	288,900	288,900	288,900	288,900
7	Revenue from Internal field Review		873,900	971,400	1,080,300	1,199,800	1,334,200
8	Sale of Water to School District		0	1,512,500	1,663,800	1,830,200	2,013,200
9	Operation & Maintenance Grants	5,400	13,938,000	7,858,000	0	0	0
10	Transfer from Rate Stabilization Fund		0	0	0	0	0
10	Operation & Maintenance	(45,566,200)	(51,483,900)	(54,894,000)	(58,332,600)	(62,217,300)	(66,218,700)
11	Claims	(577,100)	(351,200)	(361,700)	(372,600)	(383,700)	(395,300)
12	Provision for Doubtful Accounts	(824,400)	(1,747,700)	(1,942,900)	(2,160,500)	(2,399,600)	(2,668,400)
13	Net Revenue	33,113,300	49,792,800	60,073,500	69,604,600	88,640,400	110,560,200
Rate Covenant Coverage							
14	Projected Net Revenues		49,792,800	60,073,500	69,604,600	88,640,400	110,560,200
	Annual Debt Service						
15	Senior Debt		19,992,100	16,411,300	18,574,100	20,868,000	21,302,200
16	Coverage (a)		249%	366%	375%	425%	519%
17	All Debt		27,302,900	23,702,000	25,864,800	28,158,700	28,592,900
18	Coverage (b)		182%	253%	269%	315%	387%
Adjusted Rate Covenant Coverage							
19	Projected Net Revenues (c)		35,854,800	52,215,500	69,604,600	88,640,400	110,560,200
	Annual Debt Service						
20	Senior Debt		19,992,100	16,411,300	18,574,100	20,868,000	21,302,200
21	Coverage (d)		179%	318%	375%	425%	519%
22	All Debt		27,302,900	23,702,000	25,864,800	28,158,700	28,592,900
23	Coverage (d)		131%	220%	269%	315%	387%
Additional Bond Coverage							
24	Preceding Year Projected Net Revenues		33,113,300	49,792,800	60,073,500	69,604,600	88,640,400
25	Future Additional Revenue (e)		47,946,900	53,350,500	53,935,100	41,455,500	29,896,700
26	Adjusted Projected Net Revenues		81,060,200	103,143,300	114,008,600	111,060,100	118,537,100
	Maximum Debt Service						
27	Senior Debt		19,992,200	20,868,000	21,302,100	22,802,500	24,051,000
28	Coverage (a)		405%	494%	535%	487%	493%
29	All Debt		20,012,200	20,868,000	21,302,100	22,802,500	24,051,000
30	Coverage (b)		405%	494%	535%	487%	493%

(a) The General Bond Resolution requires net revenue to equal or exceed 125% of debt service.

(b) The General Bond Resolution requires net revenue to equal or exceed 110% of debt service.

(c) Net Revenue excludes transfers from the Rate Stabilization Fund and proceeds of Operation & Maintenance Grants.

(d) The General Bond Resolution requires net revenue to equal or exceed 100% of debt service.

(e) Reflects revenue an eight-year series of annual 10% rate increases effective January 1, 2013; adopted by the City Council in 2012.

Drainage Department

2013 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.

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 26 for the period 2009 through 2013. The historical revenue shown in Table 26 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 27 presents a summary of 2009 through 2013 operation and maintenance expenses of the Drainage Department. Expenditures for 2013 increased about 0.2 percent over 2012 expenditures. Operation and maintenance expenses have decreased an average of 0.7 percent per year over the five-year period shown. Historical operation and maintenance expenses shown in Table 27 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 13 in Table 35.

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 2013, exclusive of prorated interest expenses totaled \$25,140,359. The Drainage Department’s capital improvement expenditures for the year are shown in Table 28.

Summary of Operations

The following tabulation shows a summary of receipts and expenditures of the Drainage Department during 2013:

Total Revenues	\$46,619,029
Operation and Maintenance Expense	31,893,808
Claims	1,197,474
Debt Service Payments	2,216,497
Revenue Primarily Available for Capital Expenditures ^a	\$11,311,249

^a Excludes depreciation.

PROPOSED CAPITAL IMPROVEMENT PROGRAM

Table 29 presents a summary of the projected major capital improvement program for the period 2014 through 2018. Table 25 is based on the Board’s 2014-2023 Capital Program. The five-year major capital improvement program costs are expected to total \$854,391,000. 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 30, future revenues from these sources are estimated by the Board in the 2014 through 2023 Capital Program according to capital project and amount to \$574,811,000, 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 65 percent from federal funds and 35 percent from local funds. The payback period for the local share is 30 years and is anticipated to begin in 2016.

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 2013, 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 31. 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 2013 assessed taxable value. It is assumed that the three-mill ad valorem tax will be reauthorized in 2017.

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 2014 through 2018 is based on 4.66, 4.71, and 7.06 mills for three-mill, six-mill, and nine-mill taxes, respectively.

Operation and Maintenance Expenses

A summary of projected operation and maintenance expenses is shown in Table 32. 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 2014 reflect the Board's adopted 2014 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 2014.

Debt Service Requirements

Nine-mill bonds in the amount of \$10,000,000 were issued in 1998, and as of December 31, 2013, \$3,445,000 remained outstanding. Additional nine-mill bonds in the amount of \$20,000,000 were issued in 2002, and as of December 31, 2013, \$12,760,000 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 33. It is anticipated that in November of 2014 the Board will issue Drainage Refunding Bonds, Series 2014 in the amount of \$14,945,000. The proceeds of the bonds will be used to refund all outstanding drainage revenue bonds. The debt service for the existing bonds shown in Table 33 reflects the refunding. The debt service on the 2014 bonds reflects an average annual interest rate of 5.0 percent for a term of 8 years. Projected bonds that are shown in Table 33 for 2015 through 2018 are assumed to be sold at an average annual interest rate of 6.0 percent for a term of 25 years. The Drainage Department has borrowed from the City of New Orleans Department of Public Works (DPW). It is anticipated that this amount will be reimbursed during the study period.

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 34 examines the financing of the major capital improvement

program and Table 35 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.

Capital Projects Funding

Table 34 presents the major capital improvement financing plan which summarizes the projected source and application of funds over the five-year study period. The amount of Funds Available at Beginning of Year, shown on Line 1, is \$40,578,500. This amount is based on audited data provided by the Board.

Projected revenue bond proceeds are shown on Line 2. 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. The Series 2014 bonds will be used to refund outstanding senior lien revenue bonds.

Financing of the major capital improvement program anticipates the transfer of a total of \$22,000,000 of operating revenue as shown on Line 3. 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 4 includes anticipated funding by the U.S. Army Corps of Engineers (COE) and FEMA as well as others. Interest earnings recognize an assumed 1.0 percent average annual interest rate and are shown on Line 6. Line 5 reflects the original issue premium on the bonds. Line 7 of the table shows the projected major capital improvement funds available each year.

As of December 31, 2013, the Board had \$4,857,100 obligated for open contracts and capital jobs as shown on Line 8 of Table 34. Lines 9 and 10 show the projected Reinvestment in Assets and Major Capital Additions to be funded as shown in Table 29. It is anticipated that the capital projects shown in 2014 through 2017 will exceed the amount of funding available and some projects will need to be deferred until 2018 or later. This deferral is shown on Line 11 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 12.

Lines 13 and 14 reflect the refunding of the Series 1998 and Series 2002 debt from the proceeds of the Series 2014 bonds. The Total Application of Funds is shown on Line 15 of Table 11. The net End of Year Balance is shown on Line 16.

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 35.

As previously mentioned, the Financial Plan and Rate Study 2011-2020 indicated that additional operating revenue is needed to help fund the capital program. An option that the Board is currently considering is the implementation of a drainage fee to supplement the existing tax revenue. The estimated revenue from this new funding source is shown on Line 4 of Table 35 and the proposed revenue from future annual revenue increases is shown on Line 5.

Other revenue available for system operations is shown on Lines 6 through 8. Miscellaneous revenue on Line 6 includes rental income, gain or loss on the sale of assets and other miscellaneous income. Interest Income available to the operating fund, shown on Line 7, is estimated to be 1.0 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. Interest from the Bond Reserve Fund, shown on Line 8, is estimated to be 1.0 percent. Total Operating Revenue is shown on Line 9 of Table 35.

Operation and Maintenance expense, previously projected in Table 32, is shown on Line 10 of Table 35. Based on the *Financial Plan and Rate Study 2011-2020* there will be numerous additional operating costs during the study period that are not included in the adopted budget for 2014. These additional expenses, shown on Line 11 include costs associated with operating the Drainage system at a more sustainable level, taking over the City's minor drainage system, operating responsibility for new major drainage capital assets, and green infrastructure and grown water management. The Board has also identified areas where reduced spending has been realized which is shown on Line 12. Line 13 shows the estimated allowance for claims. Bad debt expense is assumed to be 0.5 percent of projected revenue and is shown on Line 14. Projected Net Operating Revenue from system operations is shown on Line 15.

Lines 16 through 18 present debt service requirements on currently outstanding and proposed senior revenue bonds. Existing debt includes the Series 1998 and Series 2002 bonds which will be refunded with the Series 2014 bonds that will be issued in November of 2014. The amount shown on Line 16 reflects the projected principal and interest due on the existing debt prior to the refunding. Line 17 reflects projected principal and interest payments on the Series 2014 revenue bonds as well as additional revenue bond debt financing of \$15,000,000 in 2015, \$15,000,000 in 2016, \$60,000,000 in 2017 and \$60,000,000 in 2018. This debt is assumed to be 25 year, 6.0 percent fixed interest rate bonds issued in July of each year, with equal annual payments of principal and interest.

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. The Board has borrowed \$77,465,247 on this agreement. No principal or interest was payable during the initial five-year period of the loan, but after that period, the loan began to bear an interest rate of 4.64 percent. Payments for the water portion of principal and interest began in July 2012 and are shown on Line 19 of Table 35.

Line 20 reflects the estimated SELA repayments that will begin in 2016. Total debt service is shown on Line 21.

Line 22 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 23 reflects repayment from the Water Department and repayment to the Department of Public Works as well as repayment to claimants.

It is intended that the Drainage Department maintain an operating reserve equal to 45 days of the previous year's operation and maintenance expense. Line 24 indicates the amount needed to fully

fund the operating reserve in 2014 followed by projected annual transfers to meet this goal throughout the study period.

Line 25 indicated the estimated Net Annual Balance from operations remaining at the end of each year. The net balance of operating funds available at the beginning of the year 2013, shown on Line 26, is comprised of current cash assets and reflects a balance of \$2,172,300.

The End of Year Balance, which is exclusive of the operating reserve fund, is shown on Line 27.

Bond Coverage Requirements

A requirement of the Drainage Bond Resolution provides that revenues derived from the nine-mill ad valorem tax should provide an amount sufficient to provide for the interest and principle payment on the Series 1998 and Series 2002 bonds. As shown on Line 28 of Table 35, with the assumed deferred capital improvements and proposed future bond issues, the projected revenue from the nine-mill ad valorem tax will provide sufficient revenue to meet coverage requirements during the study period.

The Drainage Bond Resolution also provides that additional parity bonds may be issued, but only after certain conditions have been met. One condition is that the revenues derived from the nine-mill ad valorem tax for the most recently completed calendar year prior to the year of issuance are equal to at least one and one-third (1-1/3) times the maximum debt service on all bonds outstanding and the additional bonds. In order to meet this requirement, a significant portion of capital improvements must be deferred in 2014 through 2017 as previously mentioned. Black & Veatch suggests that when a new funding source is developed, the Board work with its bond counsel and financial advisor to refund all outstanding debt at that time and issue new debt reflecting a general bond resolution that includes the new funding source and all other revenue in the coverage calculation and reflects covenants more consistent with the 2014 water and sewerage resolutions. It is anticipated that the Board will have the capacity to debt finance more projects under the new resolution.

Table 26

**Drainage Department
Statement of Historical Revenue**

Revenue Source	2009	2010	2011	2012	2013
	\$	\$	\$	\$	\$
Three-mill Ad Valorem Tax	10,302,545	10,378,060	11,129,376	12,497,723	13,175,711
Six-mill Ad Valorem Tax	10,410,524	10,498,580	11,242,927	12,630,977	13,317,505
Nine-mill Ad Valorem Tax	15,485,030	15,672,791	16,855,081	18,933,290	18,933,290
Two-mill Ad Valorem Tax	0	1,045	4,870	0	0
Plumbing License and Inspection Fees	0	0	0	0	0
Interest Earned	475,088	167,166	128,571	109,748	92,615
Other	1,704,640	1,196,275	1,107,419	1,103,330	1,099,908
Total Revenue	38,377,827	37,913,917	40,468,244	45,275,067	46,619,029

Table 27
Drainage Department
Historical Operation and Maintenance Expenses (a)

Department	2009	2010	2011	2012	2013
	\$	\$	\$	\$	\$
Management and General Expenses					
Administrative	1,641,001	1,504,269	2,374,723	2,787,387	2,667,971
Management Services Director	22,977	23,226	23,619	24,351	26,912
Building and Grounds and Support Services	3,773,499	3,505,448	3,608,126	3,111,286	2,819,352
Personnel Administration	248,085	284,354	276,123	349,217	313,814
Finance Administration	677,215	785,102	847,924	829,391	778,042
Information Systems	1,469,310	1,437,571	1,523,561	1,429,881	1,440,642
Purchasing	199,076	225,852	212,508	204,325	208,849
Total Management and General	8,031,163	7,765,821	8,866,583	8,735,837	8,255,582
Operations Expenses					
General Superintendent	119,297	178,217	172,673	182,266	197,524
Drainage Pumping and Central Control	6,525,528	6,466,087	6,047,653	6,190,023	6,207,029
Chief of Operations	62,634	67,543	68,776	137,430	62,056
Water Pumping and Power	4,628,952	5,354,188	5,319,545	5,157,859	4,803,226
Chief of Facilities Maintenance	79,517	92,316	130,206	252,134	128,281
Facilities Maintenance	2,296,478	2,586,461	2,614,209	2,881,080	3,277,534
Central Yard	1,554,592	1,788,429	1,934,652	2,234,033	2,188,673
Office of Chief of Network	50,894	50,617	90,334	63,599	67,731
Networks	3,750,657	2,176,076	2,074,839	2,250,380	2,138,902
Engineering	1,198,838	1,352,670	1,406,861	1,439,825	1,764,068
Total Operations	20,267,387	20,112,603	19,859,748	20,788,628	20,835,024
Other Expenses					
Special Accounts	954,917	932,188	897,176	901,912	1,060,183
Payroll Related Expenses	6,583,416	5,509,813	5,790,140	4,979,183	5,397,924
Overhead Allocation	(2,919,381)	(3,078,386)	(3,333,228)	(3,573,827)	(3,654,904)
Total Other	4,618,952	3,363,616	3,354,088	2,307,268	2,803,202
Total Operation and Maintenance (b)	32,917,502	31,242,040	32,080,419	31,831,734	31,893,808

- (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
- (b) Source: Expenditure Analysis by Group Report.

Table 28

**Drainage Department
Capital Expenditures (a)
2013**

C.P. #	Project	Actual Expenditures
		\$
	Canals	
418	Normal Extensions & Replacements	3,750
439	Major Drainage Participation in DPW Projects	94,499
466	Louisiana Avenue Canal (SELA)	323,420
471	SELA Program Management	1,365,712
478	S. Claiborne-Lowerline to Monticello Street	736,490
486	Napoleon Canal Improvements (SELA-B)	3,761,209
497	Florida Ave. Canad - DPS#19 to Peoples Ave. (SELA-B)	428,811
498	Dwyer Intake Canal (St. Charles to Dwyer DPS) (SELA-A)	610,425
499	Jefferson Avenue Canal	7,832,461
	Total Drainage Canals	15,156,777
	Pumping Stations	
511	Normal Extensions & Rep./Stations	1,290,568
575	Drainage Hurricane Recovery Bonds	1,845,898
	Total Drainage Pumping Stations	3,136,466
	Power Projects and General Budget	
600	Drainage Share of Power Projects	3,331,721
703	Drainage Reserve for Emergency	139,654
800	Drainage Share of General Budget Items	3,375,742
	Total Power Projects and General Budget	6,847,117
	Total Drainage Department	25,140,359

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

Table 29
Drainage Department
Projected Capital Improvements (a)

C.P.#	Project	2014	2015	2016	2017	2018	Total
		\$	\$	\$	\$	\$	\$
Reinvestment in Assets							
418	Normal Ext. & Replacements	800,000	820,000	870,000	890,000	890,000	4,270,000
511	Normal Ext. & Replacement - Stations	15,413,000	5,070,000	24,660,000	8,940,000	4,600,000	58,683,000
600	Drainage Share of Power Projects	129,705,000	730,000	480,000	480,000	9,480,000	140,875,000
703	Drainage Reserve for Emergencies	700,000	700,000	700,000	700,000	700,000	3,500,000
800	Drainage Share of General Budget Items	9,200,000	6,172,000	7,910,000	6,259,000	6,702,000	36,243,000
	Total Routine Capital Improvements	155,818,000	13,492,000	34,620,000	17,269,000	22,372,000	243,571,000
Major Capital Improvements							
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	0	6,650,000
466	Louisiana Ave. Canal	86,250,000	5,500,000	1,000,000	0	0	92,750,000
471	SELA Program Management	1,500,000	1,500,000	1,500,000	0	0	4,500,000
472	Tchoupitoulas Corridor	0	0	250,000	12,000,000	0	12,250,000
474	Melpomene Street Canal	5,000	0	0	0	0	5,000
476	Hollygrove Canal	5,000	0	0	0	0	5,000
478	S. Claib - Lowerline to Monticello St.	3,000,000	300,000	300,000	0	0	3,600,000
483	Airline & Monticello Canal Improvements	0	50,000	475,000	8,400,000	0	8,925,000
486	Napoleon Avenue Canal Improvements	1,700,000	800,000	450,000	0	0	2,950,000
492	Donner Canal Improvements	0	0	50,000	1,750,000	89,000,000	90,800,000
496	General De Gaulle Canal	100,000	50,000	3,000,000	54,700,000	53,000,000	110,850,000
497	Florida Avenue Canal - DPS #19 to Peoples	173,749,000	11,050,000	500,000	0	0	185,299,000
498	Dwyer Intake Canal	50,000	0	0	0	0	50,000
499	Jefferson Avenue Canal	8,100,000	650,000	0	0	0	8,750,000
512	Expansion of DPS #15	0	1,250,000	14,500,000	0	0	15,750,000
535	DPS #6	0	0	500,000	1,000,000	0	1,500,000
573	DPS #13 Improvements	0	1,500,000	0	0	0	1,500,000
575	Drainage Hurricane Recovery Bonds	660,000	10,000,000	0	0	0	10,660,000
576	COE Storm Proofing Projects	0	8,250,000	7,032,000	5,828,000	11,016,000	32,126,000
578	Permanent Pump Stations at the Laek Elaine DPS Repairs	200,000	200,000	0	0	0	400,000
	Total Major Capital Improvements	279,619,000	45,850,000	39,957,000	88,078,000	157,316,000	610,820,000
	Total Drainage Department Improvements	435,437,000	59,342,000	74,577,000	105,347,000	179,688,000	854,391,000

(a) The improvements for 2014-2018 are based on the 2014-2023 Capital Program approved December 18, 2013.

Table 30
Drainage Department
Projected Participation by Others (a)

C.P.#	Project	2014	2015	2016	2017	2018	Total
		\$	\$	\$	\$	\$	\$
418	Normal Extensions & Replacements	300,000	300,000	350,000	350,000	350,000	1,650,000
453	Improvements to Metairie Relief Canal	0	108,000	1,464,000	24,000	0	1,596,000
466	Louisiana Ave. Canal	81,250,000	0	0	0	0	81,250,000
472	Tchoupitoulas Corridor	0	0	0	1,850,000	0	1,850,000
483	Airline & Monticello Canal Improvements	0	0	114,000	2,016,000	0	2,130,000
492	Donner Canal Improvements	0	0	0	0	82,500,000	82,500,000
496	General De Gaulle Canal	0	0	0	52,500,000	52,500,000	105,000,000
497	Florida Avenue Canal - DPS #19 to Peoples	156,549,000	0	0	0	0	156,549,000
511	Normal Ext. & Replacement -DPS	1,500,000	0	0	0	0	1,500,000
535	DPS #6	0	0	160,000	320,000	0	480,000
575	Hurricane Recovery Bonds	660,000	10,000,000	0	0	0	10,660,000
613	Modifications to Power Generating System	21,495,000	0	0	0	0	21,495,000
676	Modifications to Power Generating System HMGP	107,480,000	0	0	0	0	107,480,000
807	Improvements to Central Yard and St. Joseph St	646,000	0	0	0	0	646,000
843	Minor Equipment Purchases	25,000	0	0	0	0	25,000
	Total	369,905,000	10,408,000	2,088,000	57,060,000	135,350,000	574,811,000

(a) The improvements for 2014-2018 are based on the 2014-2023 Capital Program approved December 18, 2013.

Table 31

**Drainage Department
Projected Operating Revenue**

Year	Ad Valorem Tax Revenue			Other	Total
	Three-Mill	Six-Mill	Nine-Mill		
	\$	\$	\$	\$	\$
2014	12,943,600	13,083,300	19,399,600	1,126,000	46,552,500
2015	12,943,600	13,083,300	19,399,600	1,137,000	46,563,500
2016	13,073,000	13,214,100	19,593,600	1,148,000	47,028,700
2017	13,203,700	13,346,200	19,789,500	1,159,000	47,498,400
2018	13,335,700	13,479,700	19,987,400	1,171,000	47,973,800

Table 32
Drainage Department
Projected Operation and Maintenance Expenses

Department	2014 (a)	2015	2016	2017	2018
	\$	\$	\$	\$	\$
Management and General Expenses					
Administrative	2,687,800	2,768,400	2,851,500	2,937,000	3,025,100
Management Services Director	26,700	27,500	28,300	29,100	30,000
Building and Grounds and Support Services	3,702,200	3,813,200	3,927,600	4,045,500	4,166,800
Personnel Administration	222,700	229,400	236,300	243,400	250,700
Finance Administration	597,300	615,300	633,700	652,700	672,300
Information Systems	2,079,400	2,141,800	2,206,100	2,272,300	2,340,400
Revenue and Customer Service	119,400	122,900	126,600	130,400	134,300
Purchasing	181,200	186,600	192,200	198,000	203,900
Total Management and General	<u>9,616,700</u>	<u>9,905,100</u>	<u>10,202,300</u>	<u>10,508,400</u>	<u>10,823,500</u>
Operations Expenses					
General Superintendent	131,900	135,800	139,900	144,100	148,400
Drainage Pumping and Central Control	7,089,700	7,302,400	7,521,400	7,747,100	7,979,500
Chief of Operations	73,300	75,400	77,700	80,000	82,400
Water Pumping and Power	11,236,700	11,573,800	11,921,100	12,278,700	12,647,000
Water Purification	171,100	176,200	181,500	187,000	192,600
Chief of Facilities Maintenance	139,900	144,100	148,400	152,800	157,400
Facilities Maintenance	2,889,600	2,976,300	3,065,600	3,157,500	3,252,200
Central Yard	1,518,300	1,563,800	1,610,700	1,659,100	1,708,800
Office of Chief of Network	161,500	166,400	171,400	176,500	181,800
Networks	622,800	641,500	660,800	680,600	701,000
Engineering	1,169,800	1,204,900	1,241,000	1,278,300	1,316,600
Total Operations	<u>25,204,600</u>	<u>25,960,600</u>	<u>26,739,500</u>	<u>27,541,700</u>	<u>28,367,700</u>
Other Expenses					
Special Accounts	1,660,600	1,710,400	1,761,700	1,814,600	1,869,000
Payroll Related Expenses	1,934,300	1,992,400	2,052,100	2,113,700	2,177,100
Overhead Allocation	<u>(3,390,000)</u>	<u>(3,491,700)</u>	<u>(3,596,500)</u>	<u>(3,704,400)</u>	<u>(3,815,500)</u>
Total Other	<u>204,900</u>	<u>211,100</u>	<u>217,300</u>	<u>223,900</u>	<u>230,600</u>
Total Operation and Maintenance	<u>35,026,200</u>	<u>36,076,800</u>	<u>37,159,100</u>	<u>38,274,000</u>	<u>39,421,800</u>

(a) Represents the adopted operating budget as of December 18, 2013.

Table 33

**Drainage Department
Debt Service Requirements**

Debt Issue	2014	2015	2016	2017	2018
	\$	\$	\$	\$	\$
Nine-Mill Tax Bonds					
Series 1998	124,000	0	0	0	0
Series 2002	382,800	0	0	0	0
Total Nine-Mill Debt Service	506,800	0	0	0	0
Projected Bonds					
	Amount of Issue				
	\$				
2014	14,945,000	548,211	2,211,500	2,222,000	2,228,250
2015	15,000,000		586,700	1,173,400	1,173,400
2016	15,000,000			586,700	1,173,400
2017	60,000,000				2,346,800
2018	60,000,000				2,346,800
Total Projected Debt Service		548,211	2,798,200	3,982,100	6,921,850
Total Debt Service		1,055,011	2,798,200	3,982,100	6,921,850

Table 34
Drainage Department
Capital Improvement Program Financing

Line No	Description	Fiscal Year Ending December 31,					Total
		2014	2015	2016	2017	2018	
		\$	\$	\$	\$	\$	\$
1	Funds Available at Beginning of Year	40,578,500	395,700	15,850,000	805,100	61,452,700	40,578,500
2	Revenue Bond Proceeds (a)	14,945,000	15,000,000	15,000,000	60,000,000	60,000,000	164,945,000
3	Operation Fund Transfers	0	1,000,000	7,000,000	7,000,000	7,000,000	22,000,000
4	Participation by Others	369,905,000	10,720,200	2,215,200	62,351,000	152,337,600	597,529,000
5	Net Original Issue Premium	1,794,000	0	0	0	0	0
6	Interest Income	206,300	81,400	83,700	312,100	313,800	997,300
7	Total Funds Available	427,428,800	27,197,300	40,148,900	130,468,200	281,104,100	826,049,800
8	Obligated Contracts & Capital Jobs	(4,857,100)	0	0	0	0	(4,857,100)
9	Reinvestment in Assets	(155,818,000)	(13,896,800)	(36,728,400)	(18,870,300)	(25,179,900)	(250,493,400)
10	Major Capital Additions	(279,619,000)	(47,225,500)	(42,390,400)	(96,245,200)	(177,060,500)	(642,540,600)
11	Deferred Capital Improvements	30,000,000	50,000,000	40,000,000	47,000,000	(77,000,000)	90,000,000
12	Bond Issuance Expense	(142,100)	(225,000)	(225,000)	(900,000)	(900,000)	(2,392,100)
13	Refunding Escrow Deposits	(16,595,900)	0	0	0	0	0
14	Other Uses of Funds	(1,000)	0	0	0	0	0
15	Total Application of Funds	(427,033,100)	(11,347,300)	(39,343,800)	(69,015,500)	(280,140,400)	(810,283,200)
16	End of Year Balance	395,700	15,850,000	805,100	61,452,700	963,700	15,766,600

Table 35

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

Line No	Description	Fiscal Year Ending December 31,				
		2014	2015	2016	2017	2018
		\$	\$	\$	\$	\$
1	Three-Mill Ad Valorem Tax Revenue (4.66 Mills)	12,296,400	12,296,400	12,419,400	12,543,500	12,668,900
2	Six-Mill Ad Valorem Tax Revenue (4.71 Mills)	12,429,100	12,429,100	12,553,400	12,678,900	12,805,700
3	Nine-Mill Ad Valorem Tax Revenue (7.06 Mills)	18,429,600	18,429,600	18,613,900	18,800,000	18,988,000
4	Drainage Fee Revenue	0	0	34,749,800	34,749,800	34,749,800
5	Total Additional Drainage Fee Revenue (a)	0	0	0	3,185,400	6,978,900
6	Other Miscellaneous Income	1,069,700	1,080,000	1,091,000	1,102,000	1,113,000
7	Interest Income	35,300	25,700	69,700	124,100	84,500
8	Interest from Bond Reserve Fund	0	0	0	0	0
9	Total Operating Revenue	44,260,100	44,260,800	79,497,200	83,183,700	87,388,800
10	Operation & Maintenance	(35,026,200)	(36,076,800)	(37,159,100)	(38,274,000)	(39,421,800)
11	Additional Operating & Maintenance	(2,000,000)	(5,537,500)	(9,076,400)	(26,116,800)	(27,096,200)
12	Operating & Maintenance Savings	2,405,100	2,495,700	2,589,900	2,687,900	2,789,900
13	Provision for Claims	(1,233,400)	(1,270,400)	(1,308,500)	(1,347,800)	(1,388,200)
14	Provision for Doubtful Accounts	(215,800)	(215,800)	(217,900)	(220,100)	(222,300)
15	Net Operating Revenue	8,189,800	3,656,000	34,325,200	19,912,900	22,050,200
	Debt Service					
	Senior Lien Revenue Bonds					
16	Existing	(506,800)	0	0	0	0
17	Projected	(548,211)	(2,798,200)	(3,982,100)	(6,921,850)	(11,622,450)
18	Subtotal	(1,055,011)	(2,798,200)	(3,982,100)	(6,921,850)	(11,622,450)
19	Gulf Opportunity Zone Act Loan	(407,800)	(407,800)	(407,800)	(407,800)	(407,800)
20	SELA Capital Repayment	0	0	(8,300,000)	(8,300,000)	(8,300,000)
21	Total Debt Service	(1,462,811)	(3,206,000)	(12,689,900)	(15,629,650)	(20,330,250)
22	Transfer to Construction	0	(1,000,000)	(7,000,000)	(7,000,000)	(7,000,000)
23	Due from (to) Other Departments	(1,632,600)	(2,196,000)	(2,196,000)	(921,000)	0
24	Transfer to Operating Reserve Fund	(3,932,100)	(336,200)	(554,500)	(558,100)	(2,226,200)
25	Net Annual Balance	1,162,289	(3,082,200)	11,884,800	(4,195,850)	(7,506,250)
26	Beginning of Year Cash Balance	2,172,300	3,334,589	252,389	12,137,189	7,941,339
27	End of Year Balance	3,334,589	252,389	12,137,189	7,941,339	435,089
	Debt Service Coverage					
28	Annual Test (b)	1746.9%	658.6%	467.4%	271.6%	163.4%
29	Additional Bonds Test (c)	818.3%	538.0%	404.7%	202.3%	135.8%

(a) Assumes annual 10% rate increases in the Drainage Fee beginning in 2017.

(b) The General Bond Resolution requires Nine-Mill Ad Valorem Tax Revenue to equal or exceed 100% of annual debt service

(c) The General Bond Resolution requires Nine-Mill Ad Valorem Tax Revenue to equal or exceed 133% of maximum annual debt service.

Appendix

Assessment of East Bank Sewage Stations

	DATE	FACILITY NAME	ROUTE	LOCATION	STATUS
1	03/11/2014	Chickasaw	A	Chickasaw at Metropolitan	Two pumps total; both operational.
2	03/11/2014	K-Mart	A	Desire at Gentilly	Two pumps total; both operational.
3	03/11/2014	Station 23	A	4500 Mithra	Two pumps total; both operational.
4	03/11/2014	Station 17	A	4975 Spain at Selma	Two pumps total; both operational.
5	03/11/2014	Station 22	A	5705 Perlita	Two pumps total; both operational.
6	03/11/2014	Station 19	A	3730 Jumonville at Milton	Two pumps total; both operational.
7	03/11/2014	Station 21	A	6670 Memphis At Filmore	Two pumps total; both operational.
8	03/11/2014	Station 18	A	Vicksburg at Florida	Two pumps total; both operational.
9	03/11/2014	City Park	A	5701 Marconi Drive	Two pumps total; both operational.
10	03/11/2014	Station 20	A	328 37th Street	Two pumps total; one operational, one out of service.
11	03/11/2014	Station 4	A	5899 Fleur de Leis	Two pumps total; both operational.
12	03/11/2014	Lakewood South	A	Country Club Drive near Marconi	Two pumps total; both operational.
13	03/11/2014	Station 6	A	242 S Solomon at Palmyra	Two pumps total; both operational.
14	03/11/2014	Station 3	A	8720 Olive near Eagle	Two pumps total; both operational.
15	03/11/2014	Station 1	A	7336 Cohn	Two pumps total; both operational.
16	03/11/2014	Station 14	A	4000 Clara	Two pumps total; both operational.
17	03/11/2014	Station 5	A	3912 Erato St	Two pumps total; both operational.
18	03/11/2014	Station 15	A	2431 Palmyra near Rocheblave	Three pumps total; two operational, one out of service.
19	03/11/2014	Station 8	A	Corner of N Broad and Toulouse	Two pumps total; both operational.
20	03/11/2014	Station 9	A	2540 Annette at Law	Two pumps total; both operational.
21	03/12/2014	Station 16	B	3751 N Miro at Pauline	Two pumps total; both operational.

	DATE	FACILITY NAME	ROUTE	LOCATION	STATUS
22	03/12/2014	Station 24	B	5027 N Tonti at Forstall	Two pumps total; both operational.
23	03/12/2014	Station 25	B	2245 Charbonnet	Two pumps total; one pump operational.
24	03/12/2014	Station 26	B	2244 St Maurice at Tonti	Two pumps total; both operational.
25	03/12/2014	Station B	B	4725 St Claude Avenue	Two pumps total; one pump operational.
26	03/12/2014	Southern Scrap	B	Southern Scrap Rd Harbor Rd	Two pumps total; both operational.
27	03/12/2014	France and Florida	B	2701 France Road	Two pumps total; both operational.
28	03/12/2014	MECO-Mechanical Equipment Company	B	3855 France Road	Two pumps total; both operational.
29	03/12/2014	American Marine	B	4045 Jourdan Rd	Two pumps total; both operational.
30	03/12/2014	Victoria at Gentilly	B	3620 Victoria	Two pumps total; both operational.
31	03/12/2014	Dotd	B	8118 Chef Menteur Highway	Two pumps total; both operational.
32	03/12/2014	Plum Orchard	B	7300 Chef Menteur Highway	Two pumps total; both operational.
33	03/12/2014	Wilson	B	7709 Wilson Avenue	Two pumps total; both operational.
34	03/12/2014	Crowder	B	5500 Crowder Road	Two pumps total; both operational.
35	03/12/2014	Castle Manor	B	4950 Gawain at Dwyer	Two pumps total; both operational.
36	03/12/2014	Cerise	B	5001 Cerise	Two pumps total; both operational.
37	03/12/2014	Lakeland Terrace	B	5057 Warren Drive	Two pumps total; both operational.
38	03/12/2014	McCoy	B	McCoy at Gentilly	Two pumps total; both operational.
39	03/12/2014	Amid	B	6800 Almonaster Road	Two pumps total; both operational.
40	03/12/2014	Lake Forest	B	10451 Lake Forest Blvd	Two pump total; both operational.
41	03/12/2014	Wright Road	B	Wright Road at Lake Forest	Two pumps total; both operational.
42	03/12/2014	Bullard	B	5501 Bullard Road	Two pumps total; both operational.
43	03/12/2014	Pines Village	B	6155 Dwyer Road at Foch	Two pumps total; both operational.

	DATE	FACILITY NAME	ROUTE	LOCATION	STATUS
44	03/12/2014	America	B	6789 Dwyer Road at Westlake	Two pumps total; both operational.
45	03/12/2014	Station A Municipal Auditorium	B	1321 Orleans Avenue	Six pumps total; all operational.
46	03/13/2014	Shorewood	C	14441 Morrison Road	Two pumps total; both operational.
47	03/13/2014	Briarwood Station	C	13701 Morrison Road	Two pumps total; both operational.
48	03/13/2014	Liggett	C	12501 Morrison Road	Two pumps total; both operational.
49	03/13/2014	Berg	C	11501 Morrison Road	Two pumps total; both operational.
50	03/13/2014	Weber	C	10141 Morrison Road	Two pumps total; both operational.
51	03/13/2014	Burke	C	9001 Morrison Road	Two pumps total; both operational.
52	03/13/2014	Lawrence	C	7900 Morrison Road	Two pumps total; both operational.
53	03/13/2014	Lamb	C	6450 Morrison Road	Two pumps total; both operational.
54	03/13/2014	Gentilly Oaks	C	5000 Papania Road at Vienna	Two pumps total; both operational.
55	03/13/2014	Eastover	C	6051 Eastover Drive	Two pumps total; one pump operational.
56	03/13/2014	Paris Road	C	Dwyer West of Paris Road	Two pumps total; both operational.
57	03/13/2014	Venetian Isles No.2	C	20711 Old Spanish Trail	Two pumps total; both operational.
58	03/13/2014	Industrial Parkway	C	4200 Industrial Parkway	Two pumps total; both operational.
59	03/13/2014	Blvd "X"	C	4433 Chef Menteur Highway	Four pumps total; two temporary pumps operational, two pumps out of service.
60	03/13/2014	Alcee Fortier	C	Alcee Fortier Blvd at the Levee	Two pumps total; both operational.
61	03/13/2014	Willow Brook	C	Willowbrook off of Michoud	Two pumps total; both operational.
62	03/13/2014	Oak Island	C	14201 Michoud Blvd	Two pumps total; both operational.
63	03/13/2014	Village De Lest	C	11324 Dwyer	Two pumps total; both operational.

	DATE	FACILITY NAME	ROUTE	LOCATION	STATUS
64	03/13/2014	Michoud	C	4400 Michoud Boulevard	Two pumps total; one pump operational.
65	03/13/2014	Folgers	C	14601 Gentilly Boulevard	Two pumps total; both operational.

Assessment of West Bank Sewage Stations

	DATE	FACILITY NAME	LOCATION	STATUS
1	03/13/2014	Memorial	2501 Memorial Park Drive	Two pumps total; both operational.
2	03/13/2014	Garden Oaks	3201 Memorial Park Drive	Two pumps total; both operational.
3	03/13/2014	Park Timbers	4100 Lennox Blvd	Two pumps total; both operational.
4	03/13/2014	Tall Timbers	3800 Tall Pines Drive	Two pumps total; both operational.
5	03/13/2014	Forest Isle	5631 West Forest Park Drive	Two pumps total; both operational.
6	03/13/2014	Blair	3800 Blair Street	Two pumps total; both operational.
7	03/13/2014	Aurora	6000 Carlisle Court	Two pumps total; both operational.
8	03/13/2014	English Turn I	2201 Stanton Road	Two pumps total; both operational.
9	03/13/2014	English Turn II	123 ½ Oak Alley	Two pumps total; both operational.
10	03/13/2014	English Turn III		Two pumps total; both operational.
11	03/13/2014	Lower Coast	3700 Old Woodland	Two pumps total; both operational.
12	03/13/2014	Woodland	4150 Woodland Drive	Two pumps total; one pump operational.
13	03/13/2014	Eton	3440 Eton Street	Two pumps total; both operational.
14	03/13/2014	Huntlee	3201 Huntlee	Two pumps total; both operational.
15	03/13/2014	Holiday	2799 Holiday Drive	Two pumps total; both operational.
16	03/13/2014	Bridge Plaza	2914 Vespasian Street	Two pumps total; both operational.
17	03/13/2014	Horace	3301 Lawrence Street	Two pumps total; both operational.

Assessment of East Bank Drainage Stations

	DATE	FACILITY NAME	LOCATION	STATUS	NOTES
1	03/10/2014	Station 1	2501 S Broad Street	Eleven pumps total; ten pumps operational, No. 1 constant duty pump not in service.	House generator. New storm windows, doors and new roof constructed.
2	03/10/2014	Station 6	345 Orpheum	Twelve pumps total; ten pumps operational, No. 1 & No. 2 constant duty pumps out of service.	New house generator & transformer. New storm windows, doors, and new roof constructed.

	DATE	FACILITY NAME	LOCATION	STATUS	NOTES
3	03/10/2014	I-10 Pump Station	I-10 Service Road	Four pumps total; all operational.	Entire pump station constructed.
4	03/10/2014	Station 7	5741 Orleans Avenue at Marconi Drive	Five pumps total; all operational.	New diesel generator back-up installed.
5	03/10/2014	Canal Boulevard	5500 Canal Boulevard	Three pumps total; two pumps operational	Pumps and motors refurbished.
6	03/10/2014	Station 2	444 N Broad Street	Six pumps total; all operational.	New storm doors and windows installed.
7	03/10/2014	Station 3	2251 N Broad Street	Nine pumps total; seven pumps working, two constant duty pumps out of service.	New storm doors and windows installed; also new diesel & house generator.
8	03/10/2014	Pritchard	2901 Monticello	Three pumps total; two pumps operational, one constant duty pump out of service.	
9	03/10/2014	Oleander	9400 Oleander	Three pumps total; all operational.	
10	03/10/2014	Station 4	5700 Warrington Drive	Six pumps total; four pumps operational.	New storm doors and windows.
11	03/10/2014	Station 12	Robert E Lee and Ponchartrain Boulevard	One pump total; operational.	
12	03/10/2014	St. Charles Station 16	Danube Road at Wales	Four pumps total; all operational.	
13	03/10/2014	Citrus Station 10		Four pumps total; all operational.	New roof installed.
14	03/10/2014	Station 14	Oneida at Haynes	Four pumps total; all operational.	
15	03/10/2014	Grant Street	Grant Street at Gentilly Boulevard	Five pumps total; three operational.	
16	03/10/2014	Elaine		Two pumps total; both operational.	Two new pumps installed.
17	03/10/2014	Station 17	2801 Florida Avenue	Five pumps total; all operational.	
18	03/10/2014	Station 5	Florida Avenue	Six pumps total; all operational.	

	DATE	FACILITY NAME	LOCATION	STATUS	NOTES
19	03/10/2014	Station 19	4500 Florida Avenue	Six pumps total; all operational.	
20	03/10/2014	Amid Station 20	6300 Intercoastal Waterway at Terminal Road	Two pumps total; one operational, one out of service.	
21	03/10/2014	Maxent	Alcee Fortier	Two pumps total, both operational.	
22	03/10/2014	Industrial Boulevard	Industrial Boulevard	Three pumps total; all operational.	New wall at levee constructed.

Assessment of West Bank Drainage Stations

	DATE	FACILITY NAME	LOCATION	STATUS	NOTES
1	03/10/2014	Station 11	5301 East Sixth Street	5 pumps total; all operational.	Station has four total screens, only one operational.
2	03/10/2014	Station 13	4201 Tall Spruce Drive	7 pumps total; all operational.	New building constructed for two new diesel generators.