

GENERAL SUPERINTENDENT RECOMMENDATIONS
FOR THE MARCH 21, 2018 MEETING

- A. BIDS. A listing of the bids received during the months of December 2017 and February 2018 is included in the following report. A brief summary is attached for your review.
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Item 1 - R-038-2018 - FURNISHING STANDARD 4" AND 5" FIRE
HYDRANT REPAIR PARTS - REQ. NO.
YW18-0004

Item 2 - R-039-2018 - CONTRACT 1404 - ALGIERS WATER
PURIFICATION PLANT IMPROVEMENTS
PROJECT

Item 3 - R-028-2018 - CONTRACT 5240 - DRAINAGE SYSTEM
SUPPORT PUMP REPAIR DPS 4 C/D/E
PROJECT

Item 4 - R-014-2018 - CONTRACT 30106 - REHABILITATION OF
BIO-REACTOR TRAIN #4 AT THE EAST BANK
WASTEWATER TREATMENT PLANT

**GENERAL SUPERINTENDENT RECOMMENDATIONS
REPORT OF FINAL ACCEPTANCE TO BE
CONSIDERED BY THE FINANCE AND ADMINISTRATION COMMITTEE
AND THE BOARD'S MEETING OF MARCH 21, 2018**

During February bid(s) were received and evaluated (as per attached tabulations) on various items as follows:

**1. FURNISHING STANDARD 4" AND 5" FIRE HYDRANT REPAIR PARTS -
REQ. NO. YW18-0004**

One (1) bid was received on February 22, 2018 for furnishing standard 4" and 5" fire hydrant repair parts. The bid of Cimsco, Inc. in the amount of \$1,747,095.75 is over the estimated amount. It is, therefore, recommended that this bid be rejected. The estimated amount for this project is \$1,000,000.00.

**2. CONTRACT 1404 - ALGIERS WATER PURIFICATION PLANT
IMPROVEMENTS PROJECT**

Four (4) bids were received on December 1, 2017 for performing work under Contract 1404. It is recommended that the low formal bid of Max Foote Construction Co., LLC in the total amount of \$7,240,000.00 be accepted based upon the technical review of the proposals.

The four (4) bidders are as follows:

1. Max Foote Construction Co., LLC	\$7,240,000.00
2. M.R. Pittman Group, LLC	7,419,400.00
3. Pintail Contracting	7,642,000.00
4. Lou-Con, Inc.	8,150,000.00

The DBE participation goal is 35.82%.

The estimated amount for this project is \$8,000,000.00.

Funds for this project are budgeted under Capital Program 110 (Normal Extensions and Replacements).

GENERAL SUPERINTENDENT RECOMMENDATIONS (CONT'D)

March 21, 2018

Page 2

**3. CONTRACT 5240 - DRAINAGE SYSTEM SUPPORT PUMP REPAIR DPS 4
C/D/E PROJECT**

Three (3) bids were received on February 23, 2018 for performing work under Contract 5240. The low bidder, M.R. Pittman Group, LLC withdrew their bid proposal due to numerical errors and omissions. It is, therefore, recommended that the low formal bid of Alfred Conhagen Inc. of LA in the total amount of \$2,947,000.00 be accepted based upon the technical review of the proposals.

The three (3) bidders are as follows:

1. M. R. Pittman Group, LLC	bid withdrawn
2. Alfred Conhagen Inc. of LA	\$2,947,000.00
3. Lou-Con, Inc.	4,285,000.00

There is no DBE participation.

The estimated amount for this project is \$3,000,000.00.

Funds for this project are budgeted under Capital Program 511 (Normal Extensions and Replacements of Stations).

**4. CONTRACT 30106 - REHABILITATION OF BIO-REACTOR TRAIN #4 AT
THE EAST BANK WASTEWATER TREATMENT PLANT**

Two (2) bids were received on January 5, 2018 for performing work under Contract 30106. It is recommended that the low bid of Chart Mechanical Construction, LLC in the total amount of \$1,897,000.00 be accepted based upon the technical review of the proposals.

The two (2) bidders are as follows:

1. Chart Mechanical Construction, LLC	\$1,897,000.00
2. Industrial & Mechanical Contractors, Inc.	2,081,500.00

The DBE participation is 19%.

The estimated amount for this project is \$2,500,000.00.

Funds for this project are budgeted under Capital Program 348 (Extension & Replacement - Treatment Plants).

**FURNISHING STANDARD 4" AND 5" FIRE HYDRANT REPAIR PARTS - REQ.
NO. WY18-0004**

BE IT RESOLVED by the Sewerage and Water Board of New Orleans that one (1) bid was received on February 22, 2018 after advertising according to the Public Bid Law, for Furnishing Standard 4" and 5" Fire Hydrant Repair Parts. The bidder was over the estimated amount. **It is recommended that this bid be rejected.**

I, Bruce H. Adams, Interim General Superintendent, Sewerage and Water Board of New Orleans, do hereby certify that the above and foregoing is a true and correct copy of a resolution adopted at the Regular Meeting of the said Board, duly called and held, according to law, on March 21, 2018.

BRUCE H. ADAMS
INTERIM GENERAL SUPERINTENDENT
SEWERAGE AND WATER BOARD OF NEW ORLEANS

**CONTRACT 1404 - ALGIERS WATER PURIFICATION PLANT IMPROVEMENTS
PROJECT**

BE IT RESOLVED by the Sewerage and Water Board of New Orleans that four (4) bids were received on December 1, 2017 after advertising according to the Public Bid Law, for performing work under Contract 1404. The bid was hereby accepted and contract awarded therefore to **Max Foote Construction Co., LLC** for the total amount of **\$7,240,000.00.**

I, Bruce H. Adams, Interim General Superintendent, Sewerage and Water Board of New Orleans, do hereby certify that the above and foregoing is a true and correct copy of a resolution adopted at the Regular Meeting of the said Board, duly called and held, according to law, on March 21, 2018.

BRUCE H. ADAMS
INTERIM GENERAL SUPERINTENDENT
SEWERAGE AND WATER BOARD OF NEW ORLEANS

**CONTRACT 5240 - DRAINAGE SYSTEM SUPPORT PUMP REPAIR DPS 4 C/D/E
PROJECT**

BE IT RESOLVED by the Sewerage and Water Board of New Orleans that three (3) bids were received on February 23, 2018 after advertising according to the Public Bid Law, for performing work under Contract 5240. The bid was hereby accepted and contract awarded therefore to **Alfred Conhagen Inc. of LA** for the total amount of **\$2,947,000.00.**

I, Bruce H. Adams, Interim General Superintendent, Sewerage and Water Board of New Orleans, do hereby certify that the above and foregoing is a true and correct copy of a resolution adopted at the Regular Meeting of the said Board, duly called and held, according to law, on March 21, 2018.

BRUCE H. ADAMS
INTERIM GENERAL SUPERINTENDENT
SEWERAGE AND WATER BOARD OF NEW ORLEANS

**CONTRACT 30106 - REHABILITATION OF BIO-REACTOR TRAIN #4 AT THE
EAST BANK WASTEWATER TREATMENT PLANT**

BE IT RESOLVED by the Sewerage and Water Board of New Orleans that two (2) bids were received on January 5, 2018 after advertising according to the Public Bid Law, for performing work under Contract 30106. The bid was hereby accepted and contract awarded therefore to **Chart Mechanical Construction, LLC** for the total amount of \$1,897,000.00.

I, Bruce H. Adams, Interim General Superintendent, Sewerage and Water Board of New Orleans, do hereby certify that the above and foregoing is a true and correct copy of a resolution adopted at the Regular Meeting of the said Board, duly called and held, according to law, on March 21, 2018.

BRUCE H. ADAMS
INTERIM GENERAL SUPERINTENDENT
SEWERAGE AND WATER BOARD OF NEW ORLEANS

CONTRACT AMENDMENT NO. 2 TO THE AGREEMENT BETWEEN THE SEWERAGE AND WATER BOARD OF NEW ORLEANS AND ARCADIS U.S., INC CONSULTING SERVICES, FOR DESIGN AND ENGINEERING SERVICES FOR SYCAMORE FILTER GALLERY BACKWASH FACILITY

WHEREAS, on August 5, 2015 the Sewerage and Water Board of New Orleans (Board) awarded a contract in the amount of \$654,000.00 to Arcadis U.S., Inc. to perform design services for the construction of a new Filter Backwash Facility; and

WHEREAS, Arcadis U.S., Inc. submitted a fee of \$136,654.00 for Contract Amendment No. 1 to provide additional engineering design services to perform design and engineering services for the structural repairs to Sycamore Filter Gallery; and

WHEREAS, This Contract Amendment in the amount of \$529,318.96 - for additional engineering services for design of hazardous material removal, and construction management/contract administration services for the construction phase of this project - brings the total authorized contract amount for design services to \$1,319,972.96; and

WHEREAS, This Contract Amendment increases the DBE percentage for Arcadis U.S., Inc. design services to 35%, per the original Professional Services Agreement dated August 5, 2015 "consultant has committed to comply with meeting or exceeding the DBE participation goal of 35% for the project through future amendment for construction resident inspection services;" and

NOW THEREFORE BE IT RESOLVED, that approval of Contract Amendment No. 2 for Arcadis U.S., Inc. is ratified by the Sewerage and Water Board of New Orleans.

I, Bruce Adams, Interim General Superintendent,
Sewerage and Water Board of New Orleans, do hereby
certify that the above and foregoing is a true
and correct copy of a Resolution adopted at the Regular
Monthly Meeting of said Board, duly called and held,
according to law, on March 21, 2018.

BRUCE ADAMS, P.E.
INTERIM GENERAL SUPERINTENDENT
SEWERAGE AND WATER BOARD OF NEW ORLEANS



SEWERAGE AND WATER BOARD OF NEW ORLEANS

Inter-Office Memorandum

Date: March 8, 2018

From: Bruce Adams, P.E.
Interim General Superintendent

Bruce Adams 03/08/2018

To: Marcie Edwards
Interim Executive Director

Re: Contract Amendment No. 2 – Sycamore Filter Gallery Backwash Facility
Engineering Design Services for Arcadis U.S., Inc.

Attached please find a letter from the Chief of Engineering, recommending approval of the second Contract Amendment for Additional Engineering Services performed by Arcadis U.S., Inc.

This request in the amount of \$529,318.96 is for the design services associated with the addition of lead remediation in the construction area, engineering services during construction, construction administration services, and inspection services. Arcadis has provided design services for the construction of a new backwash facility. Due to the results of testing for hazardous materials in the area of construction, the addition of lead paint remediation to the design is required for this project. The proposed design includes procedures for safe and proper testing, removal, and disposal of potentially hazardous paint. Furthermore, due to the extensive design engineering services provided by Arcadis, we are recommending the addition of Engineering Services During Construction including submittal/RFI reviews, contract administration, on-site inspections, commissioning and startup. The required DBE participation goal on this contract is 17% and 18% has been achieved to date. However, per the original consultant contract Agreement effective August 5, 2015, this contract DBE% goal will increase from 17% to 35% "through an amendment for construction resident inspection services" per this AES request. This Contract Amendment request brings the cumulative total Contract Amount to \$1,319,972.96.

I would appreciate you forwarding this request to the attention of the appropriate committees of the Board for their consideration and approval.

Cc: M. Ron Spooner, Chief of Engineering
Irma Plummer, EDB Director
Willie Mingo, Purchasing
Tommy Moore, PM



Sewerage & Water Board

Inter-Office Memorandum

Date: March 8, 2018

From: M. Ron Spooner, P.E.
Chief of Engineering

To: Bruce Adams, P.E.
Interim General Superintendent

Re: Arcadis, U.S.
DESIGN CONTRACT AMENDMENT NO. 2

Description of Amendment No. 2

Design services for the addition of lead abatement to the contract documents. Continued engineering assistance for submittal reviews, RFI reviews, Contract Administration, on-site inspection/reporting, inspection and testing of pre-assembled systems, commissioning and startup of the backwash facility, and technical assistance during construction.

Original Contract Award Amount:	\$654,000.00
Previously Approved Amendments:	\$136,654.00
This Design Amendment Amount:	\$529,318.96
Total Dollar Amendments to Date	\$665,972.96
Total Revised Contract Amount	\$1,319,972.96

Contract DBE Participation	35%
Current DBE Participation	18%

The Engineering Department has reviewed this proposal and is recommending it for approval.

I concur:

Bruce Adams, P.E.
Interim General Superintendent

Date: 03/08/2018

cc:

Dexter Joseph, Budget
Jade Brown-Russell, Special Council
Rosita Thomas, Finance
Thomas Moore, Mechanical Engineering
Willie Mingo, Purchasing
Irma Plummer, EDB Director

Sewerage & Water Board of N.O.

8800 S. Claiborne Avenue
Main Water Purification Plant
New Orleans, LA 70118

Phone: 504-864-0438

Additional Engineering Services
Arcadis - AES 2 & 3

TITLE: Engineering and Consulting Services for Main Water Purification Plant Sycamore Filter Gallery During Construction

PROJECT: Contract 1384 - Sycamore Filter Gallery Backwash Pump Replacement

DATE : 1/24/2018

JOB : A1302WWW

CONTRACT NO. : 1384

TO: Attn: Craig Raymond
Arcadis, U.S.
201 St. Charles Ave., Suite 2500
New Orleans, LA 70170
Phone: 504-568-8111

DESCRIPTION OF CHANGE

This AES task is associated with providing (1) Design Services for Lead Abatement in the area of construction and (2) Construction Phase Engineering, Consulting, and Inspection services included in the original scope of work as a future award. See attached backup.

Item	AES Description	Quantity	Measurement	Net Amount
0002	Assist SWBNO with services including Submittal Reviews, RFI Reviews, Contract Admin., on-site Inspection/Reporting, Pre-Assembled Systems Inspection and Testing, Commissioning and Startup, and Technical Assistance during construction.	1	LS	\$518,318.96
0003	Addition of Lead Abatement Specification and Drawings	1	LS	\$11,000.00

Total: \$529,318.96

The Original Contract sum was	\$654,000.00
Net Change by Previously Authorized AES tasks	\$136,654.00
The Contract Sum Prior to This Change Order was	\$790,654.00
The Contract Sum Will be Increased	\$529,318.96
The New Contract Sum Including This Change Order	\$1,319,972.96

ACCEPTED:
Design/Firm

By:

Rudy Guichard, AREADIS-US, Inc.

Sewerage & Water Board of N.O.

By:

Melvin R. Spooner, P.E.

Sewerage & Water Board of N.O.

By:

Bruce Adams, P.E.

Date:

2/2/18

Date:

3/8/18

Date:

03/08/2018

CPB

AMENDMENT No. 2
SYCAMORE FILTER GALLERY BACKWASH FACILITY
IN SUPPORT OF CONSTRUCTION CONTRACT 1384
ARCADIS, U.S.
AMENDMENT No. 2

ADDITIONAL ITEMS TO BE ADDED TO CONTRACT

ALS #	CN	Detailed Description	Fee	Funding Source
2		Continued engineering assistance including submittal reviews, Request for Information reviews, contract administration, on-site inspection and reporting, pre-assembled systems inspection and testing, technical assistance during construction, commissioning and startup of the filter gallery backwash equipment, and online support until project completion scheduled for February 20, 2019.	\$ 518,318.96	SWANO Systems Funds
3		Addition of Lead Abatement Specifications and Drawings for ALL areas of construction included in the project scope.	\$ 11,000.00	SWANO Systems Funds

TOTAL \$ 529,318.96

CONTRACT DBE %	
Contract DBE %	35%
Current DBE %	17.00%

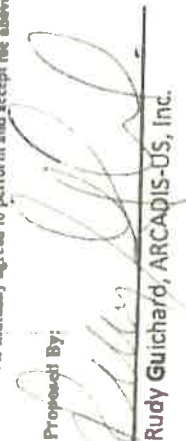
CONTRACT AMOUNT	
Original Contract Amount	\$ 454,000.00
Amount of Previous Amendments	\$ 136,654.80
Amount of this Amendment	\$ 529,318.96
Amendments to date	\$ 665,972.96

REVISED CONTRACT AMOUNT	\$ 1,319,972.96
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*Per the original Consultant Contract Agreement, effective August 3, 2015, Contract DBE % Goal will increase from 17% to 35%. *through this amendment for construction resident inspection services. See Attached.

It is mutually agreed to perform and accept the above revisions in accordance with the currently amended contract and the applicable specifications for the above prices.

Proposed By:


Rudy Guichard, ARCADIS-US, Inc.

Approved By:


M. Ron Spenser
Chief of Engineering

2/2/18 / Date
3/8/18 / Date

SCOPE OF CHANGE No. 1
IN SUPPORT OF CONSTRUCTION CONTRACT 1384
AMENDMENT No. 2
ARCADIS, U.S.

AES #	CN	Description of Work	Reason For Work	FEMA Eligible
2	1384	Construction phase engineering, consulting, and inspection services	Construction Resident Inspection and Engineering Services, as included in original scope of work to be awarded at time of construction. The design engineer will provide services during construction including submittal reviews, inspection services,	N/A
3	1384	Specification writing and drawing creation for abatement of lead in Sycamore Filter Gallery	Environmental studies have found traces of lead paint in the area of construction which must be remedied prior to performing other work in the construction area	N/A

REVISÉ: 16 OCT 2017

Task	Description	Note	PM	Sr Civil	Civil	Sr EE	EE	Sr I&C	CAD	Inspector	Admin	Hours	TOTAL	ODCs	TASK TOTAL
41	Submittal and Information Review														
	Civil		43	40	200						30	310.00	47,464.12		170,372.43
	Process		48	48	240						35	372.00	56,956.95		47,464.12
	Electrical		24			40	160				24	268.00	40,468.45		55,938.95
	I&C		16								10	95.00	18,695.99		40,468.45
	Land Abatement		8	24				70			2	34.00	5,785.31		18,695.99
42	Contract Administration														5,785.31
	Attend Pre Construction Meeting, agenda & minutes		4	4	4						16	36.00	5,008.72		45,357.79
	Attend Construction Progress Meetings	1	43		43			4							5,008.72
	Review Contractor request for Payment	2	48								16	64.00	19,012.50		19,012.50
	Review of CM Submittals		20		20						4	44.00	13,517.93		13,517.93
43	Inspection, Reporting and Verification														8,169.62
	On site Inspection (pump facility)	3													
	On site Inspection Lead Abatement	3, 4, 8													
44	Manufacture Inspections														153,848.90
	Pre Assembly Inspection	5	24		24										
	Full Capacity Tests	5	24		24										
45	Commissioning and Start Up														24,374.50
	Commissioning and start up assistance	6	40	40	40	40									
46	Technical Assistance During Construction														12,187.25
	Technical Assistance During Construction		20	40	40	16									
	As Built Drawings		8		8										
	Administrative Reports		20												
	Site Visit		40		40										
	Testing Coord & Review		8		24										
	QC of Inspection Reports		20		40										
	TOTAL LABOR HOURS		460	196	752	108	260	122	40	1,140	178	3,656.00	576,216.76	13,692.00	518,316.99
	Direct Labor Rate		\$ 85.00	\$ 67.54	\$ 45.00	\$ 65.00	\$ 45.00	\$ 65.00	\$ 29.00	\$ 28.00	\$ 22.00				
	OH (117.28%)		\$ 150.69	\$ 110.87	\$ 79.78	\$ 115.23	\$ 79.78	\$ 115.23	\$ 51.41	\$ 49.54	\$ 38.00				
	Profit (10%)		\$ 24.57	\$ 17.34	\$ 12.48	\$ 18.00	\$ 12.48	\$ 18.00	\$ 8.64	\$ 7.78	\$ 5.90				
	Project Bidder Rates		\$ 259.26	\$ 190.75	\$ 137.26	\$ 198.26	\$ 137.26	\$ 198.26	\$ 107.25	\$ 103.21	\$ 81.40				
	Subtotal Labor Cost		\$ 119,253.5	\$ 37,567	\$ 103,215	\$ 21,412	\$ 35,958	\$ 24,187	\$ 3,438	\$ 146,500	\$ 11,544				\$18,113.99

NOTES

- Two (2) meeting per month - 2 hours per meeting x 12 months = 48 hours
- 12 day request x 4 hours per requests = 48 hours
- Assumes 150 days onsite x 2 hours per day = 300 hours x 1.25 for OT and over time = 1500 hours. Assumes single shift
- Any additional time due to addition of contractor days will require an increase in the inspection budget \$25 per day x 150 per day min. expenses = \$3750.00
- 30 days x 8 hours per day = 240 hours
- Assumes 3 days of travel and 1 day onsite. BSA Per Diem is logging \$147 per night + MILE \$44 per night = \$161 per day. Per Diem: \$161 per day x 3 days = \$483 per person Airfare: \$500 per person Rental Car: \$225. Misc: \$100 per day
- Total per person: \$1223 x 2 = \$2445 + \$275 (meal cost) = \$2571 per trip for 2 people.
- Assumes a week onsite for technical assistance for ramp up
- One (1) day - 35%
Assumes \$25 per day for services including PPE (30 days onsite x \$35 per day = \$750)

CONTRACT AMENDMENT NO. 4 TO THE AGREEMENT BETWEEN THE SEWERAGE AND WATER BOARD OF NEW ORLEANS AND HNTB CORPORATION FOR DESIGN AND ENGINEERING SERVICES FOR WATER TANK STORAGE MIXING AND REPAIR PROJECT AND ALGIERS WATER PURIFICATION PLANT IMPROVEMENT PROJECT

WHEREAS, on June 26, 2015 the Sewerage and Water Board of New Orleans (Board) awarded a contract in the amount of \$811,455.00 to HNTB Corporation agreement for design, and engineering services to provide arc flash analysis of Carrollton Water Purification Plant (CWPP), assessment of storage tank mixing at CWPP and Algiers Water Purification Plant (AWPP), and to provide design and engineering services for the replacement of the lauder troughs at AWPP; and

WHEREAS, by action of the Sewerage and Water Board of New Orleans (Board) the adoption of Resolution R-080-2015, HNTB Corporation (HNTB) amended the agreement for design, and engineering services to provide the emergency temporary fluoride chemical feed system at AWPP, and to provide design and engineering services for the replacement of EIMCO No. 1 at AWPP, rapid mix structure, permanent fluoride chemical feed system, various SCADA system upgrades, and replacement of lauder troughs on EIMCO Nos. 3 and 4 at AWPP, provide bidding services, construction administration services and resident inspection services; and

WHEREAS, This Contract Amendment in the amount of \$881,464.00 is for additional engineering services for design and bidding services for Water Storage Tank Mixing and Repair project and engineering services re-bid of Algiers Water Purification Plant Improvements Project and additional requested Construction, Administration and Inspection services for the Algiers Water Purification Plant Improvements Project brings to total authorized contract amount for design services to \$2,116,011.00, and

NOW THEREFORE BE IT RESOLVED, that approval of Contract Amendment No. 4 for HNTB Corporation is ratified by the Sewerage and Water Board of New Orleans.

I, Bruce Adams, Interim General Superintendent,
Sewerage and Water Board of New Orleans, do hereby
certify that the above and foregoing is a true
and correct copy of a Resolution adopted at the Regular
Monthly Meeting of said Board, duly called and held,
according to law, on March 21, 2018.

BRUCE ADAMS
INTERIM GENERAL SUPERINTENDENT
SEWERAGE AND WATER BOARD OF NEW ORLEANS



SEWERAGE AND WATER BOARD OF NEW ORLEANS

Inter-Office Memorandum

Date: February 28, 2018

From: Bruce Adams, P.E. *Bruce Adams 03/08/2018*
Interim General Superintendent

To: Marcie Edwards
Executive Director

Re: **Contract Amendment No. 4 – Design and Bidding Services for Water Storage Tank Mixing and Repair and Additional Bidding and Construction Administration Services for Algiers Water Purification Plant Improvements**

Attached please find a letter from the Chief of Engineering, recommending approval of the fourth Contract Amendment for Additional Engineering Services performed by HNTB Corporation.

This request in the amount of \$881,494.00 is for the design of Water Tank Mixing and Repair as well as additional bidding and Construction Administration Services for Algiers Water Purification Plant Improvements. Based on the current Water Storage Tank Mixing Report, the water age is too high and needs to be reduced. This can be accomplished by implementing a passive mixing system into the tanks. Upon results from a video inspection, additional structural repairs need to be made to the various tanks. While the tanks are out of service for the tank mixing improvements, the structural repairs can be completed. The Algiers Water Purification Plant Improvement Project needed to be re-bid. This scope includes re-bidding of the project as well as the additional Construction Administration and Inspection services. These services include the requested full time employee on site as well as bi-monthly meetings. This more strenuous construction management was requested by the Engineering Department and Operations. The required DBE participation goal on this contract is 35% percent and 9% DBE participation has been achieved to date. This Contract Amendment request brings the cumulative total of Contract Amendments to \$1,304,556.

I would appreciate you forwarding this request to the attention of the appropriate committees of the Board for their consideration and approval.

Cc: Dexter Joseph, Budget
M. Ron Spooner, Chief of Engineering
Jason P. Higginbotham, Director of Emergency Management
Alvin Porter, EDB
Rebecca Denny, PM



Sewerage & Water Board

Inter-Office Memorandum

Date: 3/8/2018

From: M. Ron Spooner, P.E.
Chief of Engineering

To: Bruce Adams, P.E.
Interim General Superintendent

Re: HNTB Corporation

Contract Amendment NO. 4

Description of Contract Amendment: This request will authorize HNTB Corporation to provide additional design services outside of the original scope of work. Consultant is to provide design services, permitting, and bid support for the design and bid award of the Storage Tank Mixing and Repair project. The Consultant is to provide re-bidding services for Contract 1389 as Contract 1404. The Consultant is to provide additional Construction Administration and Inspection for Construction of Contract 1404: Algiers Water Purification Plant Improvements.

Original Contract Award Amount:	\$811,455.00
Previously Approved Contract Amendments:	\$423,062.00
Current Contract Amendment:	\$881,488.00
Total Dollar Contract Amount (including this Amendment):	\$2,116,005.00

Contract DBE Participation	35%
Current DBE Participation	9%

The Engineering Department has reviewed this proposal and is recommending it for approval.

I concur:

Bruce Adams, P.E.
Interim General Superintendent

Date:

03/08/2018

cc: Irma Plummer, EDB Director
Dexter Joseph, Budget
Jade Brown-Russell, Special Council
Rebecca Denny, PM

Eric Labat, Chief of Operations
Rosita Thomas, Finance
Jason Higginbotham, EM Director

Sewerage & Water Board of N.O.

8800 S. Claiborne Avenue
Main Water Purification Plant
New Orleans, LA 70118

Phone: 504-865-0143

Additional Engineering Services
HNTB Corporation HNTB - AES 4

TITLE: Engineering and Consulting Services, Re-bidding Services, Bidding Services for Algiers Water Purification Plant

PROJECT: Algiers Water Purification Plant Improvements
Water Storage Tank Mixing and Repair

DATE : 3/1/2018
JOB : A1185XXX
CP # : 156

TO: Attn: Atri Sen
HNTB Corporation
111 Monument Circle, Suite 1200
Indianapolis, IN 46204
Phone: 225-281-4879

DESCRIPTION OF CHANGE

This AES task is associated with providing additional design services outside of the original scope of work. Consultant is to provide design services, permitting, and bid support for the design and bid award of the Storage Tank Mixing and Repair project. The Consultant is to provide re-bidding services for Contract 1389 as Contract 1404. The Consultant is to provide additional Construction Administration and Inspection for Construction of Contract 1404: Algiers Water Purification Plant Improvements.

Item	AES Description	Quantity	Measurement	Net Amount
0001	Scope 2A: Design Services for Water Storage Tank Mixing and Repair	1	NTE	\$363,709.00
0002	Scope 2B: Bidding Services for Water Storage Tank Mixing and Repair	1	NTE	\$78,085.00
0003	Supplemental Scope 1F: Re-bidding Services for Contract 1404; Additional Construction, Administration, and Inspection for Contract 1404	1	NTE	\$439,700.00
Total:				\$881,494.00

The Original Contract sum was	\$811,455.00
Net Change by Previously Authorized AES tasks	\$423,062.00
The Contract Sum Prior to This Change Order was	\$1,234,517.00
The Contract Sum Will be Increased	\$881,494.00
The New Contract Sum Including This Change Order	\$2,116,011.00

ACCEPTED:
Design Firm

Sewerage & Water Board of N.O.

Sewerage & Water Board of N.O.

By: Daniel J. Kellerman By: Melvin R. Spooner 3/8/18 By: _____

John Basilica, HNTB Corporation

Melvin R. Spooner, P.E.

Bruce Adams, P.E.

DANIEL J. KELLERMAN

SCOPE OF CHANGE No. 1
Agreement with HNTB
HNTB Corporation
CONTRACT AMENDMENT No. 4

ADDITIONAL ITEMS TO BE ADDED TO CONTRACT

AES #	CN	Detailed Description	Fee	Funding Source
4		Scope 2A: Design Services for Water Storage Tank Mixing and Repair	\$ 363,709.00	CAP
4		Scope 2B: Bidding Services for Water Storage Tank Mixing and Repair	\$ 78,085.00	CAP
4		Supplemental Scope 1F: Re-bidding Services for Contract 1404; Additional Construction, Administration, and Inspection for Contract 1404; Algiers Water Purification Plant Improvements	\$ 439,708.00	CAP

TOTAL \$ 881,494.00

CONTRACT DBE %	
Contract DBE%	35%
Current DBE%	35%

% OF ORIGINAL CONTRACT AMOUNT	
This Contract Amendment	108.6%
Previous Contract Amendments	52.1%
TOTAL TO DATE	160.8%

CONTRACT AMOUNT	
Original Contract Amount	\$811,455
Amount of Previous Contract Amendments	\$423,062
Amount of this Contract Amendment	\$881,494
Contract Amendments to date	\$1,304,556
REVISED CONTRACT AMOUNT	\$2,116,011

It is mutually agreed to perform and accept the above revisions for AES # 4 in accordance with the currently amended contract and the applicable specifications for the above price.

Proposed By:

Daniel J. Keurman
 John-Basilica DANIEL J. KEURMAN
 HNTB Corporation

3/1/18
 Date

Recommended By:

Rebecca Denny
 Rebecca Denny
 S&WB Project Manager

3/1/18
 Date

Approved By:

M. Ron Spooner
 M. Ron Spooner
 Chief of Engineering

3/2/18
 Date

SCOPE OF CHANGE No. 1
DPS 17/Station D Emergency Power Generation Facility
CONTRACT AMENDMENT No. 4
HNTB Corporation

AES #	CN	Description of Work	Reason For Work	FEMA Eligible
4	0	Scope 2A: Design Services for Water Storage Tank Mixing and Repair	Based on current Water Storage Tank Mixing Report, the water age is too high and needs to be reduced. This can happen with the installation of an engineering passive tank mixing system. Due to current conditions and video inspections, additional structural repairs need to be engineered and completed while each tank is pulled out of service	
4	0	Scope 2B: Bidding Services for Water Storage Tank Mixing and Repair	Based on current Water Storage Tank Mixing Report, the water life is too high and needs to be reduced. This can happen with the installation of an engineering passive tank mixing system. Due to current conditions and video inspections, additional structural repairs need to be engineered and completed while each tank is pulled out of service	
4	0	Supplemental Scope 1F: Re-bidding Services for Contract 1404; Additional Construction, Administration, and Inspection for Contract 1404; Algiers Water Purification Plant Improvements	Due to all bids coming in over 30% higher than Engineer's Estimate, the project needed to be re-bid based on new information regarding additional scope as well as lead paint abatement. This change in fee includes the rebidding service as well as full time CA & I team members on site and meeting frequency increasing.	

RATIFICATION OF CHANGE ORDER NO. 13 FOR CONTRACT 6247 – HAZARD MITIGATION GRANT PROJECT RETROFIT OF GENERATOR 4 AT THE CARROLLTON WATER PURIFICATION PLANT/POWER COMPLEX

WHEREAS, the Sewerage and Water Board entered into Contract 6247 in the amount of \$6,695,750. with Industrial and Mechanical Contractors for Hazard Mitigation Grant funded repairs to Generator 4 and,

WHEREAS, Change Order No. 13 represents the following items: (FCO's 38 through 46) Description of Change Orders: FCO-38 Demo and Replace Structural Steel Platform to accommodate new switchgear; FCO-040 Generator 4 Post Fault Inspection; FCO-042 Inspection of Generator 4 Termination Chamber; FCO-043 Furnish 2 each DECS-250 Digital Excitation Control Systems, Style CN2CA1N; FCO-044 Add Auto Sync to the two existing Digital Excitation Control Systems DCES 250's; FCO-045 Provide three transformers at the request of the Owner; FCO-046 Relocate the staged generator end bells and inspect bearing No 3.

WHEREAS, this Change Order, in the amount of \$394,795.24, brings the accumulated Contract change order total to \$4,676,367.61, or 69.8% of the original Contract value, and

NOW THEREFORE BE IT RESOLVED, that approval of Change Order No. 13 for Contract 6247 is ratified by the Sewerage and Water Board of New Orleans.

I, Bruce Adams, Interim General Superintendent,
Sewerage and Water Board of New Orleans, do hereby
certify that the above and foregoing is a true
and correct copy of a Resolution adopted at the Regular
Monthly Meeting of said Board, duly called and held,
according to law, on March 21, 2018.

BRUCE ADAMS, P.E.
INTERIM GENERAL SUPERINTENDENT
SEWERAGE AND WATER BOARD OF NEW ORLEANS



Sewerage & Water Board

Inter-Office Memorandum

Date: March 5, 2018

From: Bruce Adams, P.E.
Interim General Superintendent

To: Marcie Edwards
Interim Management Team

Re: Contract Number 6247 – Hazard Mitigation Grant Project Retrofit of Generator 4.
Industrial & Mechanical Contractors Inc.

Enclosed please find a recommendation from the Chief of Engineering for approval of Change Order No. 13 for the above contract.

This change order represents the following items:

- FCO-38, Structural Steel Platform: cost associated with furnishing labor and materials to demolish the existing high lift building switch gear structural steel platform and installing a new structural steel platform as per drawings provided by the Engineer
- FCO-39, MCC Replacement: This change order represents the cost associated to the Contractor furnishing a motor control center (Freedom MCC 2100) to the Owner.
- FCO-40, Post Fault Inspection: This change order represents the cost associated with providing a post fault inspection per submittal SUL-00011. The costs associated with this change order are based on the inspection recommendations from WS Nelson (SWB G4 Inspection) and the EME generator inspection report to Veolia (document RPT00- issued 11/10/17).
- FCO-41, End Bell Cover and Stator Frame Inspection: This change order represents the cost associated with replacing generator exciter end cover and inspection of the generator #4 stator frame. During recent inspections, cracks in the end bells were discovered.
- FCO-42, Inspection of Termination Chamber: This change order represents the cost associated with the Engineer's recommendation that the S&WB contract a NETA certified switchgear/buss bar manufacturer or testing company to perform — a full inspection of the termination chamber buss system.
- FCO-43, DECS 250: This change order represents the cost associated with the Contractor furnishing 2 each DECS-250, Digital Excitation Control System, Style: CN2CA1N.
- FCO-44, Auto Sync DECS 250: The Contractor was asked by the Owner to add Auto Sync to the two existing Digital Excitation Control Systems DECS 250's.

- FCO-45, Three Transformers: The Contractor was asked to provide 3 transformers: 1 each 450kva, 1 each 300kva and 1 each 45kva.
- FCO-46, Bearing Three Inspection: At the request of the Owner, the Contractor was asked to relocate the staged generator end bells and inspect bearing #3.

The required DBE participation on this Contract is 0%. This Change Order is in the amount of \$394,795.24 represents 5.9% of the original bid amount, and brings the cumulative total Change Orders to \$4,676,367.61 which is 69.8% of the original bid amount. This Change Order may be eligible for FEMA reimbursement, final determination to be made by Sewerage and Water Board staff.

I would appreciate you forwarding this to the attention of the appropriate committees of the Board for consideration and approval.



Bruce Adams, P.E.
Interim General Superintendent

cc:	M. Ron Spooner	Ralph Morlas, III	Alvin Porter
	Jason Higginbotham	Robert Hayden, CH2M	Willie Mingo
	Rosita Thomas	S&WB Legal Department	

Sewerage & Water Board of New Orleans: Change Order Approval Form

2018

Contract #6247

Change Order #13

Date: 2/21/18

Project Name: Hazard Mitigation Grant Project - Retrofit Generator 4

Job/Project # 6247

Reason for Change Order: Nine work items, FCO-38, FCO-39, FCO-40, FCO-41, FCO-42, FCO-43, FCO-44, FCO-45 and FCO-46.

Change Order Amount: \$394,795.24 Contract Amount Prior To Change Order: \$10,977,322.37

Original Contract Amount: \$6,695,750.00 Total Spent to Date:

PW#: GRANT DR-1603-LA Vendor: INDUSTRIAL MECHANICAL CONTRACTORS

C. P. Item # 676 / 100 % C. P. Item # / % C. P. Item # / %

Source of funding for Change Order:

System Funds: \$ 394,795.24 Bonds: \$ FEMA: \$ Anticipated FEMA: \$

Total Funding: \$ 394,795.24

FUND Code CAP ORGN Code ACTIVITY Code OBJECT Code 3296

Total Project Investment to Date: (Place total amount of contracts on projects)

Survey Phase	N/A
Design Phase	N/A
Testing Phase	N/A
Value of A/E Contract for this work to date	\$1,173,031.21
Construction Contract Value to date	\$10,977,322.37
Value of Project Management to date	\$27,916.00
Value of other Professional Services to date	N/A
Total Investment to date	\$12,178,269.51

RECORDATION

- Is this change order more than 10% of the original contract and more than \$100,000? ☐ Yes ☐ No
- Does this change order put the total % of change orders above 20% of the original contract and is it more than \$100,000? ☐ Yes ☐ No
- If the answer is yes to either one of these questions recordation is required by state law within 30 days. If the original contract and/or previous change orders have not yet been recorded they must be recorded at this time.

VENDOR SELECTION AND DBE INFORMATION

- Type of Procurement Used: [Should always be RFP for amendments.]
- Local Vendor: ☐ Yes ☐ No
- DBE: ☐ Yes ☐ No. If Yes, %

ACTION CRITICAL

Objective consideration of alternatives: Describe other actions considered. If none, explain why

- I recommend approval for the above project (If not recommending for approval, please indicate a reason below, and return this to the previous signatory)

Raf J. M...

Date: 2-22-18

2018

- Requested Response Date:
-
- /
-
- /
-

• **Level One (1) Manager, S&WB, Engineering Department**

Requested Response Date / /

- Deputy Director, General Superintendent, S&WB, Engineering Department

Requested Response Date: / /

- **Irvin Carter, Fiscal Manager, PDU**

Requested Response Date: 1/1

Date: _____

- Executive Director, S&WB

Requested Response Date: / /

Date: _____

- **Willie Mingo, Director of Procurement, S&WB**

Requested Response Date: 1/1

Date: _____

SCOPE OF CHANGES
Contract 6247 HMGP
(Change Order No. 13)

ADDITIONAL ITEMS TO BE ADDED TO CONTRACT

Item #	FCO#	Detailed Description	Units	Unit Price	Quantity	Amount	Days	Comments
1	38	Structural Steel Platform	LS	\$1,798.02	1	\$1,798.02	0	INELIGIBLE
2	39	MCC Replacement	LS	\$7,629.33	1	\$7,629.33	0	INELIGIBLE
3	40	Post Fault Inspection	LS	\$14,727.75	1	\$14,727.75	0	INELIGIBLE
4	41	End Bell Cover and Stator Frame Inspection	LS	\$40,454.76	1	\$40,454.76	0	INELIGIBLE
5	42	Inspection of Termination Chamber	LS	\$14,415.16	1	\$14,415.16	0	INELIGIBLE
6	43	DECS 250	LS	\$20,204.16	1	\$20,204.16	0	INELIGIBLE
7	44	Auto Sync DECS 250	LS	\$2,511.03	1	\$2,511.03	0	INELIGIBLE
8	45	Three Transformers	LS	\$175,301.90	1	\$175,301.90	0	INELIGIBLE
9	46	Bearing Three Inspection	LS	\$17,753.13	1	\$17,753.13	0	INELIGIBLE
						\$394,795.24	0	

Contract DBE %	0.0%
Current DBE %	0.0%
Forecast	0.0%

Original	\$6,695,750.00
Amount of previous Change Orders	\$4,281,572.37
Amount this Change Order	\$394,795.24
Change Orders to date	\$4,676,367.61

Original Contract Days	365
Days Previously Added	1420
Days this Change Order	0
Days Added to date	1420

REVISED CONTRACT AMOUNT \$ 11,372,117.61

REVISED CONTRACT DAYS 1785

% OF ORIGINAL CONTRACT AMOUNT

This Change Order	5.9%
Previous Change Order	63.9%
TOTAL TO DATE	69.8%

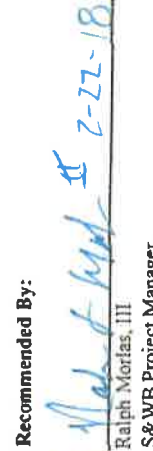
Work Order Date **6/20/2013**
 Work Completion Milestone Date **5/10/2018**

I hereby agree to perform and accept the above contract and applicable specifications for the above price. This Change Order includes all O&M and P&ID fees associated with the work. No additional fees shall be included after completion of this Change Order. This Change Order includes a full and complete settlement of the contract and shall be binding on the Contractor. The Contractor shall be responsible for the completion of the contract and shall be responsible for the completion of the contract. The Contractor shall be responsible for the completion of the contract and shall be responsible for the completion of the contract.

Proposed By:


 Industrial and Mechanical Contractors
 Contractor

Recommended By:


 Ralph Morias, III
 S&WB Project Manager

Approved By:


 M. Ron Spooner
 Chief of Engineering


 Date **3/6/18**

**FURNISHING POLYELECTROLYTE TO THE ALGIERS WATER PLANT AND
CARROLLTON WATER PLANT - REQ. NO. AL170040 and CM170038**

BE IT RESOLVED by the Sewerage and Water Board of New Orleans that two (2) bids were received on February 22, 2018, after advertising according to the Public Bid Law, for furnishing polyelectrolyte to the Algiers Water Plant and Carrollton Water Plant. The low bid was hereby accepted and contract awarded therefore to Polydyne Inc., for the total amount of **\$572,500.00**.

I, Bruce Adams, Interim General Superintendent, Sewerage and Water Board of New Orleans, do hereby certify that the above and foregoing is a true and correct copy of a resolution adopted at the Regular Meeting of the said Board, duly called and held, according to law, on March 21, 2018.

Bruce Adams
Interim General Superintendent
SEWERAGE AND WATER BOARD OF NEW ORLEANS



SEWERAGE AND WATER BOARD

Inter-Office Memorandum

Date: February 26, 2018

To: Bruce Adams, Interim General Superintendent

From: Chad Lavoie, Water Purification Superintendent *Chad*

Re: Bid Proposals for: Furnishing Polyelectrolyte
Proposals Opened: February 22, 2018
Requisitions: AL170040 & CM170038

Two bid specification packages were received on February 22, 2018, for furnishing Polyelectrolyte to the Carrollton and Algiers Water Plants. The bids were evaluated and the following recommendation is offered:

For Requisitions AL170040 & CM170038, furnishing and delivering 1,650,000 pounds of 20% poly(diallyldimethylammonium chloride) polyelectrolyte to the Carrollton and Algiers Water Plants, the bid from Polydyne, Inc. for the net total amount of \$572,550.00 is recommended for acceptance. Funding for this item is available under budget code SWB-3224-4740 for Carrollton Water Plant and SWB-3244-4740 (Polyelectrolyte-Chemical used in the Water Purification Process). DBE participation for this contract is 0%.

Bid tabulation is attached for reference.

ec: Willie Mingo, Purchasing Dept.
Dexter Joseph, Budget Dept.
Melvin Reis, Jr., Carrollton Plant
Kerry Foret, Algiers Plant
Alton DeLarge III, Water Purification
Toni Berry (file copy)

**SEWERAGE & WATER BOARD OF NEW ORLEANS
TABULATIONS OF BID PROPOSALS RECEIVED
FOR FURNISHING POLYELECTROLYTE
PROPOSALS OPENED: THURSDAY, FEBRUARY 22, 2018**

REQUISITIONS: AL170040 and CM170038

QUANTITY AND DESCRIPTION: Furnishing and delivering 1,650,000 pounds of approved 20% poly(diallyldimethylammonium chloride) polyelectrolyte in pneumatic tank trucks, F.O.B., to the Carrollton and Algiers Water Plants.

BIDDER	PRICE BID	TERMS	MANUFACTURER	SHIPPING POINT	REMARKS
Polydyne, Inc. Riceboro, GA	\$572,550.00	Net	Polydyne, Inc. Riceboro, GA	Pearlington, MS	none
Dynotech, LLC. Kemah, TX	\$798,765.00	Net	GEO Specialty Chemicals Little Rock, AR	Centerville, MS	Possible price escalation of 3% (from \$0.47 to \$0.4841 per lb). Price Bid listed is calculated based on \$0.4841/lb.

RECOMMENDED FOR ACCEPTANCE: Polydyne, Inc.

ACCEPTANCE OF THE REPORT ON OPERATIONS FOR 2016

WHEREAS, Black & Veatch was authorized by this first renewal and Amendment No. 2 to prepare the Report on Operations for 2016; and

WHEREAS, the completed report covering adherence to Bond resolutions, financing of future projects and operations has been completed and delivered to the Board; and

WHEREAS, a review by staff indicates that the report is satisfactory in all respects.

NOW THEREFORE BE IT RESOLVED, that the 2016 Report on Operations is accepted as complete.

I, Bruce Adams, Interim General Superintendent
Sewerage and Water Board of New Orleans,
do hereby certify that the above and foregoing
is a true and correct copy of the resolution
adopted at a Regular Monthly Meeting of
said Board, duly called and held, according
to law on March 21, 2018.

BRUCE ADAMS
INTERIM GENERAL SUPERINTENDENT
SEWERAGE AND WATER BOARD OF NEW ORLEANS



SEWERAGE AND WATER BOARD OF NEW ORLEANS

March 14, 2018

Finance and Administration Committee
Sewerage and Water Board of New Orleans
New Orleans, Louisiana

Re: Preliminary Results through December 2017

Attached are the *Statement of Revenues, Expenses, and Changes in Net Position* with budget and prior year comparisons for the water, sewer, drainage and total systems through December 2017. The Cash in Days and Variance Indicators for Financial Results through December 2017 are also attached. The *Statement of Net Assets* and the *Statement of Cash Flows* will be provided after the completion of the 2017 audit.

Operating Revenues:

Water System Fund (pages 7 and 8, line 5) for December of \$7,724,461 is \$1,433,228 or 15.7% less than budgeted and \$1,048,412 or 12.0% less than December 2016. December YTD operating revenues of \$90,961,637 is \$8,156,463 or 8.2% less than budgeted and \$4,976,002 or 5.8% more than December YTD 2016.

Sewer System Fund (pages 13 and 14, line 5) for December of \$9,405,776 is \$1,193,094 or 11.3% less than budgeted and \$1,026,533 or 9.8% less than December 2016. December YTD operating revenues of \$109,862,754 is \$4,853,946 or 4.2% less than budgeted and \$4,243,212 or 4.0% more than December YTD 2016.

Drainage System Fund (pages 19 and 20, line 5) for December of \$1,247 is \$1,247 or 0.0% budgeted and \$455,663 or 99.7% less than for December 2016. December YTD operating revenues of \$1,213,058 is \$1,213,058 or 0.0% budgeted and \$147,229 or 13.8% more than December YTD 2016.

Total System Funds (pages 1 and 2, line 5) for December of \$17,131,484 are \$2,625,076 or 13.3% less than budgeted and \$2,530,608 or 12.9% less than December 2016. December YTD operating revenues of \$202,037,449 are \$11,797,351 or 5.5% less than budgeted and \$9,366,443 or 4.9% more than December YTD 2016.

Operating Expenses:

Water System Fund (pages 7 and 8, line 18) for December of \$12,913,289 is \$1,464,798 or 10.2% less than budgeted and \$10,885,109 or 536.7% more than December 2016. December YTD operating expenses of \$91,152,154 is \$4,415,546 or 4.6% less than budgeted and \$1,674,118 or 1.9% more than December YTD 2016.

Sewer System Fund (pages 13 and 14, line 18) for December of \$11,092,195 is \$5,458,470 or 33.0% less than budgeted and \$4,479,180 or 28.8% less than December 2016. December YTD operating expenses of \$85,690,451 is \$24,895,339 or 22.5% less than budgeted and \$3,321,612 or 4.0% more than December YTD 2016.

Drainage System Fund (pages 19 and 20, line 18) for December of \$10,696,574 is \$783,415 or 7.9% more than budgeted and \$81,475 or 0.8% less than December 2016. December YTD operating expenses of \$74,480,065 is \$7,485,316 or 11.2% more than budgeted and \$18,525,679 or 33.1% more than December YTD 2016.

Total System Funds (pages 1 and 2, line 18) for December of \$34,702,057 are \$6,139,853 or 15.0% less than budgeted and \$6,324,454 or 22.3% less than December 2016. December YTD operating expenses of \$251,322,670 is \$21,825,569 or 8.0% less than budgeted and \$23,521,409 or 10.3% less



SEWERAGE AND WATER BOARD OF NEW ORLEANS

than December YTD 2016.

Net Non-Operating Revenues:

Water System Fund (pages 7 and 8, line 28) for December of \$248,999 is \$178,312 or 252.3% more than budgeted and \$1,082,801 or 81.3% less than December 2016. December YTD net non-operating revenues of \$1,133,135 are \$1,598,022 or 58.5% less than budgeted and \$1,247,508 or 52.4% less than December YTD 2016.

Sewer System Fund (pages 13 and 14, line 28) for December of \$287,304 is \$255,264 or 796.7% more than budgeted and \$1,631,135 or 85.0% less than December 2016. December YTD net non-operating revenues of \$904,278 are \$333,648 or 27.0% less than budgeted and \$1,720,693 or 65.6% less than December YTD 2016.

Drainage System Fund (pages 19 and 20, line 28) for December of \$5,767 is \$1,422,421 or 99.6% less than budgeted and \$2,155,993 or 99.7% less than December 2016. December YTD net non-operating revenues of \$55,786,298 are \$605,261 or 1.1% more than budgeted and \$464,716 or 0.8% less than December YTD 2016.

Total System Funds (pages 1 and 2, line 28) for December of \$542,070 is \$988,845 or 64.6% more than budgeted and \$4,869,929 or 90.0% more than December 2016. December YTD net non-operating revenues of \$57,823,711 are \$1,326,409 or 2.2% more than budgeted and \$3,432,917 or 5.6% more than December YTD 2016.

Income Before Contributions in Aid of Construction:

Water System Fund (pages 7 and 8, line 29) for December of -\$4,939,828 is \$209,882 or 4.1% more than budgeted and \$13,016,321 or 161.2% less than December 2016. December YTD income before capital contributions of \$942,618 is \$5,338,939 or 85.0% less than budgeted and \$2,054,376 or 184.8% more than December YTD 2016.

Sewer System Fund (pages 13 and 14, line 29) for December of -\$1,399,114 is \$4,520,640 or 76.4% more than budgeted and \$1,821,512 or 56.6% more than December 2016. December YTD income before capital contributions of \$25,076,581 is \$19,707,745 or 367.1% more than budgeted and \$799,094 or 3.1% less than December YTD 2016.

Drainage System Fund (pages 19 and 20, line 29) for December of -\$10,689,561 is \$2,204,590 or 26.0% less than budgeted and \$2,530,182 or 31.0% less than December 2016. December YTD income before capital contributions of -\$17,480,709 is \$5,666,997 or 48.0% less than budgeted and \$18,843,166 or 1383.0% less than December YTD 2016.

Total System Funds (pages 1 and 2, line 29) for December of -\$17,028,503 is \$2,525,932 or 12.9% more than budgeted and \$13,724,991 or 415.5% less than December 2016. December YTD income before capital contributions of \$8,538,490 is \$8,701,809 or 5328.1% more than budgeted and \$17,587,883 or 67.3% less than December YTD 2016.



SEWERAGE AND WATER BOARD OF NEW ORLEANS

The balances of funds from the Series 2014 bond proceeds available for capital construction as of December 31, 2017 are:

	Water	Sewer	Total
Original Balance	\$5,239.47	-	\$5,239.47
Less Disbursements	-	-	\$0.00
Plus Reimbursements	-	-	\$0.00
Plus Income	813,433.09	-	\$813,433.09
Ending Balance	\$818,672.56	-	\$818,672.56

The balances of funds from the Series 2015 bond proceeds available for capital construction as of December 31, 2017 are:

	Water	Sewer	Total
Original Balance	\$51,879,061.97	\$14,346.36	\$51,893,408.33
Less Disbursements	(4,500,000.00)	0.00	(4,500,000.00)
Plus Reimbursements	-	-	0.00
Plus Income	1,309,133.46	434,114.55	1,743,248.01
Ending Balance	\$48,688,195.43	\$448,460.91	\$49,136,656.34

Total	\$49,506,867.99	\$448,460.91	\$49,955,328.90
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The days-of-cash at December 31, 2017 were 153.15 for the water system, 246.75 for the sewer system, 119.32 for the drainage system and 185.21 for the total systems. The total system results is ahead of the minimum policy target of 180 days for the water, sewerage and drainage systems combined. Individually, the sewerage system met its policy target of 180 days, whereas the water and drainage system did not meet its target.

The projected coverage for the year ending December 31, 2017, based upon financial results through December 31, 2017, remains at the budgeted levels of 1.08 times for the water system and 1.92 times for the sewer system. The water results are below the policy target of 1.50 times and below the bond covenant minimum of 1.25. The sewerage results are ahead of the policy targets of 1.50 times and the bond covenant minimum of 1.25 times coverage for sewerage systems.

Certification. In connection with the accompanying monthly financial report of the Sewerage and Water Board of New Orleans for the period ended December 31, 2017, I hereby certify that, to my knowledge, the information contained in the report fairly presents, in all material respects, the financial condition and results of the Board.

Rosita Thomas
Finance Administrator

SEWERAGE AND WATER BOARD OF NEW ORLEANS
ALL SYSTEM FUNDS
STATEMENT OF REVENUES AND EXPENSES AND CHANGES IN NET POSITION
WITH PRIOR YEAR COMPARISONS
December 2017

	A	B	C	D	E	F	G	H
	MTD Actual	MTD Prior Year	MTD Variance	%	YTD Actual	YTD Prior Year	YTD Variance	%
Operating revenues:								
1 Sales of water and delinquent fees	7,582,592	8,717,825	(1,135,233)	-13.0%	88,986,228	83,158,940	5,827,288	7.0%
2 Sewerage service charges and delinquent fees	9,373,428	10,337,180	(963,752)	-9.3%	109,062,423	104,795,184	4,267,239	4.1%
3 Plumbing inspection and license fees	60,420	50,339	10,081	20.0%	588,480	638,502	(50,022)	-7.8%
4 Other revenues	115,044	556,748	(441,704)	-79.3%	3,400,318	4,078,380	(678,062)	-16.6%
5 Total operating revenues	17,131,484	19,662,092	(2,530,608)	-12.9%	202,037,449	192,671,006	9,366,443	4.9%
Operating Expenses:								
6 Executive Director	229,796	211,302	18,494	8.8%	2,025,511	1,995,902	29,609	1.5%
7 Special Counsel	284,941	175,688	109,252	62.2%	1,538,357	1,605,316	353,041	22.0%
8 Security	1,932,171	1,928,608	3,563	0.2%	12,698,206	9,928,363	2,769,842	27.9%
9 Operations	22,078,469	11,499,387	10,579,082	92.0%	126,692,747	105,214,341	21,478,406	20.4%
10 Engineering	1,035,362	616,252	419,111	68.0%	7,909,952	5,901,480	2,008,473	34.0%
11 Logistics	1,218,749	857,105	361,644	42.2%	12,074,699	11,068,455	1,006,244	9.1%
12 Communications	70,990	72,006	(1,016)	-1.4%	634,179	275,974	358,204	129.8%
13 Administration	1,200,878	2,169,669	(968,791)	-44.7%	13,582,561	14,841,651	(1,259,090)	-8.5%
14 Chief Financial Officer	2,423,450	2,353,784	69,666	3.0%	22,767,055	19,752,444	3,014,611	15.3%
15 Continuous Improvement	-	94,748	(94,748)	-100.0%	26,828	175,882	(49,054)	-27.9%
16 Overhead and Budget Adjustments	(1,186,514)	(1,319,791)	133,277	-10.1%	(12,998,810)	(12,800,509)	(198,301)	1.5%
17 Subtotal	29,288,293	18,658,759	10,629,534	57.0%	187,471,284	157,959,299	29,511,985	18.7%
18 Non-Cash Operating Expenses	5,413,765	9,718,844	(4,305,079)	-44.3%	63,851,386	69,841,962	(5,990,577)	-8.6%
19 Total operating expenses	34,702,057	28,377,603	6,324,454	22.3%	251,322,670	227,801,261	23,521,409	10.3%
20 Operating income (loss)	(17,570,573)	(8,715,511)	(8,855,062)	101.6%	(49,285,221)	(35,130,255)	(14,154,966)	40.3%
Non-operating revenues (expense):								
21 Two-mill tax	-	39	(39)	-100.0%	2,319	7,526	(5,207)	-69.2%
22 Three-mill tax	-	743,297	(743,297)	-100.0%	15,379,519	16,043,825	(664,306)	-4.1%
23 Six-mill tax	-	751,222	(751,222)	-100.0%	16,107,325	16,215,798	(108,473)	-0.7%
24 Nine-mill tax	-	581,687	(581,687)	-100.0%	24,144,089	23,762,398	381,691	1.6%
25 Interest income	244,853	3,072,061	(2,827,208)	-92.0%	1,595,305	4,670,765	(3,075,460)	-65.8%
26 Other Income	297,259	296,164	1,095	0.4%	593,424	564,049	29,375	5.2%
27 Interest expense	-	(32,471)	32,471	-100.0%	-	(32,471)	32,471	-100.0%
28 Operating and maintenance grants	(43)	-	(43)	0.0%	1,732	24,738	(23,006)	-93.0%
29 Total non-operating revenues	542,070	5,411,999	(4,869,929)	-90.0%	57,823,711	61,256,628	(3,432,917)	-5.6%
30 Income before capital contributions	(17,028,503)	(3,303,512)	(13,724,991)	415.5%	8,258,490	26,126,373	(17,867,883)	-67.3%
31 Capital contributions	4,565,841	88,912,677	(84,346,836)	-94.9%	41,227,507	119,607,317	(78,379,810)	-65.4%
32 Change in net position	(12,462,662)	85,609,165	(98,071,827)	-114.6%	49,865,996	145,733,690	(95,867,693)	-65.8%
33 Net position, beginning of year	-	-	-	-	2,228,421,948	2,082,688,315	145,733,633	7.0%
34 Net position, end of year	-	-	-	-	2,278,287,944	2,228,421,948	49,865,996	2.2%

SEWERAGE AND WATER BOARD OF NEW ORLEANS
ALL SYSTEM FUNDS
STATEMENT OF REVENUES AND EXPENSES AND CHANGES IN NET POSITION
WITH BUDGET COMPARISONS
December 2017

	A	B	C	D	E	F	G	H
	MTD Actual	MTD Budget	MTD Variance	%	YTD Actual	YTD Budget	YTD Variance	%
Operating revenues:								
1 Sales of water and delinquent fees	7,582,592	8,727,902	(1,145,310)	-13.1%	88,986,228	94,466,300	(5,480,072)	-5.8%
2 Sewerage service charges and delinquent fees	9,373,428	10,513,556	(1,140,128)	-10.8%	109,062,423	113,793,300	(4,730,877)	-4.2%
3 Plumbing inspection and license fees	60,420	57,819	2,601	4.5%	588,480	625,800	(37,320)	-6.0%
4 Other revenues	115,044	457,283	(342,239)	-74.8%	3,400,318	4,949,400	(1,549,082)	-31.3%
5 Total operating revenues	17,131,484	19,756,560	(2,625,076)	-13.3%	202,037,449	213,834,800	(11,797,351)	-5.5%
Operating Expenses:								
6 Executive Director	229,796	250,006	(20,210)	-8.1%	2,025,511	1,636,052	389,459	23.8%
7 Special Counsel	284,941	417,992	(133,051)	-31.8%	1,958,357	2,735,361	(777,004)	-28.4%
8 Security	1,932,171	1,755,657	176,515	10.1%	12,698,206	11,489,108	1,209,098	10.5%
9 Operations	22,078,469	17,449,306	4,629,163	26.5%	126,692,747	114,189,167	12,503,580	10.9%
10 Engineering	1,035,362	2,008,489	(973,127)	-48.5%	7,909,952	13,143,658	(5,233,706)	-39.8%
11 Logistics	1,218,749	2,594,760	(1,376,011)	-53.0%	12,074,699	16,980,244	(4,905,545)	-28.9%
12 Communications	70,990	177,733	(106,744)	-60.1%	634,179	1,163,097	(528,918)	-45.5%
13 Administration	1,200,878	2,433,197	(1,232,319)	-50.6%	13,582,561	15,922,971	(2,340,410)	-14.7%
14 Chief Financial Officer	2,423,450	4,383,138	(1,959,688)	-44.7%	22,767,055	28,683,482	(5,916,427)	-20.6%
15 Continuous Improvement	-	71,978	(71,978)	-100.0%	126,828	471,030	(344,202)	-73.1%
16 Overhead and Budget Adjustments	(1,186,514)	(2,651,832)	1,465,318	-55.3%	(12,998,810)	(17,353,724)	4,354,914	-25.1%
17 Subtotal	29,288,293	28,890,425	397,868	1.4%	187,471,284	189,060,446	(1,589,162)	-0.8%
18 Non-Cash Operating Expenses	5,413,765	11,951,485	(6,537,721)	-54.7%	65,851,386	84,087,795	(20,236,407)	-24.1%
19 Total operating expenses	34,702,057	40,841,910	(6,139,853)	-15.0%	251,322,670	273,148,239	(21,825,569)	-8.0%
20 Operating income (loss)	(17,570,573)	(21,085,350)	3,514,777	-16.7%	(48,285,221)	(59,313,439)	10,028,218	-16.9%
Non-operating revenues (expense):								
21 Two-mill tax	-	-	-	0.0%	2,319	-	2,319	0.0%
22 Three-mill tax	-	383,826	(383,826)	-100.0%	15,379,519	14,829,936	549,583	3.7%
23 Six-mill tax	-	405,341	(405,341)	-100.0%	16,107,325	15,661,211	446,114	2.8%
24 Nine-mill tax	-	607,581	(607,581)	-100.0%	24,144,089	23,475,190	668,899	2.8%
25 Interest income	244,853	34,946	209,908	600.7%	1,595,305	1,350,200	245,105	18.2%
26 Other Income	297,259	47,664	249,595	523.7%	593,424	1,841,600	(1,248,176)	-67.8%
27 Interest expense	-	(62,069)	62,069	-100.0%	-	(2,398,151)	2,398,151	-100.0%
28 Operating and maintenance grants	(43)	113,625	(113,667)	-100.0%	1,732	4,390,134	(4,388,402)	-100.0%
29 Total non-operating revenues	542,070	1,530,915	(988,845)	-64.6%	57,823,711	59,150,120	(1,326,409)	-2.2%
30 Income before capital contributions	(17,028,503)	(19,554,435)	2,525,932	-12.9%	8,538,490	(163,319)	8,701,809	-5328.1%
31 Capital contributions	4,565,841	-	4,565,841	0.0%	41,327,507	-	41,327,507	0.0%
32 Change in net position	(12,462,662)	(19,554,435)	7,091,773	-36.3%	49,865,996	(163,319)	50,029,315	-30632.9%
33 Net position, beginning of year	-	-	-	-	2,223,421,948	2,082,688,315	140,733,633	7.0%
34 Net position, end of year	-	-	-	-	2,273,287,944	2,070,874,603	202,413,341	10.0%

SEWERAGE AND WATER BOARD OF NEW ORLEANS
WATER SYSTEM FUND
STATEMENT OF REVENUES AND EXPENSES AND CHANGES IN NET POSITION
WITH PRIOR YEAR COMPARISONS
December 2017

	A	B	C	D	E	F	G	H
	MTD	MTD	MTD	%	YTD	YTD	YTD	%
	Actual	Prior Year	Variance		Actual	Prior Year	Variance	
Operating revenues:								
1 Sales of water and delinquent fees	7,582,592	8,717,825	(1,135,233)	-13.0%	88,986,228	83,158,940	5,827,288	7.0%
2 Sewerage service charges and delinquent fees	-	-	-	0.0%	-	-	-	0.0%
3 Plumbing inspection and license fees	31,010	29	30,981	106831.0%	299,275	319,991	(20,716)	-6.5%
4 Other revenues	110,859	55,019	55,840	101.5%	1,676,134	2,506,704	(830,570)	-33.1%
5 Total operating revenues	7,724,461	8,772,873	(1,048,412)	-12.0%	90,961,637	85,985,635	4,976,002	5.8%
Operating Expenses:								
6 Executive Director	79,408	73,982	5,426	7.3%	709,908	699,111	10,796	1.5%
7 Special Counsel	91,097	39,730	51,367	129.3%	543,123	477,977	165,145	34.6%
8 Security	716,384	732,644	(16,260)	-2.2%	4,784,982	3,720,312	1,064,670	28.6%
9 Operations	8,873,090	5,408,010	3,465,080	64.1%	52,200,080	51,953,131	246,948	0.5%
10 Engineering	309,591	177,723	131,868	74.2%	2,738,210	1,995,668	742,542	37.2%
11 Logistics	428,928	274,416	154,512	56.3%	3,364,281	3,667,335	(296,945)	-8.1%
12 Communications	23,663	24,002	(339)	-1.4%	211,393	91,991	119,402	129.8%
13 Administration	550,793	973,907	(423,115)	-43.4%	6,245,223	6,833,488	(588,265)	-8.6%
14 Chief Financial Officer	1,033,136	983,721	49,414	5.0%	9,940,847	8,548,533	1,392,315	16.3%
15 Continuous Improvement	(433,200)	31,583	(31,583)	-100.0%	42,276	58,627	(16,351)	-27.9%
16 Overhead and Budget Adjustments	-	(472,759)	39,559	-8.4%	(4,740,920)	(4,627,300)	(113,620)	2.5%
17 Non-Cash Operating Expenses	1,240,399	(6,218,779)	7,459,179	-119.9%	14,412,751	16,059,160	(1,646,409)	-10.3%
18 Total operating expenses	12,913,289	2,028,180	10,885,109	536.7%	91,152,154	89,478,036	1,674,118	1.9%
19 Operating income (loss)	15,188,827	6,744,693	(11,933,521)	-176.9%	(190,517)	(3,492,401)	3,301,884	-94.5%
Non-operating revenues (expense):								
20 Two-mill tax	-	-	-	0.0%	-	-	-	0.0%
21 Three-mill tax	-	-	-	0.0%	-	-	-	0.0%
22 Six-mill tax	-	-	-	0.0%	-	-	-	0.0%
23 Nine-mill tax	-	-	-	0.0%	-	-	-	0.0%
24 Interest income	116,612	1,200,007	(1,083,395)	-90.3%	867,230	2,104,903	(1,237,673)	-58.8%
25 Other Income	132,280	131,793	487	0.4%	264,074	251,002	13,072	5.2%
26 Interest expense	-	-	-	0.0%	-	-	-	0.0%
27 Operating and maintenance grants	107	-	107	0.0%	1,832	24,738	(22,906)	-92.6%
28 Total non-operating revenues	248,999	1,331,800	(1,082,801)	-81.3%	1,133,135	2,380,643	(1,247,508)	-52.4%
29 Income before capital contributions	(4,939,828)	8,076,493	(13,016,321)	-161.2%	942,618	(1,111,758)	2,054,376	-184.8%
30 Capital contributions	3,113,507	5,105,931	(1,992,424)	-39.0%	26,285,562	19,429,681	6,855,881	35.3%
31 Change in net position	(1,826,321)	13,182,424	(15,008,745)	-113.9%	27,228,181	18,317,923	8,910,258	48.6%
32 Net position, beginning of year					337,110,237	318,792,375	18,317,862	5.7%
33 Net position, end of year					364,338,418	337,110,298	27,228,120	8.1%

SEWERAGE AND WATER BOARD OF NEW ORLEANS
WATER SYSTEM FUND
STATEMENT OF REVENUES AND EXPENSES AND CHANGES IN NET POSITION
WITH BUDGET COMPARISONS
December 2017

	A	B	C	D	E	F	G	H
	MTD Actual	MTD Budget	MTD Variance	%	YTD Actual	YTD Budget	YTD Variance	%
Operating revenues:								
1 Sales of water and delinquent fees	7,582,592	8,727,902	(1,145,310)	-13.1%	88,386,228	94,466,300	(5,480,072)	-5.8%
2 Sewerage service charges and delinquent fees	-	-	-	0.0%	-	-	-	0.0%
3 Plumbing inspection and license fees	31,010	27,690	3,320	12.0%	299,275	299,700	(425)	-0.1%
4 Other revenues	110,859	402,098	(291,238)	-72.4%	1,676,134	4,352,100	(2,675,966)	-61.5%
5 Total operating revenues	7,724,461	9,157,690	(1,433,228)	-15.7%	90,961,637	99,118,100	(8,156,463)	-8.2%
Operating Expenses:								
6 Executive Director	79,408	92,961	(13,553)	-14.6%	709,908	608,343	101,565	16.7%
7 Special Counsel	91,097	133,065	(41,969)	-31.5%	643,123	870,787	(227,664)	-26.1%
8 Security	716,384	648,363	68,021	10.5%	4,784,982	4,242,919	542,063	12.8%
9 Operations	8,873,090	8,406,285	466,805	5.6%	52,200,080	55,011,166	(2,811,086)	-5.1%
10 Engineering	309,591	640,088	(330,497)	-51.6%	2,738,210	4,188,768	(1,450,558)	-34.6%
11 Logistics	428,928	865,430	(436,502)	-50.4%	3,964,281	5,663,422	(1,699,141)	-30.0%
12 Communications	23,663	59,244	(35,581)	-60.1%	211,393	387,699	(176,306)	-45.5%
13 Administration	550,793	1,103,685	(552,892)	-50.1%	6,245,223	7,222,569	(977,346)	-13.5%
14 Chief Financial Officer	1,033,136	1,930,956	(897,820)	-46.5%	9,940,847	12,636,276	(2,695,429)	-21.3%
15 Continuous Improvement	-	23,993	(23,993)	-100.0%	42,276	157,010	(114,734)	-73.1%
16 Overhead and Budget Adjustments	(433,200)	(2,529,294)	2,096,094	-82.9%	(4,740,920)	(16,551,830)	11,810,910	-71.4%
17 Non-Cash Operating Expenses	1,240,399	3,003,310	(1,762,911)	-58.7%	14,412,751	21,130,571	(6,717,820)	-31.8%
18 Total operating expenses	12,913,289	14,378,086	(1,464,798)	-10.2%	91,152,154	95,567,700	(4,415,546)	-4.6%
19 Operating income (loss)	(5,188,827)	(5,220,397)	31,570	-0.6%	(190,517)	3,550,400	(3,740,917)	-105.4%
Non-operating revenues (expense):								
20 Two-mill tax	-	-	-	0.0%	-	-	-	0.0%
21 Three-mill tax	-	-	-	0.0%	-	-	-	0.0%
22 Six-mill tax	-	-	-	0.0%	-	-	-	0.0%
23 Nine-mill tax	-	-	-	0.0%	-	-	-	0.0%
24 Interest income	116,612	8,805	107,807	1224.4%	867,230	340,200	527,030	154.9%
25 Other Income	132,280	10,366	121,915	1176.1%	264,074	400,500	(136,426)	-34.1%
26 Interest expense	-	(5,296)	5,296	-100.0%	-	(204,610)	204,610	-100.0%
27 Operating and maintenance grants	107	56,812	(56,706)	-99.8%	1,832	2,195,067	(2,193,235)	-99.9%
28 Total non-operating revenues	248,999	70,687	178,312	252.3%	1,133,135	2,731,157	(1,598,022)	-58.5%
29 Income before capital contributions	(4,939,828)	(5,149,709)	209,882	-4.1%	942,618	6,281,557	(5,338,939)	-85.0%
30 Capital contributions	3,113,507	-	3,113,507	0.0%	26,285,562	-	26,285,562	0.0%
31 Change in net position	(1,826,321)	(5,149,709)	3,323,388	-64.5%	27,228,181	-	-	-
32 Net position, beginning of year	-	-	-	-	337,110,237	318,792,375	18,317,862	5.7%
33 Net position, end of year	-	-	-	-	364,338,418	318,792,375	45,546,043	14.3%

SEWERAGE AND WATER BOARD OF NEW ORLEANS
SEWER SYSTEM FUND
STATEMENT OF REVENUES AND EXPENSES AND CHANGES IN NET POSITION
WITH PRIOR YEAR COMPARISONS
December 2017

	A	B	C	D	E	F	G	H
	MTD	MTD	MTD	%	YTD	YTD	YTD	%
	Actual	Prior Year	Variance		Actual	Prior Year	Variance	
Operating revenues:								
1 Sales of water and delinquent fees	-	-	-	0.0%	-	-	-	0.0%
2 Sewerage service charges and delinquent fees	9,373,428	10,337,180	(963,752)	-9.3%	109,062,423	104,795,184	4,267,239	4.1%
3 Plumbing inspection and license fees	29,410	50,310	(20,900)	-41.5%	289,205	318,511	(29,306)	-9.2%
4 Other revenues	2,938	44,819	(41,881)	-93.4%	511,126	505,847	5,279	1.0%
5 Total operating revenues	9,405,776	10,432,309	(1,026,533)	-9.8%	109,862,754	105,619,542	4,243,212	4.0%
Operating Expenses:								
6 Executive Director	76,362	70,135	6,227	8.9%	672,244	662,452	9,792	1.5%
7 Special Counsel	91,097	39,729	51,367	129.3%	640,134	477,876	162,258	34.0%
8 Security	638,783	621,951	16,832	2.7%	4,142,437	3,231,973	910,463	28.2%
9 Operations	6,390,650	4,617,895	1,772,754	38.4%	39,306,345	36,484,546	2,821,799	7.7%
10 Engineering	420,356	253,263	167,093	66.0%	2,878,926	2,170,696	708,229	32.6%
11 Logistics	408,352	270,934	137,418	50.7%	3,825,834	3,618,509	207,325	5.7%
12 Communications	23,663	24,002	(339)	-1.4%	211,393	91,992	119,401	129.8%
13 Administration	359,929	647,056	(287,127)	-44.4%	4,067,542	4,432,960	(365,417)	-8.2%
14 Chief Financial Officer	994,206	948,176	46,030	4.9%	9,534,972	8,206,629	1,328,344	16.2%
15 Continuous Improvement	-	31,583	(31,583)	-100.0%	42,276	58,627	(16,351)	-27.9%
16 Overhead and Budget Adjustments	(429,054)	(461,782)	32,728	-7.1%	(4,565,019)	(4,515,752)	(49,267)	1.1%
17 Non-Cash Operating Expenses	2,117,851	8,508,432	(6,390,581)	-75.1%	24,933,368	27,448,331	(2,514,963)	-9.2%
18 Total operating expenses	11,092,195	15,571,374	(4,479,180)	-28.8%	85,690,451	82,368,839	3,321,612	4.0%
19 Operating income (loss)	(1,686,418)	(5,139,065)	3,452,647	-67.2%	24,172,303	23,250,703	921,599	4.0%
Non-operating revenues (expense):								
20 Two-mill tax	-	-	-	0.0%	-	-	-	0.0%
21 Three-mill tax	-	-	-	0.0%	-	-	-	0.0%
22 Six-mill tax	-	-	-	0.0%	-	-	-	0.0%
23 Nine-mill tax	-	-	-	0.0%	-	-	-	0.0%
24 Interest income	122,474	1,754,068	(1,631,594)	-93.0%	575,028	2,311,924	(1,736,896)	-75.1%
25 Other Income	164,979	164,371	608	0.4%	329,350	313,047	16,303	5.2%
26 Interest expense	(149)	-	(149)	0.0%	-	-	-	0.0%
27 Operating and maintenance grants	-	-	-	0.0%	(100)	-	(100)	0.0%
28 Total non-operating revenues	287,304	1,918,439	(1,631,135)	-85.0%	904,278	2,624,971	(1,720,693)	-65.6%
29 Income before capital contributions	(1,399,114)	(3,220,626)	1,821,512	-56.6%	25,076,581	25,875,674	(799,094)	-3.1%
30 Capital contributions	595,910	(4,630,217)	5,226,127	-112.9%	6,118,174	3,105,521	3,012,653	97.0%
31 Change in net position	(803,204)	(7,850,843)	7,047,639	-89.8%	31,194,755	28,981,195	2,213,560	7.6%
32 Net position, beginning of year	-	-	-	-	792,100,836	763,119,641	28,981,195	3.8%
33 Net position, end of year	-	-	-	-	823,295,591	792,100,836	31,194,755	3.9%

SEWERAGE AND WATER BOARD OF NEW ORLEANS
SEWER SYSTEM FUND
STATEMENT OF REVENUES AND EXPENSES AND CHANGES IN NET POSITION
WITH BUDGET COMPARISONS
December 2017

	A	B	C	D	E	F	G	H
	MTD Actual	MTD Budget	MTD Variance	%	YTD Actual	YTD Budget	YTD Variance	%
Operating revenues:								
1 Sales of water and delinquent fees	-	-	-	0.0%	-	-	-	0.0%
2 Sewerage service charges and delinquent fees	9,373,428	10,513,556	(1,140,128)	-10.8%	109,062,423	113,793,300	(4,730,877)	-4.2%
3 Plumbing inspection and license fees	29,410	30,129	(719)	-2.4%	289,205	326,100	(36,895)	-11.3%
4 Other revenues	2,938	55,186	(52,247)	-94.7%	511,126	597,300	(86,174)	-14.4%
5 Total operating revenues	9,405,776	10,598,871	(1,193,094)	-11.3%	109,362,754	114,716,700	(4,853,946)	-4.2%
Operating Expenses:								
6 Executive Director	76,362	82,525	(6,163)	-7.5%	572,244	540,047	132,197	24.5%
7 Special Counsel	91,097	111,214	(20,117)	-18.1%	540,134	727,787	(87,653)	-12.0%
8 Security	638,783	574,223	64,560	11.2%	4,142,437	3,757,744	384,693	10.2%
9 Operations	6,390,650	5,704,235	686,415	12.0%	39,306,345	37,328,810	1,977,535	5.3%
10 Engineering	420,356	771,700	(351,344)	-45.5%	2,878,926	5,050,044	(2,171,118)	-43.0%
11 Logistics	408,352	843,015	(434,663)	-51.6%	3,825,834	5,516,732	(1,690,898)	-30.7%
12 Communications	23,663	59,244	(35,581)	-60.1%	211,393	387,699	(176,306)	-45.5%
13 Administration	359,929	732,808	(372,880)	-50.9%	4,067,542	4,795,536	(727,994)	-15.2%
14 Chief Financial Officer	994,206	1,850,122	(855,916)	-46.3%	9,534,972	12,107,293	(2,572,321)	-21.2%
15 Continuous Improvement	-	23,993	(23,993)	-100.0%	42,276	157,010	(114,734)	-73.1%
16 Overhead and Budget Adjustments	(429,054)	1,166,031	(1,595,084)	-136.8%	(4,565,019)	7,630,565	(12,195,584)	-159.8%
17 Non-Cash Operating Expenses	2,117,851	4,631,556	(2,513,705)	-54.3%	24,933,368	32,586,523	(7,653,155)	-23.5%
18 Total operating expenses	11,092,195	16,550,665	(5,458,470)	-33.0%	85,690,451	110,585,790	(24,895,339)	-22.5%
19 Operating income (loss)	(1,686,418)	(5,951,794)	4,265,376	-71.7%	24,172,303	4,130,910	20,041,393	485.2%
Non-operating revenues (expense):								
20 Two-mill tax	-	-	-	0.0%	-	-	-	0.0%
21 Three-mill tax	-	-	-	0.0%	-	-	-	0.0%
22 Six-mill tax	-	-	-	0.0%	-	-	-	0.0%
23 Nine-mill tax	-	-	-	0.0%	-	-	-	0.0%
24 Interest income	122,474	16,668	105,806	634.8%	575,028	644,000	(68,972)	-10.7%
25 Other Income	164,979	11,960	153,019	1279.4%	329,350	462,100	(132,750)	-28.7%
26 Interest expense	-	(53,401)	53,401	-100.0%	-	(2,063,241)	2,063,241	-100.0%
27 Operating and maintenance grants	(149)	56,812	(56,962)	-100.3%	(100)	2,195,067	(2,195,167)	-100.0%
28 Total non-operating revenues	287,304	32,040	255,264	796.7%	904,278	1,237,926	(333,648)	-27.0%
29 Income before capital contributions	(1,399,114)	(5,919,754)	4,520,640	-76.4%	25,076,581	5,368,836	19,707,745	367.1%
30 Capital contributions	595,910	-	595,910	0.0%	6,118,174	-	6,118,174	0.0%
31 Change in net position	(803,204)	(5,919,754)	5,116,550	-86.4%	31,194,755	-	-	-
32 Net position, beginning of year	-	-	-	-	792,100,836	763,119,641	28,981,195	3.8%
33 Net position, end of year	-	-	-	-	823,295,591	763,119,641	60,175,950	7.9%

SEWERAGE AND WATER BOARD OF NEW ORLEANS
DRAINAGE SYSTEM FUND
STATEMENT OF REVENUES AND EXPENSES AND CHANGES IN NET POSITION
WITH PRIOR YEAR COMPARISONS
December 2017

	A	B	C	D	E	F	G	H
	MTD	MTD	MTD	%	YTD	YTD	YTD	%
	Actual	Prior Year	Variance		Actual	Prior Year	Variance	
Operating revenues:								
1 Sales of water and delinquent fees	-	-	-	0.0%	-	-	-	0.0%
2 Sewerage service charges and delinquent fees	-	-	-	0.0%	-	-	-	0.0%
3 Plumbing inspection and license fees	-	-	-	0.0%	-	-	-	0.0%
4 Other revenues	1,247	456,910	(455,663)	-99.7%	1,213,058	1,065,829	147,229	13.8%
5 Total operating revenues	1,247	456,910	(455,663)	-99.7%	1,213,058	1,065,829	147,229	13.8%
Operating Expenses:								
6 Executive Director	74,026	67,185	6,841	10.2%	643,359	634,339	9,020	1.4%
7 Special Counsel	102,748	96,229	6,518	6.8%	675,100	649,463	25,638	3.9%
8 Security	577,005	574,014	2,991	0.5%	5,770,787	2,976,077	794,709	26.7%
9 Operations	6,814,729	1,473,482	5,341,247	362.5%	35,186,322	16,776,664	18,409,658	109.7%
10 Engineering	305,415	185,266	120,149	64.9%	2,292,817	1,735,115	557,702	32.1%
11 Logistics	381,469	311,756	69,714	22.4%	4,284,585	3,782,610	501,974	13.3%
12 Communications	23,663	24,002	(339)	-1.4%	211,393	91,991	119,402	129.8%
13 Administration	290,156	548,705	(258,549)	-47.1%	3,269,795	3,575,203	(305,407)	-8.5%
14 Chief Financial Officer	396,108	421,887	(25,778)	-6.1%	3,291,235	2,997,282	293,953	9.8%
15 Continuous Improvement	-	31,583	(31,583)	-100.0%	42,276	58,627	(16,351)	-27.9%
16 Overhead and Budget Adjustments	(324,260)	(385,250)	60,990	-15.8%	(3,692,871)	(3,657,456)	(35,415)	1.0%
17 Non-Cash Operating Expenses	2,035,514	7,429,191	(5,393,677)	-72.3%	24,505,267	26,334,472	(1,829,204)	-6.9%
18 Total operating expenses	10,696,574	10,778,049	(81,475)	-0.8%	74,480,065	55,954,387	18,525,679	33.1%
19 Operating income (loss)	(10,695,328)	(10,321,139)	(374,188)	3.6%	(73,267,007)	(54,888,558)	(18,378,449)	33.5%
Non-operating revenues (expense):								
20 Two-mill tax	-	39	(39)	-100.0%	2,319	7,526	(5,207)	-69.2%
21 Three-mill tax	-	743,297	(743,297)	-100.0%	15,379,519	16,043,825	(664,306)	-4.1%
22 Six-mill tax	-	751,222	(751,222)	-100.0%	16,107,325	16,215,798	(108,473)	-0.7%
23 Nine-mill tax	-	581,687	(581,687)	-100.0%	24,144,089	23,762,398	381,691	1.6%
24 Interest income	5,767	117,986	(112,219)	-95.1%	153,047	253,938	(100,891)	-39.7%
25 Other Income	-	-	-	0.0%	-	-	-	0.0%
26 Interest expense	-	(32,471)	32,471	-100.0%	-	(32,471)	32,471	-100.0%
27 Operating and maintenance grants	-	-	-	0.0%	-	-	-	0.0%
28 Total non-operating revenues	5,767	2,161,760	(2,155,993)	-99.7%	55,786,298	56,231,014	(464,716)	-0.8%
29 Income before capital contributions	(10,689,561)	(8,159,379)	(2,530,182)	31.0%	(17,480,709)	1,362,456	(18,843,166)	-1,383.0%
30 Capital contributions	856,424	88,436,963	(87,580,539)	-99.0%	8,923,770	97,072,115	(88,148,345)	-90.8%
31 Change in net position	(9,833,137)	80,277,584	(90,110,721)	-112.2%	(8,556,939)	98,434,571	(106,991,510)	-108.7%
32 Net position, beginning of year					1,099,210,875	1,000,776,299	98,434,576	9.8%
33 Net position, end of year					1,090,653,936	1,099,210,870	(8,556,934)	-0.8%

SEWERAGE AND WATER BOARD OF NEW ORLEANS
DRAINAGE SYSTEM FUND
STATEMENT OF REVENUES AND EXPENSES AND CHANGES IN NET POSITION
WITH BUDGET COMPARISONS
December 2017

	A	B	C	D	E	F	G	H
	MTD Actual	MTD Budget	MTD Variance	%	YTD Actual	YTD Budget	YTD Variance	%
Operating revenues:								
1 Sales of water and delinquent fees	-	-	-	0.0%	-	-	-	0.0%
2 Sewerage service charges and delinquent fees	-	-	-	0.0%	-	-	-	0.0%
3 Plumbing inspection and license fees	-	-	-	0.0%	-	-	-	0.0%
4 Other revenues	1,247	-	1,247	0.0%	1,213,058	-	1,213,058	0.0%
5 Total operating revenues	1,247	-	1,247	0.0%	1,213,058	-	1,213,058	0.0%
Operating Expenses:								
6 Executive Director	74,026	74,520	(494)	-0.7%	643,359	487,662	155,697	31.9%
7 Special Counsel	102,748	173,713	(70,966)	-40.9%	675,100	1,136,787	(461,687)	-40.6%
8 Security	577,005	533,071	43,934	8.2%	3,770,787	3,488,445	282,342	8.1%
9 Operations	6,814,729	3,338,786	3,475,943	104.1%	35,186,322	21,849,191	13,337,131	61.0%
10 Engineering	305,415	596,702	(291,286)	-48.8%	2,292,817	3,904,846	(1,612,029)	-41.3%
11 Logistics	381,469	886,315	(504,846)	-57.0%	4,284,585	5,800,090	(1,515,505)	-26.1%
12 Communications	23,663	59,244	(35,581)	-60.1%	211,393	387,699	(176,306)	-45.5%
13 Administration	290,156	596,705	(306,548)	-51.4%	3,269,795	3,904,866	(635,071)	-16.3%
14 Chief Financial Officer	396,108	602,060	(205,952)	-34.2%	3,291,235	3,939,913	(648,678)	-16.5%
15 Continuous Improvement	-	23,993	(23,993)	-100.0%	42,276	157,010	(114,734)	-73.1%
16 Overhead and Budget Adjustments	(324,260)	(1,288,568)	964,309	-74.8%	(3,592,871)	(8,432,459)	4,739,588	-56.2%
17 Non-Cash Operating Expenses	2,055,514	4,316,619	(2,261,105)	-52.4%	24,505,267	30,370,699	(5,865,432)	-19.3%
18 Total operating expenses	10,696,574	9,913,159	783,415	7.9%	74,480,065	66,994,749	7,485,316	11.2%
19 Operating income (loss)	(10,695,328)	(9,913,159)	(782,169)	7.9%	(73,267,007)	(66,994,749)	(6,272,258)	9.4%
Non-operating revenues (expense):								
20 Two-mill tax	-	-	-	0.0%	2,319	-	2,319	0.0%
21 Three-mill tax	-	383,826	(383,826)	-100.0%	15,379,519	14,829,936	549,583	3.7%
22 Six-mill tax	-	405,341	(405,341)	-100.0%	16,107,325	15,661,211	446,114	2.8%
23 Nine-mill tax	-	607,581	(607,581)	-100.0%	24,144,089	23,475,190	668,899	2.8%
24 Interest income	5,767	9,473	(3,706)	-39.1%	153,047	366,000	(212,953)	-58.2%
25 Other income	-	25,338	(25,338)	-100.0%	-	979,000	(979,000)	-100.0%
26 Interest expense	-	(3,372)	3,372	-100.0%	-	(130,300)	130,300	-100.0%
27 Operating and maintenance grants	-	-	-	0.0%	-	-	-	0.0%
28 Total non-operating revenues	5,767	1,428,188	(1,422,421)	-99.6%	55,786,298	55,181,037	605,261	1.1%
29 Income before capital contributions	(10,689,561)	(8,484,972)	(2,204,590)	26.0%	(17,480,709)	(11,813,712)	(5,666,997)	48.0%
30 Capital contributions	856,424	-	856,424	0.0%	8,923,770	-	8,923,770	0.0%
31 Change in net position	(9,833,137)	(8,484,972)	(1,348,165)	15.9%	(8,556,939)	(11,813,712)	3,256,773	-27.6%
32 Net position, beginning of year	-	-	-	-	1,099,210,875	1,000,776,299	98,434,576	9.8%
33 Net position, end of year	-	-	-	-	1,090,653,936	988,962,587	101,691,349	10.3%

Sewerage and Water Board of New Orleans

Total System Unrestricted Cash and Cash Equivalents in Days of O&M Expenses at Month End December 2017

EUM Attribute:
Financial Viability

Description: Establish and maintain an effective balance between long-term debt, assets values, operations and maintenance expenditures, and operating revenues.

Constituency:
**Suppliers and
Bondholders**

Objective: Provide adequate cash to pay invoices on a timely basis

Goal: Cash balance of at least 180 days of O&M expenses.

**Currently Meeting
Goal:** Yes

**Process Operating
Within Control Limits:**
Yes

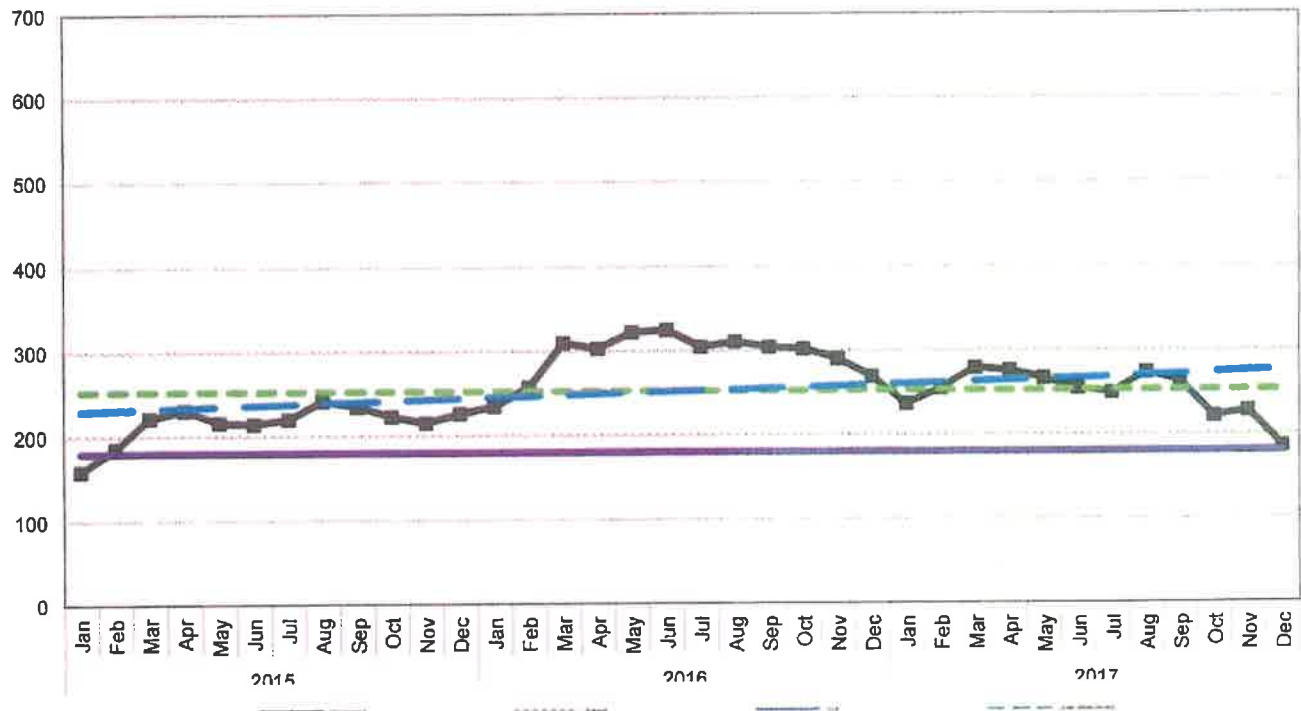
Trend: Unfavorable

Analysis

Monthly cash balances have remained stable except for repayment of previous inter-system loans. Note: Reclassification of certain current assets from restricted to unrestricted in October 2013 resulted in higher unrestricted balances.

Plans for Improvement

Utilize revenues generated from operations to increase cash balances according to 2011-2020 Financial Plan.



Data Table

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2015	158.8	185.6	221.5	230.9	216.1	214.6	220.1	241.7	234.7	223.1	215.7	226.1
2016	234.7	257.4	309.3	302.7	321.7	324.2	304.3	310.6	304.1	302.0	289.7	269.0
2017	236.4	255.0	279.2	275.9	266.7	254.8	249.5	273.7	263.4	221.0	227.2	185.2

Sewerage and Water Board of New Orleans

Water System Unrestricted Cash and Cash Equivalents in Days of O&M Expenses at Month End December 2017

EUM Attribute:
Financial Viability

Description: Establish and maintain an effective balance between long-term debt, assets values, operations and maintenance expenditures, and operating revenues.

Constituency:
Suppliers and Bondholders

Objective: Provide adequate cash to pay invoices on a timely basis

Goal: Cash balance of at least 180 days of O&M expenses.

Currently Meeting Goal: No

Process Operating Within Control Limits:
Yes

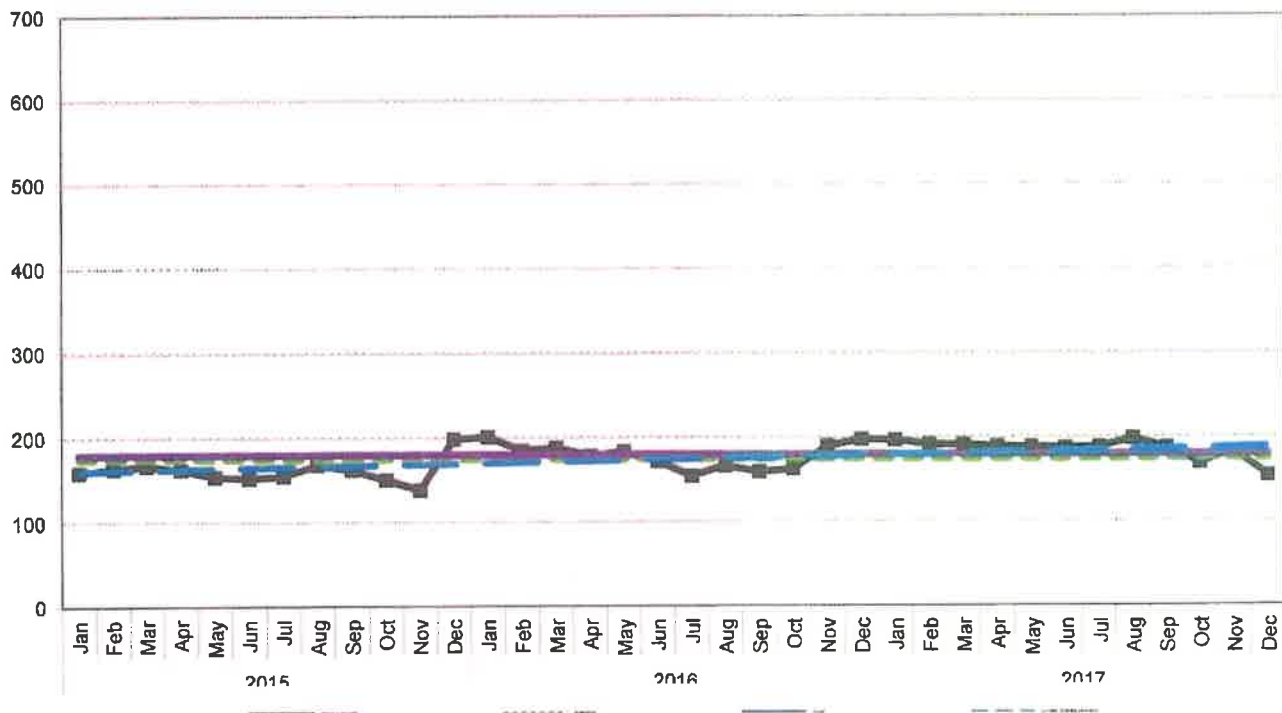
Trend: Unfavorable

Analysis

Monthly cash balances have remained stable except for repayment of previous inter-system loans. Note: Reclassification of certain current assets from restricted to unrestricted in October 2013 resulted in higher unrestricted balances.

Plans for Improvement

Utilize revenues generated from operations to increase cash balances according to 2011-2020 Financial Plan.



Data Table

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2015	158.9	163.6	167.0	162.1	153.4	151.6	154.2	167.7	161.2	149.5	137.4	197.9
2016	200.6	184.5	187.7	178.0	183.0	171.5	153.5	165.9	158.9	162.2	189.3	197.3
2017	196.2	191.3	190.9	188.7	188.1	187.2	187.8	198.2	187.2	168.8	182.7	153.1

Sewerage and Water Board of New Orleans

Sewer System Unrestricted Cash and Cash Equivalents in Days of O&M Expenses at Month End December 2017

EUM Attribute:
Financial Viability

Description: Establish and maintain an effective balance between long-term debt, assets values, operations and maintenance expenditures, and operating revenues.

Constituency:
Suppliers and
Bondholders

Objective: Provide adequate cash to pay invoices on a timely basis

Goal: Cash balance of at least 180 days of O&M expenses.

Currently Meeting Goal: Yes

Process Operating Within Control Limits:
Yes

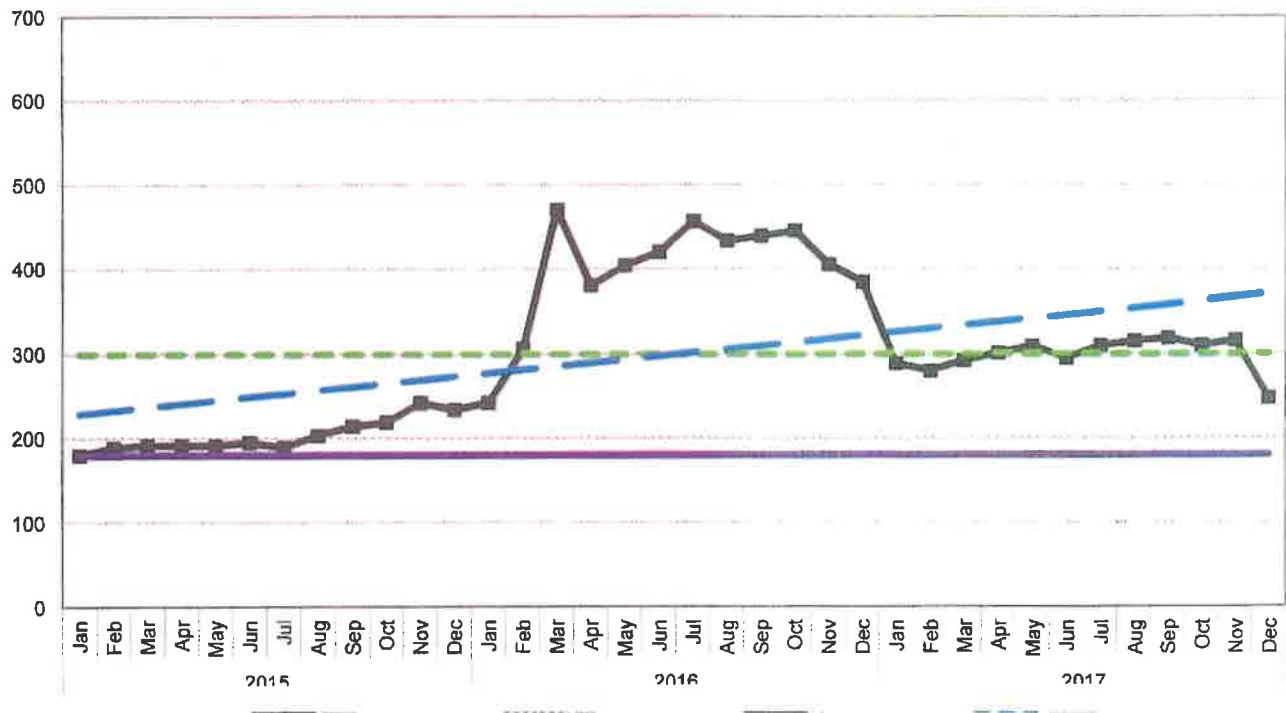
Trend: Unfavorable

Analysis

Monthly cash balances have remained stable except for repayment of previous inter-system loans. Note: Reclassification of certain current assets from restricted to unrestricted in October 2013 resulted in higher unrestricted balances.

Plans for Improvement

Utilize revenues generated from operations to increase cash balances according to 2011-2020 Financial Plan.



Data Table

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2015	180.0	188.6	191.4	191.4	191.1	194.5	188.9	202.9	213.7	218.3	241.3	233.0
2016	241.4	305.3	469.9	380.4	403.7	419.5	456.4	433.1	438.7	444.9	405.1	383.9
2017	287.5	279.1	291.3	300.4	308.7	294.4	309.3	314.6	317.9	309.3	315.3	246.7

Sewerage and Water Board of New Orleans

Drainage System Unrestricted Cash and Cash Equivalents in Days of O&M Expenses at Month End December 2017

EUM Attribute:
Financial Viability

Description: Establish and maintain an effective balance between long-term debt, assets values, operations and maintenance expenditures, and operating revenues.

Constituency:
Suppliers and
Bondholders

Objective: Provide adequate cash to pay invoices on a timely basis

Goal: Cash balance of at least 180 days of O&M expenses.

Currently Meeting Goal: Yes

Process Operating Within Control Limits:
Yes

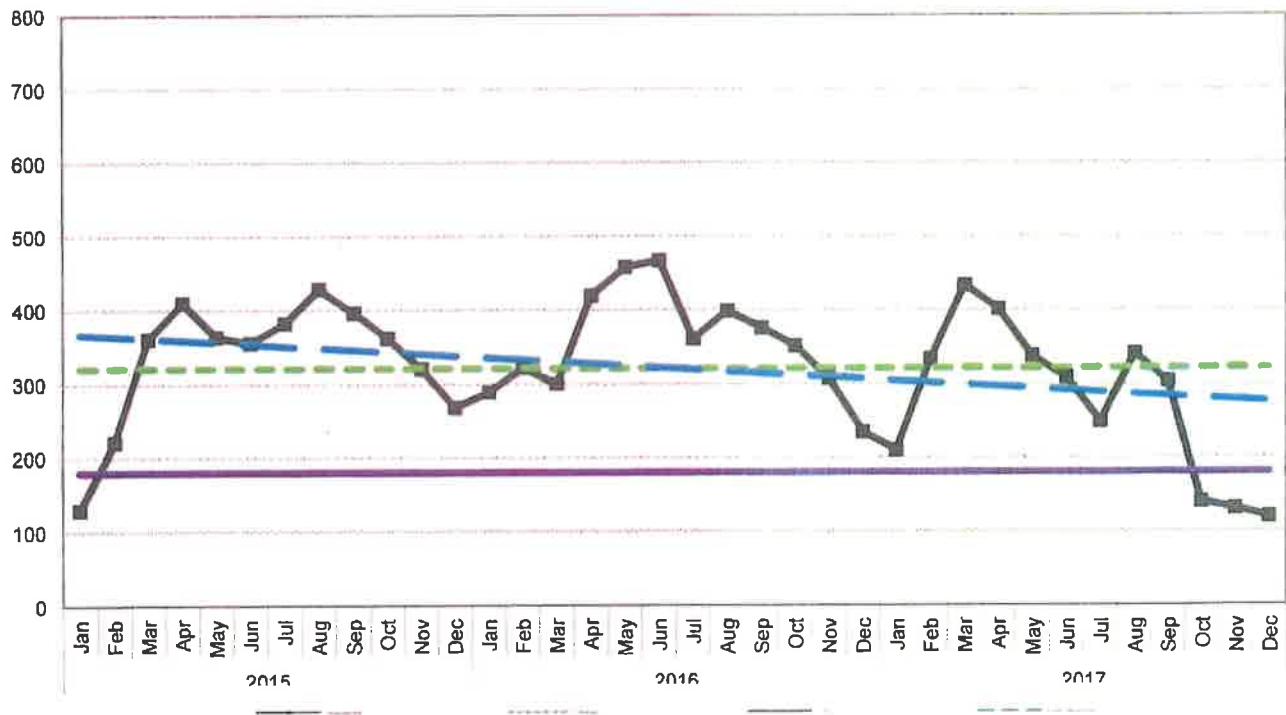
Trend: Unfavorable

Analysis

Monthly cash balances typically increase during the first quarter from property tax collections and then decrease for the remainder of the year. The long-term goal will not be met until a new revenue stream for the drainage system is created and implemented.

Plans for Improvement

Utilize revenues generated from operations to increase cash balances according to 2011-2020 Financial Plan.



Data Table

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2015	129.2	220.6	360.8	409.2	363.2	355.3	381.5	428.2	395.7	361.6	320.2	267.0
2016	287.9	321.6	299.4	419.2	457.5	466.6	360.3	398.3	375.3	351.2	306.8	233.7
2017	209.5	333.3	432.7	400.8	337.1	307.5	247.6	340.3	302.4	139.2	130.2	119.3

Sewerage and Water Board of New Orleans
Comparative Variance Indicators for Financial Results
Through December 2017 02-27-28 Preliminary

Statement of Revenues, Expenses, and Changes in Net Position with Prior Year Comparisons	Total	Water	Sewer	Drainage
Revenues				
Operating Expenses				
Non-Operating Revenues and Expenses				
Income before Capital Contributions				
Statement of Revenues, Expenses, and Changes in Net Position with Budget Comparisons	Total	Water	Sewer	Drainage
Revenues				
Operating Expenses				
Non-Operating Revenues and Expenses				
Income before Capital Contributions				
Statement of Net Position with Prior Year Comparisons	Total	Water	Sewer	Drainage
Plant, Property, and Equipment				
Restricted Current Assets				
Unrestricted Designated Current Assets				
Unrestricted Undesignated Current Assets				
Net Position				
Long-Term Liabilities				
Current Liabilities from Unrestricted Assets				
Current Liabilities from Restricted Assets				
Statement of Cash Flows with Prior Year Comparisons	Total	Water	Sewer	Drainage
Operating Activities				
Non-Capital Financing Activities				
Capital and Related Financing Activities				
Investing Activities				
Net Increase in Cash				

Green = Favorable Variance

Yellow = Unfavorable Variance / No Action Recommended

Red = Unfavorable Variance / Action Recommended

REPORT ON OPERATIONS FOR 2016

B&V PROJECT NO. 195184

PREPARED FOR

Sewerage and Water Board of New Orleans

12 MARCH 2018



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 customers and stakeholders
We will treat each customer and employee with dignity and respect
We will value each employee, their work, and their commitment
We will be truthful, 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

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Introduction

PURPOSE AND SCOPE

This report covers operations of the Sewerage and Water Board of New Orleans for the year ending December 31, 2016. This report presents findings of studies made in compliance with covenants of the 2014 General Water Revenue Bond Resolution and the 2014 General Sewerage Service Revenue Bond Resolution. This report also 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 General Water Revenue Bond Resolution and the General Sewerage Service Revenue Bond Resolution.
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 2014 General Water Revenue Bond Resolution or 2014 General Sewerage Service 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. In 2014, the Board issued Water Revenue and Refunding Bonds in the amount of \$103,525,000. A portion of the proceeds were used to defease Series 1998 in the amount of \$5,570,000 and Series 2002 in the amount of \$22,085,000. In 2015, the Board issued Water Revenue Bonds in the amount of \$100,000,000. Principal payments will begin in 2018. As of December 31, 2016, total outstanding debt service on all outstanding revenue bonds totaled \$203,200,000.

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 to 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 2014, the Board issued Sewerage Service Revenue and Refunding Bonds in the amount of \$158,990,000. A portion of the proceeds were used to defease all outstanding bonds with the exception of the Series 2011 bonds.

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, 2014, had received a total of \$9,000,000 in disbursements. The Board began making principal payments in November of 2013. With the issuance of the Series 2014 bonds, the Series 2011 bonds became parity debt and entitled to the provisions of the General Sewerage Service Revenue Bond Resolution. In 2015, the Board issued Sewerage Service Revenue Bonds in the amount of \$100,000,000. Principal payments will begin in 2021. Total outstanding principal on all revenue bonds totaled \$242,668,000 as of December 31, 2016.

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. It was reauthorized in December 2016. 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 additional nine-mill bonds in the amount of \$20,000,000 were issued in 2002. In 2014, the Board issued Drainage System Refunding Bonds in the amount of \$14,900,000 for the purpose of refunding Series 1998 and Series 2002. The total nine-mill Drainage System Bonds outstanding as of December 31, 2016 was \$11,100,000.

In 1988, reassessment caused the nine-mill ad valorem tax to be increased to 9.13 mills. 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 through 2046; six-mill tax through 2026; and nine-mill tax through 2031.

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, 2016, the amount outstanding was \$51,844,281.

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 1970s, 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 2020.

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 2016, the Board provided 1,062,993,239 gallons of water for public services to agencies of the City of New Orleans. The value of this water, at current rates, is \$46,141,187.68. The value of the sewerage charges is \$110,153,094.86.

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 119,800 gallons or 2,434,000 below its annual “cap” of 2,553,800 gallons. City Park used 25,021,600 gallons or 210,301,800 below its annual “cap” of 235,323,400 gallons. Audubon Park used 97,490,200 gallons or 142,509,800 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 2016. 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 2016 includes a summary of the number of bills issued, billed volume, and revenues by customer class for both the Water and Sewerage Departments.

Operation and maintenance expenses are summarized by supplemental accounts that 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 2016 have complied with the requirements set forth in the 2014 General Water Revenue Bond Resolution.

Summary of 2016 Operations

Based upon a tabulation of water bills rendered during the year, the Water Department provided water service to an average of 134,872 regular billed customers and 1,107 governmental accounts, the latter of which are served without charge. According to data provided by the Board, of the 51,561.3 million gallons of water pumped by the Department during the year, 13,106.7 million gallons were sold, 1,042.7 million gallons were metered to customers without charge, treatment plant process water totaled 532.2 million gallons, and unmetered uses accounted for the remaining 36,681.2 million gallons. Unmetered water uses include fire protection; flushing streets, sewers, and drains; chlorinating and flushing new water mains; construction of streets; Sewerage and Water Board plant uses; and unaccounted for system losses.

The total revenue from water sales, delinquent fees, interest income and other income increased from \$82,956,619 in 2015 to \$88,358,817 in 2016. Operation and maintenance expenses (excluding claims paid) increased from \$78,264,668 in 2015 to \$76,886,448 in 2016. After adding claims of \$1,847,021 and debt service payments of \$10,222,220, a negative balance of \$596,872 was available for capital related expenditures in 2016, unadjusted for depreciation.

Ability to Finance Future Operations and Proposed Improvements

A summary of projected financial operations of the Water Department for the period 2017 through 2021 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, 2017. Revenue from future annual water system revenue increases of 10 percent effective January 1, 2017 through January 1, 2020, followed by 6 percent effective January 1, 2021 are shown on Line 2 of Table 12.

Future long term debt financing of \$178,000,000 in 2018 and \$103,000,000 in 2021 is indicated to fund the proposed capital improvement program.

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 2017-2021 study period examined herein.

Sewerage Department**Sewerage Service Revenue Bond Resolution Requirements**

Sewerage and Water Board financial operations for 2016 have complied with the requirements set forth in the 2014 General Sewerage Service Revenue Bond Resolution.

Summary of 2016 Operations

The total revenue from sewer charges, delinquent fees, interest income and other income increased from \$98,165,766 in 2015 to \$108,233,756 in 2016. Operation and maintenance expenses (excluding claims paid) increased from \$58,028,723 in 2015 to \$58,240,656 in 2016. After adding claims of \$2,380,775 and debt service payments of \$24,616,125, a balance of \$22,996,200 was available for capital related expenditures in 2016, unadjusted for depreciation.

Ability to Finance Future Operations and Proposed Improvements

A summary of projected financial operations of the Sewerage Department for the period 2017 through 2021 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, 2016. Revenue from future annual wastewater system revenue increases of 10 percent effective January 1, 2017 through January 1, 2020, followed by 2.5 percent effective January 1, 2021 are shown on Line 2 of Table 24.

Future long term debt financing of \$158,000,000 in 2018 and \$120,000,000 in 2020 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 2017-2021 study period examined herein.

Drainage Department

Summary of 2016 Operations

Total revenues received from all sources including interest income totaled \$57,349,315 in 2016, an increase of approximately 5.5 percent from \$54,367,386 reported for the same sources in 2015. Total operation and maintenance expenses decreased about 11.4 percent, from \$37,814,502 in 2015 to \$33,523,624 in 2016. After adding claims of \$2,223,009 and debt service payments of \$2,017,050, a balance of \$19,585,632 was available for capital related expenditures in 2016.

Ability to Finance Future Operations and Proposed Improvements

An analysis of financial operations projected for the Drainage Department for the period 2017 through 2021 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.

The analysis indicates that the current revenue sources are not adequate to meet operation and maintenance expenses and total debt service on existing bond issues beginning in 2021. In addition, the Drainage Department will not have the debt capacity to fund all of the capital requirements through 2021. Due to constraints on revenue, it is anticipated that capital projects during the 5-year period will exceed the amount of funding available from the Drainage Department. It is recommended that the Board defer capital projects until an additional source of operating revenue has been identified and the SWBNO has the capacity to debt finance more projects. This deferment is shown on Line 9 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 2016 Comprehensive Annual Financial Report. In 2016, approximately 69.7 million kilowatt hour (kWh) of power was purchased and 33.2 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 9.3¢ per kWh in 2012 to about 10.2¢ per kWh in 2016. During the same period, the Board's unit cost for generated power has increased from about 20.5¢ per kWh to about 27.4¢ per kWh. In 2016, the cost of Board generated power was 2.7 times higher than that of purchased power; however, this

higher cost is offset by the fact that the Board generated power is much more reliable than the purchased power from the local utility company.

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.

2017 POWER AND PUMPING EMERGENCY EVENT

The City of New Orleans experienced heavy rains on August 5th that resulted in flooding events throughout the City. At the time of the rain event, several drainage pump stations were down for repairs or not operating due to limited staffing availability. In addition, repairs necessary at the Carrollton power plant resulted in power limitations to some of the operable drainage pumps. On August 9th, the existing Executive Director of the SWBNO declared a state of emergency and authorized the purchase of necessary materials and furnishing of the labor necessary to make all emergency repairs to the system. On August 10th, the Board of Directors unanimously adopted a motion to repair the power and pumping facilities, conduct an independent analysis of the power generation and drainage systems, and provide for interim management of the SWBNO. On August 22nd City officials named an interim emergency management team to focus on the SWBNO's pumping and power capabilities.

The Facilities Evaluation included in this report reflects the findings of onsite assessments of the SWBNO facilities conducted by Black & Veatch from May 16 to May 20 and does not reflect the condition and operation of the system in August. Black & Veatch made no additional inspections, evaluations, or assessments after May 20th.

In December 2016, the Board adopted the 2017 capital program, 2017-2026 capital program and 2017 operating budget. On September 20, 2017, the Board adopted amended capital and operating budgets reflecting the acceleration of seven large capital projects necessary to repair the system, lower than anticipated water and sewer revenue, higher than anticipated drainage system expenses, and changes to other operation and maintenance expenses following a mid-year review of activities. The financial evaluations of the Water, Sewerage and Drainage departments presented in this report reflect the amended budgets authorized in resolutions R-112-2017 and R-113-2017.

Facilities Evaluation – Operation, Maintenance, and Reconstruction

This evaluation summarizes the onsite assessments findings of the Sewerage and Water Board of New Orleans (SWBNO) facilities conducted by Black & Veatch from May 1 to May 5, 2017. Site visits were conducted at the water and wastewater treatment plants, Carrollton Power Plant facilities, and Central Yard facilities to evaluate their condition and operational capabilities. In addition, the sewage and drainage pump stations (DPSs) were inspected to evaluate their condition. Interviews were conducted with SWBNO management and supervisors during the site visit to assess the current operations status of the various facilities.

INTRODUCTION

The Operations Department of the SWBNO is comprised of four units: (1) Water Purification, (2) Sewage Treatment, (3) Water Pumping and Power, and (4) Sewage 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 the Orleans Parish. The Algiers Plant, which serves the predominantly residential west bank portion of the parish, purifies roughly 10 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 sewerage 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 SPSC 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 24 hours a day.

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, 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 and 11 smaller (automatic) underpass stations. 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 routinely monitor these pumps and the numerous miles of drainage canals to ensure proper drainage in the area.

The 25 cycle power plants operated by the SWBNO provides power to 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 most departments at the SWBNO. Additional maintenance is required for the SWBNO facilities as equipment ages and more equipment is added. 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. The Engineering Department is still understaffed, especially at the senior level (most staff has under 10 years of experience), but it is improving because of the slowdown of private industry in the local area. Within the last year, both the department heads for electrical and mechanical engineering have retired and there will be a need to hire more senior level staff to mentor the younger engineering interns. Additionally, the SWBNO has a survey underway to determine how its compensation compares with similar utilities to assist in attracting additional staff.

The SWBNO suspended the domicile policy following Hurricane Katrina, which required employees live in New Orleans. This suspension allowed personnel hired by the SWBNO to live outside city limits, thus providing more housing options for employees. The city council reinstated the residency requirements on January 1, 2013, and this has slowed the hiring of individuals interested in working for SWBNO who 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 five years. Very few potential successors have been identified to assume the leadership positions of those personnel.

Most departments have staffing issues related to inadequate personnel to fulfill the current needs of the SWBNO. Table 1 summarizes the number of staff on the payroll for each department related to operations and maintenance, and the percentage of staff eligible for retirement within the next five years (as of December 31, 2016). These conditions demonstrate the need for an effective succession plan for the department heads and supervisors.

Table 1 - Current Number of Board Employees and Employees Eligible for Retirement

DEPARTMENT	EMPLOYEES ON PAYROLL	ELIGIBLE FOR RETIREMENT	% ELIGIBLE FOR RETIREMENT
Operations - WPPs	56	15	26.8%
Operations - Water Quality Laboratory at Carrollton Plant	9	3	33.3%
Operations - Water Pumping and Power	78	19	24.4%
Operations - Sewage and Drainage Pumping Stations	106	30	28.3%
Facility Maintenance	56	13	23.2%
Engineering	50	18	36%

DEPARTMENT	EMPLOYEES ON PAYROLL	ELIGIBLE FOR RETIREMENT	% ELIGIBLE FOR RETIREMENT
Networks	312	52	16.7%
Support Services	104	21	20.2%
Environmental Affairs	14	4	28.6%
Total	785	175	22.3%

WATER PURIFICATION PLANTS

The Black & Veatch representative accompanied the WPP superintendent on 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 bank and west bank.

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; so there is an immediate need to hire and train personnel for the plant's future sustainability. The SWBNO has hired entry-level personnel and is in the process of hiring more to begin addressing those long-term needs. SWBNO has an internal training program that assists operations staff with passing state certification exams. In addition, state certified operators are in short supply and are required to be onsite at all times because they 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. At present, there are not enough certified water plant operators to cover all the shifts and the department is using overtime to ensure compliance is maintained.

Carrollton Water Purification Plant

The Carrollton WPP has a design capacity of 210 mgd. 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. 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, which is 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 131.6 mgd of water for the east bank of the Orleans Parish, partly due to leaks in the water distribution system. Leaks in the distribution network are persistent problem. 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 the WPP was between 65 and 70 psi, which has been consistent throughout the last year.



New Recycle Pumps in Service



Water Tower Construction

Figure 1 - Carrollton Water Purification Plant

Improvements initiated and/or completed at the Carrollton WPP during 2016 include:

- The G4 sedimentation basin was offline due to a leak in 2016. Emergency repairs were done to G4 in November 2016 to repair the leaks, but they did not correct it. G4 was placed back online in 2016 due to a mono-rack issue in the G3 sedimentation basin.
- Claiborne filter media rehab for filters 5 and 7 was completed in 2016 and they were returned to service. Both filters are performing well. The recycle basin pumps have been replaced. All six pumps were replaced in 2016 and were fully functional during the site visit.
- As part of the water hammer project, construction of 2 mg elevated storage tanks began in late 2016. These tanks will assist in helping maintain adequate distribution pressure in case of a line break.
- The following maintenance and/or improvement projects for existing facilities at the SWBNO are planned or ongoing:
- The L3 sedimentation basin has been offline due to flocculator rehab and maintenance of the basin's mechanical components. The rehab efforts are complete and L3 will be placed online in 2017.

- A tank mixing study was conducted on all tanks at the plant (including tanks at Algiers WPP) including hydraulic modeling. As a result, these storage tanks will be modified with manifold systems for better tank mixing.
- Four concrete 4 mg storage tanks are being repainted. Two of the four tanks were completely painted in 2016.
- A filter rehabilitation program is planned 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.
- The Sycamore filter wash water pump for the filters is planned for replacement. The packing seal was leaking during the last site visit and the pump was nearing the end of its service life. The project is complete and will go out to bid in 2017.
- Design for a new 30-inch sludge discharge line is underway. This new line will provide for much-needed capacity and redundancy improvements for the Carrollton WPP. This improvement was in design during the site visit and will be installed in 2018.
- An additional temporary ferric sulfate bulk storage facility (20,000 gallons of tanks and temporary containment) is in the process of being added due to limited local supply of the chemical.
- A new chemical storage and feed facility is currently under design. The facility will house most of the chemicals onsite.

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 and uses the same chemicals with a slightly modified application scheme in the upflow clarifiers. At present, the plant is treating approximately 9.7 mgd of water and is serving the predominantly residential west bank portion of the parish.

Improvements needed or ongoing at the plant include the following:

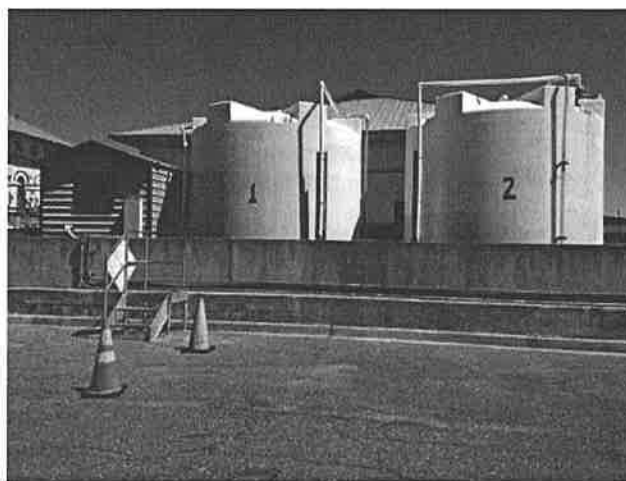
- Future SCADA upgrades are planned to tie in the filter flow and headloss instrumentation for each filter to assist with operation of the filters.
- Filter rehab (valves, filter media, air scour system) is needed on all filters and should be scheduled in 2018.
- EIMCO Clarifiers No. 3 and 4 are under contract for the design the replacement of the launder troughs. The troughs and steel structures have significant corrosion. No replacement work was done in 2016.
- In addition to the rehab and painting the EIMCO clarifiers, flash mixing will be added to assist with better total organic carbon (TOC) removal in the clarifiers. The existing clarifiers will be modified to include an additional mixer near the chemical injection point.
- The fluoride storage and feed system needs to be upgraded to meet state requirements. The fluoride system will consist of a bulk storage tank, a day tank, and metering pumps and it will be located in an existing building. A fluoride day tank was added to the system in 2016 and

commissioned in early 2017. The tank includes a level switch to let the operators know when the tank needs to be filled.

- The facility has fully 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. Lime is currently slaked at the WPP. SWBNO is looking into replacement of the lime equipment pending a decision to change the process (different type of lime) or direct replacement of existing slaking equipment. A study must be conducted to establish which option will be selected.
- The raw water pumping and piping systems need to be improved in order to provide redundancy to the intake system.



■
Chloride Set Up



New Fluoride Day Tank New Ferric

Figure 2 - Algiers Water Purification Plant

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 federally mandated analytical requirements of the water plants, and it 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, TOC, dissolved organic carbon, 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), but despite that several of the LDEQ upstream stations are unreliable. The EWOCDS program has been underfunded by Louisiana, which has caused a reduction in sampling and analysis.

The remaining reliable monitoring stations are connected by telecommunications to 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 early warning of possible problems. The LDEQ maintains EWOCDS equipment at all participating locations while the program participants provide the manpower to collect and analyze the samples.

The laboratory is currently under-staffed: One supervisor, one microbiologist, one chemist, and three technicians. The lab lost one chemist in the past year, which has created vacancies that SWBNO is working to fill. Much of the lab instrumentation and equipment is reaching or has reached the end of its service life and should be replaced. Newer 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. The SWBNO has money to purchase all the new equipment and will begin to make purchases to replace equipment that cannot be serviced or supported. The laboratory staff obtained certification to analyze TOC at the SWBNO facility in the past; however, the certification lapsed due to lack of lab staff (mainly chemists) to maintain the QA/QC requirements for TOC analysis.

WATER PUMPING AND POWER

The primary function of the water pumping and power unit of the Operations Department is to produce steam for the generation of 25 hertz (Hz) power in addition to pumping 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 of 25 cycle power). 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, the newly-installed Turbine 6 produces 15 MW of 60 Hz power and was made operational in early 2016. The turbine only serves as back up, but it is run every two weeks to ensure it is working properly.

The generating station at the Algiers Plant is capable of producing 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 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 4, as of the end of 2016, was still being repaired due to delays with contractors and other parties associated to the project. Turbine 3 was online until early 2016 when it was taken offline for emergency rehab. During the site visit, the vendor was onsite doing a complete rehab and inspection of all the turbine parts. Currently, Turbine 1 is being used with Turbine 5 as needed. Rehabilitation of Boilers 4, 5, and 6 was completed in 2015 and 2016. The rehab on Boiler 3 was completed in 2016. The rehab on Boiler 1 started in early 2017 and should be completed in 2017. Additional boiler piping is scheduled for repair and replacement. This project will occur once all the boilers are rehabbed and operational. Contract 3070 is about to go out to bid, and it includes a large

portion of work to burners, fuel skids, all boilers except for two, additional metering to assist with data collection and monitoring (tie in to SCADA for power house as well as the major pumping stations such as Oak Street). Additionally, a new boiler water treatment system will be added to help reduce chemical dosing required to the boilers.

A 200 psi high pressure natural gas line supplies fuel for the 15 MW 60 cycle, dual fuel generator turbine package (Turbine 6) and the existing Turbine 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 was completed at the end of 2015. Pump B was tested in 2016. Both are in service and working well. The Claiborne Pumping Station, which consists of four water distribution pumps (two 60 Hz drive and two 25 Hz drive), and the Panola Station, which consists of two pumping units (each with a 25 and 60 Hz motor), are usually adequate (with 100 percent redundancy) 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 the replacement of equipment and associated valves at the Panola, A and B pump room and Claiborne pumping stations. Two elevated tanks are being installed to provide surge protection to the distribution system. These projects are currently in construction. SELA project completion is holding up work on the Claiborne project (largely due to road work).

Storm-proofing projects for critical SWBNO facilities, including the power buildings, were recently completed by USACE. Improvements for the power buildings included reinforcing the walls, roofing, doors, and windows. Additional damage-related work from Katrina 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. Additional projects include replacement of the diesel storage tank with two new above-ground tanks that have a total capacity of 250,000 gallons. This project is currently under construction. A new fuel day tank was installed in early 2017 including concrete foundation work for the new storage tanks.

The water pumping and power unit has 75 employees, which is required for continued operations of the water, sewerage, and drainage systems that require 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 five years or less. Retirement was mentioned as the main staffing problem in this department, especially at higher pay levels, such as turbine and boiler operations positions. Additional staff will be hired and trained to fill the vacancies due to retirement. A high level manager within power and pumping retired in 2017. His replacement was transferred from engineering into the department to assist with technical FEMA contracts, technical questions related to the equipment, as well as managing and advocating for the staff within this department. This new manager is going through all the training manuals to assist with training lower level staff

to help make the replacement of higher level staff from retirement a smoother transition. Training for Turbine 6 will be conducted to help staff using the newer equipment and assist with the turbine.

Central Control

The Central Control Power Dispatching Department (Central Control) 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 is also 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 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 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 provides valuable information during emergencies such as hurricanes, floods, freezes, etc. to the Office of Emergency Preparedness through established board protocols. Lack of staffing continues to be a major issue for this department.

SEWAGE TREATMENT PLANTS

Operations and maintenance activities of both plants have been contracted to Veolia Water. A representative of the SWBNO oversees the contract operator. This representative works for the Operations Department, which is within the SWBNO. Both treatment plants were operational at the time of the site visits and were meeting the discharge limits according to treatment plant personnel. Veolia will continue to be the contract operator for the next eight years.

East Bank Sewage Treatment Plant

The East Bank Plant has a treatment capacity of 122 mgd (dry weather). The plant is receiving approximately 95 mgd of flow. In 2016, average flow for the plant was 96.46 mgd, which was greater than the 2015 average of 94.07 mgd. 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).



Clarifier 2 Rehab



Incinerator Wet Scrubber

Figure 3 - East Bank Sewage Treatment Plant

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

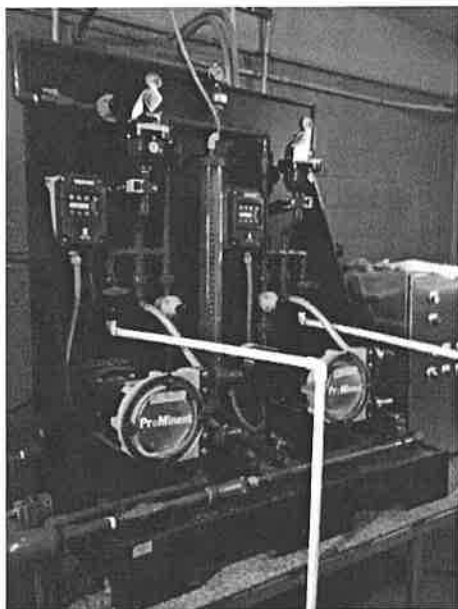
- Reactor 1 was not placed online in 2016 due to issues with the mixers and was offline during the site visit. Rehab of Reactor 4 will start in 2017, which includes installation of the mixers.
- Lower Explosive Limit (LEL) sensors were installed in the reactors to monitor explosive gases along its automated valves to make the process safe to operate. This work was completed in 2016. The LEL sensors are currently not tied into SCADA but will be in 2017.
- There is no automation for the mechanical rake on the bar screens and raking must be conducted manually at regular intervals. A project to install automated rakes with controls is being performed in house and was completed in 2016 with startup in 2017.
- A temporary, above-ground replacement line is being used to return sludge from the return activated sludge pump stations to the influent channel. The permanent repair design was completed and awarded in 2015. The construction was completed in early 2016 and RAS Pumps 6 and 9 are currently tied into the line. RAS Pumps 7 and 8 were tied into the line in 2016. The scum arm on the secondary clarifiers was not in operation at the time of the field visit; however, the plant operator indicated that the clarifiers needed additional steel repairs and that the repair will be included as part of that project when it goes out to bid in 2016.
- The operator noted the liquid oxygen (LOX) tank is near the end of its useful life. High purity oxygen system components appeared in good condition. A new LOX tank was installed in 2016.
- Effluent pumps appeared to be in fair condition. The operator noted that 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. A 2400 V effluent pump electrical distribution system, a switchgear, and VFDs started construction phase in 2016.
- The FBI wet scrubber was replaced in 2016.

- A new waste pump in the south pump house was added in 2016 to satisfy the EPA's request for pump redundancy.
- Clarifier 2 rehabilitation was ongoing in 2016 and scheduled to be completed in mid-2017. Clarifier 6 will be next to be rehabbed once Clarifier 2 is back online.
- Replacement of the vacuum swing absorption (VSA) oxygen system equipment (blowers, motors) is currently being solicited for quotes by the contract operator. The equipment is on order and should be completed in 2017.

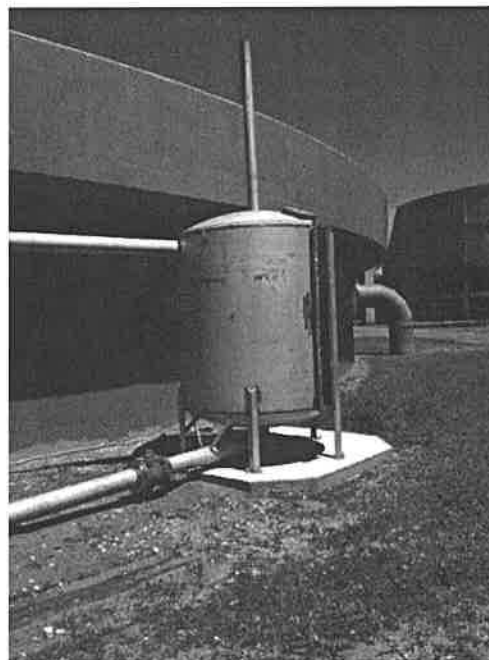
The average influent Total Suspended Solids (TSS) and Biological Oxygen Demand (BOD) concentrations for 2016 were approximately 140 milligrams per liter (mg/L) and 94mg/L, respectively. Effluent quality has been adequate over the last year, with an average effluent TSS concentration of 10.8 mg/L and an average effluent BOD concentration of 16.0 mg/L. One permit violations occurred in 2016. One fecal coliform maximum day limit violations occurred in June 2016. The fecal violations in June 2015 were due to an operator error during sample collection and not due to improper disinfection. This facility's permit expired three years ago and a renewal was sent to LDEQ on time. SWBNO is in communication with LDEQ and is awaiting a draft permit to review and accept.

West Bank Sewage Treatment Plant

The West Bank Plant has a treatment capacity of 20 mgd (dry weather). The plant is currently receiving approximately 8 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.



New Sodium Hypochlorite Metering Pumps



New Clarifier Scum Boxes

Figure 4 - West Bank Sewage Treatment Plant

The following items summarize the improvements that will be made or have recently been made at the West Bank Plant:

- Bar Screens 3 and 4 are operational. Bar Screen 3 was recently rehabbed and does not work in automatic timer mode. The operator has to manually start a cycle at the screen. Bar Screens 1 and 2 were offline. Bar Screen 1 is going to be pulled out and replaced with a new screen in 2017. The operator noted that the level system, which triggers the bar screens to cycle, is not operational.
- Three grit pumps were replaced in 2016 and are working well.
- Aerated Grit Basin 2 was cleaned in 2016.
- Rehab on the West Primary Clarifier was completed in 2016 and it was painted in 2016.
- The Central Primary Clarifier was offline during the site visit, the center well repairs were not conducted in 2016 as planned, and the scum boxes were added to the West Primary Clarifier in 2016 and to the Central Primary Clarifier in early 2017.
- Main Collection Basin Pump 3 had impeller replacements and rehabilitation work completed in 2016. Main Collection Basin Pumps 1 and 2 will be rehabbed later this year.
- The drive motor for the arms on the trickling filters is currently inoperable and operates based on hydraulics; however, treatment is still acceptable. The operator noted that the bearings for the arm for Trickling Filter 2 will be replaced to get the arm operational again.
- At the time of the visit in 2016, the SCADA was reloaded and operational. Minor upgrades to the system were completed in late 2016.
- Influent flow meter is currently not operational. The meter was replaced in 2016.
- A sludge pump on the East Primary Clarifier was replaced in 2016.
- The auto transfer switch installation started in 2016 and is ongoing. A project to convert gas chlorine to sodium hypochlorite was completed in 2016. The system is currently not tied into SCADA and that work is ongoing.
- The operator noted a few maintenance repairs were done to the following lines in 2016 due to leaks: fresh water line, old headwork line, and an underground PVC chlorine line. The lines were all repaired.

The monthly average TSS and BOD influent concentrations for 2016 were approximately 115 and 105 mg/L, respectively. The monthly average effluent TSS and BOD concentrations for 2016 were approximately 13.1 and 8.0 mg/L, respectively. The average flow for 2016 was 10.3 mgd, which is slightly higher than in 2015, which was 9.1 mgd. For 2016, this plant has met or exceeded all permitted effluent limits.

SEWERAGE AND DRAINAGE PUMPING STATIONS

Site assessments of the DPSs and sanitary sewer lift stations (SLSs) at both the east bank and west bank of New Orleans were conducted from May 4 to May 11, 2017. A Black & Veatch operations specialist was present for the inspections conducted with a Julien Engineering representative and SWBNO staff on May 4, 2017. The observation report and accompanying table details the operational status of each SLS and DPS across New Orleans. Pumps that 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 sewerage and water board supervisors or pump station operators. Refer to the tables in the Appendix.

Many SLs are slated to be demolished and rebuilt, including Station 1, Shorewood Station, Weber Station, and others. These stations are older and many are below ground with an above ground steel and concrete access hatch. New stations will be constructed with similar layouts to the recently rebuilt stations such as Lake Forest Pumping Station and Bullard Pumping Station, which are above ground concrete and steel stations with below ground self-priming pumps in lieu of centrifugal pumps. Sewerage and water board is also in the process of installing emergency discharge connections to older above ground stations.

All significant DPS construction projects have been completed within the last few years. Maintenance and repair of pumps, screens and generators are the only items planned for the DPSs at this time. Pumps at several DPSs have been out of service and awaiting repair without a change in status over the last few years. There were a few instances where new issues including pumps out of service or broken screens were noted during this year’s assessment. The majority of items noted were carry overs from previous year’s reports. The pending repairs are deemed non-priority due to adequate capacity provided by other pumps at the stations.

FACILITY MAINTENANCE

The Facility Maintenance Department has 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 has 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 are located in the machine shop and break press, as well as shear and other specialized repair equipment that is 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 such as gears and parts for older valves. In addition, new facilities such as Turbine 6 have been built within the SWBNO system, which requires additional staff to operate and maintain it.

These additional assets prevent in-house rehabilitation and preventative maintenance from being completed, which creates a large backlog of work for this department. In 2016, maintenance completed a major rehab project (L3 Sedimentation Basin), which included a complete rebuild of gearboxes, drives, paddles, and other equipment. Maintenance has to do a full basin cleanup, and then L3 can be placed back into service in 2017. This maintenance project was delayed due to limited staff. Previous basins were contracted out; however, this department mentioned that many times that required them to inspect and, at times, redo the work contractors have done to keep the system online. Additional rehab work includes bearing work on Drainage Pump Station 11, which is also delayed due to staffing levels. The bearings are on order and maintenance is hoping to complete this task in 2017. Additionally, maintenance at Drainage Station 6 is needed and a pump is out due bearing failure. Maintenance took the pump apart but don’t have staff to do the repairs in

house. Maintenance also assists engineering with pulling together contracts due to new hires in engineering. Maintenance expressed its concerns on being dependent on contractors for maintenance because they do not respond quickly enough in an emergency. Currently, the Facility Maintenance Department has 60 authorized positions. Most of the highly skilled positions (welding and fabrication, electrical, mechanical maintenance) still remain vacant. The department has opened some of these vacancies through Civil Service and use a labor contract to try to find skilled staff. It was noted during the interview that the residency requirement, as well as pay scales, prevented hiring permanent staff in this department. It was also mentioned that compensation for harder, more skilled positions were often paid similar or the same as less skilled positions. Additionally, staff mentioned equipment used to conduct work has reached its useful life, such as equipment used to find high voltage lines, bucket truck, welding trucks, and other equipment. A new bucket truck is on order and they hope to acquire it in 2017.

Currently, overtime is necessary to compensate for the limited workforce. The city reduced the amount of overtime each department can exceed (750 hours) and maintenance expressed that not being able to use overtime and being understaffed is delaying its ability to keep on top of equipment maintenance. Maintenance will acquire more facilities in the near future, such as the lake stations, which will add to the maintenance backlog. More work is being contracted out to subcontractors that was usually done in-house prior to Hurricane Katrina. Many of these contractors are not local and are not always able to provide timely service for critical pieces of equipment. The department is facing a lack of qualified personnel to adequately supervise or oversee subcontractors. Approximately 36 percent of the maintenance employees are eligible for retirement or will be eligible to retire within five years. Thirteen positions (mostly high level senior supervisors in the machine shop) are on deferred retirement option plan (DROP) and could leave in the next five years. Currently, three supervisors have retired only leaving one supervisor in the machine shop. Training lower level staff is not happening due to the lack of experienced people left to assist with training. The department is actively recruiting at job fairs, and trade schools. SWBNO is working on a partnership with a local community college to start a trade program for skilled trades and plans on hiring from that pool of students. Maintenance noted that the community college is not producing the skilled labor required of entry level candidates and the department is using the labor contract to find staff. The hiring process has been hindered by turnover in the Human Resources Department and new hiring procedures instituted by the Human Resources Department.

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. Currently, the department manages over 60 project contracts for FEMA and capital improvement projects.

The status of major contracts administered through the Engineering Department is itemized in the following list:

- New sludge line from the Carrollton WPP to the river is at 90 percent design. Construction should begin in 2018.
- Rehabilitation of L3 was completed in 2016.
- The SWBNO plans to add a sludge dryer, including a new air emission system, to the East Bank Plant. The contract for the work was awarded in 2016 with delivery and install happening in 2017. An arc flash study is being conducted on electrical equipment for safety purposes and as part of various electrical upgrades at WPPs. This effort is ongoing.
- Chemical feed storage improvements to add additional chemical storage at the Carrollton WPP.
- The filter backwash pump replacement design is complete and will be under construction in 2017.
- The water hammer project, which includes installing two new elevated tanks at Carrollton WPP, is currently under construction and will be completed in 2018.
- The recycle pump improvements construction was completed in 2016 and was operational in early 2017.
- Rehabilitation of Turbine 4 is ongoing and will be completed by the end of 2017.
- Filter media rehab at Algiers WPP is currently scheduled but has not begun. The SWBNO has seven major uptown roadway drainage projects. Currently, five drainage projects were completed in 2016 and two more projects are still ongoing.
- The water line replacement program with the City of New Orleans is moving forward, contracts were awarded in 2016/2017 and will be ongoing for the next 3 to 4 years.
- Rehab of Clarifier 2 at East Bank Wastewater Treatment Plant (WWTP) is under construction and it is ongoing.
- The piping from the East Bank Plant to the expansion and demonstration cells was completed in 2016 and tree planting should start in 2016. The A2 project is scheduled for Fall 2017.
- Flood mitigation contracts for nine sewage pump stations were awarded and the Engineering Department is supervising these contracts. Eight station construction projects were completed in 2016 and one station is scheduled to start construction in 2017.
- At Carrollton WPP, fuel tanks are being replaced with a 250,000 gallon above-ground storage tank, which is currently under construction. This project is ongoing.
- A power plant project to improve valves, steam line, auxiliary power, and address steel was bid and the work is ongoing.
- 10 major underground 25 cycle electrical feeders are being replaced throughout the SWBNO facilities. The project is currently under construction. This project is the first design-build project for the SWBNO.
- The Old River Intake Station rehabilitation project was awarded in 2016 and it is currently under construction.
- Turbines 4 and 3 rehab is ongoing. Turbine 3 was taken offline for emergency rehab. Due to delays, Turbine 4 rehab has been ongoing for the last 5 years.

Additional projects planned by the Engineering Department include the following:

- The bulk sodium hypochlorite systems at the West Bank WWTP are completed. The East Bank WWTP system is currently under construction and scheduled to be completed in 2017. There will also be new lime storage and feed facilities at both WPPs. This project is on hold currently.
- Design of a new chemical storage and feed facility at Carrollton WPP. This project will go to bid by the end of 2017.
- Design of a new filter gallery addition at the Carrollton WPP. This is a long-term design and construction project (next 10 years).
- There are various water projects that include filter rehab, valve rehab, and pump replacement.
- Rehab of the head house building is planned to convert this building into the SWBNO's new resiliency complex.
- A new infield building is being planned for additional office space at Carrollton WPP. Both the infield and the resiliency complex will meet FEMA's safe house requirements for a hurricane shelter.
- The engineering building will be rehabilitated to replace roof, windows, and doors to make them withstand a higher wind rating.

In addition to contract administration, the Engineering Department is adding geographical information system (GIS) technology to enhance the capability to track water distribution and sewer pipes. The FEMA-funded water main replacement and emergency sewer system assessment requires GIS identify and fix broken or leaking pipes in the water distribution and collection system. It was noted during the interview that funding for drainage improvements projects is needed. In terms of staffing, the department needs to hire more electrical engineers (due to upcoming retirements) to manage electrical contracts and review electrical design work

NETWORKS

The Networks Department is charged with maintaining the sanitary sewer system and the potable water distribution system. The water distribution network that was damaged by uprooted trees and other debris during Hurricane Katrina has not been fully repaired. Consequently, the Carrollton WPP is currently purifying approximately 132 mgd of water while serving 96 percent of the pre-Katrina accounts. Prior to the levee failure caused by Hurricane Katrina, the plant was purifying approximately 115 mgd of water.

The Networks Department is divided into seven zones. Zone 2 operates the barricade unit that does street and lane closures, provides visibility around maintenance sites, and performs preventive maintenance activities such as exercising valves and maintaining fire hydrants. Zone 7 has the after-hours crews, which respond to emergency calls and provide limited surface restorations for repair excavations. Zones 1, 3, 4, 5, and 6 represent geographical areas in New Orleans that provide repair services for their respective areas. Each zone has a staff of approximately 20 to 35 people who are responsible for repairs within the designated areas. Typically, a six or seven person crew will 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 staff within the SWBNO is not available to perform necessary repairs. It was noted by the

department that cooperation from contractors has been a good resource to the Networks Department and the contractors are performing above the contract requirements. The use of contractors is the only way the Networks Department can complete its work with limited allowable overhead. The Networks Department expressed concern about the long-term risk to the Network Department's capabilities from dependency on contractors for large projects.

According to SWBNO personnel, the biggest challenge is to keep up with the backlog created due to the increased decay rate of the distribution and collection systems as well as the reduction in the amount of overhead that can be used by the department to complete work. Reduction in allowable overtime citywide went into effect in 2016. The Networks Department stated this new reduction has significantly impacted its ability to complete projects, assist with valve closures, and other responsibilities due to loss of staff. Due to its current staffing levels, the Networks Department is finding it harder to keep up with the amount of reactive repairs, which have risen from the last few years, which occur within the systems. The increase in residential development (new installations) and increase in city events (runs, bike-a-thons, etc.) has created additional workload, as well as delays in completing work within the systems. Lastly, equipment (backhoes, excavators, flush trucks) availability has been an issue in the last year. The Networks Department stated it has limited access to the dump trucks and backhoes needed to run the required number of crews. The Networks Department recently received 12 new mini-excavators.

The SWBNO conducted an evaluation of the piping system to detect leaks. The effort to find leaks is ongoing and the department is trying to focus more on lining and replacement, as well as repairs in both the water distribution system and sewer collection system. The department has conducted several large-diameter pipe lining projects on critical large diameter lines that have experienced cracking and failure due to excessive corrosion.

The department is very short-staffed, especially lacking experienced maintenance/crew staff and experienced zone operators. The overtime reduction resulted in a loss of approximately 10 more senior level operations staff. Additionally, high turnover in the field services staff is an ongoing situation due to lack of raises, reduced overtime, and delayed promotions. The Networks Department is more dependent on contractors for assisting with work that is generally done by its staff. It was noted by the department that cooperation from contractors has been a good resource to its department and contractors are performing above the contract requirements. The use of contractors is the only way the Networks Department can complete its work with limited allowable overhead. The Networks Department expressed concern about the long-term risk associated with the Networks Department's capabilities because of its dependency on contractors for large projects. The department has an internal training program for maintenance and engineering staff. The Networks Department noted that certification testing and certification classes for distribution and collection operators will take place at Delgado Community College. This situation will assist the department with staff obtaining operator licenses.

In terms of engineering staff, Technology Services lost two engineers and hired one engineering intern in 2016. It was noted by the department that staffing in engineering has improved since last year since the younger level staff are getting more experience and there are better entry level candidates. Staff retention is critical to the department. The high turnover in the Human Resources

Department and new requirements for hiring and promotions is hindering the departments in retaining staff.

Approximately 1,236 water mains were repaired in 2016. Identification of leaks is ongoing and the SWBNO 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 a part of the ongoing inspection of the sewer system. Approximately 1,241 sewer repairs were completed in 2016. In addition to the FEMA-funded projects, the Networks Department also responds to requests for valve closures by contractors and the city.

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 be inspected once every two years to supplement the semi-annual inspection cycle of the Fire Department. In 2016, the department inspected 6,303 hydrants. The Networks Department is assisting the city with hydrant capacity color coding to comply with the new hydrant rating standards required for the city's insurance rating. It also conducted flow testing on critical hydrants to find leaks, ensure they meet the rating, and are operational.

The Networks Department completed 4,757 paving projects in 2016, both in-house and in cooperation with contractors. This department has several contracts to assist with maintenance of the water distribution, wastewater collection, and drainage stations. These contracts have increased the amount of work accomplished within the division.

SUPPORT SERVICES

The SWBNO owns approximately 790 pieces of rolling stock, which includes trucks, backhoes, and sewer cleaning equipment. The available equipment is being assigned to the various divisions based on the needs of the departments. Approximately 107 pieces of new stock were obtained in 2016.

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

Support Services Department also operates garages for vehicle repair. The garage areas were heavily damaged during Hurricane Katrina. Garage 1 was rehabbed in 2015 and 2016. Currently, the contractor has completed the final punch list and the substantial completion and letter of occupancy was issued in early 2017.

Garage 2 is currently being rehabbed and has been delayed due to electrical work. The primary contractor was delayed because of this uncompleted work and is scheduled to finish in mid-2017. Office supplies, shelving, and items for Garages 1 and 2 are in the process of being ordered. Once Garage 2 is completed, the administrative staff will move its offices into Garage 2.

A new Site Relocation Facility was constructed in 2014 to house personnel until the garage renovations are completed. Currently, staff and materials from both garages are being stored in the

site relocation building. Ultimately, the site relocation building will also be used to house the body repair shop of Garage 2.

FEMA continues to reimburse 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, CDL training unit, etc. Projects being completed or conducted within Support Services include the following:

- Six new vacuum trucks were purchased in 2015 and arrived on site in 2016. The remaining vacuum trucks were acquired in 2016. Support Services Department discontinued leasing vacuum trucks since all ordered trucks are onsite.
- Take home vehicles were reduced to 50 as of 2016.
- The contractor assigned to mitigate problematic vegetation (lilies) in the canal systems in 2015 continued to make significant headway in reducing lilies. The department continues to use this contractor for mitigation.
- Major change to janitorial services occurred in 2016 to include more facilities. This addition of more facilities is still ongoing but the request for services is not out to bid yet. The current company is working on a month-to-month basis with its contract.
- New employees were hired in all areas of support services, including mechanics etc., to help support all departments within SWBNO. The department noted that most of the staff is approaching retirement age and, as a result, it will be short staffed, including the director of the department. Many senior level staff, including many successors, is in the DROP or retiring within the next 5 years. The department has been actively identifying candidates to replace staff close to retirement. Ground maintenance continues to have high labor turnover due to the nature of the work. The Support Services Department is focused on filling vacancies and getting promotions awarded through the Human Resources Department.
- All departments with the SWBNO are required to reduce their overtime to no more than 750 hours. To comply with this requirement, the Support Services Department has established procedures for vetting overtime requests by department employees. Staff must now fill out an overtime authorization form including projected overtime for the task. The forms are reviewed every week and authorization sheets are submitted a week ahead of time, and then updated based on the actual work done.

Future projects/concerns:

- The HVAC system at the St. Joseph building is in need of rehabilitation. Currently, it is not effective at keeping the building cool. The conceptual design was completed in early 2016 and the HVAC was scheduled for rehab in late 2016. This effort is delayed to provide HVAC to the information systems building, which was installed in early 2017. Currently, St. Joseph building rotates its HVAC units to ensure the building remains cool in the summer. The annex area HVAC components are on order and should be installed in 2017. Currently, the annex is using portable units. The HVAC system components for the main building will be going out for bids in 2017.
- One elevator in the St. Joseph building is inoperable. Repairs or replacement is needed. The Engineering Department is working on bid documents and the project is scheduled to be

completed in 2017. The Peoples Avenue building elevator design is also complete but not out to bid yet.

- A new building generator will be installed at the St. Joseph building. The building is currently on a portable generator. The project will include a new generator with an automatic transfer switch.
- The Central Yard Facility plans to add an additional parking lot and replace the fence around the building. This project is still on hold due to planned street work.
- Support Services Department phone system will be upgraded once the Carrollton WPP is completed. This project was not completed in 2016 and is ongoing.
- Modular units that act as temporary offices will be moved off site once Garage 1 and 2 are done.
- Support Services Department noted that the Networks Department is conducting training sessions on how to operate heavy equipment to help support the department's efforts to keep the equipment in better condition.

ENVIRONMENTAL AFFAIRS

The Environmental Affairs Department oversees the consent decree and all administrative orders. This department reports there are sewer bypasses and overflow to the Region 6 EPA. Some activities being undertaken by the department include the following:

- 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 construction of the piping for the East Bank Sewage Treatment Plant wetlands assimilation has been completed. The piping allows treated effluent to be discharged to the demonstration and expansion cells. Currently, SWBNO has a permit from LDEQ to discharge to the demonstration cells, but no permit has been issued to discharge into the expansion cells. No trees have been planted in the cells due to too much water. Additional grant funds were available from the state, which paid for additional fill that was added to the cells in 2016. The tree type and company that will plant the trees were selected in 2016 and planting should start in fall 2017. LDEQ has not processed the permit application for the East Bank WWTP and cannot discharge into the expansion cells until a permit is issued. Tree planting cannot start until the permit is issued and the plant can discharge to the cells. The construction of the A2 project, a joint agreement of a wetlands assimilation project between St. Bernard Parish and SWBNO, did not start in 2016 and is placed on hold. Delays on permit issuances (coastal permit mainly), lack of agreement from land owners, and change in government officials within St. Bernard Parish caused the funds to not be used within the allotted time.

The components of the pretreatment program include monitoring the discharge of the East and West Bank Sewage Treatment Plants in addition to other significant industrial users during the year. No additional users were permitted in 2016. An annual report was 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.

East Bank WWTP obtained its air permit in 2016. The use of diesel powered units to provide emergency power to DPSs and other SWBNO facilities required these facilities meet air quality regulations. Currently, the East Bank WWTP is in compliance with MAC 129: mercury emissions. Installation of the wet scrubber system was completed in 2016 and stack testing and all required paperwork was filed prior to the March 21, 2017 extension deadline. The permit renewal of the power plant was submitted in 2016 and LDEQ has not reviewed that application yet. SWBNO continues to utilize compliance software for air quality programs at the Carrollton WPP.

All Title V Air Permit reports for the East Bank Sewage Treatment Plant were filed on time and there were no permit violations in 2016.

The Municipal Separate Storm Sewer System (MS4) Permit for the Orleans Parish is managed by the SWBNO. The board, along with co-permittees, met the requirements found in the permit and it was documented in the annual report filed on May 1, 2016.

The Environmental Affairs Department used a contractor for stormwater sampling required for the M4 permit. The department purchased sampling equipment in 2016 and sampling is now done completely in-house by the department's staff. All required samples were successfully collected by the department's staff to meet 2016 permit requirements.

The department recently started a fats, oils and Grease (FOG) monitoring and permitting program and has issued permits to about 3,000 facilities such as schools, restaurants, and industries with grease traps. The department tracks all permits, trap pumping records, and applications using a database, and it proactively works with facilities to prevent improper disposal of grease to the SWBNO collection system. The department held meetings and community outreach events in 2016 to assist the public and businesses in being more aware of the impacts of FOG on the collection system. Additionally, the department has provided training and certification to grease trap pumping companies to make sure their staff are consistently pumping down and installing traps correctly. Department staff uses database software to manage the permitting process and is able to track noncompliance, permit applications, and grease trap pumping records.

The SWBNO will continue with its green infrastructure pilot program, which focuses on community outreach and education. In 2016, a green roof was installed at the St. Joseph building. Recently, a video with the SWBNO director was filmed for the One Water summit, which highlighted the roof and the importance of green infrastructure. The department continues to fund projects on publically-owned lands such as schools.

The Environmental Affairs Department continues to hire more staff for the tasks necessary to maintain compliance with all the rules and regulations that apply to the SWBNO. In 2016, four additional Environmental Technician 1s were hired to assist with the FOG program. Cameras were purchased to inspect sewer house connections and sewer lines and the department staff conducted those inspections in house. Additionally, the department acquired another vehicle for department use. The department continues to actively hire and fill vacancies and have added an additional city

planner, an administrative position, and a manager for the environmental technicians. The department did not express concerns about finding qualified candidates for these vacancies.

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.
- Collection system repairs will begin once the hurricane damage to the sewage pump stations has been repaired.

The SWBNO is in compliance with the consent decree. It has met every construction and reporting deadline in the decree and has had no fines related to construction or reporting schedules in 2016.

SUMMARY OF FINDINGS

The following items are a summary of the findings during the 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 water and sewer utilities.
- Similar to water and sewer utilities across the United States, the SWBNO departments are faced with a significant number of pending retirements. Approximately 22 percent of current employees are either on the DROP or are eligible for retirement. Unless these employees are replaced with qualified individuals, 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 to mitigate the pending retirements will be a key element for SWBNO. This problem was noted by every department.
- Many key system-wide projects that were in design phase in 2016 are currently out to bid. Construction of the two 2 mg water towers, as part of the water hammer project, started construction in late 2016.
- Several departments are experiencing vacancies, including the water purification unit of the Operations Department, as well as the Facilities Maintenance and Networks departments. Within the last year, two high level department heads have retired, one in the Pumping and Power Department and the other in the Facility Maintenance Department. SWBNO needs to address these vacancies as soon as possible to ensure effective operational and maintenance performance and administrative oversight. It was noted by every department that within the last year, the high turnover within the SWBNO's Human Resources Department along with new Human Resource Department's procedures hinders efforts to hire and promote staff in a timely fashion
- 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. Water and sewer customer rate increases went into effect and the SWBNO is currently prioritizing immediate needs such as filter rehabilitation at the Carrollton WPP.

- The SWBNO has started to initiate the filter rehabilitation program at the Carrollton WPP, as the filter system is in need of extensive repairs due to pipes, valves, actuators, and filter media being at the end of its expected service life. Media rehab of Claiborne filter gallery filters 1 and 5 were completed in 2016 and were back online. The Algiers WPP filter gallery is in need of filter rehab and SWBNO is working on scheduling that work along with other projects such as the clarifier rehab.
- The rate of decay of the potable water distribution network and the sanitary sewer collection system presents the two biggest challenges. Lines are being replaced or repaired where leaks have been detected by the contractor. The Networks Department has experienced high turnover rates in field staff due to the reduction in allowable overtime and are now relying more on contractors to perform work the department normally does in house. This situation has added to the stress of dealing with the rate of decay and system needs.
- West Bank WWTP was fully converted to sodium hypochlorite at time of visit. East Bank WWTP should be fully converted to sodium hypochlorite by 2017. This conversion from gas to sodium hypochlorite ensures the safety of the neighboring communities, as well as the operators at each location.
- Based on the SPS and SLS inspection, all DPSs and SLSs are considered operational either from permanent pumps or the use of temporary pumps. All significant DPS construction projects have been completed within the last few years. Maintenance and repair of pumps, screens, and generators are the only items planned for DPSs at this time.
- The sewage plants are meeting permit requirements except for one exceedance in 2016. The incident occurred at the East Bank WWTP and was due to operator sampling error, which resulted in an exceedance of effluent maximum daily concentration for fecal coliforms. The SWBNO and the contract operator, Veolia, have addressed the issue.

Water Department

ADHERENCE TO WATER REVENUE BOND RESOLUTION REQUIREMENTS

In 2014, the Sewerage and Water Board sold \$103,525,000 of Water Revenue and Refunding Bonds. The sale of these 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 payment of indebtedness; limitations on indebtedness; covenants and representations of the Board; covenants with credit banks, insurers, etc.; operation and maintenance; free service, completing service, billing and enforcement of charges; sale or encumbrance of the system; insurance; damage, destruction, condemnation and loss of title; records and accounts, inspections and reports; and the capital budget. The Requirements of the 2014 General Water Revenue Bond Resolution adopted on May 21, 2014, (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 2014 General Water Revenue Bond Resolution in 2016.

Payment of Indebtedness; Limited Obligations

The General Resolution obligates the Board and the Board of Liquidation (BOL) to promptly pay the principal and interest on all senior and subordinate debt that are obligations payable from the net revenues of Board.

Limitations on Indebtedness

The Board must not issue bonds, other senior parity indebtedness or subordinate debt unless it complies with Sections 4.03, 4.04 or 4.05 of the General Resolution, as applicable.

Covenants and Representations of Board

The General Resolution gives the Board the power to issue bonds and pledge the revenues according to the resolution. In addition, the Board "... faithfully observe and perform all covenants, conditions and agreements on its part contained in this Resolution, in every issue of Indebtedness issued hereunder and in all proceedings of the Board pertaining thereto."

Covenants with Credit Banks, Insurers, etc.

The Board may make covenants and agreements in a supplemental resolution with any insurer, credit bank or other financial institution that agrees to insure or to provide a credit facility to the Board. These covenants and agreements shall be binding on the Board and all the holders of indebtedness the same as if such covenants were set forth in the General Resolution.

Operation and Maintenance

The Board "... shall establish and enforce reasonable rules and regulations governing the use of and the services furnished by the System, shall maintain and operate the System in an efficient and economical manner shall maintain the same in good repair and sound operating condition and shall make all necessary repairs, replacements and renewals." In addition, all compensation, salaries, fees and wages paid by the Board shall be reasonable. Finally, the Board shall observe and perform the terms and conditions contained in the Sewerage and Water Board Act (Part III of Chapter 9 of Titles

33 of the Revised Statutes of Louisiana, as amended), and “comply with all valid acts, rules, regulations, orders and directions of any legislative, executive, administrative, or judicial body applicable to the System or the Board.”

Free Service, Competing Service, Billing and Enforcement of Charges

The Board shall not “... provide any services of the System without making a charge therefor in accordance with the Board’s schedule of rates, fees and charges ... other than those connections, use or services already in existence or as may be required by law ...” In addition, the Board may not “... provide, grant any franchise to provide or give consent for anyone else to provide such services which would compete with the System unless the Board determines that such franchise ... would provide services that the Board has determined are not in its best interest to provide and would not materially impair the interests of the holders of indebtedness.”

The Board will bill customers for services on the regular basis and if the rates, fee or other charges are not paid when due, the Board shall “... to the extent permitted by applicable laws and regulations, disconnect the premises from the System or otherwise suspend service to such premises until ...” delinquent rates, fees or other charges have been paid or a payment plan has become effective.

Sale or Encumbrance of System

The General Resolution requires that, with exceptions, “... neither the System nor any integral part thereof shall be leased, sold, mortgaged or otherwise disposed of ...”

Insurance

The Board “... shall continuously maintain insurance with recognized responsible commercial insurance companies against such risks and in such amounts as are customary for public bodies owning and operating similar systems ...”

Damage, Destruction, Condemnation and Loss of Title

The Board shall restore “... property destroyed or damaged to substantially the same condition as before such destruction, damage; condemnation or loss of title ...”

Records and Accounts; Inspections and Reports

The Board is required to “... keep proper books of records and accounts ... showing complete and correct entries of any transactions relating to the System....”

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 29 years.

Capital Budget

The Board is required to adopt an annual multi-year financial plan for capital expenses for a minimum of 5 future years.

2016 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 2016 Water Department operations are discussed in the following paragraphs.

Water Use

According to statistics provided by the Board during 2016 51,561,280,000 gallons of water were pumped by the Water Department. Water sales accounts for 13,106,735,840 gallons and 1,042,722,355 gallons were metered to City departments without charge. Metered treatment plant process water totaled 532,233,700 gallons. The remaining 36,879,588,105 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 2015 through 2021. Based on year-end billing summaries, the number of monthly billed customers during 2016 averaged 134,872 compared with 133,904 for 2015. Based on year-to-date customer data through August of 2017, it is projected that the Board will average approximately 135,535 open accounts in 2017 and that the number of accounts will continue to grow at approximately 0.3 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 2016 there were 1,107 connections in this group, compared with 1,119 for 2015.

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 13,107 million gallons of water sales were billed on a monthly basis in 2016, compared with a total of 13,266 million gallons in 2015. Over the past few years, the Board and other water utilities operating in the United States have experienced minimal to no growth in water usage and in some cases, a decline. As a result, a resistance factor is applied to the projected annual usage per customer for each customer class to reflect the impact of price elasticity and the trend of decreasing per capital demand due to conservation efforts and more efficient water fixtures.

Projected water usage for 2017 is based on an analysis of water usage by customer class for 2016 and year-to-date water usage through August of 2017. As a result, the volume of water sold is projected to increase approximately 2.8% in 2017. Due to the application of a resistance factor, the volume of water sold is projected to decrease approximately 0.7 percent per year beginning in 2018.

Operating Revenues

The 2017 schedule of rates for retail treated water service is presented in Table 3 and reflects a 10 percent rate increase over 2016 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 2012 through 2016. 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 2016 were \$82,060,525 which, when compared with \$76,719,113 for 2015, shows an increase of approximately 7.0 percent. Delinquent fee revenues were \$1,098,415 in 2016 which represent a 14.8 percent decrease over 2015 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 2016, non-operating revenue included \$2,097,442 of interest earned from the investment of available funds in the Water System Fund and the Water Revenue Bond Account and \$3,102,435 from other sources.

Operation and Maintenance Expenses

Table 5 presents a summary of historical expenses. Expenditures in 2016 decreased about 1.8 percent from 2015 expenditures and increased about 10.8 percent from 2014 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 in Line 7 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 2016 capital expenditures totaled \$40,135,472. 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 2016:

Total Revenues	\$88,358,817
Operation and Maintenance Expense	76,886,448
Claims	1,847,021
Debt Service Payments	10,222,220
Revenue Primarily Available for Capital Expenditures ^a	-596,872

^a Excludes depreciation.

PROPOSED CAPITAL IMPROVEMENT PROGRAM

Table 7 presents a summary of the projected major capital improvement program for the period 2017 through 2021. Table 7 is based on the Board's amended 2017 Capital Budget and 2017 -2026 Capital Improvement Program. The five-year major capital improvement program costs are estimated to total \$534,212,030. About 56 percent of this amount, or \$299,282,030, is for recurring annual capital improvements, with the remaining \$234,930,000 for major improvements. The proposed routine annual capital expenditures for water system improvements and extensions include \$82,199,230 for the Water Department's share of power projects, and \$70,630,800 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 2017 through 2021 are shown in Table 8. These estimates reflect the rate schedule effective January 1, 2017 applied to the projected number of customers and water usage and are projected to decrease, on average, about 0.5 percent per year throughout the study period due the anticipated decline in water consumption. 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 \$299,700 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 2017 through 2021 is shown in Table 9. Estimates of future expenses are based on anticipated future operating conditions and allowances for inflationary factors.

Projections of future operating and maintenance expenses for the study period are based on the Board's amended 2017 Operating Budget and an analysis of the current and anticipated operating conditions and trends.

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, 2016, outstanding debt obligations consisted of \$103,200,000 Water Revenue and Refunding Bonds, Series 2014 and \$100,000,000 Water Revenue Bonds, Series 2015.

To adequately fund the proposed capital improvements, additional revenue bonds are indicated as shown in Table 10. It is anticipated that the Board will issue revenue bonds in the amount of \$178,000,000 in 2018 and \$103,000,000 in 2021. Projected bonds shown in Table 10 for 2017 through 2021 are assumed to be sold at an average annual interest rate of 5.5 percent for a term of 30 years with 1 year 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 \$150,580,400. This amount is based on audited data provided by the Board.

Projected revenue bond proceeds, totaling \$281,000,000, are shown on Line 2. The amounts and years of issue are developed by considering capital program needs, current policies, other sources of major capital improvement financing, and the debt service coverage requirements of the bond covenants regarding the issuance of parity revenue bonds.

Financing of the major capital improvement program anticipates the transfer of a total of \$75,000,000 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 COE and FEMA. Interest earnings recognize an assumed 1.0 percent average annual interest rate and are shown on Line 5. Line 6 of the table shows the projected major capital improvement funds available each year.

As of December 31, 2016, the Board had \$24,890,500 obligated for open contracts and capital jobs as shown on Line 7 of Table 11. Line 8 shows the projected Major Capital Additions to be funded. These costs reflect the total improvements shown Table 7 with 3 percent inflation beginning in 2018.

Estimated issuance costs and capitalized interest related to the proposed bond issue amounts are shown on Lines 9 and 10.

Line 11 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.

The Total Application of Funds is shown on Line 12 of Table 11. The net End of Year Balance is shown on Line 13.

Operating Fund

Line 1 of Table 12 shows projected Revenue from Charges under 2017 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, 2017 through January 1, 2020 is shown on Line 2. It is projected that a 6 percent revenue increase will be necessary effective January 1, 2021. The revenue from this proposed revenue increase is also included in Line 2. The date and magnitude of proposed revenue increase in 2021 is based on consideration of two principal criteria, which include: (1) total revenue necessary to meet cash requirements, and (2) total revenue required to meet minimum bond coverage requirements.

Other revenue available for system operations is shown on Line 4. Interest Income available to the operating fund, included in 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 also included in Line 4 Table 12. Total Operating Revenue is shown on Line 5.

Operation and Maintenance expense, previously projected in Table 9, is shown on Line 6 of Table 12. Line 7 includes the estimated allowance for claims and bad debt expense which is assumed to be 2 percent of projected revenue. Projected Net Operating Revenue from system operations is shown on Line 8.

Lines 9 through 11 present debt service requirements on currently outstanding and proposed senior revenue bonds. Existing debt includes the Series 2014 and Series 2015 bonds. Line 10 reflects projected principal and interest payments on additional revenue bond debt financing of \$178,000,000 in 2018 and \$103,000,000 in 2021. Proposed debt is assumed to be 30 year, 5.5

percent fixed interest rate bonds issued in March, with 1 year of capitalized interest and 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 12 of Table 12 as subordinate debt.

Anticipated non-operating revenue is shown on Line 14.

Line 15 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 16 reflects repayment to the DPW and the Drainage Department as well as claimants.

The General Resolution requires an Operating Reserve Fund of 90 days of the previous year's operation and maintenance expense; however the SWBNO's Financial Management Policy requires an Operating Reserve Fund of not less than 180 days. Line 17 indicates the projected annual transfers available to meet this requirement throughout the study period. The General 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 18 of Table 12.

Line 19 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 2017, shown on Line 20, is comprised of the current cash assets and reflects a balance of \$6,005,200. The End of Year Balance, which is exclusive of the operating reserve fund and rate stabilization fund, is shown on Line 21.

Lines 22 through 27 demonstrate that the Board is maintaining an operating reserve equal to at least 180 days of the previous year's operation and maintenance expense beginning in 2018.

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 2017-2021 study period examined herein, with the adopted 10 percent revenue increases in 2017 through 2020, and a 6 percent revenue increase in 2021.

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. The General 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. The SWBNO's Financial Management Policy requires coverage at a minimum of 150 percent for senior debt and 125 percent for senior and subordinate debt.

The calculation of net revenue is shown on Lines 1 through 9 of Table 13. The ability of the Water Department revenues to meet revenue bond coverage requirements is shown on Lines 10 through 14. As shown on Lines 12 and 14, the indicated projected revenue and revenue increases will provide sufficient net revenue to meet coverage requirements during the study period.

The General 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 15 through 21 of Table 13. Lines 19 and 21 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 229 percent to 426 percent.

Table 1**Insurance in Force as of December 31, 2016**

Insurer	Coverage	Deductible	Premium
Lexington	Commercial Property	5% per building subject to minimum \$500,000 per occurrence for named storm; \$50,000 earth movement deductible; \$1,000,000 minimum per occurrence for any other peril not excluded	\$513,765
Homeland	Commercial Property		\$48,930
RSUI	Commercial Property		\$28,306
Lloyds of London	Commercial Property		\$35,796
Lexington	Commercial Auto Physical Damage	\$150,000	\$200,827
ACE	Commercial Auto Liability	\$1,000,000 SIR/Deductible	\$250,000
RSUI	Excess Auto Liability		\$75,500
Endurance	Excess Auto Liability		\$68,125
Hudson	Fiduciary Liability	\$50,000	\$20,156
Illinois Union	Public Officials Liability	\$250,000	\$70,256
Zurich	Commercial Crime	\$5,000	\$6,335
Beazley	Cyber Security	\$25,000 per claim	\$33,514

Customer Class	Historical		Projected				
	2015	2016	2017	2018	2019	2020	2021
Single Family Residential (b)							
Customers	116,078	117,202	117,800	118,300	118,800	119,200	119,600
Sales (1,000,000 gal.)	6,567	6,330	6,680	6,645	6,613	6,578	6,546
Sales Per Customer (1,000 gal.)	57	54	57	56	56	55	55
Multi-family Residential							
Customers	4,666	4,678	4,700	4,700	4,700	4,700	4,700
Sales (1,000,000 gal.)	707	702	698	691	685	679	674
Sales Per Customer (1,000 gal.)	152	150	148	147	146	144	143
Commercial							
Customers	11,642	11,501	11,500	11,500	11,500	11,500	11,500
Sales (1,000,000 gal.)	3,234	3,311	3,278	3,247	3,218	3,190	3,164
Sales Per Customer (1,000 gal.)	278	288	285	282	280	277	275
Industrial							
Customers	38	35	35	35	35	35	35
Sales (1,000,000 gal.)	217	162	161	159	158	156	155
Sales Per Customer (1,000 gal.)	5,709	4,634	4,589	4,543	4,503	4,466	4,429
Dual Service & Metered Fire Service (c)							
Customers	1,480	1,456	1,500	1,500	1,500	1,500	1,500
Sales (1,000,000 gal.)	2,541	2,602	2,654	2,628	2,605	2,582	2,561
Sales Per Customer (1,000 gal.)	1,717	1,787	1,769	1,752	1,736	1,722	1,708
Total							
Customers	133,904	134,872	135,535	136,035	136,535	136,935	137,335
Sales (1,000,000 gal.)	13,266	13,107	13,470	13,370	13,278	13,186	13,100

(a) Excludes customers receiving free service.

(b) Includes duplex.

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

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

Table 3

**Water Department
Existing Water Rates
(Effective January 1, 2017)**

Rate Components	General Service	Dual Service (a)
	\$	\$
Monthly Water Service Charge		
<div>Meter Size</div> <div>Inches</div>		
5/8	6.53	8.87
3/4	7.99	10.79
1	10.14	14.18
1-1/2	16.74	22.07
2	22.07	31.57
3	49.93	70.06
4	86.97	122.41
6	170.72	238.36
8	252.86	354.31
10	343.04	479.93
12	402.63	563.68
16	536.29	750.51

Monthly Water Quantity Charge - per 1,000 Gallons

First	3,000 gallons	4.35	4.35
Next	17,000 gallons	7.41	7.41
Next	980,000 gallons	5.83	5.83
Over	1,000,000 gallons	4.88	4.88

Flat Rate Fire Service

<div>Meter Size</div> <div>Inches</div>	
2	14.81
3	20.13
4	37.04
6	64.42
8	85.35
10	135.28
12	175.55
16	241.58

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

Table 4

Water Department

Statement of Historical Revenue

Revenue Source	2012	2013	2014	2015	2016
	\$	\$	\$	\$	\$
Operating Revenue					
Sales of Water	59,208,198	63,248,555	69,601,809	76,719,113	82,060,525
Delinquent Fee	1,048,107	1,150,054	1,216,445	1,288,824	1,098,415
Total Operating Revenue	60,256,305	64,398,610	70,818,254	78,007,937	83,158,940
Nonoperating Revenue					
Interest Eamed	92,849	82,893	349,607	966,017	2,097,442
Plumbing Inspection and License Fees	343,903	321,518	339,176	305,384	319,991
Revenue Sharing	123,885	219,877	254,577	258,721	251,002
Other Income (a)	10,851,066	5,234,998	2,459,234	3,418,560	2,531,442
Total Nonoperating Revenue	11,411,703	5,859,286	3,402,593	4,948,682	5,199,877
Total Revenue	71,668,008	70,257,896	74,220,847	82,956,619	88,358,817

(a) Includes \$7,617,063 in operating and maintenance grants in 2012, \$1,981,568 in 2013, -\$381,876 in 2014, \$2,405 in 2015 and \$24,738 in 2016.

Table 5

Water Department
Historical Operation and Maintenance Expenses (a)

	2012	2013	2014	2015	2016
	\$	\$	\$	\$	\$
Personal Services	31,410,463	32,375,467	34,802,991	42,333,498	39,659,020
Services & Utilities	12,230,597	15,964,882	16,936,254	17,408,686	17,603,566
Supplies & Materials	17,109,745	14,229,820	14,998,094	18,276,404	19,143,488
Special Current Charges	1,532,863	1,304,502	2,357,932	(103,530)	248,523
Furniture & Equipment	173,656	233,244	298,973	349,610	231,850
Repairs & Facility Maintenance	0	0	0	0	0
Total Operation and Maintenance	62,457,322	64,107,915	69,394,244	78,264,668	76,886,448

- (a) Historical operation and maintenance expenses do not include the non-cash portion of provision for claims as recorded in the Comprehensive Annual Financial Report. Estimates of future Water Department claims payable are included in Table 12.

Table 6

**Water Department
Capital Expenditures
2016**

C.P. #	Project	Actual Expenditures
		\$
	Waterworks	
110	Normal Extensions & Replacements	3,483,175
156	Advanced Water Treatment	735,405
175	Water Hurricane Recovery Bonds	4,886,835
180	FEMA Review of Change Orders - Water	11,683,197
	Total Waterworks	20,788,612
	Water Distribution	
214	Normal Extensions & Replacements	2,142,181
215	Rehabilitation - Mains, Hydrants & Services	2,096,192
239	Mains DPW Contracts	(158,500)
	Total Water Distribution	4,079,874
	Power Projects and General Budget	
600	Water Share of Power Projects	5,864,914
700	Water Reserve for Emergencies	233,731
800	Water Share of General Budget Items	9,168,341
	Total Power Projects and General Budget	15,266,986
	Total Water Department	40,135,472

Table 7

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

C.P. #	Project	2017	2018	2019	2020	2021	Total
		\$	\$	\$	\$	\$	\$
Reinvestment in Assets							
110	Normal Extension & Replacement	18,884,000	16,320,000	5,745,000	4,920,000	5,470,000	51,339,000
112	Modification to Oak St. Raw Water Intake Station	1,200,000	5,500,000	5,000,000	0	0	11,700,000
122	Sycamore and Claiborne Filter Rehabilitation	6,625,000	5,050,000	0	0	0	11,675,000
160	SELA Water Relocation Costs	1,300,000	603,000	237,000	578,000	2,145,000	4,863,000
214	Normal Extensions & Replacements	2,535,000	2,535,000	2,535,000	2,535,000	2,535,000	12,675,000
216	Water System Replacement Program	5,100,000	5,100,000	5,200,000	5,000,000	5,000,000	25,400,000
239	Mains In Streets Department Contracts	3,200,000	6,000,000	3,200,000	3,200,000	3,200,000	18,800,000
600	Water Share of Power Projects	51,397,230	15,570,000	9,072,000	3,780,000	2,380,000	82,199,230
701	Water Reserve for Emergencies	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	10,000,000
800	Water Share of General Budget Items	23,595,800	19,767,000	10,479,000	8,160,000	8,629,000	70,630,800
	Total Routine Capital Improvements	115,837,030	78,445,000	43,468,000	30,173,000	31,359,000	299,282,030
Major Capital Improvements							
135	Improvements to Chemical System	7,370,000	2,100,000	3,000,000	0	0	12,470,000
156	Advanced Carrollton Water Treatment	8,815,000	700,000	20,120,000	120,000	120,000	29,875,000
157	Advanced Algiers Water Treatment	6,940,000	3,900,000	1,000,000	0	0	11,840,000
158	Water Treatment Carr.	200,000	200,000	0	0	0	400,000
159	Water Plant Security Improvements	2,495,000	1,980,000	3,320,000	0	0	7,795,000
175	Water Hurricane Recovery Bonds	40,600,000	23,200,000	44,000,000	33,200,000	31,200,000	172,200,000
221	Feeder Main Extension, General	100,000	100,000	50,000	50,000	50,000	350,000
	Total Major Capital Improvements	66,520,000	32,180,000	71,490,000	33,370,000	31,370,000	234,930,000
	Total Water Department Improvements	182,357,030	110,625,000	114,958,000	63,543,000	62,729,000	534,212,030

(a) The improvements for 2017-2021 are based on the amended 2017 capital budget and 2017-2026 capital improvement program.

Table 8

Water Department
Projected Operating Revenue

	(1)	(2)	(3)
	Revenue	Additional	Total
Year	From	Revenue (a)	Service
	Charges		Charge
	\$	\$	Revenue
2017	91,193,500	0	91,193,500
2018	90,675,500	8,925,900	99,601,400
2019	90,198,400	18,704,000	108,902,400
2020	89,718,000	29,351,800	119,069,800
2021	89,273,400	30,077,900	119,351,300

(a) Reflects additional revenue from adopted revenue increases.

Table 9

**Water Department
Projected Operation and Maintenance Expenses**

	2017 (a)	2018	2019	2020	2021
	\$	\$	\$	\$	\$
Personal Services	36,692,100	37,792,900	38,926,600	40,094,400	41,297,300
Services & Utilities	16,286,600	16,775,200	17,278,500	17,796,800	18,330,700
Supplies & Materials	17,711,400	18,242,700	18,790,000	19,353,700	19,934,300
Special Current Charges	229,900	236,800	243,900	251,200	258,800
Furniture & Equipment	214,500	220,900	227,600	234,400	241,400
Repairs & Facility Maintenance	0	0	0	0	0
Total Operation and Maintenance	71,134,500	73,268,500	75,466,600	77,730,500	80,062,500

(a) Represents the amended operating budget approved on September 20, 2017.

Table 10

Water Department Debt Service Requirements

	2017	2018	2019	2020	2021
	\$	\$	\$	\$	\$
Existing Bonds					
Series 2014	7,700,000	7,693,000	7,700,000	7,690,000	7,683,500
Series 2015	4,940,600	5,640,600	5,694,600	5,783,600	5,787,800
Total Existing Debt Service	12,640,600	13,333,600	13,394,600	13,473,600	13,471,300
Projected Bonds					
Amount of Issue					
\$					
2017 0	0	0	0	0	0
2018 178,000,000		0	10,767,500	12,921,000	12,921,000
2019 0			0	0	0
2020 0				0	0
2021 103,000,000					0
Total Projected Debt Service	0	0	10,767,500	12,921,000	12,921,000
Total Debt Service	12,640,600	13,333,600	24,162,100	26,394,600	26,392,300

Table 11
Water Department
Capital Improvement Program Financing

Line No.	Description	Fiscal Year Ending December 31,					Total
		2017	2018	2019	2020	2021	
		\$	\$	\$	\$	\$	\$
1	Funds Available at Beginning of Year	150,580,400	209,200	83,212,900	15,771,000	4,141,900	150,580,400
2	Revenue Bond Proceeds	0	178,000,000	0	0	103,000,000	281,000,000
3	Operation Fund Transfers	22,000,000	3,000,000	12,000,000	17,000,000	21,000,000	75,000,000
4	Participation By Others	33,944,000	40,265,000	41,917,000	40,648,000	33,035,000	189,809,000
5	Interest Income	932,300	1,063,500	600,000	158,100	782,500	3,536,400
6	Total Funds Available	207,456,700	222,537,700	137,729,900	73,577,100	161,959,400	699,925,800
7	Obligated Contracts & Capital Jobs	(24,890,500)	0	0	0	0	(24,890,500)
8	Major Capital Additions	(182,357,000)	(113,943,800)	(121,958,900)	(69,435,200)	(70,602,000)	(558,296,900)
9	Bond Issuance Expense	0	(2,670,000)	0	0	(1,545,000)	(4,215,000)
10	Capitalized Interest Requirement	0	(9,790,000)	0	0	(5,665,000)	(15,455,000)
11	Revenue Bond Reserve Fund	0	(12,921,000)	0	0	(7,476,700)	(20,397,700)
12	Total Application of Funds	(207,247,500)	(139,324,800)	(121,958,900)	(69,435,200)	(85,288,700)	(623,255,100)
13	End of Year Balance	209,200	83,212,900	15,771,000	4,141,900	76,670,700	76,670,700

Table 12

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

Line No.	Description	Fiscal Year Ending December 31,				
		2017	2018	2019	2020	2021
		\$	\$	\$	\$	\$
1	Revenue from Charges	91,193,500	90,675,500	90,198,400	89,718,000	89,273,400
2	Total Additional Revenue (a)	0	8,925,900	18,704,000	29,351,800	36,642,200
3	Total Service Charge Revenue	91,193,500	99,601,400	108,902,400	119,069,800	125,915,600
4	Other Operating Revenue	7,113,900	7,188,400	7,323,300	7,333,400	7,384,600
5	Total Operating Revenue	98,307,400	106,789,800	116,225,700	126,403,200	133,300,200
6	Operation & Maintenance	(71,134,500)	(73,268,500)	(75,466,600)	(77,730,500)	(80,062,500)
7	Non-Cash Expense Accruals	(3,130,100)	(3,337,400)	(3,563,800)	(3,808,800)	(3,988,500)
8	Net Operating Revenue	24,042,800	30,183,900	37,195,300	44,863,900	49,249,200
	Debt Service					
	Senior Lien Revenue Bonds					
9	Existing	(12,640,600)	(13,333,600)	(13,394,600)	(13,473,600)	(13,471,300)
10	Projected	0	0	(10,767,500)	(12,921,000)	(12,921,000)
11	Total Senior Lien Revenue Bonds	(12,640,600)	(13,333,600)	(24,162,100)	(26,394,600)	(26,392,300)
	Subordinate Revenue Bonds					
12	Gulf Opportunity Zone Act Loan	(639,900)	(639,900)	(639,900)	(639,900)	(639,900)
13	Total Debt Service	(13,280,500)	(13,973,500)	(24,802,000)	(27,034,500)	(27,032,200)
14	Other Non-Operating Revenue	400,500	400,500	400,500	400,500	400,500
15	Transfer to Construction	(22,000,000)	(3,000,000)	(12,000,000)	(17,000,000)	(21,000,000)
16	Due from/(to) Other Departments	(436,000)	(436,000)	0	0	0
17	Transfer to Operating Reserve Fund	0	0	0	0	(208,100)
18	Transfer from/(to) Rate Stabilization Fund	0	0	0	0	0
19	Net Annual Balance	(11,273,200)	13,174,900	793,800	1,229,900	1,409,400
20	Beginning of Year Cash Balance (b)	6,005,200	(5,268,000)	7,906,900	8,700,700	9,930,600
21	End of Year Balance	(5,268,000)	7,906,900	8,700,700	9,930,600	11,340,000
22	Beginning of Year Cash Balance (b)	6,005,200	25,463,802	38,638,702	39,432,502	40,662,402
23	Customer Deposits	11,773,500	0	0	0	0
24	Operating Reserve Fund	18,958,302	0	0	0	208,100
25	Net annual Balance	(11,273,200)	13,174,900	793,800	1,229,900	1,409,400
26	End of Year Balance	25,463,802	38,638,702	39,432,502	40,662,402	42,279,902
27	Days of O&M Cash on Hand	125	184	182	182	184

(a) Reflects revenue from an eight-year series of annual 10% rate increases effective January 1, 2013; adopted by the City Council in 2012 and a proposed 6% annual increase in 2021.

(b) Reflects beginning of year balance in unrestricted and undesignated cash and cash equivalents and cash and cash equivalents designated for capital projects, less operating reserve requirement.

Table 13
Water Department
Coverage Requirements

Line No.	Coverage Requirements	2017	2018	2019	2020	2021
		\$	\$	\$	\$	\$
Projected Net Revenues						
1	Revenue Under Existing Rates	91,193,500	90,675,500	90,198,400	89,718,000	89,273,400
2	Additional Revenue Under Proposed Rate	0	8,925,900	18,704,000	29,351,800	36,642,200
3	Interest Income	1,396,300	1,602,000	1,273,400	841,600	1,517,200
4	Plumbing and Inspection Fees	299,700	299,700	299,700	299,700	299,700
5	Other Miscellaneous Revenue	4,155,100	4,155,100	4,155,100	4,155,100	4,155,100
6	Operation & Maintenance Grants	2,195,100	2,195,100	2,195,100	2,195,100	2,195,100
7	Transfer from Rate Stabilization Fund	0	0	0	0	0
8	Operation & Maintenance	(71,134,500)	(73,268,500)	(75,466,600)	(77,730,500)	(80,062,500)
9	Net Revenue	28,105,200	34,584,800	41,359,100	48,830,800	54,020,200
Rate Covenant Coverage						
10	Projected Net Revenues	28,105,200	34,584,800	41,359,100	48,830,800	54,020,200
	Annual Debt Service					
11	Senior Debt	12,640,600	13,333,600	24,162,100	26,394,600	26,392,300
12	Coverage (a)	222%	259%	171%	185%	205%
13	All Debt	13,280,500	13,973,500	24,802,000	27,034,500	27,032,200
14	Coverage (b)	212%	248%	167%	181%	200%
Additional Bond Coverage						
15	Preceding Year Projected Net Revenues	11,472,300	28,105,200	34,584,800	41,359,100	48,830,800
16	Future Additional Revenue	45,899,200	45,187,400	39,999,600	35,062,300	30,344,900
17	Adjusted Projected Net Revenues	57,371,500	73,292,600	74,584,400	76,421,400	79,175,700
	Maximum Debt Service					
18	Senior Debt	13,473,600	26,394,600	26,394,600	26,394,600	33,871,200
19	Coverage (a)	426%	278%	283%	290%	234%
20	All Debt	14,113,500	27,034,500	27,034,500	27,034,500	34,508,400
21	Coverage (b)	407%	271%	276%	283%	229%

(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.

Sewerage Department

ADHERENCE TO SEWERAGE SERVICE REVENUE BOND RESOLUTION

In 2014, the Board issued \$158,990,000 Sewerage Service Revenue and Refunding Bonds. Issuance of these bonds obligated the Board to adhere to the covenants of the Bond Resolution. Briefly, the covenants are concerned with:

- Payment of indebtedness; limited obligations.
- Limitations on indebtedness.
- Covenants and representations of Board.
- Covenants with credit banks, insurers, etc.
- Operation and maintenance.
- Free service, competing service, billing and enforcement of charges.
- Sale or encumbrance of system.
- Insurance
- Damage, destruction, condemnation and loss of title.
- Records and accounts; inspections and reports.
- Capital budget.

The provisions of the General Sewerage Service Revenue Bond Resolution are virtually identical to those of the General Water Revenue Bond Resolution described in the preceding section of this report. The Board was in compliance with these covenants in 2016. Sewerage Department tables are included at the end of this section.

2016 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 2016 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 2015 through 2021. Based on year-end billing summaries, the number of monthly billed customers during 2016 averaged 133,277 compared with 132,264 for 2015. Based on year-to-date customer data through August of 2017, it is projected that the Board will average approximately 133,834 open accounts in 2017 and that the number of accounts will continue to grow at approximately 0.3 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 9,992 million gallons of wastewater volume was billed in 2016,

compared with a total of 9,485 million gallons in 2015. Since 85 percent of residential water usage and 100 percent of non-residential usage is treated as billable sewer flows, the decrease in sewage volume billed is similar to the decrease in water usage. After factoring in the number of annual bills rendered, the average annual usage per customer for each customer class and the projected resistance factor, the resulting projected contributed wastewater volume reflects a decrease of approximately 0.7 percent per year.

Operating Revenues

The 2016 schedule of rates for retail sewerage service is presented in Table 15 and reflects a 10 percent rate increase over 2015 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 2012 through 2016. 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 2016 were \$104,060,458 which, when compared with \$94,775,797 for 2015, shows an increase of approximately 9.8 percent. Delinquent fee revenues were \$734,725 in 2016 which represent a decrease of approximately 14.7 percent over 2015 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 2016 consisted of \$2,301,168 from investments in the Sewerage System fund, the capital projects and construction fund. Miscellaneous income was \$1,137,406 for 2016.

Operation and Maintenance Expenses

Table 17 presents a summary of 2012 through 2016 historical operation and maintenance expenses of the Sewerage Department. Expenditures for 2016 increased about 0.4 percent from 2015 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 7 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 2016 capital expenditures totaled \$40,544,444. 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 2016:

Total Revenues	\$108,233,756
Operation and Maintenance Expense	58,240,656
Claims	2,380,775
Debt Service Payments	24,616,125
Revenue Primarily Available for Capital Expenditures ^a	22,996,200

^a Excludes depreciation.

PROPOSED CAPITAL IMPROVEMENT PROGRAM

Table 19 presents a summary of the projected major capital improvement program for the period 2017 through 2021. Table 19 is based on the Board's amended 2017-2026 Capital Program and 2017-2026 Capital Improvement Program. The five-year major capital improvement program costs are estimated to total \$438,109,000. Of the projected total, \$351,179,000 is considered to be for recurring annual capital improvements. The remaining \$86,930,000 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 projects and general budget item costs for the five-year period 2017 through 2021 total \$37,266,200 and \$44,255,800, 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 2017 through 2021 in Table 20. These estimates reflect the rate schedule effective January 1, 2017 applied to the projected number of customers and contributed wastewater flow and are projected to decrease, on average, about 0.2 percent per year throughout the study period due to the anticipated decline in water consumption. 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 \$326,100 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 2017 through 2021 is shown in Table 21. Estimates of future expenses are based on anticipated future operating conditions and allowances for inflationary factors.

Projections of future operating and maintenance expenses for the study period are based on the Board's amended 2017 Operating Budget and an analysis of the current and anticipated operating conditions and trends.

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, 2016 outstanding debt obligations consisted of \$7,333,000 Sewerage Revenue Bonds Series 2011, \$135,355,000 Sewerage Service Revenue and Refunding Bonds Series 2014, and \$100,000,000 Sewerage Service Revenue and Refunding Bonds Series 2015.

To adequately fund the proposed capital improvements, additional revenue bonds are indicated as shown in Table 22. It is anticipated that the Board will issue revenue bonds in the amount of \$158,000,000 in 2018 and \$120,000,000 in 2020. Projected bonds shown in Table 22 for 2017 through 2021 are assumed to be sold at an average annual interest rate of 5.5 percent for a term of 30 years.

The Sewerage Department has borrowed from the 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 five-year study period. The amount of Funds Available at Beginning of Year, shown on Line 1, is \$151,780,100. This amount is based on audited data provided by the Board.

Projected revenue bond proceeds, totaling \$278,000,000, are shown on Line 2. The amounts and years of issue are developed by considering capital program needs, current policies, other sources of major capital improvement financing, and the debt service coverage requirements of the bond covenants regarding the issuance of parity revenue bonds.

Financing of the major capital improvement program anticipates the transfer of a total of \$73,000,000 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 5. Line 6 of the table shows the projected major capital improvement funds available each year.

As of December 31, 2016, the Board had \$47,957,300 obligated for open contracts and capital jobs as shown on Line 7 of Table 23. Line 8 shows the projected Major Capital Additions to be funded. These costs reflect the total improvements shown in Table 19 with 3 percent inflation beginning in 2018. Estimated issuance costs related to the proposed bond issue amounts are shown on Line 9.

Line 10 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 lessor 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.

The Total Application of Funds is shown on Line 11 of Table 23. The net End of Year Balance is shown on Line 12.

Operating Fund

Line 1 of Table 24 shows projected Revenue from Charges under 2017 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, 2016 through January 1, 2020 is shown on Line 2. It is projected that a 2.5 percent revenue increase will be necessary effective January 1, 2021. The revenue from this proposed revenue increase is also included in Line 2. The date and magnitude of proposed revenue increase in 2021 is based on consideration of two principal criteria, which include: (1) total revenue necessary to meet cash requirements, and (2) total revenue required to meet minimum bond coverage requirements.

Other revenue available for system operations is shown on Line 4. Interest Income available to the operating fund, included in 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 also included in Line 4 of Table 21. Total Operating Revenue is shown on Line 5.

Operation and Maintenance expense, previously projected in Table 21, is shown on Line 6 of Table 24. Line 7 shows the estimated allowance for claims and bad debt expense which is assumed to be 1 percent of projected revenue. Projected Net Operating Revenue from system operations is shown on Line 8.

Lines 9 through 11 present debt service requirements on currently outstanding and proposed senior revenue bonds. Existing bonds include the Series 2011, Series 2014 and Series 2015 bonds. Line 10 reflects projected principal and interest payments on additional revenue bond debt financing of \$158,000,000 in 2018 and \$120,000,000 in 2020. Proposed debt is assumed to be 30 year, 5.5 percent fixed interest rate bonds issued in March, 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 sewerage portion of principal and interest began in July 2012 and are shown on Line 12 of Table 24 as subordinate debt.

Anticipated non-operating revenue is shown on Line 14.

Line 15 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 16 reflects payment to the DPW as well as claimants.

The General Resolution requires an Operating Reserve Fund of 90 days of the previous year's operation and maintenance expense; however the SWBNO's Financial Management Policy requires an Operating Reserve Fund of not less than 180 days. Line 17 indicates the projected annual transfers available to meet this requirement throughout the study period. The General 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 18 of Table 24.

Line 19 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 2017, shown on Line 20, is comprised of the current cash assets and reflects a balance of \$47,055,200. The End of Year Balance, which is exclusive of the operating reserve fund and rate stabilization fund, is shown on Line 21.

Lines 22 through 26 demonstrate that the Board is maintaining an operating reserve equal to at least 180 days of the previous year's operation and maintenance expense beginning in 2018.

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 2017-2021 study period examined herein, with the adopted 10 percent revenue increases in 2017 through 2020, and a 2.5 percent revenue increase in 2021.

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. The General 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. The SWBNO's Financial Management Policy requires coverage at a minimum of 150 percent for senior debt and 125 percent for senior and subordinate debt.

The calculation of net revenue is shown on Lines 1 through 9 of Table 25. The ability of the Sewerage Department revenues to meet revenue bond coverage requirements is shown on Lines 10 through 14. As shown on Lines 12 and 14, the indicated projected revenue and revenue increases will provide sufficient net revenue to meet coverage requirements during the study period.

The General 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 15 through 21 of Table 25. Lines 19 and 21 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 178 percent to 413 percent.

Table 14

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

Customer Class	Historical		Projected				
	2015	2016	2017	2018	2019	2020	2021
Single Family Residential (b)							
Customers	115,192	116,226	116,800	117,300	117,800	118,200	118,600
Sales (1,000,000 gal.)	5,919	5,899	5,722	5,692	5,665	5,635	5,608
Sales Per Customer (1,000 gal.)	51	51	49	49	48	48	47
Multifamily Residential							
Customers	4,639	4,647	4,600	4,600	4,600	4,600	4,600
Sales (1,000,000 gal.)	605	643	631	625	619	614	609
Sales Per Customer (1,000 gal.)	130	138	137	136	135	133	132
Commercial							
Customers	12,396	12,370	12,400	12,400	12,400	12,400	12,400
Sales (1,000,000 gal.)	2,918	3,414	3,303	3,272	3,242	3,214	3,188
Sales Per Customer (1,000 gal.)	235	275	266	263	261	259	257
Industrial							
Customers	37	34	34	34	34	34	34
Sales (1,000,000 gal.)	44	36	36	36	35	35	35
Sales Per Customer (1,000 gal.)	1,188	1,066	1,056	1,047	1,035	1,026	1,018
Total							
Customers	132,264	133,277	133,834	134,334	134,834	135,234	135,634
Sales (1,000,000 gal.)	9,485	9,992	9,692	9,624	9,561	9,498	9,440

(a) Excludes customers receiving free service.

(b) Includes duplex.

Table 15

**Sewerage Department
Existing Sewer Rates
(Effective January 1, 2017)**

Rate Components	General Service
	\$

Monthly Sewerage Service Charge

Meter Size
Inches

5/8	18.68
3/4	26.59
1	37.85
1-1/2	69.66
2	101.87
3	241.58
4	402.63
6	805.26
8	1,207.89
10	1,610.51
12	1,852.09
16	2,496.30

Monthly Quantity Charge

Per 1,000 Gallons	6.50
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Excessive Strength Charge per Pound

BOD	0.43
SS	0.25

Table 16

**Sewerage Department
Statement of Historical Revenue**

Revenue Source	2012	2013	2014	2015	2016
	\$	\$	\$	\$	\$
Operating Revenue					
Sewerage Service Charges	70,707,230	77,767,114	85,740,367	94,775,797	104,060,458
Delinquent Fee	700,605	768,670	812,895	861,169	734,725
Total Operating Revenue	71,407,835	78,535,785	86,553,262	95,636,965	104,795,182
Nonoperating Revenue					
Interest Income	194,080	178,122	257,824	1,340,586	2,301,168
Plumbing Inspection and License Fees	343,903	321,518	339,176	305,384	318,511
Revenue Sharing	154,509	274,229	317,506	322,674	313,048
Other Income (a)	296,406	771,397	1,289,474	560,157	505,847
Total Nonoperating Revenue	988,898	1,545,265	2,203,980	2,528,801	3,438,574
Total Revenue	72,396,734	80,081,050	88,757,242	98,165,766	108,233,756

(a) Includes \$1,533,624 in operating and maintenance grants in 2011 , -\$7,463 in 2012, -\$5,367 in 2013 and -\$383,354 in 2014.

Table 17

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

	2012	2013	2014	2015	2016
	\$	\$	\$	\$	\$
Personal Services	24,403,860	24,785,716	23,301,162	30,903,283	27,619,358
Services & Utilities	17,225,768	17,463,783	18,342,982	17,148,698	20,269,282
Supplies & Materials	2,800,856	3,201,309	4,946,831	9,090,197	10,205,920
Special Current Charges	296,041	588,515	1,762,961	617,675	(56,248)
Furniture & Equipment	157,870	199,073	205,113	268,870	202,343
Repairs & Facility Maintenance	0	0	0	0	0
Total Operation and Maintenance	44,884,396	46,238,396	48,559,050	58,028,723	58,240,656

- (a) Historical operation and maintenance expenses do not include the non-cash portion of provision for claims as recorded in the Comprehensive Annual Financial Report. Estimates of future Water Department claims payable are included in Table 24.

Table 18

**Sewerage Department
Capital Expenditures
2016**

C.P. #	Project	Actual Expenditures \$
Sewerage Systems		
313	Extensions & Replacements - Sewer Force Mains EPA Consent Decree	321,042
317	Normal Extensions & Replacement of Gravity Mains	10,126,432
318	Rehabilitation Gravity Sewer System	3,015,865
326	Extensions & Replacements to Sewer Pumping Stations	839,571
339	Mains in Street Dept. Contracts	(1,610,845)
340	Sewerage Hurricane Recovery Bonds (FEMA)	4,466,847
348	Normal Extensions & Replacements	8,511,325
368	Wetlands Assimilation Project	1,052,444
375	Sewerage Hurricane Recovery Bonds	1,324,030
380	FEMA Review of Change Orders-Sewer	1,356,523
	Total Sewerage System	29,403,235
Power Projects and General Budget		
600	Sewerage Share of Power Projects	2,110,436
700	Sewer Reserve for Emergencies	63,521
800	Sewerage Share of General Budget Items	8,967,253
	Total Power Projects and General Budget	11,141,209
	Total Sewerage Department	40,544,444

Table 19

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

C.P. #	Project	2017	2018	2019	2020	2021	Total
		\$	\$	\$	\$	\$	\$
Reinvestment In Assets							
317	Extensions and Replacements - Gravity Mains	22,200,000	29,000,000	25,700,000	23,700,000	23,700,000	124,300,000
318	Rehabilitation Gravity Sewer System	9,335,000	8,035,000	9,335,000	8,035,000	9,435,000	44,175,000
319	Extension and Replacements - Sanitary Sewer Mains Algiers	2,000,000	2,000,000	3,000,000	2,500,000	3,000,000	12,500,000
326	Extensions and Replacements to Pumping Stations	3,960,000	5,990,000	6,790,000	2,300,000	3,600,000	22,640,000
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	8,580,000	3,595,000	4,805,000	5,225,000	850,000	23,055,000
360	SELA Sewerage Relocation Costs	844,000	643,000	0	0	0	1,487,000
382	Paving Repair Contracts	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	5,000,000
600	Sewer Share of Power Projects	29,467,230	5,013,970	99,000	2,196,000	490,000	37,266,200
702	Sewer Reserve for Emergencies	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	10,000,000
800	Sewer Share of General Budget Items	11,136,800	9,092,000	9,296,000	7,131,000	7,600,000	44,255,800
	Total Routine Annual Improvements	95,823,030	71,668,970	67,325,000	59,387,000	56,975,000	351,179,000
Major Capital Improvements							
313	Extensions and Replacements - Sewer Force Mains	8,700,000	6,600,000	9,350,000	9,000,000	11,750,000	45,400,000
358	WWTP Normal Extensions & Replacements	0	0	10,000	0	0	10,000
368	Wetland Assimilation	4,300,000	300,000	0	0	0	4,600,000
375	Sewerage Hurricane Recovery Bonds	9,110,000	5,850,000	4,250,000	6,000,000	3,670,000	28,880,000
381	Modification and Expansion of WBSTP to 20/50 MGD	1,305,000	1,590,000	2,935,000	210,000	0	6,040,000
383	Sewerage Hurricane Recovery Bonds (Non FEMA)	2,000,000	0	0	0	0	2,000,000
	Total Major Improvements	25,415,000	14,340,000	16,545,000	15,210,000	15,420,000	86,930,000
	Total Sewerage System Improvements	121,238,030	86,008,970	83,870,000	74,597,000	72,395,000	438,109,000

(a) The improvements for 2017-2021 are based on the amended 2017 capital budget and 2017-2026 capital improvement program.

Table 20**Sewerage Department
Projected Operating Revenue**

	(1)	(2)	(3)
	Revenue From Charges	Additional Revenue (a)	Total Service Charge Revenue
Year	\$	\$	\$
2017	110,429,700	0	110,429,700
2018	110,204,900	10,863,100	121,068,000
2019	110,031,900	22,725,200	132,757,100
2020	109,833,100	35,674,100	145,507,200
2021	109,557,400	36,717,300	146,274,700

(a) Reflects additional revenue from adopted revenue increases.

Table 21

**Sewerage Department
Projected Operation and Maintenance Expenses**

	2017 (a)	2018	2019	2020	2021
	\$	\$	\$	\$	\$
Personal Services	35,409,700	36,472,000	37,566,200	38,693,100	39,853,900
Services & Utilities	25,986,500	26,766,100	27,569,100	28,396,200	29,248,000
Supplies & Materials	13,084,600	13,477,100	13,881,500	14,297,900	14,726,800
Special Current Charges	(72,100)	(74,300)	(76,500)	(78,800)	(81,100)
Furniture & Equipment	259,400	267,200	275,200	283,500	292,000
Repairs & Facility Maintenance	0	0	0	0	0
Total Operation and Maintenance	74,668,100	76,908,100	79,215,500	81,591,900	84,039,600

(a) Represents the amended operating budget approved on September 20, 2017.

Table 22

Sewerage Department Debt Service Requirements

Debt Issue	2017	2018	2019	2020	2021
	\$	\$	\$	\$	\$
Existing Bonds					
Series 2014	19,309,800	17,642,500	16,217,500	16,234,100	13,106,300
Series 2015	5,000,000	5,000,000	5,000,000	5,000,000	6,950,000
Series 2011 (LADEQ)	496,700	496,600	496,500	496,400	496,200
Total Existing Debt Service	24,806,500	23,139,100	21,714,000	21,730,500	20,552,500
Projected Bonds					
Amount of Issue					
\$					
2017 0	0	0	0	0	0
2018 158,000,000		9,059,417	10,871,300	10,871,300	10,871,300
2019 0			0	0	0
2020 120,000,000				6,880,500	8,256,600
2021 0					0
Total Projected Debt Service	0	9,059,417	10,871,300	17,751,800	19,127,900
Total Debt Service	24,806,500	32,198,517	32,585,300	39,482,300	39,680,400

Table 23
Sewerage Department
Capital Improvement Program Financing

Line No.	Description	Fiscal Year Ending December 31,					Total
		2017	2018	2019	2020	2021	
		\$	\$	\$	\$	\$	\$
1	Funds Available at Beginning of Year	151,780,100	350,300	76,729,400	10,261,200	63,829,400	151,780,100
2	Revenue Bond Proceeds	0	158,000,000	0	120,000,000	0	278,000,000
3	Operation Fund Transfers	17,000,000	5,000,000	15,000,000	18,000,000	20,000,000	75,000,000
4	Participation by Others	0	14,329,000	7,072,000	6,399,000	5,679,000	33,479,000
5	Interest Income	765,500	880,600	437,500	740,000	363,300	3,186,900
6	Total Funds Available	169,545,600	178,559,900	99,238,900	155,400,200	89,871,700	541,446,000
7	Obligated Contracts & Capital Jobs	(47,957,300)	0	0	0	0	(47,957,300)
8	Major Capital Additions	(121,238,000)	(88,589,200)	(88,977,700)	(81,514,200)	(81,481,200)	(461,800,300)
9	Bond Issuance Expense	0	(2,370,000)	0	(1,800,000)	0	(4,170,000)
10	Revenue Bond Reserve Fund	0	(10,871,300)	0	(8,256,600)	0	(19,127,900)
11	Total Application of Funds	(169,195,300)	(101,830,500)	(88,977,700)	(91,570,800)	(81,481,200)	(533,055,500)
12	End of Year Balance	350,300	76,729,400	10,261,200	63,829,400	8,390,500	8,390,500

Table 24

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

Line No.	Description	Fiscal Year Ending December 31,				
		2017	2018	2019	2020	2021
		\$	\$	\$	\$	\$
1	Revenue from Charges	110,429,700	110,204,900	110,031,900	109,833,100	109,557,400
2	Total Additional Revenue (a)	0	10,863,100	22,725,200	35,674,100	40,069,400
3	Total Service Charge Revenue	110,429,700	121,068,000	132,757,100	145,507,200	149,626,800
4	Other Operating Revenue	4,152,300	4,148,600	4,202,300	4,257,500	4,310,600
5	Total Operating Revenue	114,582,000	125,216,600	136,959,400	149,764,700	153,937,400
6	Operation & Maintenance	(74,668,100)	(76,908,100)	(79,215,500)	(81,591,900)	(84,039,600)
7	Non-Cash Expense Accruals	(2,361,100)	(2,512,500)	(2,676,500)	(2,853,300)	(2,936,200)
8	Net Operating Revenue	37,552,800	45,796,000	55,067,400	65,319,500	66,961,600
	Debt Service					
	Senior Lien Revenue Bonds					
9	Existing	(24,806,500)	(23,139,100)	(21,714,000)	(21,730,500)	(20,552,500)
10	Projected	0	(9,059,400)	(10,871,300)	(17,751,800)	(19,127,900)
11	Subtotal	(24,806,500)	(32,198,500)	(32,585,300)	(39,482,300)	(39,680,400)
	Subordinate Revenue Bonds					
12	Gulf Opportunity Zone Act Loan	(6,235,200)	(6,235,200)	(6,235,200)	(6,235,200)	(6,235,200)
13	Total Debt Service	(31,041,700)	(38,433,700)	(38,820,500)	(45,717,500)	(45,915,600)
14	Other Non-Operating Revenue	462,100	462,100	462,100	462,100	462,100
15	Transfer to Construction	(17,000,000)	(5,000,000)	(15,000,000)	(18,000,000)	(20,000,000)
16	Due from/(to) Other Departments	(486,000)	0	0	0	0
17	Transfer to Operating Reserve Fund	0	(4,050,600)	(552,300)	(568,900)	(586,000)
18	Transfer from/(to) Rate Stabilization Fund	0	0	0	0	0
19	Net Annual Balance	(10,512,800)	(1,226,200)	1,156,700	1,495,200	922,100
20	Beginning of Year Cash Balance (b)	47,055,200	36,542,400	35,316,200	36,472,900	37,968,100
21	End of Year Balance	36,542,400	35,316,200	36,472,900	37,968,100	38,890,200
22	Beginning of Year Cash Balance (b)	47,055,200	36,542,400	39,366,800	41,075,800	43,139,900
23	Operating Reserve Fund	0	4,050,600	552,300	568,900	586,000
24	Net annual Balance	(10,512,800)	(1,226,200)	1,156,700	1,495,200	922,100
25	End of Year Balance	36,542,400	39,366,800	41,075,800	43,139,900	44,648,000
26	Days of O&M Cash on Hand	173	181	183	186	187

(a) Reflects revenue from an eight-year series of annual 10% rate increases effective January 1, 2013; adopted by the City Council in 2012 and a proposed 2.5% annual increase in 2021.

(b) Reflects beginning of year balance in unrestricted and undesignated cash and cash equivalents and cash and cash equivalents designated for capital projects, less operating reserve requirement.

Table 25
Sewerage Department
Coverage Requirements

Line No.	Coverage Requirements	2017	2018	2019	2020	2021
		\$	\$	\$	\$	\$
Projected Net Revenues						
1	Revenue Under Existing Rates	110,429,700	110,204,900	110,031,900	109,833,100	109,557,400
2	Additional Revenue Under Proposed Rates	0	10,863,100	22,725,200	35,674,100	40,069,400
3	Interest Income	1,799,400	1,910,800	1,521,400	1,879,100	1,555,500
4	Plumbing and Inspection Fees	326,100	326,100	326,100	326,100	326,100
5	Other Miscellaneous Revenue	597,300	597,300	597,300	597,300	597,300
6	Operation & Maintenance Grants	2,195,000	2,195,000	2,195,000	2,195,000	2,195,000
7	Transfer from Rate Stabilization Fund	0	0	0	0	0
8	Operation & Maintenance	(74,668,100)	(76,908,100)	(79,215,500)	(81,591,900)	(84,039,600)
9	Net Revenue	40,679,400	49,189,100	58,181,400	68,912,800	70,261,100
Rate Covenant Coverage						
10	Projected Net Revenues	40,679,400	49,189,100	58,181,400	68,912,800	70,261,100
	Annual Debt Service					
11	Senior Debt	24,806,500	32,198,500	32,585,300	39,482,300	39,680,400
12	Coverage (a)	164%	153%	179%	175%	177%
13	All Debt	31,041,700	38,433,700	38,820,500	45,717,500	45,915,600
14	Coverage (b)	131%	128%	150%	151%	153%
Additional Bond Coverage						
15	Preceding Year Projected Net Revenues	49,993,000	40,679,400	49,189,100	58,181,400	68,912,800
16	Future Additional Revenue	52,471,200	43,993,200	33,396,200	23,568,200	14,433,000
17	Adjusted Projected Net Revenues	102,464,200	84,672,600	82,585,300	81,749,600	83,345,800
	Maximum Debt Service					
18	Senior Debt	24,806,500	32,601,800	32,601,800	39,680,400	39,680,400
19	Coverage (a)	413%	260%	253%	206%	210%
20	All Debt	31,041,700	38,837,000	38,837,000	45,915,600	45,915,600
21	Coverage (b)	330%	218%	213%	178%	182%

(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.

Drainage Department

2016 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, which is to be used for operation and maintenance as well as funding of capital improvements, was reauthorized in December 2016.

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 2012 through 2016. The historical revenue shown in Table 26 was developed from detailed records provided by Board Staff.

Operation and Maintenance Expenses

Table 27 presents a summary of 2012 through 2016 operation and maintenance expenses of the Drainage Department. Expenditures for 2016 decreased about 11.4% percent over 2015 expenditures. 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 5 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 2016 totaled \$39,267,762. 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 2016:

Total Revenues	\$57,349,315
Operation and Maintenance Expense	33,523,624
Claims	2,223,009
Debt Service Payments	2,017,050
Revenue Primarily Available for Capital Expenditures ^a	19,585,632

^a Excludes depreciation.

PROPOSED CAPITAL IMPROVEMENT PROGRAM

Table 29 presents a summary of the projected major capital improvement program for the period 2017 through 2021. Table 29 is based on the Board's amended 2017 Capital Budget and 2017-2016 Capital Improvement Program. The five-year major capital improvement program costs are expected to total \$437,343,100. About 46 percent of this amount, or \$235,361,700, is for recurring annual capital improvements, with the remaining \$201,981,400 for major improvements. The proposed routine annual capital expenditures for drainage system improvements and extensions include \$94,179,300 for the Drainage Department's share of power projects, and \$46,093,000 for its share of general budget items.

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 2017 through 2026 Capital Improvement Program according to capital project and amount to \$329,121,000, most of which is provided by the COE.

The Sewerage and Water Board is currently receiving funds from the COE sponsored and congressionally authorized SELA Project. This funding will allow additional construction of projects which were identified in the 1970s, 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 2020.

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 2015, 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 2016 assessed taxable value. It is assumed that the projected revenue from the ad valorem taxes will remain constant during the study period due to the roll-back provisions of Louisiana state law.

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 2017 through 2021 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 for the period 2017 through 2021 is shown in Table 32. Estimates of future expenses are based on anticipated future operating conditions and allowances for inflationary factors.

Projections of future operating and maintenance expenses for the study period are based on the Board's amended 2017 Operating Budget and an analysis of the current and anticipated operating conditions and trends.

Debt Service Requirements

Future debt service requirements of the Drainage Department are made up of principal, interest, and reserve fund payments for currently outstanding and future drainage revenue bond issues. As of December 31, 2016, outstanding debt obligations consisted of \$11,100,000 of Drainage Revenue Bonds, Series 2014.

It is assumed that no future debt will be issued during the 2017 – 2021 study period.

The Drainage Department has borrowed from the 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 \$42,299,000. This amount is based on audited data provided by the Board.

Projected revenue bond proceeds are shown on Line 2; however, it is projected that the Board will not have the capacity to issue additional bonds during the study period. In addition, it is anticipated that the Board will not have the capacity to finance the major capital improvement program with 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 COE and FEMA as well as others. Interest earnings recognize an assumed 1.0 percent average annual interest rate and are shown on Line 5. Line 6 of the table shows the projected major capital improvement funds available each year.

As of December 31, 2016, the Board had \$15,209,300 obligated for open contracts and capital jobs as shown on Line 7 of Table 34. Line 8 show the projected Major Capital Additions to be funded as shown in Table 29. Due to constraints on revenue, it is anticipated that a portion of the capital projects in 2021 will need to be deferred until an additional revenue source has been identified. This deferral is shown on Line 9.

The Total Application of Funds is shown on Line 12 of Table 34. The net End of Year Balance is shown on Line 13.

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 Line 1 of Table 35.

Other revenue available for system operations is shown on Line 2. Miscellaneous revenue includes rental income, gain or loss on the sale of assets and other miscellaneous income. Interest Income available to the operating fund which is included in Line 2, 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, also included in Line 2, is estimated to be 1.0 percent. Total Operating Revenue is shown on Line 3 of Table 35.

Operation and Maintenance expense, shown on Line 4 of Table 35, consists of the expenses previously projected in Table 32, plus additional costs associated with existing facilities, the permanent pump stations, the SELA canals, and new green infrastructure. These additional expenses total \$5,600,000 in 2018 and increase to \$10,024,900 by 2021. Line 5 includes the estimated allowance for claims and bad debt expense which is assumed to be 0.5 percent of projected revenue. Projected Net Operating Revenue from system operations is shown on Line 6.

Lines 7 through 9 present debt service requirements on currently outstanding and proposed senior revenue bonds. Existing debt includes the Series 2014 bonds. As previously mentioned, it is projected that the Board will not have the capacity to issue additional bonds during the study period.

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 drainage portion of principal and interest began in July 2012 and are shown on Line 10 of Table 35.

Line 11 reflects the estimated SELA repayments that will begin in 2020. Total debt service is shown on Line 12.

Anticipated non-operating revenue is shown on Line 13.

Line 14 reflects the projected transfer of accumulated net earnings from system operations to assist in major capital financing. Typically, such accumulated net earnings may be used to help recover portions of the annual costs of system operations or to assist in major capital improvement financing. Line 15 reflects repayment from the Water Department and repayment to the DPW as well as repayment to claimants.

The General Resolution requires an Operating Reserve Fund of 90 days of the previous year's operation and maintenance expense; however the SWBNO's Financial Management Policy requires an Operating Reserve Fund of not less than 180 days. Line 16 indicates the projected annual transfers available to meet this requirement throughout the study period.

Line 17 indicated 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 2017, shown on Line 18, is comprised of current cash assets and reflects a balance of \$18,661,200. The End of Year Balance, which is exclusive of the operating reserve fund, is shown on Line 19 and drops to a deficit of \$5,172,300 by 2021 which indicates that the existing source of revenue for the Drainage Department will not be sufficient to fund operation and maintenance expense and required debt service payments by 2021.

Lines 20 through 24 demonstrate that the Board is maintaining an operating reserve equal to at least 180 days of the previous year's operation and maintenance expense through 2019; however the balance drops to a negative balance of 8 days by 2021.

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 2014 bonds. As shown on Line 25 of Table 35 the projected revenue from the nine-mill ad valorem tax will provide sufficient revenue to meet coverage requirements on existing debt 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.

Due to the constraints to meet operation and maintenance expense and required debt service payments on existing debt during the study period, the Drainage Department does not have the revenue capacity to issue additional debt. In addition, the revenue from the nine-mill ad valorem tax does not provide the debt capacity needed to fund the five-year capital improvement program; therefore a portion of capital improvements must be deferred as previously mentioned. Therefore, in

order to completely fund the five-year capital program, an alternative funding source would need to be identified for the Drainage Department.

Black & Veatch suggests that when a new funding source is identified, 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	2012	2013	2014	2015	2016
	\$	\$	\$	\$	\$
Three-mill Ad Valorem Tax	12,497,723	13,175,711	13,481,526	14,139,193	16,043,825
Six-mill Ad Valorem Tax	12,630,977	13,317,505	13,626,539	14,290,667	16,215,799
Nine-mill Ad Valorem Tax	18,933,290	19,962,114	20,425,388	21,421,102	23,762,398
Two-mill Ad Valorem Tax	0	0	0	0	7,526
Interest Earned	109,748	92,615	203,832	202,579	253,938
Other	1,103,330	1,099,908	1,277,250	4,313,845	1,065,829
Total Revenue	45,275,067	47,647,853	49,014,535	54,367,386	57,349,315

Table 27

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

	2012	2013	2014	2015	2016
	\$	\$	\$	\$	\$
Personal Services	18,544,593	18,836,845	17,096,914	25,494,930	21,132,530
Services & Utilities	11,165,440	11,258,057	11,460,611	10,324,968	10,240,962
Supplies & Materials	1,909,601	1,937,679	1,523,346	1,511,946	1,682,711
Special Current Charges	800,572	578,960	756,295	372,914	364,893
Furniture & Equipment	66,823	91,674	62,057	109,745	102,528
Repairs & Facility Maintenance	0	0	0	0	0
Total Operation and Maintenance	32,487,029	32,703,215	30,899,222	37,814,502	33,523,624

- (a) Historical operation and maintenance expenses do not include the non-cash portion of provision for claims as recorded in the Comprehensive Annual Financial Report. Estimates of future Water Department claims payable are included in Table 35.

Table 28

Drainage Department Capital Expenditures 2016

C.P. # Project	Actual Expenditures
	\$
Canals	
418 Normal Extensions & Replacements	44,887
439 Major Drainage Participation in DPW Projects	131,945
466 Louisiana Avenue Canal (SELA)	13,067,979
471 SELA Program Management	2,460,361
476 Hollygrove Canals (SELA-A)	10,972
478 S. Claiborne-Lowerline to Monticello Street	297,717
480 FEMA Review of Change Orders-Drainage	2,606,076
486 Napoleon Canal Improvements (SELA-B)	123,632
497 Florida Ave. Canal - DPS#19 to Peoples Ave. (SELA-B)	921,077
498 Dwyer Intake Canal (St. Charles to Dwyer DPS) (SELA-A)	50,952
499 Jefferson Avenue Canal	557,141
Total Drainage Canals	20,272,739
Pumping Stations	
511 Normal Extensions & Rep./Stations	225,489
574 Hurricane Katrina Expenses for Drainage System	0
575 Drainage Hurricane Recovery Bonds	1,044,941
Total Drainage Pumping Stations	1,270,430
Power Projects and General Budget	
600 Drainage Share of Power Projects	9,673,519
703 Drainage Reserve for Emergency	1,097,286
800 Drainage Share of General Budget Items	6,953,788
Total Power Projects and General Budget	17,724,593
Total Drainage Department	39,267,762

Table 29

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

C.P.#	Project	2017	2018	2019	2020	2021	Total
		\$	\$	\$	\$	\$	\$
Reinvestment in Assets							
418	Normal Ext. & Replacements	730,000	730,000	730,000	730,000	730,000	3,650,000
511	Normal Ext. & Replacement - Stations	15,700,000	13,310,000	17,686,000	20,103,400	14,640,000	81,439,400
600	Drainage Share of Power Projects	37,027,700	16,066,000	14,418,000	14,237,600	12,430,000	94,179,300
703	Drainage Reserve for Emergencies	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	10,000,000
800	Drainage Share of General Budget Items	16,481,000	8,357,000	7,784,000	6,506,000	6,965,000	46,093,000
	Total Routine Capital Improvements	71,938,700	40,463,000	42,618,000	43,577,000	36,765,000	235,361,700
Major Capital Improvements							
439	Mains, Over 36" in Street Dept. Contracts	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	10,000,000
453	Improvements to Metairie Relief Canal	5,500,000	0	0	0	0	5,500,000
466	Louisiana Ave. Canal	250,000	500,000	500,000	0	0	1,250,000
471	SELA Program Management	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	7,500,000
478	S. Claib - Lowerline to Monticello St.	575,000	500,000	0	0	0	1,075,000
483	Airline & Monticello Canal Improvements	0	0	50,000	228,000	22,800,000	23,078,000
486	Napoleon Avenue Canal Improvements	300,000	250,000	0	0	0	550,000
492	Donner Canal Improvements	250,000	2,500,000	2,500,000	0	75,000,000	80,250,000
496	General De Gaulle Canal	0	35,000,000	3,375,000	0	0	38,375,000
497	Florida Avenue Canal - DPS #19 to Peoples	910,000	300,000	0	0	0	1,210,000
498	Dwyer Intake Canal	25,000	0	0	0	0	25,000
499	Jefferson Avenue Canal	530,000	515,000	0	0	0	1,045,000
512	Expansion of DPS #15	0	0	1,200,000	14,500,000	0	15,700,000
535	DPS #6	5,151,400	264,000	264,000	1,504,000	0	7,183,400
573	DPS #13 Improvements	0	0	0	440,000	7,000,000	7,440,000
575	Drainage Hurricane Recovery Bonds	1,600,000	0	0	0	0	1,600,000
576	COE Storm Proofing Projects						0
578	Permanent Pump Stations at the Laek Elaine DPS Repairs	0	0	200,000	0	0	200,000
	Total Major Capital Improvements	18,591,400	43,329,000	11,589,000	20,172,000	108,300,000	201,981,400
	Total Drainage Department Improvements	90,530,100	83,792,000	54,207,000	63,749,000	145,065,000	437,343,100

(a) The improvements for 2017-2021 are based on the amended 2017 capital budget and 2017-2026 capital improvement program.

Table 30
Drainage Department
Projected Participation by Others (a)

C.P.#	Project	2017	2018	2019	2020	2021	Total
		\$	\$	\$	\$	\$	\$
418	Normal Extensions & Replacements	230,000	230,000	230,000	230,000	230,000	1,150,000
483	Airline & Monticello Canal Improvements	948,000	30,000,000	500,000			31,448,000
492	Donner Canal Improvements			112,788,000			112,788,000
496	General De Gaulle Canal	70,000,000	70,000,000				140,000,000
511	Normal Ext. & Replacement -DPS	13,457,000					13,457,000
535	DPS #6		160,000	320,000	320,000		800,000
676	Modifications to Power Generating System HMGP	29,478,000					29,478,000
	Total	114,113,000	100,390,000	113,838,000	550,000	230,000	329,121,000

(a) The improvements for 2017-2021 are based on the amended 2017 capital budget and 2017-2026 capital improvement program.

Table 31

**Drainage Department
Projected Operating Revenue**

Year	Ad Valorem Tax Revenue			Other	Total
	Three-Mill	Six-Mill	Nine-Mill		
	\$	\$	\$	\$	\$
2017	15,331,200	15,496,200	23,125,700	1,600,000	55,553,100
2018	15,331,200	15,496,200	23,125,700	1,616,000	55,569,100
2019	15,331,200	15,496,200	23,125,700	1,632,000	55,585,100
2020	15,331,200	15,496,200	23,125,700	1,648,000	55,601,100
2021	15,331,200	15,496,200	23,125,700	1,664,000	55,617,100

Table 32

**Drainage Department
Projected Operation and Maintenance Expenses**

	2017 (a)	2018	2019	2020	2021
	\$	\$	\$	\$	\$
Personal Services	27,615,700	28,444,200	29,297,500	30,176,400	31,081,700
Services & Utilities	13,382,700	13,784,200	14,197,700	14,623,600	15,062,300
Supplies & Materials	2,198,900	2,264,900	2,332,800	2,402,800	2,474,900
Special Current Charges	476,800	491,100	505,800	521,000	536,600
Furniture & Equipment	134,000	138,000	142,200	146,400	150,800
Repairs & Facility Maintenance	0	0	0	0	0
Total Operation and Maintenance	43,808,100	45,122,400	46,476,000	47,870,200	49,306,300

(a) Represents the amended operating budget approved on September 20, 2017.

Table 33

**Drainage Department
Debt Service Requirements**

Debt Issue	2017	2018	2019	2020	2021
	\$	\$	\$	\$	\$
Nine-Mill Tax Bonds					
Series 2014	2,024,100	2,063,400	2,069,200	2,066,200	2,062,100
Total Nine-Mill Debt Service	2,024,100	2,063,400	2,069,200	2,066,200	2,062,100
Projected Bonds					
Amount of Issue					
\$					
2017 0	0	0	0	0	0
2018 0		0	0	0	0
2019 0			0	0	0
2020 0				0	0
2021 0					0
Total Projected Debt Service	0	0	0	0	0
Total Debt Service	2,024,100	2,063,400	2,069,200	2,066,200	2,062,100

Table 34
Drainage Department
Capital Improvement Program Financing

Line No	Description	Fiscal Year Ending December 31,					Total
		2017	2018	2019	2020	2021	
		\$	\$	\$	\$	\$	\$
1	Funds Available at Beginning of Year	42,299,000	51,141,800	68,840,300	131,264,800	67,167,200	42,299,000
2	Revenue Bond Proceeds	0	0	0	0	0	0
3	Operation Fund Transfers	0	0	0	0	0	0
4	Participation by Others	114,113,000	103,401,700	117,253,100	566,500	236,900	335,571,200
5	Interest Income	469,200	602,600	1,004,600	997,400	339,000	3,412,800
6	Total Funds Available	156,881,200	155,146,100	187,098,000	132,828,700	67,743,100	381,283,000
7	Obligated Contracts & Capital Jobs	(15,209,300)	0	0	0	0	(15,209,300)
8	Major Capital Additions	(90,530,100)	(86,305,800)	(55,833,200)	(65,661,500)	(149,417,000)	(447,747,600)
9	Deferred Capital Improvements	0	0	0	0	81,900,000	81,900,000
10	Bond Issuance Expense	0	0	0	0	0	0
11	Revenue Bond Reserve Fund	0	0	0	0	0	0
12	Total Application of Funds	(105,739,400)	(86,305,800)	(55,833,200)	(65,661,500)	(67,517,000)	(381,056,900)
13	End of Year Balance	51,141,800	68,840,300	131,264,800	67,167,200	226,100	226,100

Table 35

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

Line No	Description	Fiscal Year Ending December 31,				
		2017	2018	2019	2020	2021
		\$	\$	\$	\$	\$
1	Tax Revenue	53,953,100	53,953,100	53,953,100	53,953,100	53,953,100
2	Other Revenue	1,831,900	1,887,000	1,883,400	1,829,400	1,708,100
3	Total Operating Revenue	55,785,000	55,840,100	55,836,500	55,782,500	55,661,200
4	Operation & Maintenance	(43,808,100)	(50,722,400)	(55,572,000)	(57,495,100)	(59,331,200)
5	Non-Cash Expense Accruals	(2,047,200)	(2,100,500)	(2,155,400)	(2,212,000)	(2,270,300)
6	Net Operating Revenue	9,929,700	3,017,200	(1,890,900)	(3,924,600)	(5,940,300)
	Debt Service					
	Senior Lien Revenue Bonds					
7	Existing	(2,024,100)	(2,028,400)	(2,028,600)	(2,036,000)	(2,039,100)
8	Projected	0	0	0	0	0
9	Subtotal	(2,024,100)	(2,028,400)	(2,028,600)	(2,036,000)	(2,039,100)
10	Gulf Opportunity Zone Act Loan	(407,600)	(407,600)	(407,600)	(407,600)	(407,600)
11	SELA Capital Repayment	0	0	0	(3,800,000)	(10,000,000)
12	Total Debt Service	(2,431,700)	(2,436,000)	(2,436,200)	(6,243,600)	(12,446,700)
13	Other Non-Operating Revenue	969,200	969,200	969,200	969,200	969,200
14	Transfer to Construction	0	0	0	0	0
15	Due from (to) Other Departments	(921,000)	0	0	0	0
16	Transfer to Operating Reserve Fund	0	(1,268,000)	(852,400)	(597,900)	(237,100)
17	Net Annual Balance	7,546,200	282,400	(4,210,300)	(9,796,900)	(17,654,900)
18	Beginning of Year Cash Balance (a)	18,661,200	26,207,400	26,489,800	22,279,500	12,482,600
19	End of Year Balance	26,207,400	26,489,800	22,279,500	12,482,600	(5,172,300)
20	Beginning of Year Cash Balance	18,661,200	30,340,400	30,622,800	26,412,500	16,615,600
21	Operating Reserve Fund	4,133,000	0	0	0	0
22	Net annual Balance	7,546,200	282,400	(4,210,300)	(9,796,900)	(17,654,900)
23	End of Year Balance	30,340,400	30,622,800	26,412,500	16,615,600	(1,039,300)
24	Days of O&M Cash on Hand	253	248	207	127	(8)
	Debt Service Coverage					
	Reflecting All Ad Valorem Tax Revenue					
25	Annual Test	1142.5%	1140.1%	1140.0%	1135.8%	1134.1%

- (a) Reflects beginning of year balance in unrestricted and undesignated cash and cash equivalents and cash and cash equivalents designated for capital projects, less operating reserve requirement.

Appendix

Table 2 - Assessment of East Bank Sewage Stations

	DATE	FACILITY NAME	LOCATION	STATUS
1	05/08/17	Chickasaw	Chickasaw at Metropolitan	Two (2) pumps total; both operational
2	05/08/17	K-Mart	Desire at Gentilly	Two (2) pumps total; both operational
3	05/08/17	Station 23	4500 Mithra	Two (2) pumps total; both operational
4	05/08/17	Station 17	4975 Spain at Selma	Two (2) pumps total; both operational
5	05/08/17	Station 22	5705 Perlita	Two (2) pumps total; both operational
6	05/08/17	Station 19	3730 Jumonville at Milton	Two (2) pumps total; both operational
7	05/08/17	Station 21	6670 Memphis At Filmore	Two (2) pumps total; both operational
8	05/08/17	Station 18	Vicksburg at Florida	Two (2) pumps total; both operational
9	05/08/17	City Park	5701 Marconi Drive	Two (2) pumps total; both operational
10	05/08/17	Station 20	328 37th Street	Two (2) pumps total; both operational
11	05/08/17	Station 4	5899 Fleur de Leis	Two (2) pumps total; both operational
12	05/08/17	Lakewood South	Country Club Drive near Marconi	Two (2) pumps total; both operational
13	05/08/17	Station 6	242 S Solomon at Palmyra	Three (3) pumps total; each operational
14	05/08/17	Station 3	8720 Olive near Eagle	Two (2) pumps total; both operational
15	05/08/17	Station 1	7336 Cohn	Two (2) pumps total; one (1) out of service: <ul style="list-style-type: none"> Valve malfunction at pump, repairs scheduled Station to be rebuilt
16	05/08/17	Station 14	4000 Clara	Two (2) pumps total; both operational
17	05/08/17	Station 5	3912 Erato St	Two (2) pumps total; both operational
18	05/08/17	Station 15	2431 Palmyra near Rocheblave	Three (3) pumps; each operational
19	05/08/17	Station 8	Corner of N. Broad and Toulouse	Two (2) pumps total; both out of service: <ul style="list-style-type: none"> No emergency discharge connection Station being rebuilt in new location Temporary pumps operating onsite
20	05/08/17	Station 9	2540 Annette at Law	Two (2) pumps total; both operational
21	05/03/17	Station 16	3751 N Miro at Pauline	Two (2) pumps total; both operational
22	05/03/17	Station 24	5027 N Tonti at	Two (2) pumps total; one (1) pump out of service:

			Forstall	<ul style="list-style-type: none"> Mechanical issue with pump system, repairs scheduled
23	05/03/17	Station 25	2245 Charbonnet	Two (2) pumps total; one (1) pump out of service: <ul style="list-style-type: none"> Mechanical seal failure is issue, repair scheduled Surrounding soils eroding, potential issues from settling may occur
24	05/03/17	Station 26	2244 St Maurice at Tonti	Two (2) pumps total; one (1) pump out of service: <ul style="list-style-type: none"> Mechanical issue with pump system, repairs scheduled
25	05/03/17	Station B	4725 St Claude Avenue	Two (2) pumps total; both operational: <ul style="list-style-type: none"> Older station, interior and exterior paint peeling, fresh coats recommended
26	05/03/17	Southern Scrap	Southern Scrap Rd	Two (2) pumps total; both operational
27	05/03/17	France & Florida	Harbor Rd	Two (2) pumps total; both operational
28	05/03/17	MECO	2701 France Road	Two (2) pumps total; both operational
29	05/03/17	American Marine	3855 France Road	Two (2) pumps total; both operational: <ul style="list-style-type: none"> Older station, fresh paint of exterior recommended Access to station is at times restricted due to location
30	05/03/17	Victoria @ Gentilly	3620 Victoria	Two (2) pumps total; both operational
31	05/03/17	Dodt	8118 Chef Menteur Highway	Two (2) pumps total; both operational
32	05/03/17	Plum & Orchid	7300 Chef Menteur Highway	Two (2) pumps total; both operational
33	05/03/17	Wilson	7709 Wilson Avenue	Two (2) pumps total; both operational
34	05/03/17	Crowder	5500 Crowder Road	Two (2) pumps total; both operational: <ul style="list-style-type: none"> Older station, fresh paint of exterior recommended
35	05/03/17	Castle Manor	4950 Gawain at Dwyer	Two (2) pumps total; both operational
36	05/03/17	Gerise	5001 Gerise	Two (2) pumps total; both operational: <ul style="list-style-type: none"> Older station, fresh paint of exterior recommended
37	05/03/17	Lakewood Terrace	5057 Warren Drive	Two (2) pumps total; both operational: <ul style="list-style-type: none"> Roof replacement work ongoing
38	05/03/17	McCoy	McCoy at Gentilly	Two (2) pumps total; both operational: <ul style="list-style-type: none"> Older station, no exterior cover for pump valves No emergency discharge connection at station Station frequently floods during heavy rains
39	05/03/17	Amid	6800 Almonaster Road	Two (2) pumps total; both operational
40	05/03/17	Lake Forest	10451 Lake Forest Blvd	Two (2) pumps total; both operational: <ul style="list-style-type: none"> Newly built station, recently turned over to S&WB management Perimeter fencing installed backwards Emergency discharge installed in an awkward location and should be rotated to make better

				connections
41	05/03/17	Wright Road	Wright Road at Lake Forest	Two (2) pumps total; both operational: • No emergency discharge connection at station
42	05/03/17	Bullard	5501 Bullard Road	Two (2) pumps total; both operational: • Newly built station, recently turned over to S&WB management
43	05/03/17	Pines Village	6155 Dwyer Road at Foch	Two (2) pumps total; one (1) pump out of service: • Pump failure from due to mechanical issues, repairs scheduled
44	05/03/17	America	6789 Dwyer Road at Westlake	Two (2) pumps total; both operational
45	05/03/17	Station A	1321 Orleans Avenue	Six (6) pumps total; all operational
46	05/05/17	Shorewood	14441 Morrison Road	Two (2) pumps total; both operational
47	05/05/17	Briarwood	13701 Morrison Road	Two (2) pumps total; both operational
48	05/05/17	Liggett	12501 Morrison Road	Two (2) pumps total; one (1) pump out of service: • Issues with discharge line, repairs scheduled
49	05/05/17	Berg	11501 Morrison Road	Two (2) pumps total; both operational
50	05/05/17	Weber	10141 Morrison Road	Two (2) pumps total; both operational
51	05/05/17	Burke	9001 Morrison Road	Two (2) pumps total; one (1) pump out of service: • Motor belt slippage, to be replaced
52	05/05/17	Lawrence	7900 Morrison Road	Two (2) pumps total; both operational: • Newly built station, recently turned over to S&WB control
53	05/05/17	Lamb	6450 Morrison Road	Two (2) pumps total; one (1) pump out of service: • Motor belt slippage, to be replaced
54	05/05/17	Gentilly Oaks	5000 Papania Road at Vienna	Two (2) pumps total; both operational
55	05/05/17	Eastover	6051 Eastover Drive	Two (2) pumps total; both operational
56	5/03/2017	Paris Road	Dwyer West of Paris Road	Two (2) pumps total; both operational
57	05/05/17	Venetian Isles #2	20711 Old Spanish Trail	Two (2) pumps total; both operational
58	05/05/17	Industrial Parkway	4200 Industrial Parkway	Two (2) pumps total; one (1) pump out of service: • Electrical issues with pump motor, repairs scheduled
59	05/05/17	Blvd X	4433 Chef Menteur Highway	Two (2) pumps, both out of service: • Two (2) new pumps being installed • Two (2) temporary pumps connected to forcemain
60	05/05/17	Alcee Fortier	Alcee Fortier Blvd at the Levee	Two (2) pumps total; one (1) out of service
61	05/05/17	Willow Brook	Willowbrook off of Michoud	Two (2) pumps total; both operational: • No emergency discharge connection at station.

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62	05/05/17	Oak Island	14201 Michoud Blvd	Two (2) pumps total; both operational
63	05/05/17	Village de Lest	11324 Dwyer	Two (2) pumps total; both operational
64	05/05/17	Michoud	4400 Michoud Blvd	Two (2) pumps total; both operational
65	05/05/17	Folgers	14601 Gentilly Blvd	Two (2) pumps total; one (1) pump out of service: <ul style="list-style-type: none"> • Pump repairs scheduled

Table 3 - Assessment of West Bank Sewage Stations

	DATE	FACILITY NAME	LOCATION	STATUS
1	05/03/17	Memorial	2501 Memorial Park Dr.	Two (2) pumps total; one (1) pump out of service: <ul style="list-style-type: none"> Check valve malfunctioning, has been a resolving issue at station
2	05/03/17	Garden Oaks	3201 Memorial Park Dr.	Two (2) pumps total; both operational: <ul style="list-style-type: none"> No emergency discharge connection installed, foundation appears to be wilting
3	05/03/17	Park Timbers	4100 Lennox Blvd.	Two (2) pumps total; one (1) pump out of service: <ul style="list-style-type: none"> Pump motor malfunctioned, sent to repair facility Older station, fresh paint of exterior recommended
4	05/03/17	Tall Timbers	3800 Tall Pines Dr.	Two (2) pumps total; both operational: <ul style="list-style-type: none"> Potential issues may occur from settlement of surrounding areas
5	05/03/17	Forest Isle	5631 West Forest Park Dr.	Two (2) pumps total; both operational: <ul style="list-style-type: none"> Paving around station is settling, potential damage to station from settlement may occur No emergency discharge connection installed
6	05/03/17	Blair	3800 Blair St	Two (2) pumps total; both operational: <ul style="list-style-type: none"> No emergency discharge connection installed Soils around station are eroding, causing settlement around station
7	05/03/17	Aurora	6000 Carlisle Ct	Two (2) pumps total; both operational: <ul style="list-style-type: none"> No emergency discharge connection installed
8	05/03/17	English Turn I	2201 Stanton Rd.	Two (2) pumps total; both operational: <ul style="list-style-type: none"> No emergency discharge connection installed. Above ground concrete and brick station with below ground centrifugal pumps.
9	05/03/17	English Turn II	123 ½ Oak Alley	Two (2) pumps total; both operational: <ul style="list-style-type: none"> No emergency discharge connection installed
10	05/03/17	English Turn III	400 English Turn Parkway	Two (2) pumps total; both operational
11	05/03/17	Lower Coast	3700 Old Woodland	Two (2) pumps total; both operational: <ul style="list-style-type: none"> No emergency discharge connection installed
12	05/03/17	Woodland	4150 Woodland Dr.	Two (2) pumps total; both operational: <ul style="list-style-type: none"> No emergency discharge connection installed
13	05/03/17	Eton	3440 Eton St	Two (2) pumps total; one (1) pump out of service: <ul style="list-style-type: none"> Check valve at pump has malfunctioned, replacement required Emergency discharge connection being installed
14	05/03/17	Huntlee	3201 Huntlee Dr.	Two (2) pumps total; one (1) pump out of service: <ul style="list-style-type: none"> Vacuum pump currently being replaced
15	05/03/17	Holiday	2799 Holiday Dr.	Two (2) pumps total; both operational: <ul style="list-style-type: none"> Emergency discharge connection to be installed in future Soils around station are eroding, causing settlement around station
16	05/03/17	Bridge Plaza	2914 Vespasian St	Two (2) pumps total; both operational:

				<ul style="list-style-type: none"> • Lateral movement at emergency discharge connection appears to have occurred, potential issue • Older station, fresh paint of exterior recommended
17	05/03/17	Horace	3301 Lawrence St	<p>Two (2) pumps total; one (1) pump out of service:</p> <ul style="list-style-type: none"> • Mechanical bearings at pump have malfunctioned, repairs scheduled • Installation of two (2) emergency discharge connections at station is ongoing

Table 4 - Assessment of East Bank Drainage Stations

	DATE	FACILITY NAME	LOCATION	STATUS	NOTES
1	05/04/17	Station 1	2501 S. Broad St.	Eleven (11) pumps total; nine (9) operational, Constant Duty No. 1 and vertical pump #2 not in service.	Constant duty No. 1 has been out of service since the previous year's station assessment.
2	05/04/17	Station 6	345 Orpheum	Fourteen (14) pumps total; eleven (11) pumps operational, 2 constant duty pumps and pump 1 out of service.	All pumps are in the same operational status as reflected in the previous year's station assessment. There isn't an estimated date for repair of the 3 pumps out of service.
3	05/10/17	I-10 Station	I-10 Service Road	Four (4) pumps total; four (4) pumps operational.	Four (4) vertical pumps one (1) of which is a constant duty pump.
4	05/04/17	Station 7	5741 Orleans Ave at Marconi Dr.	Five (5) pumps total; three (3) pumps operational.	Pump C and B are out. Pump C has been out of service since the previous year's station assessment.
5	05/10/17	Canal Blvd	5500 Canal Blvd	Three (3) pumps total; all operational.	No change from previous year.
6	05/04/17	Station 2	444 N. Broad St.	Six (6) pumps total, 2 are constant duty; all operational.	No change from previous year.
7	05/04/17	Station 3	2251 N. Broad St.	Nine (9) pumps total; four (4) pumps out of service.	No change from previous year. Constant duty pumps 1, 2, 3 & 4 are out of service.
8	05/10/17	Pritchard	2901 Monticello	Three (3) pumps total; all in service.	No change from previous year.
9	05/10/17	Oleander	9400 Oleander	Three (3) pumps total; three (3) in service.	No change from previous year.
10	05/04/17	Station 4	5700 Warrington Dr.	Six (6) pumps total; all operational but one (1) pump not being used.	Pump 1 out of service because of a leak in the vacuum line.
11	05/10/17	Station 12	Robert E Lee and Ponchartrain Blvd	One (1) pump total, one (1) in service.	No change from previous year.
12	05/10/17	Station 16	Danube Rd. at Wales	Four (4) pumps total; all in service	No change from previous year.
13	05/10/17	Station 10	Citrus 9600 Haynes	Four (4) pumps total; all in service.	No change from previous year.
14	05/10/17	Station 14	Oneida at Haynes	Four (4) pumps total; all operational.	
15	05/05/17	Grant	Grant St. at Gentilly Blvd.	Six (6) pumps total; five (5) in service.	Two (2) pumps inside, both operational. Four (4) pumps outside, Three (3) operational.

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					No change from previous year.
16	05/05/17	Elaine	3100 Elaine St.	Two (2) pumps total; both operational.	No change from previous year.
17	05/05/17	Station 17	2801 Florida Ave.	Two (2) pumps total; all in service.	Two (2) drainage pumps operating on one motor. Three (3) sewage pumps also at this facility; all operational. No change from previous year.
18	05/04/17	Station 5	Florida Ave.	Eight (8) pumps total, four (4) are constant duty pumps; two (2) constant duty pumps are out of service.	Six (6) pumps at old station, Two (2) pumps at new station.
19	05/04/17	Station 19	4500 Florida Ave.	Five (5) pumps total; all in service.	No change from previous year.
20	05/05/17	Station 20	6300 Intercoastal Waterway at Terminal Rd.	Two (2) pumps total; one (1) operational, one (1) out of service.	Pump 1 out of service. No change from previous year.
21	05/05/17	Maxent	Alcee Fortier	Two (2) pumps total; both operational.	No change from previous year.
22	05/05/17	Station 15	Industrial Parkway	Three (3) pumps total; two (2) pumps operational.	#2 pump is out of service.
23	05/10/17	Dwyer	5801 Dwyer Rd.	Three (3) pumps total; all in service.	No change from previous year The diesel generator is out of service.

Table 5 - Assessment of West Bank Drainage Stations

	DATE	FACILITY NAME	LOCATION	STATUS	NOTES
1	05/05/17	Station 11	5301 East Sixth St.	Five (5) pumps total; four (4) pumps operational.	Station has four (4) major pumps and one (1) constant duty pump, one (1) major pump, D, out of service being rebuilt with no date for completion of repair. Pump B is also out of service.
2	05/05/17	Station 13	4201 Tall Spruce Dr.	Seven (7) pumps total; six (6) pumps operational.	Pump 4 is out of service.



SEWERAGE AND WATER BOARD

Inter-Office Memorandum

Date: March 7, 2018

From: Willie Mingo, Director of Procurement
Purchasing Department

Thru: Vicki Rivers, Deputy Director
Sewerage and Water Board New Orleans - Logistics

To: Jada Russel-Brown, Interim Special Counsel
Sewerage and Water Board New Orleans –Board Relations

Re: **Executive Director's Approval of Contracts of \$1,000,000.00 or less**

1. McGard ,LLC
610 Kings Bridge Rd., Cave Spring GA 30124
 - Furnishing Fire Hydrant Anti-Tampering Devices-YW180005
 - Start Date :4/1/18 thru 3/31/19 with (1) one year renewal option
 - \$318,575.00 annually
2. Barriere Construction Co. LLC.
P.O. Box 1576 (1268 LA 3127), Boutte LA 70039
 - Furnishing Hot Mix Asphalt –YW180009
 - Start date 4/1//18 thru 3/31/19 with (1) one year renewal option
 - \$116,750.00 annually
3. Ferguson Enterprises DBA Louisiana Utilities Supply
901 S. Labarre Rd., Suite 206, Metairie LA 70001
 - Furnishing Full Circle Stainless Steel Repair & Tap Clamps & Transitional Couplings for Cast Iron, Ductile Iron & Transite Pipe-YW180007
 - Start Date: 4/1/18 thru 3/31/19 with (1) one year renewal option
 - \$239,157.00 annually

4. Coburn's Supply Co.
1849 Commercial Dr., Harvey LA 70058
 - Furnishing Sewer Repair Couplings- YW180008
 - Items 1,2,3,4,15 & 16
 - Start Date: 4/1/18 thru 3/31/19 with (1) one year renewal option
 - \$76,005.75 annually

5. Ferguson Enterprises DBA Louisiana Utilities Supply
901 S. Labarre Rd. Metairie LA 70001
 - Furnishing Sewer Repair Couplings-YW180008
 - Items 5,6,7,8,9,10,11,12,13, & 14
 - Start Date: 4/1/18 thru 3/31/19 with (1) one year renewal option
 - \$13,582.50 annually
6. Assorted Products
8612 Chef Menteur Hwy, New Orleans LA 70127
 - Furnishing Hand Tools, Hardware Supplies, Paint & Paint Supplies-YW180001
 - Start Date: 4/1/18 thru 3/31/19 with (1) one year renewal option
 - \$314,142.90 annually
7. M.R. Pittman Group, LLC
171 I-310 Service Rd., St. Rose LA 70087
 - Drainage System Support Anti-Siphon DPS1 Project-Contract 5241
 - 40 days completion upon notice to proceed
 - \$529,000.00
8. Digital Engineering
527 West Esplanade Ave., Suite 200, Kenner LA 70065
 - Environmental Consulting Services for Related Professional and Technical Assistance for Municipal Separate Storm Sewer System (MS4) Permit Renewal, MS4 Annual Report, and Spill Prevention, Control Countermeasure (SPCC) Plan for Orleans Parish-EV180001
 - (1) one year with (1) one year renewal option
 - 1st year \$75,912.00, 2nd year \$44,942.00

9. Aptim Environmental & Infrastructure, Inc.
4171 Essen Lane, Baton Rouge LA 70809

- Environmental Consulting Services for Limited Phase II Subsurface Investigation of Existing Diesel Above Ground Storage Tank- EV180002
- (1) one year
- \$26,046.00

10. Aptim Environmental & Infrastructure Inc.
4171 Essen Lane, Baton Rouge LA 70809

- Environmental Consulting Services for Title V Air Permit Compliance Assistance for the Carrollton Water Purification Plant-EV180003
- (1) one year with (4) one year renewal option
- 1st year-\$76,500.00, 2nd year-\$22,011.00, 3rd year-\$22,011.00, 4th year-\$22,011.00, 5th year-\$36,624.00

- Upon request, complete contract available for review in Procurement office.



SEWERAGE AND WATER BOARD

Inter-Office Memorandum

Date: March 2, 2018

To: Irma Plummer, EDBP Director
Valerie Rivers, Deputy Director-Logistics
Sharon Judkins, Deputy Director - Human Resources

From: Veronica Johnson-Christmas, EDBP 

Re: EDBP Contract/Certification Summary - February 2018

ANALYSES CONDUCTED BY EDBP

For the month of February 2018, EDBP Department analyzed two (2) Construction Contracts, two (2) Goods and Services Contracts, and two (2) Professional Services Contracts.

Construction Contracts

Contract #5241 DPS #1 Anti-Siphon Project

On Friday, February 23, 2018 five (5) bids were received for subject contract. The bid totals are as follows:

M.R. Pittman Group, LLC	\$529,000.00
Industrial & Mechanical Contractors, Inc.	\$566,433.00
Gottfried Contracting, LLC	\$574,200.00
Fleming Construction Co., LLC	\$625,239.00
Lou-Con, Inc.	\$923,500.00

Ten percent (10%) SLDBE participation was requested on this contract.

- ❖ The apparent lowest bidder, **M.R. Pittman Group, LLC**, included J. Brown Construction, LLC (eligible certified SLDBE) to supply Butterfly Valves & Actuators. Signed correspondence from DBE on their own letterhead reaffirming negotiated terms was provided. Total Participation: \$241,638.00 – 45.00%
- ❖ The apparent second lowest bidder, **Industrial & Mechanical Contractors, Inc.**, included ALG Services, LLC (eligible certified SLDBE) to furnish miscellaneous valves. Signed correspondence from DBE on their own letterhead reaffirming negotiated terms was not provided. Total Participation: \$65,293.31 – 11.00%
- ❖ The apparent third lowest bidder, **Gottfried Contracting, LLC**, apparent fourth lowest bidder, **Fleming Construction Co., LLC**, and apparent fifth lowest bidder, **Lou-Con, Inc.**, were not required to submit DBE Participation Summary Sheets for review.

Based upon analysis of DBE participation, the Economically Disadvantaged Business Program recommends that the DBE participation submitted by **M.R. Pittman Group, LLC**, be considered as responsive, and that the bid submitted by **Industrial & Mechanical Contractors, Inc.**, be considered as non-responsive to meeting EDBP bid requirements.

Contract #30216 – Restoration of Gravity Sanitary Sewers by Point Repair of Sewer Mains at Various Sites throughout Orleans Parish

On Friday, February 16, 2018, five (5) bids were received for subject contract. The bid totals are as follows:

Wallace C. Drennan, Inc.	\$898,300.00
Grady Crawford Construction Co., Inc., of Baton Rouge	\$934,440.00
Fleming Construction Co., LLC	\$967,084.00
RAMJ Construction, LLC	\$1,075,000.00
Boh Bros., Construction Co., LLC	\$1,094,340.00

Thirty-six percent (36%) SLDBE participation was requested on this contract.

- ❖ The apparent lowest bidder, **Wallace C. Drennan, Inc.**, submitted the following subcontractors:

Prince Dump Truck Services, LLC (eligible certified SLDBE) to provide General Hauling Various types of Material to-and-fro job sites. Supply sand & aggregate materials, trucking and hauling services
\$187,000.00 – 20.82%

Choice Supply Solutions (eligible certified SLDBE) to supply materials
\$62,500.00 – 6.96%

Cooper Contracting Group, LLC (eligible certified SLDBE) Construction underground utilities, site preparation, concrete and asphalt paving
\$75,000.00 – 8.35%

Total Participation: \$324,500.00 — 36.12%

Correspondence from DBEs on their own letterhead reaffirming negotiated terms was provided.

- ❖ The apparent second lowest bidder, **Grady Crawford Construction Co., Inc., of Baton Rouge**, included Purnell Construction Co., LLC (eligible certified SLDBE) to perform excavation and hauling. Correspondence from DBE on their own letterhead reaffirming negotiated terms was provided.

Total Participation: \$339,000.39 – 36.28%

- ❖ The apparent third lowest bidder, **Fleming Construction Co., LLC**, apparent fourth lowest bidder, **RAMJ Construction, LLC**, and apparent fifth lowest bidder **Boh Bros., Construction Co., LLC**, were not required to submit DBE Participation Summary Sheets for review.

Based upon analysis of DBE participation, the Economically Disadvantaged Business Program recommends that the DBE participation submitted by **Wallace C. Drennan, Inc.**, and by **Grady Crawford Construction Co., Inc., of Baton Rouge**, be considered as responsive to meeting EDBP bid requirements.

Goods and Services Contracts

1) Furnishing Hand Tools, Hardware Supplies, Paint & Paint Supplies – Req. No. YW18-0001

On Thursday, February 22, 2018, two (2) bids were received for subject contract. The bid totals were as follows:

Assorted Products, LLC	\$314,142.90 (Section I, II and IV)
PPG Architectural Finishes Inc.	\$63,607.44 (Section III)

Thirty percent (30%) SLDBE participation was requested on this contract.

- ❖ **Assorted Products, LLC**, the apparent lowest bidder for Sections I, II and IV, submitted Westbank Paper & Janitorial Supply Inc. (*eligible SLDBE certified company*) to provide supplies. Correspondence from DBEs on their own letterhead reaffirming negotiated terms was provided.

Total Participation: \$94,500.00 – 30%

- ❖ **PPG Architectural Finishes Inc.**, the apparent lowest bidder for Section III, did not submit the following: DBE Participation Summary Sheet for review, Correspondence from DBEs on their own letterhead reaffirming negotiated terms, nor documented Good Faith Effort accompanied with notarized affidavit.

Based upon analysis of SLDBE participation, the Economically Disadvantaged Business Program recommends that the SLDBE participation submitted by Assorted Products, LLC be considered as responsive and the bid submitted by PPG Architectural Finishes Inc. be considered as non-responsive to meeting EDBP bid requirements.

2) Furnishing Hoses and Accessories – Req. No. YW18-0006

On Thursday, February 22, 2018, one (1) bid was received for subject contract. The bid total is as follows:

Atlas Hose & Gasket Co. LLC	\$136,839.30
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Five percent (5%) SLDBE participation was requested on this contract.

- ❖ **Atlas Hose & Gasket Co. LLC**, the sole bidder, submitted Next Generation Logistics (*eligible SLDBE certified company*) to provide logistical coordination and delivery of supplies. Correspondence from DBE on their own letterhead reaffirming negotiated terms was not provided.

Total Participation: \$6,842.00 – 5%

Based upon analysis of SLDBE participation, the Economically Disadvantaged Business Program recommends that the SLDBE participation submitted by **Atlas Hose & Gasket Co. LLC** be considered as non-responsive to meeting EDBP bid requirements.

Professional Services Contracts

1) Request For Proposals for Environmental Consulting Services for Related Professional and Technical Assistance for Municipal Separate Storm Sewer System (MS4) Permit Renewal, MS4 Annual Report and Spill Prevention, Control Countermeasure (SPCC) Plan for New Orleans, LA (EV18-0001)

On Friday, February 9, 2018, five (5) proposals were received for subject project. The respondents are as follows:

APTIM Environmental & Instructure, Inc	\$40,878.00
Digital Engineering	\$120,854.00
J S HELD	\$123,976.20
Terracon Consultants, Inc.	\$141,075.00
Waldemar S Nelson and Company	\$58,946.00

Five percent (5%) SLDBE participation goal was requested on this proposal.

- ❖ **APTIM Environmental & Instructure, Inc** submitted Gulf South Engineering and Testing, Inc. (Board certified SLDBE) to provide to provide technical review of documents and calculations, for \$2500.00 - 6.10% of total contract amount. Firm provided required correspondence from DBE, firm included subcontractor on proposal cover sheet and attachment 4 - schedule of pricing; did not provide Participation Summary Sheet.
- ❖ **Digital Engineering** submitted The Beta Group (Board certified SLDBE) to provide GIS mapping support services for, \$6,270.00 – 5.2% of total contract amount. Firm provided required correspondence from DBE and Participation Summary Sheet.
- ❖ **J S HELD** submitted Jemison & Partners, Inc. (Board certified SLDBE) to provide quality assurance and control review of the MS4 permit and SPCC plans for \$4,486.20 - 4.93% of total contract amount. Firm provided required correspondence from DBE, firm included subcontractor on proposal cover sheet and attachment 4 - schedule of pricing; did not provide Participation Summary Sheet.
- ❖ **Terracon Consultants, Inc.** submitted Cross-Rhodes Print & Technology (Board certified DBE) to provide printing of hard copy maps and reports to meet 5% of the total contract amount. No dollar amount indicated. Firm provided required correspondence from DBE and Participation Summary Sheet.
- ❖ **Waldemar S Nelson** submitted Dana Brown & Associates, Inc (Board certified DBE) to provide GIS database and mapping, analysis of drainage areas, graphics and writing, review of past permits and annual reports, for \$14,125.00 - 23.96% of total contract amount. Firm provided required correspondence from DBE and Participation Summary Sheet.

Based on analysis of the SLDBE participation submitted, the Economically Disadvantaged Business Program recommends that the participation submitted by **APTIM Environmental & Instructure, Inc., Digital Engineering, J S HELD, Terracon Consultants, Inc., and Waldemar S Nelson** be considered acceptable for meeting all minimum DBE participation requirements.

2) Request for Proposals for Environmental Consulting Services for Related Professional and Technical Assistance for Limited Phase II Subsurface Investigation of Existing Diesel above Ground Storage Tank (AST) at the Carrollton Water Purification Plant (EV18-0002)

On Friday, February 9, 2018, seven (7) proposals were received for subject project. The respondents are as follows:

APTIM Environmental & Instructure, Inc	\$26,046.00
Bellone Enterprises	\$61,103.00
Burk-Kleinpeter, Inc.	\$41,819.00
LEAAF Environmental, LLC	\$9,320.00
Professional Service Industries, Inc.	\$8,344.00
Technical Environmental Services, Inc.	\$9,200.00
Terracon Consultants, Inc.	\$0.00

Five percent (5%) SLDBE participation goal was requested on this proposal.

- ❖ **APTIM Environmental & Instructure, Inc** submitted Gulf South Engineering and Testing, Inc. (Board certified SLDBE) to provide to provide technical assistance for soil and groundwater sampling, for \$1,560.00 - 6% of total contract amount. Firm provided required correspondence from DBE and Participation Summary Sheet.
- ❖ **Bellone Enterprises** did not submit certified DBE participation.
- ❖ **Burk-Kleinpeter, Inc.** submitted Annunciation Environmental, LLC (Board certified SLDBE) to provide Geologist and Field Services for \$5,700.00 - 14% of total contract amount. Firm provided required correspondence from DBE and Participation Summary Sheet.
- ❖ **LEAAF Environmental, LLC** did not submit certified DBE participation.
- ❖ **Professional Service Industries, Inc.** did not submit certified DBE participation.
- ❖ **Technical Environmental Services, Inc.** did not submit certified DBE participation.
- ❖ **Terracon Consultants, Inc.** did not submit certified DBE participation.

Based on analysis of the SLDBE participation submitted, the Economically Disadvantaged Business Program recommends that the DBE participation submitted by **APTIM Environmental & Instructure, Inc. and Burk-Kleinpeter, Inc.** be considered responsive; **Bellone Enterprises; LEAAF Environmental, LLC; Professional Service Industries, Inc.; Technical Environmental Services, Inc. and Terracon Consultants, Inc.** be considered non-responsive.

CONSTRUCTION REVIEW COMMITTEE RECOMMENDATIONS

A Special CRC Meeting convened on January 29, 2018 to review urgent construction projects. The meeting agenda also included one project submitted to EDBP, which was awaiting review at the February 2018 CRC Meeting (these three items were reported in the January 2018 monthly report). Since no other construction projects were submitted for review after this special meeting, but before the deadline of February 7, 2018, the scheduled meeting of the Construction Review Committee was not convened February 14, 2018.

STAFF CONTRACT REVIEW COMMITTEE RECOMMENDATIONS

The Staff Contract Review Committee convened on Tuesday, February 20, 2018 and made the following recommendations:

Open Market Contracts

- 1) Automated Metering Infrastructure Procurement and Installation Project**
Budget Amount: \$44,497,233.00
Recommended Percentage Goal: Deferred
Justification: Additional information required for determination of goal
- 2) Request for furnishing Reclaimed Asphaltic Pavement to the S&WBNO**
Budget Amount: \$300,000.00
Recommended Percentage Goal: 30%
Renewal Option(s): One (1) time renewal option
- 3) Request for furnishing Meter Boxes and Meter Box Parts to the S&WBNO**
Budget Amount: \$600,000.00
Recommended Percentage Goal: 5%
Renewal Option(s): One (1) time renewal option

Renewal Contracts

- 4) Request for Furnishing Air Conditioning & Heating Maintenance**
Renewal Amount: \$50,750.00
Actual Amount Spent: \$50,750.00
Contract Goal: 0%
Renewal Option(s): Second and Final renewal option
- 5) Request for Furnishing Brass Water Service Fittings**
Renewal Amount: \$537,642.35
Actual Amount Spent: \$375,206.34
Contract Goal: 0%
Prime Contractor 1: A. Y. McDonald Mfg.
Renewal Option(s): First and Final renewal option
Prime Contractor 2: Louisiana Utilities Supply Co.
Renewal Option: Vendor elected not to exercise renewal option
Items will be obtained by lowest price of three (3) quotes

6) Request for Furnishing Rubber Hip Boots and Knee Boots

Renewal Amount: \$199,995.88
Actual Amount Spent: \$136,967.98
Contract Goal: 30%
Contract Goal Achieved: 31%
Renewal Option(s): First and Final renewal option

7) Preparation of the Proposal for the 2017 Report on Operations

Renewal Amount: \$116,000.00
Actual Amount Spent: \$132,518.00
Contract Goal: 35%
Contract Goal Achieved: 41.47%
Renewal Option(s): Second Renewal option of Four (4) - one (1) year renewal options
Prime Contractor: Black & Veatch Management Consulting, LLC

8) Request for Furnishing River Sand and Mason Sand

Renewal Amount: \$295,540.00
Actual Amount Spent: \$123,071.40
Contract Goal: 30%
Contract Goal Achieved: 2.68%
Renewal Option: Does not recommend renewal
Justification: Does not meet recommended contract goal
Prime Contractor: Trucking Innovation

FINAL ACCEPTANCE CONTRACTS with SLDBE PARTICIPATION

1. Contract #3669 - Hurricane Katrina Related 404 Hazard Mitigation Grant Program Replacement of Sewage Pumping Station #6

DBE Goal: 36.00%
DBE Participation Achieved: 33.79%
Prime Contractor: Industrial and Mechanical Contractors, Inc.
Closeout Date: February 2017

Based on review of the prime contractor's written justification of Good Faith Effort, the Economically Disadvantaged Business Program recommends that the participation on subject contract be approved for Final Acceptance.

2. Contract #30003 Restoration of Existing Gravity Sewer Mains Damaged by Hurricane Katrina by Excavation and Replacement from Manhole-to-Manhole, CIPP Lining from Manhole-to-Manhole and Point Repairs at Various Sites throughout Orleans Parish

DBE Goal: 36.00%
DBE Participation Achieved: 37.32%
Prime Contractor: BLD Services, LLC
Closeout Date: February 2018

The Economically Disadvantaged Business Program recommends that the participation on subject contract be approved for Final Acceptance.

**Sewerage & Water Board of New Orleans Awarded Contracts with DBE Participation
January through February 2018.**

Sewerage & Water Board of New Orleans Open Market Bids with DBE Participation January 2018 - February 2018
Construction Projects Awarded 2018

Contract No./Description	% DBE Goal	Contract \$	Prime	Sub(s)	% DBE Part (Prime)	\$ Sub Award	\$ Sub Paid	% DBE Sub Paid	Award date
#2129 - Water Main Point Repair, Water Service Connection, Water Valve and Fire Hydrant Replacement at Various Sites throughout Orleans Parish	36%	\$870,693.00	Grady Crawford Construction Co., Inc.	Purnell Construction Co., LLC; to provide labor, material, and equipment	36.18%	\$315,000.00	Notice to Proceed has not been delivered		2/21/2017
#8155 - Carrollton Water Plant Engineering Building Renovations	35%	\$443,000.00	Matin Construction Co., Inc.	Thornville Services, Inc.; to perform demolition, electrical, drywall, framing, and painting	42.89%	\$180,000.00	NTP has not been delivered		2/21/2017
#30106 - Rehabilitation of Bio-Reactor Train #4 at the East Bank Wastewater Treatment Plant	19%	\$1,697,000.00	Chart Mechanical Construction, LLC	EFT Diversified, Inc.; to perform transportation and disposal of removed materials	20.56%	\$380,000.00	NTP has not been delivered		2/21/2017
#30110 - Electrical Improvements Phase II Replacement of Motor Control Centers F&G and Associated 480v Switchgear at EBWWTP	13%	\$868,000.00	Waller J. Barnes Electric Co., Inc.	C. Watson Group, LLC; to supply electrical equipment	37.67%	\$365,000.00	NTP has not been delivered		2/21/2017
Total Construction Projects		\$4,178,693.00				\$ 1,260,000.00	\$0.00	0%	

Hurricane Katrina	# of PWs	Obligations	FEMA Revenue Received	% Financially Complete	Total # PWs Submitted for Closeout	Total \$ Value Submitted for Closeout	# PWs Officially Closed	% Submitted	% Closed	# PWs Submitted but Not Closed	Total \$ Value Submitted but Not Closed
St. Joseph Headquarters	20	\$ 2,131,371.24	\$ 549,146.47	26%	19	\$ 1,030,774.25	13	95%	65%	6	\$ 654,667.10
Central Yard	42	\$ 28,835,466.40	\$ 22,270,554.48	77%	35	\$ 22,732,293.56	24	83%	57%	11	\$ 15,856,652.59
Wastewater Treatment Plant	128	\$ 90,721,028.97	\$ 75,507,466.86	83%	127	\$ 84,856,520.97	121	99%	95%	6	\$ 37,755,947.72
Carrollton Water Plant	55	\$ 74,680,662.26	\$ 61,350,573.23	82%	50	\$ 12,001,953.39	41	91%	75%	9	\$ 4,555,862.18
Distribution Network	27	\$ 188,761,257.81	\$ 138,915,132.54	68%	20	\$ 102,964,261.04	12	74%	44%	8	\$ 88,164,958.03
JRR	55	\$ 336,836,351.85	\$ 53,917,698.92	16%	0	\$ -	0	0%	0%	0	\$ -
Pump Stations	166	\$ 81,943,434.63	\$ 68,285,856.34	83%	153	\$ 62,080,083.73	129	92%	78%	24	\$ 21,564,837.99
Total	493	\$ 803,909,573.16	\$ 410,796,428.84	51%	404	\$ 285,665,886.94	340	82%	69%	64	\$ 168,552,915.61

Hurricane Gustav	# of PWs	Obligations	FEMA Revenue Received	% Financially Complete	Total # PWs Submitted for Closeout	Total \$ Value Submitted for Closeout	# PWs Officially Closed	% Submitted	% Closed	# PWs Submitted but Not Closed	Total \$ Value Submitted but Not Closed
Total	9	\$ 673,838.62	\$ 668,689.06	99%	9	\$ 673,838.62	7	100%	78%	2	\$ 265,537.84

Hurricane Isaac	# of PWs	Obligations	FEMA Revenue Received	% Financially Complete	Total # PWs Submitted for Closeout	Total \$ Value Submitted for Closeout	# PWs Officially Closed	% Submitted	% Closed	# PWs Submitted but Not Closed	Total \$ Value Submitted but Not Closed
Total	8	\$ 1,554,775.01	\$ 955,019.44	61%	1	\$ 4,540.20	1	13%	13%	0	\$ -

Hurricane Katrina Hazard Mitigation	HMGCP No.	# of Projects	Obligations	FEMA Revenue Received	% Financially Complete	Total # of Contracts Completed	Total \$ Value Submitted for Closeout	# PWs Contracts Closed	% Submitted	% Closed	Contracts Submitted but Not Closed	Total \$ Value Submitted but Not Closed
Retrofit of Power House	39	9	\$ 91,510,697.00	\$ 54,837,251.72	49%	0	\$ -	0	0%	0%	0	\$ -
Flood Mitigation of 9 SPS	6	9	\$ 19,987,722.00	\$ 15,028,080.21	63%	0	\$ -	0	0%	0%	0	\$ -
Total	18	18	\$ 111,498,419.00	\$ 59,445,458.36	52%	0	\$ -	0	0%	0%	0	\$ -

Hurricane Ike Hazard Mitigation	HMGCP No.	# of Projects	Obligations	FEMA Revenue Received	% Financially Complete	Total # of Contracts Completed	Total \$ Value Submitted for Closeout	# PWs Contracts Closed	% Submitted	% Closed	Contracts Submitted but Not Closed	Total \$ Value Submitted but Not Closed
Retrofit of Power House	2	1	\$ -	\$ -	0%	0	\$ -	0	0%	0%	0	\$ -
Total	1	1	\$ -	\$ -	0%	0	\$ -	0	0%	0%	0	\$ -



SEWERAGE AND WATER BOARD OF NEW ORLEANS

March 7, 2018

Strategy Committee
Sewerage and Water Board of New Orleans
New Orleans, Louisiana

Subject: Monthly Human Resources Activity Report for the Period February 1 – February 28, 2018

Dear Directors:

Please find below an account of various Board human resources activities for the period February 1-February 28, 2018. This monthly snapshot is presented to keep you abreast of the progress and challenges related to the Board's ability to hire and retain the best qualified candidates.

Human Resources Activities

Beginning Vacant Positions: 246

Ending Vacant Positions: 236

New Hires: 17

Resignations: 3

Retirement: 0

Retirement Eligible (Not in DROP): 118

DROP Program Participants: 123

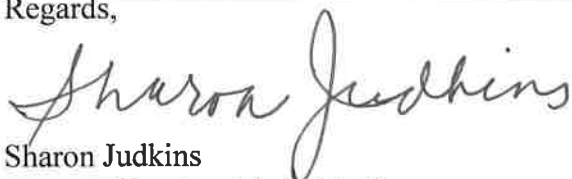
- Beginning Balance: 120
- New Member(s): 4
- Member(s) Removed: 1

Promotions: 21

Disciplinary Actions: 7

- Rehabilitations: 0
- Reprimands: 1
- Suspensions: 3
- Terminations: 3

Regards,

A handwritten signature in cursive script that reads "Sharon Judkins".

Sharon Judkins

Deputy Director-Administration

Attachments:

Monthly Activity Report
Resignation Analysis
Retirement Eligible
DROP Summary

February Monthly Activity Report			
DATE	ACTION	JOB TITLE	REASON
New Hires:			
2/5/2018		Documentation Support Specialist II (Requisition & Invoice Specialist)	
2/12/2018		Documentation Support Specialist II (Requisition & Invoice Specialist)	
2/26/2018		Documentation Support Specialist III (Reconciliation & Closeout Specialist)	
2/19/2018		Emergency Management Services Coordinator	
2/5/2018		Laborer	
2/5/2018		Laborer	
2/26/2018		Laborer	
2/12/2018		Networks Maintenance Technician I	
2/19/2018		Networks Maintenance Technician I	
2/5/2018		Office Assistant Trainee	
2/19/2018		Office Assistant Trainee	
2/19/2018		Office Assistant Trainee	
2/8/2018		Public Works Maintenance Superintendent	
2/5/2018		SWB Analyst (Reconciliation and Reimbursement Specialist)	
2/19/2018		Utilities Maintenance Trainee II	
2/12/2018		Water Service Inspector I	
2/26/2018		Water Service Inspector I	
Total	17		
Resignations:			
2/12/2018		Project Manager Supervisor	Accepted Employment Outside of Civil Service
2/19/2018		Steam Plant Engineer	Accepted Employment Outside of Civil Service
2/27/2018		Utilities Plant Worker	Other Reasons
Total	3		
Retirements:			
Total	0		
DROP:			
Started DROP			
2/1/2018		Administrative Support Supervisor II	
2/8/2018		Boiler Plant Operator	
2/28/2018		Principal Office Support Specialist	
2/8/2018		Pumping and Power Plant Operator	
Total	4		
Ended DROP			
1/7/2018		Water Purification Operator I	
Total	1		
Promotions:			
2/5/2018		Administrative Support Supervisor IV	

2/5/2018	Automotive Mechanic		
2/12/2018	Networks Maintenance Technician II		
2/5/2018	Networks Master Maintenance I		
2/5/2018	Office Assistant IV		
2/12/2018	Office Assistant IV		
2/12/2018	Office Support Specialist		
2/12/2018	Office Support Specialist		
2/12/2018	Office Support Specialist		
2/26/2018	Power Dispatcher III		
2/5/2018	Pumping Plant Operator		
2/5/2018	Pumping Plant Operator		
2/12/2018	Pumping Plant Operator		
2/26/2018	Pumping Stations Supervisor		
2/5/2018	Senior Office Support Specialist		
2/19/2018	Senior Office Support Specialist		
2/26/2018	Utilities Master Maintenance Specialist I		
2/26/2018	Utilities Master Maintenance Specialist II		
2/5/2018	Water Service Inspector II		
2/5/2018	Water Service Inspector II		
2/5/2018	Water Service Inspector II		
Total		21	
Disciplinary Actions:			
2/20/2018	Emergency Suspension	Utility Trade Specialist I	Allegations of Theft
2/19/2018	Reprimand	Utility Services Administration	Dereliction of Duties
2/1/2018	Suspension	Networks Senior Maintenance Technician I	Preventable Accident
2/6/2018	Suspension	Networks Senior Maintenance Technician I	Preventable Accident
2/7/2018	Termination	Utilities Plant Worker	Failed Working Test Period
2/7/2018	Termination	Utilities Plant Worker	Failed Working Test Period
2/7/2018	Termination	Utilities Plant Worker	Failed Working Test Period
Total		7	

Human Resources Hiring Activities

January 2018 - December 2018

Month	Year	New Hires	Resignations	Terminations	Ended DROP	Retirement
January	2018	19	6	2	1	0
February	2018	17	3	3	1	0
March	2018					
April	2018					
May	2018					
June	2018					
July	2018					
August	2018					
September	2018					
October	2018					
November	2018					
December	2018					
Totals		36	9	5	2	0

36 New Hires

41% Left (7 Employees)

Human Resources Hiring Activities

January 2017 - December 2017

Month	Year	New Hires	Resignations	Terminations	Ended DROP	Retirement
January	2017	24	6	7	0	3
February	2017	14	8	2	4	1
March	2017	31	8	12	1	0
April	2017	31	6	5	7	3
May	2017	27	13	7	6	2
June	2017	22	6	9	5	0
July	2017	31	8	5	0	1
August	2017	27	12	10	1	2
September	2017	23	17	9	6	0
October	2017	42	16	10	4	0
November	2017	8	6	2	2	0
December	2017	43	6	4	1	2
Totals		323	112	82	37	14

323 New Hires

76% Left (245 Employees)

Hiring Classifications

January 2018 - December 2018

Month/Year	City-Wide	SWB	Direct Hire	Unclassified	Total Positions
January 2018	7	7	2	3	19
February 2018	2	5	6	4	17
March 2018					0
April 2018					0
May 2018					0
June 2018					0
July 2018					0
August 2018					0
September 2018					0
October 2018					0
November 2018					0
December 2018					0
Total Hires	9	12	8	7	36

City-Wide	25%
SWB	33%
Direct Hire	22%
Unclassified	20%

Hiring Classifications

January 2017 - December 2017

Month/Year	City-Wide	SWB	Direct Hire	Unclassified	Total Positions
January 2017	5	13	4	2	24
February 2017	8	1	4	1	14
March 2017	3	19	8	1	31
April 2017	6	17	7	1	31
May 2017	3	12	7	5	27
June 2017	2	2	12	6	22
July 2017	10	4	13	4	31
August 2017	5	13	4	5	27
September 2017	3	10	8	2	23
October 2017	7	20	11	4	42
November 2017	2	2	2	2	8
December 2017	1	33	7	2	43
Total Hires	55	146	87	35	323

City-Wide	17%
SWB	45%
Direct Hire	27%
Unclassified	11%

Hiring Categories for 2018

Position Type	Number of Positions	Percentage
Administrative/Professional:	14	39%
Operational/Technical:	22	61%
Total Hires for 2018:	36	100%

Administrative/Professional	
Position	Number of Positions
Auditor	1
Documentation Support Specialist II (Requisition & Invoice Specialist) (U)	3
Documentation Support Specialist III (Reconciliation & Closeout Specialist) (U)	1
Grants and Reporting Specialist (U)	1
Interim Executive Director (U)	1
Management Development Analyst I	2
Office Assistant IV	1
Office Assistant Trainee	3
SWB Analyst (Reconciliation & Reimbursement Specialist) (U)	1
Operational/Technical	
Position	Number of Positions
Auto Mechanic	1
Emergency Management Services Coordinator	1
Field Service Supervisor	1
Laborer	5
Networks Maintenance Technician I	2
Public Works Superintendent	1
Senior Principal Engineer	1
Utilities Maintenance Trainee II	1
Utilities Trade Specialist I	1
Water Service Inspector I	8

Resignations for February 2018

Date	Reason	Job Title
2/12/2018	Accepted Employment Outside of Civil Service	Project Manager Supervisor
2/19/2018	Accepted Employment Outside of Civil Service	Steam Plant Engineer
2/27/2018	Other Reasons	Utilities Plant Worker

Reason	# of Resignations	% of Total Resignations
Accepted Employment Outside of City Civil Service	2	67%
Avoided Disciplinary Action		
Continued Education		
Employee Health		
Left City (Relocated)		
Other Reasons	1	33%
Returned to School		
Transferred and/or Promoted to the City		
Unknown		
Work-Related (Environment)		
Total	3	100%

RETIREMENT ELIGIBLE AS OF FEBRUARY 28, 2018

Accountant 1	1
Accountant 2	1
Accountant 3	1
Administrative Support Supervisor 1	2
Administrative Support Supervisor 2	2
Administrative Support Supervisor 4	3
Automotive Maintenance Technician	3
Boiler Plant Operator	1
Buyer 3	1
Chief Accountant	2
Drainage and Sewerage Pumping Supervisor	1
Duplicating Room Supervisor	1
Engineering Specialist	1
Engineering Technician	2
Environmental Enforcement Technician 2	2
Field Service Supervisor	1
Maintenance Engineer	1
Management Development Specialist 2	1
Management Development Supervisor	1
Networks Maintenance Technician 1	1
Networks Master Maintenance Technician 2	1
Networks Planner/Scheduler	1
Networks Quality Assurance and Safety Inspector	1
Networks Senior Maintenance Technician 1	3
Networks Senior Maintenance Technician 2	3
Networks Zone Manager 1	1
Office Assistant 2	3
Office Assistant 3	2
Office Assistant 4	1
Office Assistant Trainee	1
Office Support Specialist	10
Plumbing Inspector 2	2
Power Dispatcher 2	1
Principal Engineer	1
Principal Office Support Specialist	6
Public Works Supervisor 1	1
Pumping and Power Plant Operator	6
Pumping Plant Operator	4
Pumping Stations Supervisor	1
Pumping Stations Supervisor Assistant	3
Senior Office Support Specialist	2
Steam Plant Engineer 2	5
Steam Plant Engineer 4	1
Utilities Maintenance Technician 2	2
Utilities Maintenance Technician 3	2
Utilities Master Maintenance Specialist 2	1
Utilities Master Maintenance Supervisor	2
Utilities Plant Worker	1
Utilities Senior Services Manager	3
Utilities Services Administrator	4
Utilities Services Manager	2
Utility Meter Services Manager	1
Warehouse & Supplies Manager	1
Water Chemist 3	1
Water Purification Operator 1	2
Water Purification Operator 2	4
Water Purification Operator 3	2
Water Purification Operator 4	1

TOTAL: 118

DROP SUMMARY REPORT

TITLE	START	END	TIME REMAINING (yrs)	AVG TIME REMAINING (YRS)	TOTAL EMPLOYEES ON DROP
				2.75	123

FEBRUARY SUMMARY

TITLE	EFFECTIVE DATE	ACTION
* WATER PURIFICATION OPERATOR 1	1/7/2018	DELETION
ADMIN. SUPPORT SUPERVISOR 2	2/1/2018	ADDITION
PUMPING AND POWER PLANT OPR	2/8/2018	ADDITION
BOILER PLANT OPERATOR	2/8/2018	ADDITION
PRIN OFFICE SUPPORT SPECIALIST	2/28/2018	ADDITION

* Employee deceased on January 7, 2018; however, Employee Relations Office did not receive notification until February 20, 2018.

DROP SUMMARY REPORT

TITLE	START	END	TIME REMAINING (yrs)	AVG TIME REMAINING (YRS) 2.75	TOTAL EMPLOYEES ON DROP 123
NET SENIOR MAINTENANCE TECH 2	3/1/2013	3/1/2018	0.00		
EQUIPMENT OPERATOR 3	3/1/2013	3/1/2018	0.00		
PUMPING STATIONS SUPV ASST	3/1/2013	3/1/2018	0.00		
UTIL MAINT MASTER SPECIALIST 2	4/1/2013	4/1/2018	0.09		
OFFICE SUPPORT SPECIALIST	5/1/2013	5/1/2018	0.17		
OFFICE SUPPORT SPECIALIST	5/1/2013	5/1/2018	0.17		
NET SENIOR MAINTENANCE TECH 2	5/31/2013	5/31/2018	0.25		
NET MASTER MAINTENANCE TECH 2	6/1/2013	6/1/2018	0.25		
OFFICE ASSISTANT 3	6/3/2013	6/3/2018	0.26		
PUMPING STATIONS SUPV	7/31/2013	7/31/2018	0.42		
OFFICE ASSISTANT 3	8/1/2013	8/1/2018	0.42		
OFFICE ASSISTANT 3	8/1/2013	8/1/2018	0.42		
NET MASTER MAINTENANCE TECH 2	8/12/2013	8/12/2018	0.45		
ENGINEERING SPECIALIST	10/1/2013	10/1/2018	0.59		
NET QUALITY ASSUR & SFTY INSPC	11/1/2013	11/1/2018	0.67		
FLEET SERVICES SUPERVISOR	11/1/2013	11/1/2018	0.67		
MANAGEMNT DEVELOPMNT SPECLST 2	12/1/2013	12/1/2018	0.76		
STEAM PLANT ENGINEER 2	12/2/2013	12/2/2018	0.76		
LEGAL ADMINISTRATIVE ASSISTANT	1/3/2014	1/3/2019	0.85		
NETWORKS MAINTENANCE TECH 2	1/27/2014	1/27/2019	0.91		
PUMPING AND POWER PLANT OPR	2/1/2014	2/1/2019	0.93		
NET MASTER MAINTENANCE TECH 2	2/13/2014	2/13/2019	0.96		
PUMPING AND POWER PLANT OPR	3/1/2014	3/1/2019	1.00		
PUMPING STATIONS SUPV ASST	3/1/2014	3/1/2019	1.00		
Employees within 1 year:				24	
WATER PURIFICATION OPERATOR 3	6/4/2014	6/4/2019	1.26		
EQUIPMENT OPERATOR 2	9/1/2014	9/1/2019	1.51		
OFFICE ASSISTANT 3	10/1/2014	10/1/2019	1.59		
NETWORKS MAINTENANCE TECH 1	10/30/2014	10/30/2019	1.67		
NET SENIOR MAINTENANCE TECH 1	10/31/2014	10/31/2019	1.67		
UTILITY SENIOR SERVICES MGR	10/31/2014	10/31/2019	1.67		
MANAGEMNT DEVELOPMNT SPECLST 2	11/1/2014	11/1/2019	1.67		
PUMPING PLANT OPERATOR	11/1/2014	11/1/2019	1.67		
AUTOMOTIVE MAINT. TECHNICIAN	12/1/2014	12/1/2019	1.76		
ADMIN. SUPPORT SUPERVISOR 4	12/15/2014	12/15/2019	1.79		
NET SENIOR MAINTENANCE TECH 2	12/19/2014	12/19/2019	1.81		
PUMPING STATIONS SUPV ASST	12/31/2014	12/31/2019	1.84		
NET MASTER MAINTENANCE TECH 1	12/31/2014	12/31/2019	1.84		
STEAM PLANT ENGINEER 2	1/24/2015	1/24/2020	1.90		
PUMPING STATIONS SUPV ASST	2/1/2015	2/1/2020	1.93		
Employees within 2 years:				15	

DROP SUMMARY REPORT

TITLE	START	END	TIME REMAINING (yrs)	AVG TIME REMAINING (YRS)	TOTAL EMPLOYEES ON DROP
				2.75	123
UTILITY SERVICES ADMINISTRATOR	3/1/2015	3/1/2020	2.01		
FIELD SERVICE SUPERVISOR	3/15/2015	3/15/2020	2.04		
SR. OFFICE SUPPORT SPECIALIST	3/28/2015	3/28/2020	2.08		
STEAM PLANT ENGINEER 1	3/31/2015	3/31/2020	2.09		
PUMPING AND POWER PLANT OPR	8/1/2015	8/1/2020	2.42		
FLEET SERVICES MANAGER	8/7/2015	8/7/2020	2.44		
STEAM PLANT ENGINEER 4	9/22/2015	9/22/2020	2.57		
POWER DISPATCHER 4	9/22/2015	9/22/2020	2.57		
FIELD SERVICE SUPERVISOR	10/1/2015	10/1/2020	2.59		
NET SENIOR MAINTENANCE TECH 1	11/1/2015	11/1/2020	2.68		
FIELD SERVICE SUPERVISOR	11/1/2015	11/1/2020	2.68		
NET SENIOR MAINTENANCE TECH 1	11/1/2015	11/1/2020	2.68		
ADMIN. SUPPORT SUPERVISOR 3	11/26/2015	11/26/2020	2.75		
CHIEF ACCOUNTANT	11/28/2015	11/28/2020	2.75		
PUBLIC WORKS SUPERVISOR 2	12/2/2015	12/2/2020	2.76		
NET SENIOR MAINTENANCE TECH 2	12/30/2015	12/30/2020	2.84		
NET MASTER MAINTENANCE TECH 1	12/30/2015	12/30/2020	2.84		
PRIN OFFICE SUPPORT SPECIALIST	1/1/2016	1/1/2021	2.84		
AUTOMOTIVE SERVICES SUPERVISOR	1/8/2016	1/8/2021	2.86		
UTIL MAINT MASTER SUPERVISOR	1/8/2016	1/8/2021	2.86		
UTIL MAINT MASTER SUPERVISOR	1/8/2016	1/8/2021	2.86		
UTIL MAINT MASTER SUPERVISOR	1/11/2016	1/11/2021	2.87		
NET SENIOR MAINTENANCE TECH 1	2/1/2016	2/1/2021	2.93		
Employees within 3 years:				23	
NET SENIOR MAINTENANCE TECH 2	2/29/2016	3/1/2021	3.01		
NET MASTER MAINTENANCE TECH 1	4/1/2016	4/1/2021	3.09		
POWER DISPATCHER 3	4/1/2016	4/1/2021	3.09		
OFFICE ASSISTANT 4	4/1/2016	4/1/2021	3.09		
PUBLIC WORKS MAINTENANCE WKR 1	6/1/2016	6/1/2021	3.26		
NET SENIOR MAINTENANCE TECH 2	6/1/2016	6/1/2021	3.26		
PUBLIC WORKS MAINTENANCE WKR 1	6/4/2016	6/4/2021	3.27		
LABORATORY TECHNICIAN 3	7/1/2016	7/1/2021	3.34		
PUMPING STATIONS SUPV	8/1/2016	8/1/2021	3.42		
PUMPING AND POWER PLANT OPR	8/1/2016	8/1/2021	3.42		
UTILITY SERVICES ADMINISTRATOR	9/1/2016	9/1/2021	3.51		
ADMIN. SUPPORT SUPERVISOR 4	10/8/2016	10/8/2021	3.61		
PUMPING PLANT OPERATOR	11/1/2016	11/1/2021	3.68		
NET SENIOR MAINTENANCE TECH 1	11/1/2016	11/1/2021	3.68		
PUBLIC WORKS MAINTENANCE WKR 2	11/1/2016	11/1/2021	3.68		
ENGINEER INTERN 2	12/1/2016	12/1/2021	3.76		
SR. OFFICE SUPPORT SPECIALIST	12/1/2016	12/1/2021	3.76		
OFFICE SUPPORT SPECIALIST	12/1/2016	12/1/2021	3.76		
NET MASTER MAINTENANCE TECH 1	12/28/2016	12/28/2021	3.83		
PUMPING AND POWER PLANT OPR	12/31/2016	12/31/2021	3.84		
SR. OFFICE SUPPORT SPECIALIST	1/2/2017	1/2/2022	3.85		
WATER PURIFICATION OPERATOR 4	1/2/2017	1/2/2022	3.85		
PUMPING AND POWER PLANT OPR	1/3/2017	1/3/2022	3.85		
WATER PURIFICATION OPERATOR 2	1/5/2017	1/5/2022	3.85		
POWER DISPATCHER 3	1/8/2017	1/8/2022	3.86		
FIELD SERVICE SUPERVISOR	2/13/2017	2/13/2022	3.96		
ADMIN. SUPPORT SUPERVISOR 1	2/28/2017	2/28/2022	4.00		

DROP SUMMARY REPORT

TITLE	START	END	TIME REMAINING (yrs)	AVG TIME REMAINING (YRS) 2.75	TOTAL EMPLOYEES ON DROP 123
Employees within 4 years:			27		
AUTOMOTIVE SECTION SUPERVISOR	3/1/2017	3/1/2022	4.01		
ADMIN. SUPPORT SUPERVISOR 4	3/1/2017	3/1/2022	4.01		
OFFICE ASSISTANT 2	4/1/2017	4/1/2022	4.09		
ENGINEER	4/1/2017	4/1/2022	4.09		
NETWORKS MAINTENANCE TECH 2	4/1/2017	4/1/2022	4.09		
ADMIN. SUPPORT SUPERVISOR 4	4/1/2017	4/1/2022	4.09		
NETWORKS ZONE MANAGER 1	4/13/2017	4/13/2022	4.12		
NET MASTER MAINTENANCE TECH 1	5/1/2017	5/1/2022	4.17		
STEAM PLANT ENGINEER 1	6/1/2017	6/1/2022	4.26		
NET SENIOR MAINTENANCE TECH 1	6/1/2017	6/1/2022	4.26		
NETWORKS MAINTENANCE TECH 2	6/1/2017	6/1/2022	4.26		
ENGINEER INTERN 2	6/20/2017	6/20/2022	4.31		
ATTORNEY 4	6/26/2017	6/26/2022	4.33		
NETWORKS MAINTENANCE TECH 2	7/1/2017	7/1/2022	4.34		
NET SENIOR MAINTENANCE TECH 2	7/1/2017	7/1/2022	4.34		
PUBLIC WORKS SUPERVISOR 4	7/1/2017	7/1/2022	4.34		
MATERIAL AND STORES SUPV	7/3/2017	7/3/2022	4.35		
ENGINEERING DIVISION MANAGER	8/1/2017	8/1/2022	4.42		
PUMPING AND POWER PLANT OPR	8/1/2017	8/1/2022	4.42		
NETWORKS MAINTENANCE TECH 1	10/1/2017	10/1/2022	4.59		
WATER SERVICE INSPECTOR 2	10/1/2017	10/1/2022	4.59		
NET SENIOR MAINTENANCE TECH 2	10/1/2017	10/1/2022	4.59		
PRIN OFFICE SUPPORT SPECIALIST	11/6/2017	11/6/2022	4.69		
STEAM PLANT ENGINEER 1	11/7/2017	11/7/2022	4.69		
FACILITIES ENGINEERING SPCL	12/29/2017	12/29/2022	4.84		
UTIL METER SERVICES SUPV ASST	1/3/2018	1/3/2023	4.85		
WATER PURIFICATION OPERATOR 2	1/7/2018	1/7/2023	4.86		
STEAM PLANT ENGINEER 3	1/8/2018	1/8/2023	4.86		
PLUMBING INSPECTION SUPV ASST	1/14/2018	1/14/2023	4.88		
PUMPING STATIONS SUPV ASST	1/19/2018	1/19/2023	4.89		
ADMIN. SUPPORT SUPERVISOR 2	2/1/2018	2/1/2023	4.93		
PUMPING AND POWER PLANT OPR	2/8/2018	2/8/2023	4.95		
BOILER PLANT OPERATOR	2/8/2018	2/8/2023	4.95		
PRIN OFFICE SUPPORT SPECIALIST	2/28/2018	2/28/2023	5.00		
Employees within 5 years:			34		