

**HIGHLY QUALIFIED TEAM.
A RESPONSIVE TEAM.
WITH PROVEN PROJECT
DELIVERY EXPERIENCE.**

Statement of Qualifications for:

**RATE CONSULTING, LARGE USER
GROUP TRUE-UP, AND FINANCIAL
AND TECHNICAL SERVICES**

RFQ-4464-15-RL

City of Hollywood, Florida
City Hall/Procurement Services Division

24 JUNE 2015



Table of Contents

Table of Contents.....i

Summary of Proposed Management Plan..... 1

 Introduction 1

 About Black & Veatch..... 3

 Organization..... 3

 Qualifications..... 4

 Project Management Plan..... 8

 General Approach10

 Scope of Work15

 Phase 1: Determination of Financial Models and Tools

 Requirements36

 Anticipation of Common Problems40

 Project Organization.....41

 Principal Office Location.....44

 Priority of City Projects45

 Workload.....45

Summary of Proposed Project Team47

 The People Make the Team.....47

 Management Structure48

 Project Team Member Qualifications.....50

 Resumes.....51

 References (detailed questionnaire form).....51

Summary of Experience 52

 Single Source Solutions52

 National Industry Experts across Multiple Utility Disciplines.....52

Conclusions..... 54

List of Completed Water and Sewer Rate Studies 56

 Project References.....56

Appendix 1—Resumes..... 66

Appendix 2—Financial Report 142

Appendix 3—Litigation Statement..... 143



June 24, 2015

City of Hollywood, Florida
c/o: Office of City Clerk
2600 Hollywood Blvd., Rm#: 221
Hollywood, FL 33020

Dear City Clerk:

Black & Veatch Corporation (Black & Veatch) is pleased to present our statement of qualifications to the City of Hollywood Public Utilities Department (Utility) for providing Financial Consulting Services for related to Rate Consulting, Large User Group True-Up, and Financial and Technical Services respectively as published in Request for Qualification RFQ-4464-15-RL dated June 3, 2015.

We believe that your review of our qualifications will reveal the depth and breadth of the Black & Veatch project team, a successful track record of providing value to utilities similar to the Utility, and a wealth of relevant experience and capacity to serve the Utility.

The Black & Veatch Team is uniquely qualified for this project for the following reasons.

- **The Black & Veatch project team is local to Broward County, and our regional office is located in Sunrise, Florida, which is 21 miles from the Utility offices.** Members of the Black & Veatch team have successfully served the Utility and will strive to gain a complete understanding of all the issues faced by the Utility. In gaining this understanding, we will be responsive and ready to serve the Utility and provide the appropriate resources, as required, by the Utility.
- **Black & Veatch has helped to establish the standard of professional care in the fields of utility rate, financial and regulatory consulting services.** Representatives of Black & Veatch were involved in the preparation of multiple American Water Works Association and Water Environmental Federation Financial Manuals and have served on related Utility Financial Management Committees as detailed in our statement of qualifications. In addition, Black & Veatch publishes annual Water Industry Strategic Directions Reports, Water and Wastewater Rate Surveys and Stormwater Rate Surveys which will assist the Utility in understanding the shifts and developments within the utility rate, financial and regulatory industry.
- **A proven detailed approach for performing water, wastewater, stormwater and reuse rate studies.** Black & Veatch has developed an approach that is comprehensive and flexible in considering the unique aspects of the Utility's customers, service area characteristics, operating agreements, employees, processes and regulatory issues. We have performed over 200 such studies across the nation within the last five years. In addition, we have facilitated Large User Group and Special Services Agreement proceedings for some of the largest and most complex utilities in the United States with similar needs as the Utility such as, Miami-

Dade Water and Sewer Department, ALCOSAN, and Philadelphia Water Department, to name a few.

■ **Development and Modifications of Interactive Financial Models.** Black & Veatch continues to develop new and fresh financial planning models that are advanced, interactive, and user-friendly financial planning tools that perform specific simulation, scenario and performance management analyses that will be of great value to the Utility. In addition, Black & Veatch will work with the Utility to seamlessly integrate the billing and financial systems into the Financial Model as specified by the Utility. These financial tools are not proprietary and will be provided to the Utility and tailored to the Utility's specific requirements.

■ **Reputation on Wall Street.** Black & Veatch has provided support to clients in over 200 bond issuances valued at \$40 billion within the last 10 years. We maintain a full-service office in Manhattan, New York, to better service clients that access financial markets.

The Black & Veatch Team believes our local leadership, practical solutions, responsive business acumen and proven business experience will provide the Utility with value that will result in timely and high-quality work.

We welcome the opportunity to discuss the details of our qualifications and invite you to contact Robert Chambers – Project Manager at +1 407-419-3574. Thank you for your time and consideration; we look forward to serving the City of Hollywood's Public Utilities Department on this important engagement.

Very truly yours,
BLACK & VEATCH CORPORATION



Lynn E. Bertuglia
Associate Vice President



BLACK & VEATCH
Building a world of difference.®

CERTIFICATE OF OFFICER

I, Timothy W. Triplett, the Executive Vice President and Secretary of BLACK & VEATCH CORPORATION, a corporation duly organized and existing under the laws of the State of Delaware, United States of America, certify that the following is a true excerpt of a certain resolution of said Board of Directors of BLACK & VEATCH CORPORATION, which resolution was duly adopted on March 10, 2003, and that said resolution has not been rescinded or modified, is in accordance with the charter and by-laws of the corporation, and is still in full force and effect.

RESOLVED, any note, mortgage, evidence of indebtedness, contract, share certificate, conveyance, power of attorney, or other instrument in writing and any assignment or endorsements thereof, or guarantee of any other entity's performance under any such executed document, entered into between this corporation and any other person or company shall be valid and binding on this corporation, when signed by either the Chairman of the Board, the President or any Vice President, and, if attestation is required, by either the Secretary, Assistant Secretary, Chief Financial Officer, Treasurer or any Assistant Treasurer of this corporation. Any such instruments may be signed by any other person or persons in such manner as from time to time shall be determined by the Board.

I further certify that the individual named below is an officer of the company holding the titles indicated and have signature authority to sign, seal, deliver, negotiate, accept and enter into agreements, contracts and other instruments or documents by and on behalf of the Company.

Lynn E. Bertuglia Associate Vice President

IN WITNESS WHEREOF, I have hereunto set my hand and attached the corporate seal of BLACK & VEATCH CORPORATION this 22 day of June 2015.



Timothy W. Triplett
Timothy W. Triplett *ACB*
Executive Vice President and Secretary

STATE OF KANSAS)
)SS
COUNTY OF JOHNSON)

Subscribed and sworn to before me this 22 day of June 2015, by Timothy W. Triplett as Executive Vice President & Secretary of Black & Veatch Corporation.

Kerri Tripp
NOTARY PUBLIC



Issue Date: June 3, 2015

ACKNOWLEDGMENT AND SIGNATURE PAGE

This form must be completed and submitted by the date and the time of bid opening.

Black & Veatch Corporation

Legal Company Name (include d/b/a if applicable): _____ Federal Tax Identification Number: 43-1833073If Corporation - Date Incorporated/Organized: 11/16/1998State Incorporated/Organized: DelawareCompany Operating Address: 11401 Lamar AvenueCity Overland Park State KS Zip Code 66211

Remittance Address (if different from ordering address): _____

City _____ State _____ Zip Code _____

Company Contact Person: Robert Chambers Email Address: chambersr@bv.comPhone Number (include area code): (407) 419-3574 Fax Number (include area code): 913-458-3579Company's Internet Web Address: www.bv.com

IT IS HEREBY CERTIFIED AND AFFIRMED THAT THE BIDDER/PROPOSER CERTIFIES ACCEPTANCE OF THE TERMS, CONDITIONS, SPECIFICATIONS, ATTACHMENTS AND ANY ADDENDA. THE BIDDER/PROPOSER SHALL ACCEPT ANY AWARDS MADE AS A RESULT OF THIS SOLICITATION. BIDDER/PROPOSER FURTHER AGREES THAT PRICES QUOTED WILL REMAIN FIXED FOR THE PERIOD OF TIME STATED IN THE SOLICITATION.


Bidder/Proposer's Authorized Representative's Signature: _____6/23/15

Date

Type or Print Name: Lynn E. Bertuglia

THE EXECUTION OF THIS FORM CONSTITUTES THE UNEQUIVOCAL OFFER OF BIDDER/PROPOSER TO BE BOUND BY THE TERMS OF ITS PROPOSAL. FAILURE TO SIGN THIS SOLICITATION WHERE INDICATED BY AN AUTHORIZED REPRESENTATIVE SHALL RENDER THE BID/PROPOSAL NON-RESPONSIVE. THE CITY MAY, HOWEVER, IN ITS SOLE DISCRETION, ACCEPT ANY BID/PROPOSAL THAT INCLUDES AN EXECUTED DOCUMENT WHICH UNEQUIVOCALLY BINDS THE BIDDER/PROPOSER TO THE TERMS OF ITS OFFER.

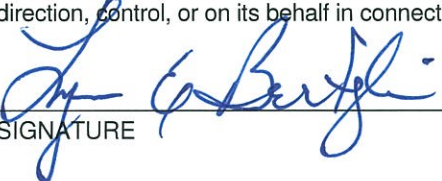
ANY EXCEPTION, CHANGES OR ALTERATIONS TO THE GENERAL TERMS AND CONDITIONS, HOLDHARMLESS/INDEMNITY DOCUMENT OR OTHER REQUIRED FORMS MAY RESULT IN THE BID/PROPOSAL BE DEEMED NON-RESPONSIVE AND DISQUALIFIED FORM THE AWARD PROCESS.

HOLD HARMLESS AND INDEMNITY CLAUSE

Lynn E. Bertuglia, on behalf of Black & Veatch Corporation

(Company Name and Authorized Representative's Name)

, the contractor, shall indemnify, defend and hold harmless the City of Hollywood, its elected and appointed officials, employees and agents for any and all suits, actions, legal or administrative proceedings, claims, damage, liabilities, interest, attorney's fees, costs of any kind whether arising prior to the start of activities or following the completion or acceptance and in any manner directly or indirectly caused, occasioned or contributed to in whole or in part by reason of any act, error or omission, fault or negligence whether active or passive by the contractor, or anyone acting under its direction, control, or on its behalf in connection with or incident to its performance of the contract.


SIGNATURE

Lynn E. Bertuglia
PRINTED NAME

Black & Veatch Corporation
COMPANY OF NAME

23 June 2015
DATE

Failure to sign or changes to this page shall render your bid non-responsive.

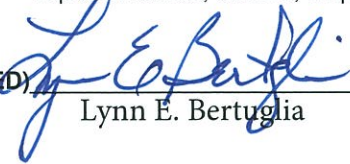
NON-COLLUSION AFFIDAVIT

STATE OF: Kansas

COUNTY OF: Johnson, being first duly sworn, deposes and says that:

- (1) He/she is Associate Vice President of Black & Veatch Corporation the Bidder that has submitted the attached Bid.
- (2) He/she has been fully informed regarding the preparation and contents of the attached Bid and of all pertinent circumstances regarding such Bid;
- (3) Such Bid is genuine and is not a collusion or sham Bid;
- (4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Bidder, firm or person to submit a collusive or sham Bid in connection with the contractor for which the attached Bid has been submitted or to refrain from bidding in connection with such contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Bidder, firm or person to fix the price or prices, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure an advantage against the City of Hollywood or any person interested in the proposed Contract; and
- (5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(SIGNED)



Lynn E. Bertuglia

Associate Vice President

Title

Failure to sign or changes to this page shall render your bid non-responsive.

SWORN STATEMENT PURSUANT TO SECTION 287.133 (3) (a) FLORIDA STATUTES ON PUBLIC ENTITY CRIMES

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR
OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS

1. This form statement is submitted to City of Hollywood, Florida
by Lynn E. Bertuglia for Black & Veatch Corporation
(Print individual's name and title) (Print name of entity submitting sworn statement)
whose business address is 11401 Lamar Avenue, Overland Park, KS 66211
and if applicable its Federal Employer Identification Number (FEIN) is 43-1833073 If the entity has no FEIN,
include the Social Security Number of the individual signing this sworn statement.

2. I understand that "public entity crime," as defined in paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any bid, proposal, reply, or contract for goods or services, any lease for real property, or any contract for the construction or repair of a public building or public work, involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misinterpretation.

3. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in an federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

4. I understand that "Affiliate," as defined in paragraph 287.133(1)(a), Florida Statutes, means:

1. A predecessor or successor of a person convicted of a public entity crime, or
2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

5 I understand that "person," as defined in Paragraph 287.133(1)(e), Florida Statutes, means any natural person or any entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

6. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. (Please indicate which statement applies.)

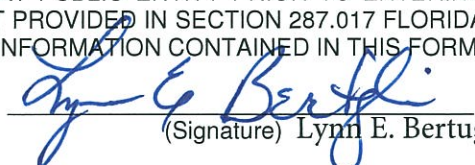
X Neither the entity submitting sworn statement, nor any of its officers, director, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

_____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

Issue Date: June 3, 2015

_____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime, but the Final Order entered by the Hearing Officer in a subsequent proceeding before a Hearing Officer of the State of the State of Florida, Division of Administrative Hearings, determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. (attach a copy of the Final Order).

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND THAT THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT I AM REQUIRED TO INFORM THAT PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017 FLORIDA STATUTES FOR A CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.


(Signature) Lynn E. Bertuglia

Sworn to and subscribed before me this 23 day of June, 2015.

Personally known _____

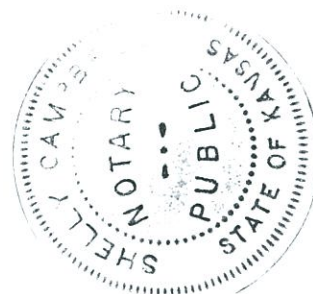
Or produced identification driver's license Notary Public-State of Kansas

in person my commission expires 6 February 2016
(Type of identification)

Shelly Campbell
(Printed, typed or stamped commissioned name of notary public)



Failure to sign or changes to this page shall render your bid non-responsive.



**CERTIFICATIONS REGARDING DEBARMENT, SUSPENSION AND OTHER
RESPONSIBILITY MATTERS**

The applicant certifies that it and its principals:

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, sentenced to a denial of Federal benefits by a State or Federal court, or voluntarily excluded from covered transactions by any Federal department or agency;
- (b) Have not within a three-year period preceding this application been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction, violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and
- (d) Have not within a three-year period preceding this application had one or more public transactions (Federal, State, or local) terminated for cause or default.

Applicant Name and Address:

Black & Veatch Corporation

11401 Lamar Avenue

Overland Park, KS 66211

Application Number and/or Project Name:

RFQ-4464-15-RL: Rate Consulting, Large User True-Up and Financial and Technical Services

Applicant IRS/Vendor Number: 43-1833073

Type/Print Name and Title of Authorized Representative:

Lynn E. Bertuglia, Associate Vice President

Signature: 

Date: 23 June 2015

Failure to sign or changes to this page shall render your bid non-responsive.

DRUG-FREE WORKPLACE PROGRAM

IDENTICAL TIE BIDS - Preference shall be given to businesses with drug-free workplace programs. Whenever two or more bids which are equal with respect to price, quality, and service are received by the State or by any political subdivision for the procurement of commodities or contractual services, a bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie bids will be followed if none of the tied vendors have a drug-free workplace program. In order to have a drug-free workplace program, a business shall:

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
3. Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
4. In the statement specified in subsection (1), notify the employee that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5. Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program (if such is available in the employee's community) by, any employee who is so convicted.
6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of these requirements.

As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.



VENDOR'S SIGNATURE

Lynn E. Bertuglia

PRINTED NAME

Black & Veatch Corporation

NAME OF COMPANY

SOLICITATION, GIVING, AND ACCEPTANCE OF GIFTS POLICY

Florida Statute 112.313 prohibits the solicitation or acceptance of Gifts. - "No Public officer, employee of an agency, local government attorney, or candidate for nomination or election shall solicit or accept anything of value to the recipient, including a gift, loan, reward, promise of future employment, favor, or service, based upon any understanding that the vote, official action, or judgment of the public officer, employee, local government attorney, or candidate would be influenced thereby." The term "public officer" includes "any person elected or appointed to hold office in any agency, including any person serving on an advisory body."

The City of Hollywood policy prohibits all public officers, elected or appointed, all employees, and their families from accepting any gifts of any value, either directly or indirectly, from any contractor, vendor, consultant, or business with whom the City does business.

The State of Florida definition of "gifts" includes the following:

Real property or its use,
Tangible or intangible personal property, or its use,
A preferential rate or terms on a debt, loan, goods, or services,
Forgiveness of indebtedness,
Transportation, lodging, or parking,
Food or beverage,
Membership dues,
Entrance fees, admission fees, or tickets to events, performances, or facilities,
Plants, flowers or floral arrangements
Services provided by persons pursuant to a professional license or certificate.
Other personal services for which a fee is normally charged by the person providing the services.
Any other similar service or thing having an attributable value not already provided for in this section.

Any contractor, vendor, consultant, or business found to have given a gift to a public officer or employee, or his/her family, will be subject to dismissal or revocation of contract.

As the person authorized to sign the statement, I certify that this firm will comply fully with this policy.



SIGNATURE

Lynn E. Bertuglia

PRINTED NAME

Black & Veatch Corporation

NAME OF COMPANY

Associate Vice President

TITLE

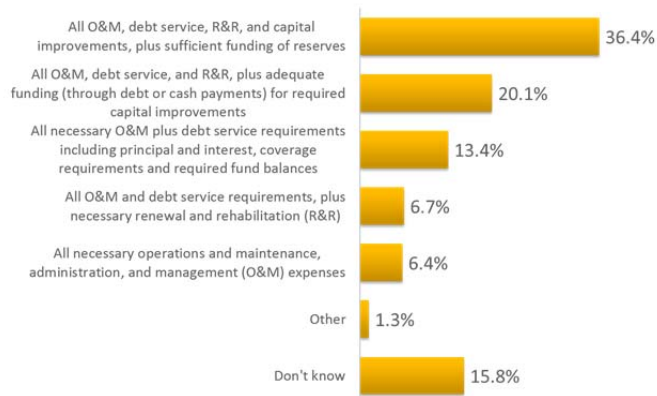
Failure to sign this page shall render your bid non-responsive.

Summary of Proposed Management Plan

INTRODUCTION

Over the past five years, slow residential customer growth and the implementation of various water conservation measures have challenged the ability of water utilities to maintain stable revenue streams. In a Black & Veatch 2015 industry-wide survey, found at www.bv.com/reports, **nearly half of all utilities surveyed stated that voluntary conservation measures adopted by customers have negatively affected revenues.** In the effort of maintaining an operationally sustainable and financially responsible utility system, utility operators are identifying ways to operate efficiently, pool operating resources to gain economies, and maintain existing levels of utility services provided to existing utility customers, at a minimum.

Figure 1: Adequacy of Existing Revenues



Respondents to Black & Veatch's 2015 Water Industry Survey were asked to select the items their utility's current revenues cover.

Black & Veatch's 2015 *Strategic Directions: U.S. Water Industry* report quantified the challenges of water utilities nationwide regarding financial sustainability, financial resiliency, and the nature of capital investment.

Nationally, the top five U.S. water industry issues are provided below in order of importance:

1. Aging water and sewer infrastructure
2. Managing operational costs
3. Managing capital costs
4. Aging workforce
5. Increasing / expanding regulation

The City of Hollywood Department of Public Services (Utility or the City) faces similar, but geographically distinct challenges as other peer utilities in the state of Florida and nationally. **Black & Veatch views the City as a progressive utility within the South Florida area.** The Rate Consulting, Large User Group True-up, and Financial and Technical Services Request for Qualifications (RFQ) is viewed by Black & Veatch as another step taken by the Utility to enhance the existing financial operations and maintain a sound financial plan.

For the past three years, Black & Veatch team members have had the privilege to meeting with Utility staff to share information and learn about the complex, growing, and ever changing challenges faced by the Utility. Black & Veatch teams have presented on issues related to Energy Efficiency, Operational Optimization, and Financial Planning, to name a few, in order to demonstrate our capabilities, but, more importantly, make available the national and international pool of resources maintained by Black & Veatch.

In 2014, Black Veatch successfully completed and delivered and Energy Efficiency Master Plan for the Utility that provided recommendations related to certain measures that can be implemented to improve energy efficiency. The Client Director, Rafael Frias, and Project Manager, Robert Chambers, led and successfully delivered specific components of this study. **Both Mr. Frias and Mr. Chambers reside in the South Florida area and will be working from Black & Veatch's Sunrise, Florida office which is about 21 miles from the Utility offices.**

Based on our knowledge of the Utility, Black & Veatch has assembled a team consisting of financial planning, utility rate setting, utility system planning, business operations integration, and stakeholder facilitation experts, to name a few, to serve the City.

Black & Veatch is committed to serving the Utility as it defines its financial future and maintains a sound financial plan. We will provide the Utility with the following:

- **A local, responsive, and single point of contact that is located 21 miles away from the Utility offices** and has successfully served the Utility on a prior engagement. The team will communicate clearly with the City, be responsive in meeting the City's requirements, and be diligent in managing the agreed upon scope and schedule.
- Prepare a sound financial plan and **defensible utility service rates**;
- **Experienced stakeholder facilitators** that will support the Utility staff with interfacing with various stakeholders, such as large users, and **leading the effort to define appropriate stakeholder communication activities and mediums**; and
- Current and functionally appropriate financial planning and business integration tools that are simple, easy to understand, and can be utilized by Utility staff to facilitate meetings, workshops, and other stakeholder engagements.

"The Black & Veatch team has been responsive and supportive in providing the resources and strategy necessary to support the City in sourcing affordable funding for our capital projects and developing a good financial plan."

*Aleem Ghany,
City Manager
City of North Miami, FL*

Black & Veatch will provide the Utility with the assurance of a committed, responsive, and highly-qualified team with proven experience in providing the financial and technical services required under this contract.

ABOUT BLACK & VEATCH

Founded in 1915, Black & Veatch develops tailored technical and business process solutions that provide sustainable benefits.

Black & Veatch is a leading global engineering, consulting and construction company specializing in infrastructure development in energy, water, telecommunications, federal and management consulting sectors.

Founded in 1915, Black & Veatch's annual revenues is about \$3.0 billion and we employ a global workforce of approximately 10,000 involved in a wide range of engineering and management consulting services, some of these relate to utility development and operations, finance, economics, planning, environmental, civil, electrical, structural, and mechanical engineering, as well as construction, science, and architecture. We are an employee owned company with more than 100 offices worldwide, of which, **two of these offices are located in the South Florida region of the United States** and have been consistently ranked by Engineering News Record as a top ten engineering and design firm across the water, power, and telecommunications industry.

Our professionals earn this kind of recognition by understanding our clients' business needs and objectives. We have the financial and technical resources to execute projects from the most basic to the highly complex. Black & Veatch service offerings include:

- Conceptual and preliminary engineering
- Procurement
- Engineering design
- Management consulting
- Construction
- Asset management
- Environmental consulting
- Security design and consulting

We have built our quality reputation by providing our clients with high-quality and responsive services. We take pride in building strong relationships with our clients; many have retained our services continually for more than 40 years. **Our goal is to provide the Utility with services meet your specific needs using innovative processes, techniques, and tools that will provide sustainable value.**

ORGANIZATION

Black & Veatch is organized into five distinct divisions to cater to these specific markets:

- Energy
- Water
- Telecommunications
- Federal

Black & Veatch

2014/2015 ENGINEERING NEWS-RECORD RANKINGS

TOP No. 1	Telecommunications Fossil Fuels Towers & Antennae
TOP 5	Power Water Transmission Lines & Aqueducts Water Supply Transmission & Distribution Plants Nuclear Plants
TOP 10	Hydroplants Co-Generation Sanitary & Storm Sewers Wastewater Treatment Plants Sewerage and Solid Waste Government Offices Water Treatment & Desalination Plants Top 100 Design-Build Firms
TOP 20	Dams and Reservoirs Refineries & Petrochemical Plants Chemical & Soil Remediation Top 500 Design Firms Top 50 Designers in International Markets Top 100 Green Design Firms Top 200 Environmental Firms

■ Management Consulting

Black & Veatch's Management Consulting is comprised of expert staff to complete task orders under this contract, focuses on providing management consulting services across all the sectors served by Black & Veatch. On this important engagement, the Utility will be served by professionals from Black & Veatch's Management Consulting and Water businesses.

QUALIFICATIONS

Black & Veatch's Management Consulting maintains over 250 consulting services professionals. **Specifically, our water industry financial consulting group maintains over 50 professionals dedicated to solving financial planning issues for water utilities.** We deliver value through the application of first-hand industry expertise, exceptional program and project execution, thought leadership, proven methodologies and processes, and ethical business practices. Our proven capability to deliver is local, national and international. We are a dynamic organization that strives to change as our clients' needs evolve.

We deliver value through the application of first-hand industry expertise and experience.

In a format where deep experience is blended with a strong project execution and value focus, **our engagements can draw on experienced senior executives, economists, senior policy experts and regulatory officials, engineers, experienced facilitators, and internationally respected subject-matter experts.**

Since Black & Veatch provides diverse consulting services that span financial, process and technology solutions, many of our experienced professionals possess cross functional skills that include asset management, cost of service/rate design, business process / work flow analysis, and stakeholder facilitation, and implementation services.

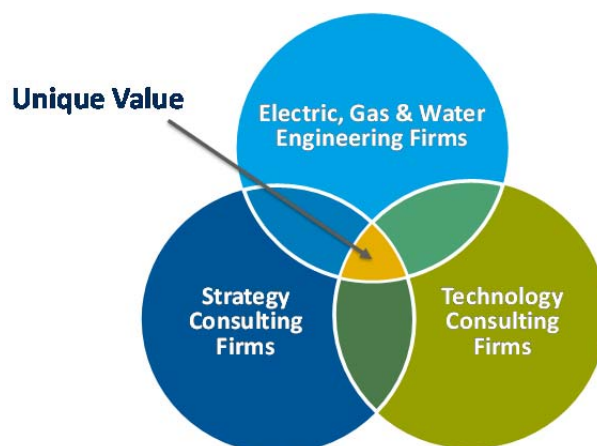


Table 1 presents a summary of the wide-range of services offered by Black & Veatch's Management Consulting professionals.

Table 1 Summary of Management Consulting Services

STRATEGIES, FINANCE AND MARKETS	REGULATORY SUPPORT, SECURITY AND COMPLIANCE	CUSTOMER ENGAGEMENT SERVICES	INTELLIGENT INFRASTRUCTURE	ASSET MANAGEMENT
<ul style="list-style-type: none"> ■ Strategic planning, roadmapping and implementation ■ Infrastructure and resource planning ■ Market analysis, design and implementation ■ Financial advisory services, including mergers and acquisitions, and alternative financing ■ Enterprise resource planning systems and processes 	<ul style="list-style-type: none"> ■ Ratemaking ■ Utility formation ■ Cyber security assessments, planning and program design and implementation ■ Market compliance ■ Pipeline integrity management design and implementation ■ Sustainability planning, both financial and environmental 	<ul style="list-style-type: none"> ■ Customer information systems design and implementation ■ Customer contact performance ■ Customer care and billing systems ■ Customer self-service tools (i.e. Web portals, mobile applications) ■ Retail market systems and processes 	<ul style="list-style-type: none"> ■ Smart grid technologies ■ Asset and work management ■ Geographic information systems (GIS) and mobile GIS ■ Distribution and outage management systems ■ Geospatial business intelligence ■ Enterprise infrastructure 	<ul style="list-style-type: none"> ■ Asset Management Assessment and Implementation ■ Budget Optimization ■ Operational Excellence ■ Risk Management ■ Asset Management Information Systems

National Company

Black & Veatch is a nationally recognized environmental engineering, financial and management consulting company. Black & Veatch's Management Consulting staff includes professionals who are focused strictly on strategic financial planning and has provided consulting services for more than 300 public water, wastewater and electric utilities. In the past five years, Black & Veatch's Management Consulting personnel have performed financial and management studies for 28 of the 50 largest municipal utilities in the United States as well as several governmental utilities abroad.

Black & Veatch has served as a trusted business advisor for 28 of the 50 largest municipal utilities in the United States.

Black & Veatch Experience with the Top 50 MSA's in the U.S. (Water and Wastewater)

UTILITY	UTILITY TYPES (W/WW)	PROJECT WORK ITEMS										
		Revenue/Revenue Requirements	Financial/Capital Planning	Cost of Service/Rates	Special Fees & Charges	Conservation Planning/Rates	Rate Model Development	Economic/Financial Feasibility	Bond Feasibility/Eng. Cert.	Organizational/Management	Mgmt Information Systems	Valuation/Appraisal
Atlanta, GA	W,WW	•		•	•		•	•	•			
Birmingham, AL	W,WW	•	•	•				•				
Charlotte, NC	WW									•		
Cleveland, OH	W,WW	•	•	•								
Cincinnati, OH	W,WW	•	•	•			•	•	•	•	•	•
Columbus, OH	W,WW	•	•	•	•	•	•					
Dallas, TX	W,WW	•	•	•			•	•		•		
Denver, CO	W,WW	•	•	•	•							
Detroit, MI	W,WW	•	•	•	•		•	•	•	•	•	•
Greensboro, Winston Salem, & Highpoint, NC	W,WW	•	•	•	•					•		
JEA, FL	W,WW	•	•	•	•		•		•	•		
Kansas City, KS	W	•	•	•					•			
Los Angeles, CA	W,WW	•	•	•	•	•	•	•	•	•		
Louisville, OH	W,WW	•	•	•			•	•	•			
Memphis, TN	WW	•	•							•	•	•
Miami-Dade County, FL	W,WW	•	•	•	•	•	•	•	•	•	•	•
Milwaukee, WI	W,WW	•	•	•			•	•	•	•	•	•
New Orleans, LA	W,WW	•	•	•					•	•	•	•
OUC, FL	W,WW	•	•	•	•	•	•	•	•			
Philadelphia, PA	W,WW	•	•	•			•	•	•	•		
Phoenix, AZ	W,WW	•	•	•	•		•	•	•	•		
St. Louis, MO	W,WW	•	•	•	•		•	•	•	•		•
Raleigh, NC	W,WW	•	•		•		•	•	•			
Tampa, FL	W,WW								•			

Industry Experts

Black & Veatch consultants are key participants in the agencies that set the regulations for the industry. Members of Black & Veatch's Management Consulting business have actively participated in the writing of the Water Environment Federation's *Financing and Charges for Wastewater Systems Manual*, among others, which is the current industry standard for developing equitable wastewater rates. In addition, members of Black & Veatch's Management Consulting business have actively participated in the preparation of several AWWA sponsored and other manuals. See the list of manuals below:

All Black & Veatch reports are included on the cd and can be found at www.bv.com/reports

- M1 Principles of Water Rates, Fees, and Charges, Third and Fourth Editions
- M26 Water Rates and Related Charges, Second Edition
- M35 Revenue Requirements, First Edition
- M34 Water Rate Structures and Pricing, First and Second Editions
- M54 Developing Rates for Small Systems
- User-Fee-Funded Stormwater Programs Special Publication
- Financial Management for Water Utilities

Black & Veatch team members have also provided expert testimony at the Federal Energy Regulatory Commission and various State Commissions and Courts of Law regarding rate, financial and engineering matters.

Proven Performance

The Utility can have confidence in its growing relationship with Black & Veatch. Through our previous and the desire to provide value to the Utility, we will continue to provide experienced teams, make available the appropriate project resource, meet schedule and work product quality commitments, and continue to listen and learn about the Utility needs.



National Center for Employee Ownership

12th largest majority employee-owned company in the United States

PROJECT MANAGEMENT PLAN

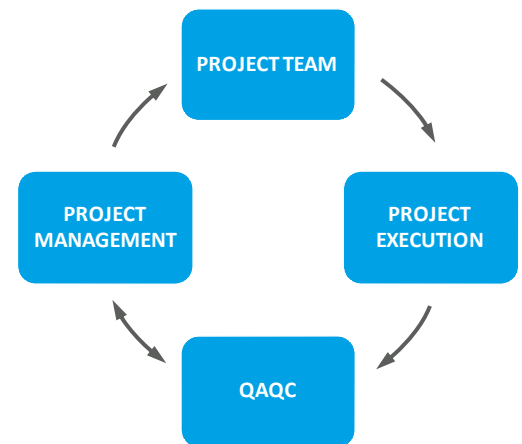
Black & Veatch maintains strict internal quality control procedures on all engagements. These procedures ensure that project tasks are properly executed. At the project initiation for any project tasked under this contract, the Black & Veatch team will present a Project Management Plan (PMP) for review and approval by the appropriate Utility staff. Each task, deliverable, milestone, and significant project event, as understood by Black & Veatch, will be documented and will require the approval of the appropriate Utility staff.

The PMP will be focused on clearly defining the management structure of both parties, medium of communication, processes for approvals and disputes, and clearly defining the goals and objectives of the project.

Specific attention will be given to clearly and outlining the procedures and tasks:

- Defining all lines and procedures for project communications among team members and between the Black & Veatch team and the Utility staff.
- Establishing requirements for the format, delivery, and approval of all technical memoranda, reports, and presentations as specified by the Utility.
- Assigning experienced subject matter experts to perform quality control reviews, and oversee the project progress, budget, schedule, and any potential resource issues.
- Utilization of accounting system triggers that post notices to the project manager regarding the completion of the project budget and schedule.
- Assigning experienced facilitators to inform Utility representatives about project findings and assumptions and transfer knowledge and Black & Veatch lessons learned.
- The provisions of a project manager who is local and responsible for assigning and administering all the tools necessary complete all deliverables, ensure client satisfaction, and monitor all faucets of all engagements tasked under this contract.
- Clearly outline the roles and responsibilities of the project team.
- Outline a clear and coordinated task execution approach that is innovative and aligned with the project goals and objectives established for a particular engagement.
- Established Project Management Standards and Quality Assurance/Controls Standards (QAQC). Black & Veatch's quality control includes the following:

Black & Veatch philosophically views quality assurance/control as an essential and multi-faceted task. Our process incorporates "lessons learned" from past



performances on projects throughout Black & Veatch. Black & Veatch is firmly committed to providing high quality work that creates value to the Utility.

Business Philosophy

Black & Veatch maintains high standards for all of our engagements and commits to providing the highest level of service to the client. We are able to make this commitment due to our clients' confidence in our technical and managerial capabilities and our successful performance on previous projects.

Black & Veatch's Management Consulting staff members are held to the highest professional standards. Professionals are continually evaluated with emphasis on:

- Client satisfaction
- Financial performance
- Engagement/special assignments
- Capability and professionalism
- Safety
- Consultant administration
- Attributes and value behavior

With over 80 percent of our projects performed for repeat clients, the frequency with which we perform additional services for existing clients is a testimony to our consistency, reliability, and quality controls standards.

GENERAL APPROACH

Background

The Utility is seeking to engage the services of a qualified consultant and rate expert to conduct water, wastewater rate consulting services using industry standard methodologies outlined in the; *American Water Works Association, Principles of Water Rates, Fees, and Charges, M1 Manual*; and *Water Environment Federation, Financing and Charges for Wastewater Systems Manual*, to name a few. In addition, the City requires other financial and technical services related to the development of stormwater and reuse water rates which will be tendered under this contract on a task order basis.

The Utility maintains various agreements with large users for wastewater services. As a single Enterprise Fund, the Utility is responsible for maintaining adequate levels service to existing customers. As such, the Utility utilizes specific shared services from the City, such as accounting, legal, and human resources to name a few. In order to develop to develop water wastewater, stormwater, and reuse water rates, it is necessary to identify all utility system cost and allocate these costs between the respective systems in accordance with the existing utility practices and large user agreements.

The Black & Veatch approach presented herein is based on industry accepted rate making standards which incorporate the individual operating conditions, agreements, and unique characteristics of the Utility.

Project Understanding

The Utility has requested a comprehensive financial planning, cost of service, and rate design assessment that must address 15 scope of work task items, as outlined in the RFQ, including a large user true-up analysis, assess the financial sufficiency of the utility, equitable utility rates, asset renewal and replacement forecasting, utility rate impacts and benchmarking, utility systems integration, comprehensive financial model development, and the development of a stakeholder communication approach.

The key objectives of the study as detailed herein are to maintain the financial integrity of the utility, defensively assess the cost to provide service to existing customers, integrate existing business systems and tools related to financial plan, and determine a plan to communicate with stakeholder, such as large users, in a timely and appropriate manner.

The approach outlined herein is broken into four distinct phases in order to be responsive to the 15 scope of work task items.

STUDY SUCCESS FACTORS

- Operating and Capital Revenue Sufficiency
 - Competitive Rates and Charges
 - Establishment of equitable Rates
 - Minimum Rate Payer Bill Impact
 - Integration of Utility System Financial Planning Tools
 - Stakeholder Understanding & Acceptance
 - User-friendly and sound Financial Model
-

Table 2 provides a summary of the proposed project phases:

Table 2 Summary of Project Phases

NO	PHASE	BENEFITS TO THE CITY
DESCRIPTION		
1	Phase 1 - Financial Planning	Determine the magnitude of revenue increases, true-ups, and operational adjustments required by the Utility.
2	Phase 2 - Cost of Service Analysis	Understand the allocation of cost to existing customers and develop a strategy to design water and wastewater rates.
3	Phase 3 – Rate Design Analysis	Design defensible, equitable, sound, and adequate “Utility Rates”
4	Phase 4 – Other Studies	Defensible approaches and a highly qualified team that maintains national and international resources that will be available to the Utility upon request.

To complete this integrated and complex study, as outlined in the RFQ, it is critical to have a strong understanding of the economic, political, infrastructure and operating needs, and the stakeholder environment that is unique to the Utility. Table 3 provides a summary of the key issues to be addressed as a part of this study.

Table 3 Understanding of the Utility Factors

UTILITY ISSUES	BLACK & VEATCH VALUE PROPOSITION
<p>Rate Impact and Benchmarking</p> <p>The ultimate success or failure of any rate and cost of service study rests on the customer rate impact and stakeholder acceptance.</p> <p>Benefits to the City:</p> <ol style="list-style-type: none"> 1. Experienced financial planning experts. 2. A stable firm that has served a diversified set of Utilities. 	<p>Black & Veatch team has worked together in helping utilities with successful consecutive rate increases even during the last few years of tough economic times. We have been able to chart a financial “road map” and achieve buy-in from the elected officials through the following key features:</p> <ol style="list-style-type: none"> a. Clear and consistent statement of needs and benefits. b. Education on the risks and costs of action and inaction. c. Gradualism in achieving utility specific financial metrics and goals. d. Highlighting the “value of water” and the quality of reliable utility service. e. Demonstration of financial and other planning scenarios through the use of financial planning models and tools. <p>We have assisted multiple clients on an annual basis, including Miami-Dade County Water and Sewer Department, City of North Miami, Tampa Bay Water, Philadelphia Water Department; City of Norfolk, VA; ALCOSAN, PA, and New Orleans Water and Sewerage Board, to name a few, with consistent financial planning and cost of service studies and adoption of required rate increases to achieve and sustain financial solvency and competitive rates.</p>
<p>Equitable Rates</p> <p>Equitable cost recovery is fundamental to the development of defensible rates and charges. This study will address the diversity in customer base (existing versus new customers); demographics and affordability; service level and service agreement differences; and the implicit differences in customer needs.</p> <p>Benefits to the City:</p> <ol style="list-style-type: none"> 1. A team that is nationally recognized in performing cost of service analysis. 2. A team and firm that have served some of the largest utilities in the United States that are dealing with the same issues as the City. 	<p>Creating equity involves both technical skills and innovative rate design approach.</p> <p>Our technical cost of service allocations include diligent analysis of (i) class characteristics and service demands; (ii) asset investment and utilization to determine specific assets that serve specific areas; and (iii) allocations to cost-causative components that reflect the fixed and variable cost drivers that are specific to the utility. We then further enhance equity through the artful structuring of the fixed and variable rates and where necessary, phasing-in of rates to mitigate bill impact.</p> <p>For example, the Water and Wastewater Cost of Service allocations that we developed for the Miami-Dade Water and Sewer Department first allocate costs between “wholesale” and “retail” customer base based on an extensive functional cost delineations; service demand analysis; and asset utilization by each of the contributing municipalities.</p>

UTILITY ISSUES	BLACK & VEATCH VALUE PROPOSITION
<p>Large User True-up Assessment Reconciling forecasted versus actual wholesale wastewater service requirement require diligent attention to the details and conditions established in the wholesale service agreement. As important, the manner in which the true-up results are monitored and reported can serve to be of great value in communicating and managing the relationships with wholesale customers.</p> <p>Benefit to the City:</p> <ol style="list-style-type: none"> 1. A team that has successfully facilitated multiple and large stakeholder proceedings. 	<p>The Black & Veatch team has considerable experience in supporting and facilitating the complex issues around the management of wholesale customers. Current projects include the facilitation of an annual wholesale customer true-up for Miami-Dade County Water and Sewer Department and verification of monthly revenue true-up and the facilitation and interfacing with stakeholders as ALCOSAN negotiates Separated Sewer Overflow Consent Decree with the Environmental Protection Agency.</p> <p>ALCOSAN is a wastewater service provider in and around the Allegheny County, Pennsylvania area. ALCOSAN serves 83 municipalities and is currently implementing a Wet Weather Plan valued at \$3.0 billion. Black & Veatch supported this agency by putting forth a financial plan that created the least potential rate increases for existing customer and provided recommendations related operational efficiency and cost reduction measures. In addition, Black & Veatch facilitated discussions, communications, information session, and provided community outreach support related to the financial conditions and the implications of implementing the Wet Weather Program.</p>
<p>Asset Renewal and Replacement Forecasting Determining where to invest and when to invest is especially a challenging issue in the current economic environment where rate pressures are significant and funding is increasingly competitive.</p> <p>Benefits to the City:</p> <ol style="list-style-type: none"> 1. A firm that maintains an asset management team solely dedicated to service the asset management needs of water utilities. 2. A team that understands and values the interrelationship of the technical and business process aspects of asset management. 	<p>The Black & Veatch team has considerable asset management experience and in developing asset renewal and replacement plans. Recent project experience includes Santa Ana and Tulsa Metropolitan Utility Authority, where a 30 year R&R programs was developed respectively. As required by the Utility, team members bring international experience of asset management, including leading approaches used outside of the United States such as the UK and Australia.</p> <p>Our Asset Management Team was able to institute at San Joaquin County, CA a Capital Asset Management Readiness Assessment (CAMRA). The team assisted in establishing strategic Asset Management objectives for nine areas, based on Asset Management Best Practices. These nine areas included levels of service, performance goals, information systems, asset identification and valuation, failure impact evaluation and risk management, condition assessment, Refurbishment and Replacement (R&R) planning, capacity assessment and assurance and continuous infrastructure improvement.</p>

UTILITY ISSUES	BLACK & VEATCH VALUE PROPOSITION
<p>Simplification of Rate Structure</p> <p>Balancing the equity in cost recovery with simplifying the existing portfolio of rates and charges is a key need for the Utility, and especially for the various rate stakeholders.</p> <p>Benefits to the City:</p> <ol style="list-style-type: none"> 1. A team that understands customer class diversities and its implications on the cost of service analysis and rate design process. 2. A team that has served multiple utilities and in viewed as an important partner. 	<p>Defining a rate structure often involves informed policy based decision making rather than purely on technical facts. Black & Veatch’s team of experts have significant experience in identifying and facilitating critical and often challenging policy issue discussions with various stakeholder groups to arrive at an informed policy decision.</p> <p>For example, in Wilmington, DE we worked closely with the Utility’s Citizen Advisory Board members to educate them on the need for Cost of Service adjustments and the consequent shift in cost responsibility from non-residential to residential classes. In addition, to mitigate rate shock, we were able to develop a rate design that gradually phased in the increase (to residential) and phased out the decrease (to the non-residential) classes. The rate structure defined consists of a simple unified rate structure (which includes a fixed meter size based charge and a variable tiered volumetric rate) that recovers operating, capital, and reserve requirement costs.</p>
<p>Utility System Integration</p> <p>Integrating the current financial planning systems and tools can be a daunting task, especially if preliminary cause and effect due diligence is not performed prior to integration.</p> <p>Benefit to the City:</p> <ol style="list-style-type: none"> 1. A team that will seek to understand the exact technological/system needs, requirements, and overall objective of the City prior to crafting a financial systems integration solution. 	<p>Customer billing and financial systems operations are “mission critical” functions that impacts operational efficiency, resources, and revenue generation. Black & Veatch has a dedicated technology solutions group where the experts not only bring the technical expertise of CIS/Billing and Financial Risk Management system, but they understand the considerations associated with integrating these systems and can provide both water industry and other cross-industry functional expertise from the electric and gas sectors.</p> <p>Our team supported Cleveland Water Department’s overhaul and implementation of an Oracle Customer Care & Billing (CC&B) system and enhancements to call center operations that resulted in revenue collection rates increasing from 88% to 98%. Based on the increase in the collection rates, the utility forecasts annual savings in the amount of \$14 million annually.</p>

SCOPE OF WORK

The scope of work detailed herein provides a description of the tasks to be completed based on the four project phases. Figure 2 presents a graphical illustration of Phase 1 through Phase 3 for the key work components and Phase 4 comprises of additional studies as detailed in the RFQ.

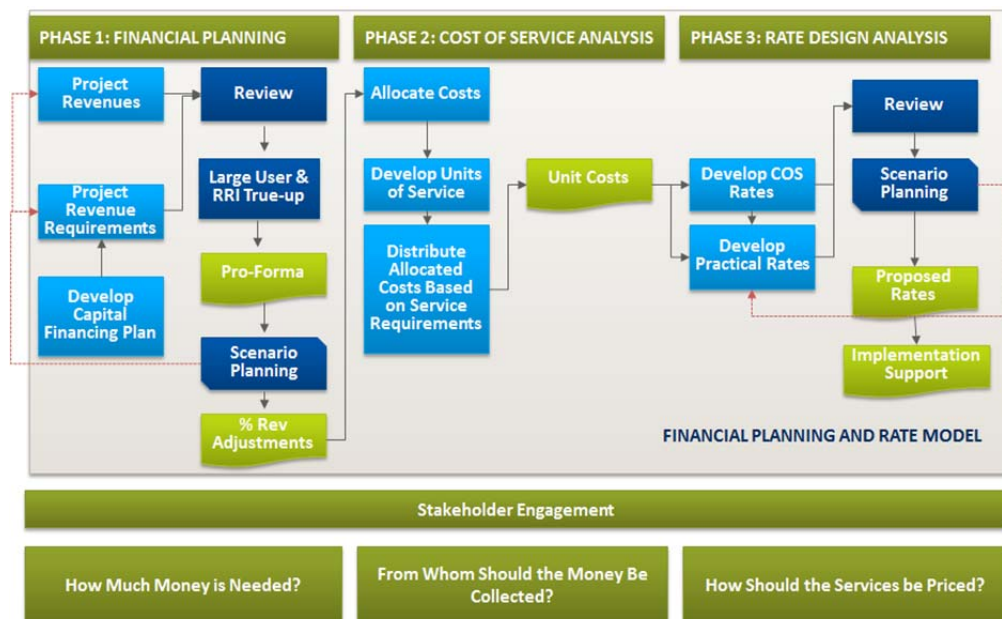


Figure 2 Financial Planning, Cost of Service and Rate Design Approach

Phase 1—Financial Planning

Project Initiation

The purpose of this task is to review the project objectives, review the project scope of work, present and retain approval of the Black & Veatch Project Management Plan (PMP), and review Black & Veatch’s data requirements necessary to initiate and complete the analysis defined herein. The PMP will outline the project objectives, schedule, operating policies, and medium to communicate with the appropriate Utility contact. Upon the Utility’s review and approval of the PMP, the Black & Veatch team will finalize and re-send the PMP to the Utility point of contact for review and maintenance.

Preliminary Data Request

In conjunction with sending the PMP for approval by the City’s point of contact, the Black & Veatch team will forward a preliminary data request outlining the financial, operating, and other pertinent data requirements necessary to complete the engagement as outlined by the Utility. As needed, supplemental data requests will be provided to the Utility as identified by the Black & Veatch project team.

Forecast of Revenues under Existing Rates

The objective of this task is to understand and project revenues under existing rates over the study period. This task initiates the financial planning process associated with understanding the water usage profiles and revenue contribution of all the customers served by the Utility.

Customer, Usage, and Flow Projections

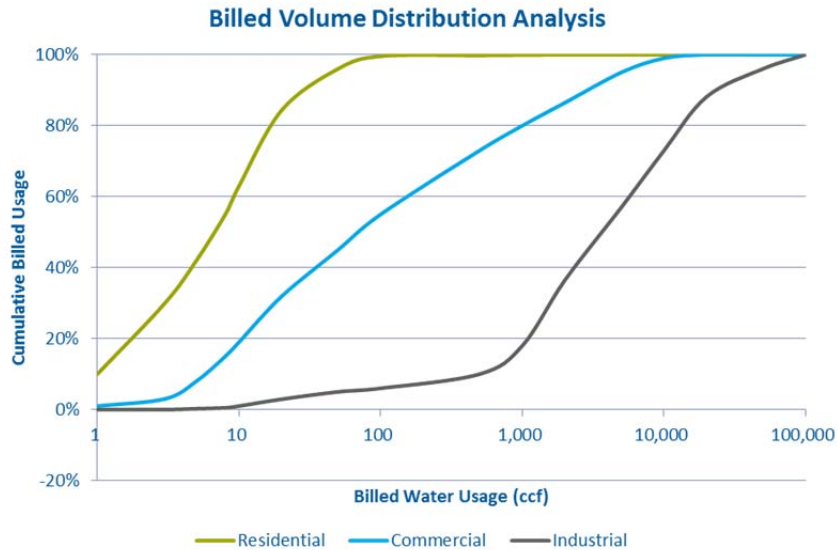
The Black & Veatch team will work with Utility to appropriately understand the historical utility customer demand requirements for specific utility services. Attention will be dedicated to understanding historical customer growth for the water and wastewater, stormwater, and reclaimed water systems along with water usage requirements of all customers served, especially the large use customer served by the Utility. In addition, the root cause of the historical changes in water demand and sewer flow will be reviewed and documented based on the existing South Florida Water Management District's (SFWMD) Consumptive Use Permit and Drought Management requirements.

Before the Black & Veatch team attempts to forecast the potential growth in customer and flow over the study period, it is crucial to understand operational and social characteristics associated within providing existing utility services. The Utility has been extremely proactive maximizing existing water resources. The Utility currently source of supply contains water from the Biscayne and Florida aquifer. As such, the Utility treats the Biscayne source of supply utilizing lime softening and a membrane treatment process and Floridian source of supply with a reverse osmosis treatment process due to the high content of salts from this source. Black & Veatch will work diligently with staff to understand the existing and future anticipated water production capabilities by treatment source.

The process of forecasting customer demand through drought conditions, especially severe drought conditions, can be challenging in forecasting the base customer usage post drought conditions. Typically, a customer's usage pattern will change during a drought condition and be maintained through a post drought condition. This presents evident challenges in forecasting demand. Figure 3 provides an example of a billed volume distribution by customer class.

The Black & Veatch team will utilize lessons learned and consider the existing customer water usage patterns, Florida drought records, established triggered drought parameters, historical annual rainfall, and existing customer usage patterns, to name a few, to forecast water demand over the study period.





Validation Criteria: We will review billed volume distribution analysis by customer class to identify any potential errors in customer classification

Figure 3 Example billed volume distribution analysis by customer class

Water, Sewer, Stormwater, and Reuse Water Revenue Projections

The Black & Veatch team will apply the existing water, sewer, stormwater, and reuse water rates to the forecast of customers and flow. Stormwater revenues will be projected based on the estimated billable equivalent stormwater Units (ESUs) or other units as applicable. Revenue determined as a result of this analysis will form the basis to assess revenues under existing rates by all customer classes and customers served by the Utility over the study period. In addition, the revenue levels generated will provide an understanding of the impact of existing drought restrictions on revenue stability and other operating and capital needs. A review of the revenue potential associated of certain customers, such as: large users based on existing agreement, bulk water customers, and special service customers, will be performed and documented.

Miscellaneous Revenue Projections

The revenues to be generated from other existing sources including interest earnings, rental income, late payment penalties and interest and other miscellaneous revenues will be determined and projected over the study period. These revenue sources are important for determining the net level of future revenues which need to be generated from user rates and charges. In addition, the sources provide the basis to understand the revenue contributions associated with specific service, such as: Lift Station Maintenance fees, Hauler fees, and fees associated with Fats, Oils, and Grease.

Determination of Revenue Requirements

The objective of this task is to appropriately apportion and forecast the Utility's operating and capital requirements between the utility systems over the study period. The forecast of revenue requirements establishes the cost basis to

compare the adequacy of revenues from existing rates. This task requires the following subtasks:

Annual Revenue Requirement Projections

Black & Veatch will consult with the Utility staff to gather an in-depth understanding of the policies, procedures, practices, and activities associated with apportioning cost between the utility systems. The Utility operates as an Enterprise Fund of the City and requires certain shared services from the City. A cost apportionment methodology is currently in place to apportion these shared costs, and Black & Veatch will seek to understand the basis of this apportionment methodology and provide direction and considerations as necessary.

In addition, the Utility provides wastewater treatment services to specific large users which are based upon agreed contractual terms and conditions. The apportionment of cost to these large users will be based on the terms and conditions of the large user agreement, and, where necessary, Black & Veatch will use our expert judgment to apportion certain cost. All the large user costs determine herein will be utilized in the process of completing the large user true-ups.

As a part of this analysis, Black & Veatch will examine historical financial reports, historical operating and capital budgets, historical operating maintenance records, and other related financial information from both the water and sewer system. In addition, current market cost escalators will be utilized to forecast applicable cost items over the study period, as determined by the Utility.

Black & Veatch will develop revenue requirements of the utility systems taking into consideration the following factors:

- Budgeted Operation and Maintenance Expenditures.
- Debt Service Payments on existing and projected bond issues, State Revolving Fund (SRF) loans, and other debt obligations.
- Review the existing financing of the Capital Improvements Plan (CIP).
- Review existing Transfer Payments after Debt.
- Review existing contributions to specified reserve funds.
- Any other cash expenditure as appropriate.

Capital Improvement Program and Anticipated Expenditure Requirements

The Utility's existing Capital Improvement Program (CIP) will be reviewed with the Utility's management. The objective of the CIP review is to gain an understanding of the types of projects scheduled; the timing associated with such projects, changes from prior years' capital budgets, anticipated source of

financing, the anticipated timing of proposed revenue bond issues, and initiate discussions around additional methods to finance the CIP.

Alternative Funding Analysis Assessment

Black & Veatch has developed an alternative funding team that is solely dedicated to crafting a comprehensive approach, for specific utilities, to source alternative funding resources across the United States. The Black & Veatch team will develop and review an alternative funding matrix, with the Utility staff, to identify potential local, state, and federal monies that may be available to fund the CIP. At the completion of this task, potential sources of grant funding, low interest loans, interest forgiveness loans, and other feasible sources of funding will be identified to fund existing capital projects.



Wastewater System Large User True-up Assessment

The objective of this task is to appropriately track and reconcile existing large user cost based on the current large user agreements.

Prior to performing any analysis, the Black & Veatch team will perform a thorough review of the existing large user contracts maintain by the Utility. A complete review of these contracts coupled with discussions with Utility staff related to the nature and performance of service will provide a good base of understanding prior to initiating any analysis.

Black & Veatch views this analysis as a four-step process. Listed below are the four major tasks to be completed as a part of this analysis:

1. Determination of all Water and Wastewater Cost;
2. Distribution of all Water and Wastewater Cost between the Water and Wastewater Systems;
3. Allocation of Large User Wastewater cost; and
4. Perform a True-Up Analysis.

Determination of all Water and Wastewater Costs

The Utility operates as an Enterprise Fund of the City, so certain shared services are provided to the Utility by the City. Certain City administration cost such as, City Council, City Manager, Finance and Administration, City Clerk's office, and City Attorney's office, to name a few, maintain distinct allocation to the Utility system. The nature of the allocation of these cost are different based on the primary activities that drive these cost. In the case of the City Council service, the Utility's share of the total number of agenda items drives the allocation of this cost. Black & Veatch will work to understand these cost and appropriately apportion these cost based on the existing large use agreements. The total

shared and other services cost plus Utility system specific cost comprise of the total cost base to perform the true-up analysis.

Distribution of all Water and Wastewater Costs between the Water and Wastewater System

Upon understanding the total cost base to be assessed, the Black & Veatch team will allocate the total Utility cost based on the functional purpose of these cost. In some case, specific departments may provide services that are shared between the Water and Wastewater systems. Black & Veatch will work with the Utility staff appropriately allocate cost between the Water and Wastewater system based on the existing Large User Agreement, the allocation basis utilized to apportion shared services cost, where applicable, and good standard financial cost allocation practices.

Allocation of Large User Wastewater Costs

Black & Veatch will work with the Utility staff to understand the historical basis to allocate all applicable wastewater cost to existing large user customers. The wastewater cost will be separated into three categories; operating and maintenance, debt service, and all other cost after debt. Specific cost allocators will be developed for each cost item based on the primary activities or nature of this cost. The Black & Veatch team will utilize judgment, rely upon historical Utility practices, and provide recommendations related to the manner in which wastewater cost are allocated to large users.

Perform a True-Up Analysis

Black & Veatch will complete the true-up analysis by comparing the total calculated cost to be allocated to existing Large Users with the actual monthly invoices paid by Large User. The difference in the total paid invoice of Large Users and the allocated cost will determine specific credits or payments that are due to/from the Utility and Large Users respectively.

Thereafter, Black & Veatch will develop a Large User True-Up Report that summarizes the analysis and findings.

Year End Accrual Renewal, Replacement, and Improvement Assessment

As understood by Black & Veatch, the Utility currently maintains active renewal and replacement accounts for each Large User customer. Each Large User has a designated share of all the planned renewal and replacement projects that are implemented and this share is funded directly by the funds maintained in each Large User renewal and replacement account.

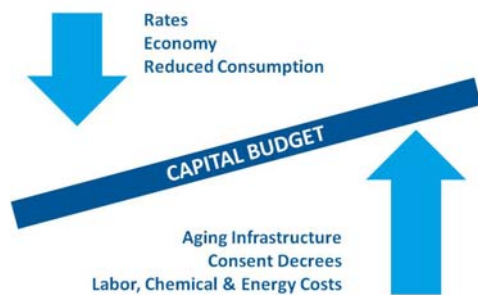
The Black & Veatch team will work with the Utility to assess and determine current Large User renewal and replacement account balances annually. Thereafter, the total amount of funds to be deposited into this account will be assessed based on the renewal and replacement account's share of monthly service charges and other related adjustment, which will be determined as a

part of the Large User True-Up process. In addition, Black & Veatch will determine the total amount of renewal and replacement funding that is required by each Large User and deduct these total annually from the Large User accounts.

At the completion of this task, the Black & Veatch team will assess the forecasted beginning and ending renewal and replacement account balances.

Determination of the Adequacy of Revenues under Existing Rates

The objective of this task is to determine whether the Utility's existing rates and charges are adequate to meet the revenue requirements and achieve the financial policies established for each utility system.



Black & Veatch will develop a financial plan analyses for each utility system over the study period showing a comparison of revenues under existing rates with revenue requirements over the study period. As a part of this analyses, we will determine the annual revenue increase required, we will perform price elasticity and income elasticity analysis to

determine the potential impact of forecasted streams of revenues, we will forecast the revenue generation potential associated with SFWMD's triggered drought restrictions, and re-establish the learned customer water usage patterns post drought conditions for a typical customers to appropriately forecast revenues. **This component of the scope of work is critically important to show the financial adequacy and aptitude of the individual and combined utility systems in order to meet planned revenue requirement obligations and established financial and bond covenant metrics over the study period.**

Capital Program Funding Sensitivity Analysis

Black & Veatch will perform a capital program sensitivity analysis to determine an optimal financing scenario for the utility. All activities, assumptions, and decisions taken in previous tasks that affect the financial sufficiency of the utility system will be incorporated into this task. Potential and existing capital financing options will be simulated to determine the most appropriate financing scenario that will allow the Utility to implement the lowest possible rates, meet existing financial and bond covenant metrics, and maintain a financially sound utility system. In addition, the capital financing policies along with financing sources targets will be discussed and established as a part of this analysis.

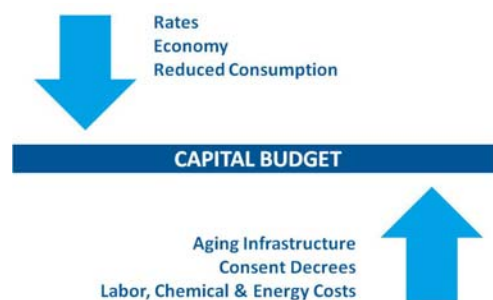
As an example, the Utility could be more aggressive with cash and low cost financing efforts in order to reduce the planned debt service burden which may positively impact debt service coverage. On the other hand, this can only be achieved by maintaining adequate and stable source of funds without creating rate shock to existing customers. Specific activities can be undertaken to reduce the cost to operate, but these activities must be based on the operating characteristics of the Utility system.

Reserve Accounts Assessment

Black & Veatch understands that the Utility maintain specific reserve accounts that are based on existing financial and bond covenants, specific requirements established as a part of existing large user agreement, and good financial practice. As such, Black & Veatch will work with the Utility to review and understand the terms and conditions associated with operating each reserve account in order determine if each account is adequately funded and utilized. At the completion of this task, the Black & Veatch team will balance each reserve account and put forth a plan to utilize these funds, as a part of the capital financing plan, over the study period.

Development of an Optimized Financial Plan

At the completion of this adequacy of revenues task, the Black & Veatch team will develop and present a Financial Plan that outlines the long term financial planning goals and objectives, optimizes the Utility's financing mix based on existing and identified funding options, and proposes revenue increases that allows the Utility to meet established financial metrics at the lowest possible cost to existing customers served.



Perform a Neighboring Utilities Rate Comparison



Black & Veatch will prepare a comparison of the City's existing bills to neighboring utilities' utility rates and bills. As requested in the RFQ, Black & Veatch will target the comparison to focus on neighboring Florida utilities operating in Palm Beach County, Broward County, and Miami-Dade County. In addition, Black & Veatch will perform a sensitivity analysis of the published water and sewer rates around the Median Household Income (MHI) of each County in order to compare the average survey residential rate against the published Environmental Protection Agency's (EPA) Affordability Criteria. The EPA proposed that the typical utility bill should not be above two percent of the MHI within the surveyed region.

Stakeholder Facilitation Support

Stakeholder facilitation is a delicate art that requires focused leadership, agreement on a common purpose and mission, a team approach, and great empathy. The need for empathy is compounded when varying interests collide. As such, the focus on the common purpose must be reinforced in order to drive the established mission.

The Utility serves various stakeholders in the form of existing retail customers, large user customers, other bulk and wholesale customer, and the City Council, to name a few. The Black & Veatch team will serve the Utility in facilitating the necessary workshops, meetings, and other discussions related the analysis and results of the engagement defined herein.

Existing wastewater system large users have established an annual financial true-up system, based on the existing wastewater large user agreements, that reconciles and tracks the planned and actual wastewater services required by each customer on an annual basis. As such, the timely communication of anticipated changes or adjustments in the Utility's operating cost that may impact each large user's share of this operating cost becomes critically important to each large user for their own system planning purposes. Based on Black & Veatch experience in facilitating these proceedings, establishing frequent and consistent intervals to outline performance can be of great value to existing large users. The preparation and submittal of quarterly large user performance reports, quarterly pre-true-up presentations, and the preparation of monthly large user reconciliation reports are a few mediums that can serve to be of great value when communicating annual performance with large users.

The Utility can be assured that Black & Veatch views the opportunity to serve the Utility in this manner as a privilege and we will provide all the necessary tools and resources to successfully serve in this manner.

Reports and Deliverables

As outlined in the RFQ, the respective analysis reports and deliverables will be developed to explain our study approach, findings, and recommendations. These perspective work products will be submitted to the appropriate Utility staff for review and feedback.

Listed below is a summary of all the reports and deliverables associated with Phase 1 of the general approach presented herein.

- Large User Group True-up Report
- Renewal and Replacement Improvement True-up Report
- Financial Plan Memorandum

Phase 2—Cost of Service Analysis

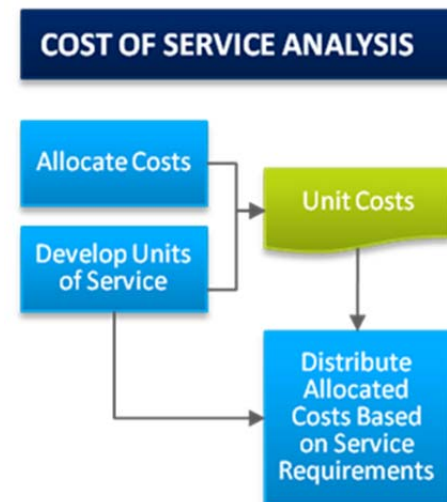
Introduction to the Cost of Service Process

The objective of this task is to develop of a plan for assigning or allocating the functional components of the Utility system revenue requirements. The approach to be applied by Black & Veatch utilizes the **American Water Works Association (AWWA) M1 Manual** and the **Water Environment Federation's (WEF) Financing and Charges for Wastewater Systems Manual of Practice No. 27** principles to identify customer class costs of service requirements.

Prior to identifying the customer class cost requirements for all groups of customer served by the water, wastewater, stormwater, and reuse systems, critical steps relating to functionalizing cost based on the functional design and operations of the system and determining each customer's share of the total system demand is performed in order to understand the customer class cost requirements.

In the case of the Utility, current contractual arrangements outline the manner in which operating cost are apportioned to certain groups of customers as determined and assessed in the Financial Plan component of the scope of work defined herein. The cost of service analysis to be completed herein will not disturb the integrity of the Utility's true-up analysis, but provide another perspective, as required an approved by the Utility, related to the cost to serve the existing Utility system demand.

The following section provides a sequential outline of the tasks to be completed as a part of the cost of service analysis.



Functionalization and Allocation of Functional Costs to Cost Components

This task encompasses the identification and determination of utility functional service parameters on which to allocate cost between retail and wholesale customers, inside-city and outside-city customers, and customers receiving distinct service from the Utility. This step recognizes that costs incurred by the utility systems are typically caused by the service requirement of the system. These requirements vary between the utilities, but generally include the following;

- **Functional Costs Classification for Water:** Black & Veatch will allocate test year costs of service, including O&M and capital costs, to the functional cost components. Functional cost allocations recognize cost-causative factors including Base (volume), Extra-Capacity (peak day and peak hour demands), Customer (meters, services, and billing), and Fire Protection cost functions.
- **Functional Costs Classification for Wastewater:** Black & Veatch will allocate test year costs of service, including O&M and capital costs, to the functional cost components. Functional cost allocations recognize cost-causative factors including Volume, Capacity, Extra Strength (BOD and TSS), and Customer (meters, services, and billing) cost functions.
- **Design Experience:** Our experience will facilitate the determination of functional cost allocations. We believe this combined engineering and financial expertise uniquely qualifies Black & Veatch in determining appropriate cost allocations and in explaining the rationale behind study findings to key internal and external stakeholders.

The allocation of revenue requirements will recognize keys issues associated with providing service to seasonal, wholesale, multi-family, industrial surcharge, and other special service requirements.

Development of Units of Service

Black & Veatch will develop an estimate of the units of service associated with each of the cost causative elements for the water, wastewater, stormwater and reuse service. The units of service will be estimated based on the service characteristics that are defined for each customer class and utility. Specific attention will be dedicated to breaking out special classes of service such as large user service, commercial and industrial service, service provided to industrial surcharge customers, and other customers receiving special services as designated by the Utility.

The units of service will be developed recognizing the customer usage analysis, available data, and engineering judgment about customer class service requirements. The service characteristics will be developed for each retail customer class to match each of the applicable cost causative elements of the water and wastewater systems.

Stormwater units of service will be estimated in terms of billable ESUs, based on parcel impervious area if appropriate.

At the completion of the unit of service analysis, the Black & Veatch team will align the functional allocation of revenue requirements with the determined units of service.

Development of Unit Costs of Service

The units cost of service will be the result of aligning the allocation of functional cost with the estimated units of service. The calculated units cost of service establishes the basis to understand the cost based functional unit value of services provided by Utility. As determined in the analysis, the unit cost of service will be utilized to determine the cost responsibility of all customers classes summarized in the units of service.

Distribution of Costs to Customer Classes

Black & Veatch will assign the total costs of service for each customer class by applying unit costs of service to each individual customer classes' units of service. The relative responsibility of each customer class will be specifically determined based on each class' or user's estimated service requirements. A direct assignment and calculation of the utility systems inside and outside the city cost differential will be developed based on the utility's current cost of equity and a reasonable rate of return from customers served by each utility.

Cost of Water Determination

In conjunction with the cost of service activities outlined herein, the Black & Veatch team will conduct an analysis to determine the existing cost of water based on the three water production methods as summarized in the RFQ (lime softening, membrane, and reverse osmosis). Each method of water production contains specific variables related to operating and capital cost that will be accounted for in the analysis, with the support and direction from the Utility staff.

To determine this cost, Black & Veatch will work with the Utility to understand the existing water treatment flow process, understand the production characteristics of the current and next brackets of incremental water capacity, and understand the aptitude of the Utility to extend water service as a region partner within the Broward County region. An implicit understanding of these facts will allow Black & Veatch to determine cost of existing and proposed water capacity along with assessing the true potential value of water produced by the Utility by production method.

Operational Leverage Analysis

At the completion of the cost of service analysis, the Black & Veatch team will perform an operating leverage analysis to determine the existing fixed and variable cost relationship with the actual production capabilities of the utility

systems. As a part of this analysis, an estimate break-even threshold will be determined and the total fixed and variable cost of providing utility services will be assessed.

Reports and Deliverables

As outlined in the RFQ, the respective analysis reports and deliverables will be developed to explain our study approach, findings, and recommendations. These perspective work products will be submitted to the appropriate Utility staff for review and feedback.

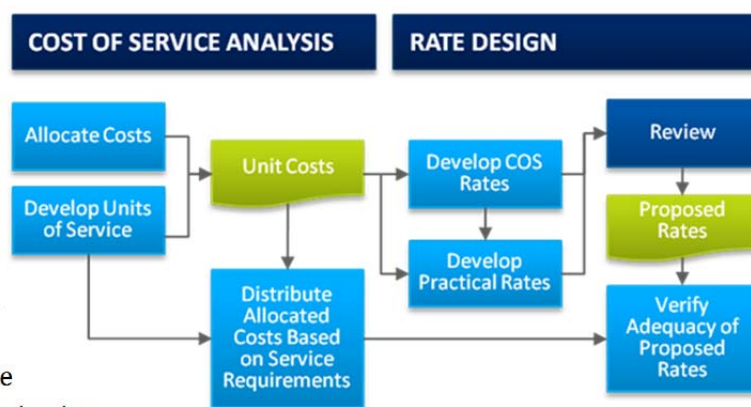
Listed below is a summary of all the reports and deliverables associated with Phase 2 of the general approach presented herein.

■ Cost of Service Memorandum

Phase 3—Rate Design Analysis

Rate Design and Customer Classification

The objective of this task is to recommend fair and equitable rate structure options for rate design and associated customer classifications for water, sewer, stormwater, and reuse water service. The illustration below highlights the process and connection between the cost of service analysis and rate design analysis in verifying the adequacy of the proposed rates. During the financial plan analyses, proposed revenue targets were determined and the rate design analysis verifies the ability proposed rates to achieve these revenue targets.



Our recommended approach to the rate design process seeks to establish a reasonable nexus between costs incurred in providing service and the rates and charges that are designed to recover the costs of providing service. Black & Veatch recognizes that there needs to be a balance between the rates as determined by the cost of service analysis and the Utility's overall goals and objectives which will be determined during the project initiation tasks.

Issues around customer affordability, the determination and comparison of potential rate structure options such as: conservation based, seasonal rates, drought based rates, to name a few, will be assessed along with revenue and rate stability, and potential bill impacts for all customers served by the Utility. Assessing the utility bill impacts across all the customer classes and usage levels served will be important to truly understand the impact rate design options may have on existing customers.

As detailed in the Financial Plan component of the scope of work submitted herein, understanding existing customers' bill tabulation distribution pre and post drought conditions will be critical to providing revenue stability assurances based on the SFWMD drought restrictions. Black & Veatch envisions this process as an interactive dialogue and exchange that thoroughly assesses the social and economic benefits to existing customers served.

Black & Veatch will utilize the price and income elasticity findings developed in the Financial Plan analyses to set and test the adequacy of the proposed rates. Again, this process will be iterative and can be tedious, but will allow the Utility to implement a sound and adequate utility service rates.

At the completion of rate design process, Black & Veatch will support the Utility in developing of a five-year rate ordinance for the Utility services listed below:

- Wastewater Large User Rates;
- Retail Water, Wastewater, stormwater, and Reuse Water Rates;
- Other Wholesale Service Rates (as specified by the Utility);
- Bulk Water Rates; and
- High Strength Surcharges.

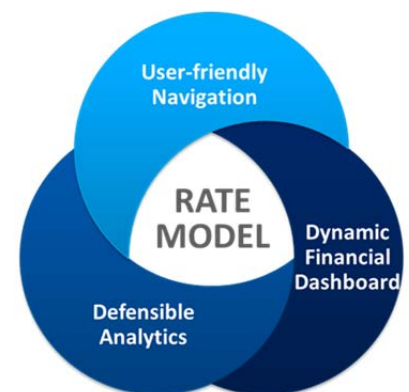
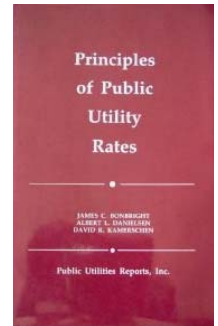
Other Utility service rate will be determined as directed and agreed upon between the Utility and Black & Veatch. Upon completing the rate design analysis, the Black & Veatch team will prepare bill impact comparisons between the existing and proposed utility rates and incorporate the proposed rates into the neighboring utilities rate comparison.

Development of a Financial Model

Black & Veatch has developed numerous financial planning and economic models that are used for various financial planning purposes by public and privately held utilities all across the United States. As a part of the analysis defined herein, the Black & Veatch team will customize our existing financial planning tool based on the financial modeling requirements outlined in the RFQ. The model that will be prepared and transferred to the Utility will be completed at no additional **"Trade Secret"** or other cost to the Utility.

The Black & Veatch model is an excel-based menu driven tool that consists of a three layer functional convention. As a result, any person using our model can navigate to and from the "Home Page" to any page or module in the model with three clicks of the specified navigation buttons.

The RFQ requested the development of a comprehensive tool that houses specific financial analysis undertaken by the Utility on an annual basis. To be responsive to this request, Black & Veatch will customize our existing financial tool to establish individual, but connected modules within the financial model



framework to complete the analysis requested in the RFQ and re-create the multiple financial planning tools maintained by the Utility.

Table 4 provides a summary of the proposed modules that will be created within our financial planning tool:

Table 4 Proposed Financial Model Modules

NO	MODULES
1	Financial Planning Module
2	Large User True-Up Module
3	Year End Renewal and Replacement Improvement Module
4	Cost of Service Module
5	Rate Design Module
6	Customer Affordability Module

Financial Model Attributes

Black & Veatch's approach to developing financial and rate models is based on customizing our base model to the City's unique characteristics, customers, flow of funds, billing data, and financial planning goals and objectives through proven calculation methodologies and industry principles.

Our long-term financial planning model will be tailored to offer the following key features:

- Visually intuitive user interface and icon-based navigation throughout and between modules
- Logical organization of information and data flow based on the required analyses
- Consistent layout on each tab
- Centralized data inputs and assumptions
- User dashboard to assess financial results, track performance through established performance indicators, and perform scenario analysis for various capital and other investments.
- A summary of the baseline and actual performance of key credit agency ratings metrics

In addition, at the completion of training and transfer, the model will be the sole property of the Utility to be used at the Utility's discretion.

Key Measure:

Debt Service Coverage Ratio

- Less than 1.0 = Insufficient ■
- Between 1.0 to 1.25 = Adequate ■
- Between 1.26 to 1.50 = Good ■
- Greater than 1.50 = Strong ■

Note:

1. Standard & Poor's RatingDirect

Key Measure:

Liquidity Ratio

- Less than 30 Days = Low ■
- Between 30 to 60 Days = Adequate ■
- Between 60 to 120 Days = Good ■
- Greater than 120 Days = Strong ■

Note:

1. Standard & Poor's RatingDirect

- Functionalization of costs and methodologies based on industry standards
- Dynamic rate design module for rate structure adjustments and calculations
- Long-range scenario planning features that facilitate concurrent manipulation of financial variables, such as the CIP and financing assumptions. In addition, our financial planning tools allows users to compare multiple financial planning scenarios
- Ability to present quick graphical view of financial performance based on key performance indicators desired by the Utility

Figure 4 provides an outline of the process flow for the Model Inputs, Analytics, and Output.

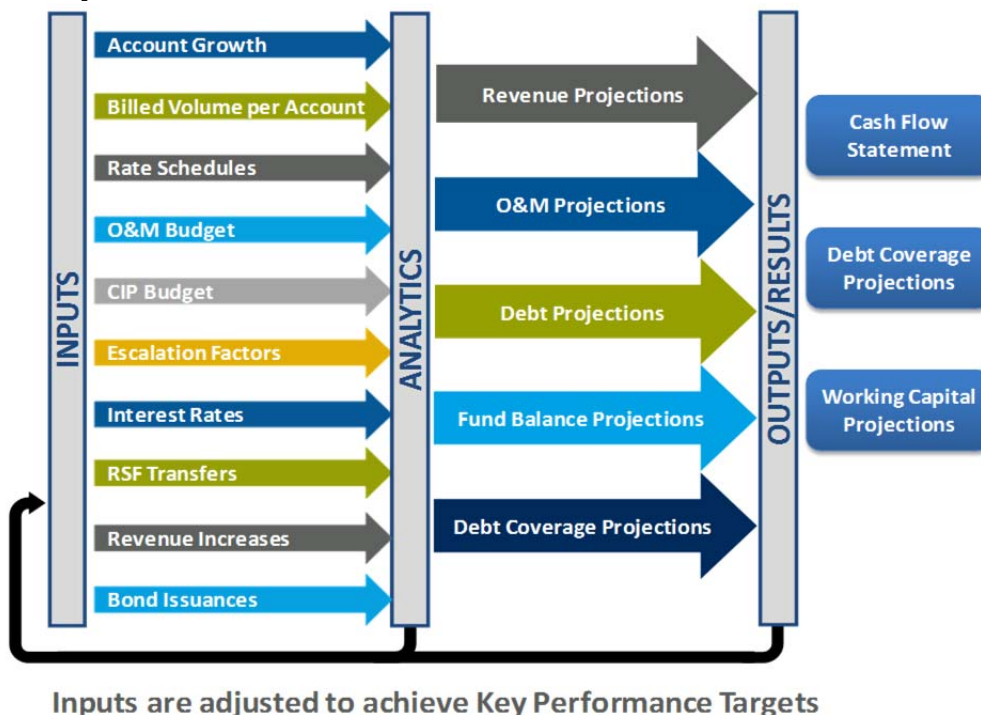


Figure 4 Process Flow for the Model Inputs, Analytics, and Output

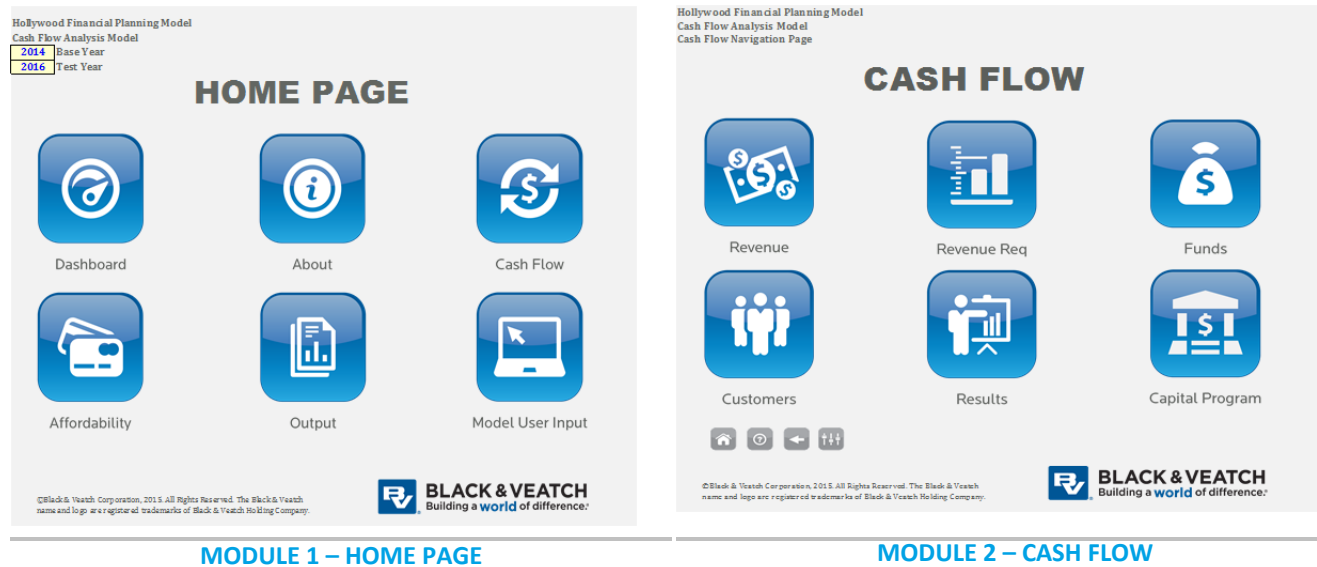


Figure 5 Visually intuitive user interface and icon-based navigation throughout and between modules

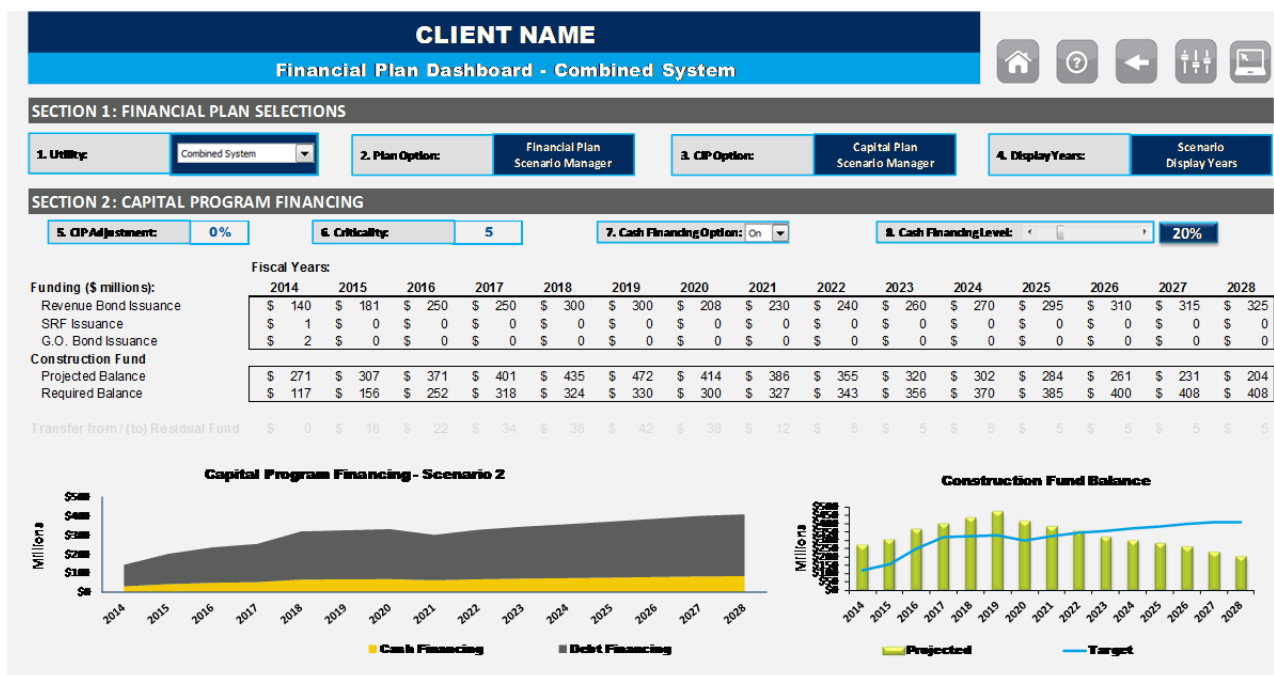


Figure 6 Term Financial Planning Model User Interface

Figure 7 presents a screenshot of the Financial Model dashboard.

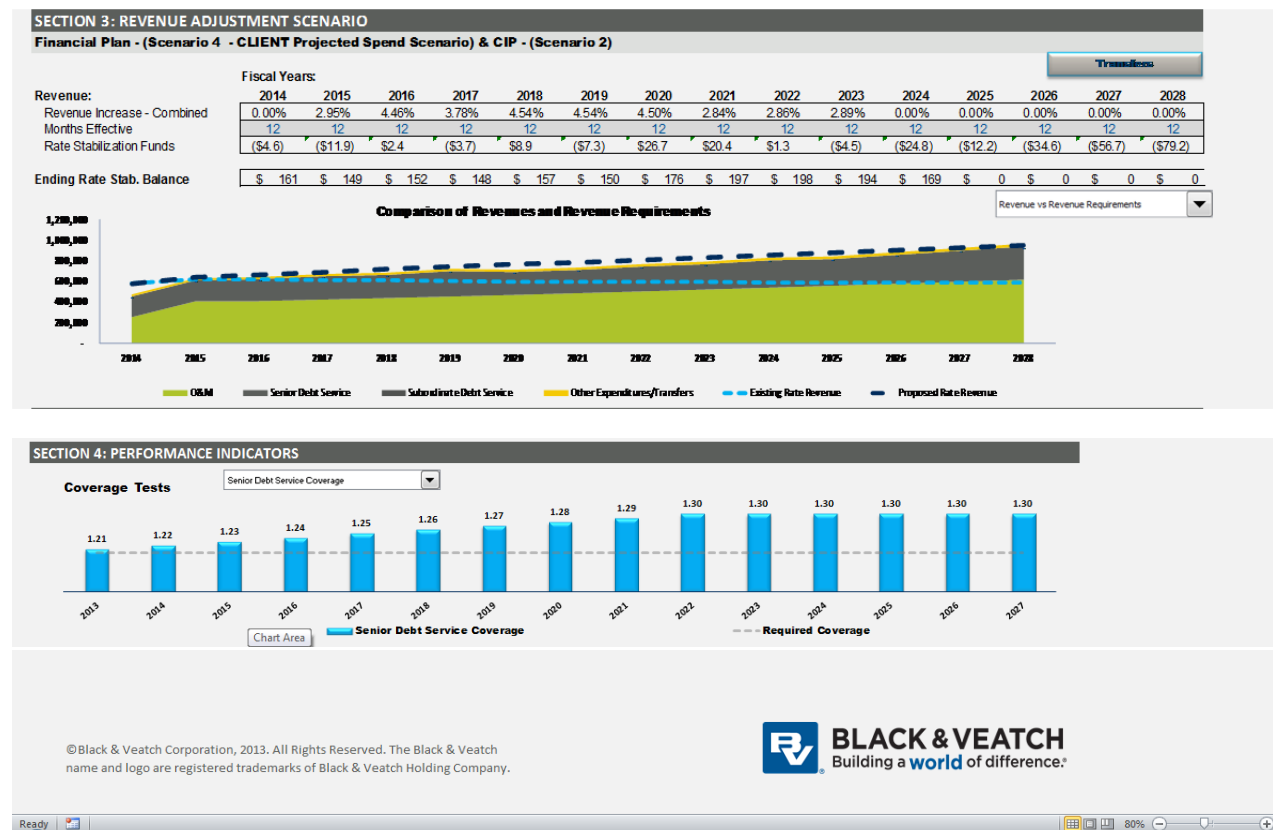


Figure 7 Dashboard Provides a Visual Forecast of KPIs and Assumptions

Staff Education and Transfer of Information

At the completion of the major tasks outlined herein, the Black & Veatch project manager will facilitate workshops, as specified by the Utility, to review, obtain feedback, and respond to questions related to the assumptions, findings, and tools utilized as a part of the analysis performed. The engagement tools such as the Financial Model with all Modules will be utilized to facilitate these discussions and transferred to Utility staff.

Reports and Deliverables

As outlined in the RFQ, the respective analysis reports and deliverables will be developed to explain our study approach, findings, and recommendations. These perspective work products will be submitted to the appropriate Utility staff for review and feedback.

Listed below is a summary of all the reports and deliverables associated with Phase 3 of the general approach presented herein.

- Rate Design Memorandum
- Comprehensive Rates and Cost of Service Report

■ Comprehensive Financial Model

Phase 4–Additional Studies

Reserve Capacity Rate Study

As defined by the Florida Senate, Senate Bill sb1196, Article 163.31801, an Impact Fee, also known as a Reserve Capacity Rate in the case of the Utility, means a total reimburse to a local government for the cost of additional public facilities or services necessitated by new development or the expansion of new development. Essentially, the purpose of the Reserve Capacity Rate is to avoid or reduce potential inequities that may exist when existing Utility system customers finance the capital cost associated with providing service to new customers.

As a utility matures and experiences inter-generational diversities, it is critically important to specify the “rational nexus” between the need for capital projects and the aggregate growth generated by new development. Rational nexus or the establishment of a reasonable relationship test is a common standard for assessing the legality of impact fees. The term rational nexus is believed to have been first used in 1964 by Ora Michael Heyman and Thomas K. Gilhool in a subdivision extraction article published by the Yale Law Journal.

The rational nexus test requires that:

“There is a reasonable connection between the need for additional facilities and the growth resulting from new development and charges must exhibit this relationship and must not exceed the a new customer’s proportionate share of cost”

Black & Veatch will support the Utility in the developing of a Reserve Capacity Rate that exhibits the rational nexus between the need for additional facilities and growth. This process entails the review and allocation of asset information between the back-bone facilities of the water and wastewater systems. The functional allocation provides the basis for determining the capital investment made in the system by existing customers and the eligible invested cost that can be recovered from a capacity related charge.

In addition, the existing capital budget will be utilized to determine the projected amount of growth-related capital expenditures to be incurred over the study period.

Existing and available master planning and capital improvement information will be utilized to identify the existing and future service capacities or level of service for the water and wastewater systems, respectively. Such information will be used to determine the existing and forecast future levels of service in order to determine unutilized increments of capacity that are eligible to be utilized in the calculation of the Reserve Capacity Rate.

Depending on the funding and/or financing mechanisms used to pay for capital facilities, in some circumstances it is appropriate to apply debt service credits (or other applicable adjustments) in order to ensure that customers are not “double-paying” for capital facilities. As such, this task will utilize historical funding documentation in order to determine the level of such credits, if applicable. In addition, the implementation of a carrying cost adjustment will be incorporated to account for specific Utility cost expended during construction.

The applicable capital cost and level of service information will be applied in order to develop a maximum allowable Reserve Capacity Rate for the water and wastewater system respectively. In addition to developing the Maximum Allowable Rate by Utility system, Black & Veatch will prepare a Reserve Capacity rate comparison in order to assess the difference between the existing and proposed Maximum Allowable Rate with other comparable utility systems in the same geographical region.

As a part of this analysis, Black & Veatch will prepare a Reserve Capacity Rate Report for review and approval by the Utility.

Business Operations Integration Assessment

The objective of the assessment is to automate the financial modeling process utilizing the existing architecture of the Muni’s billing system. The approach detailed herein will be completed in two phases. Phase 1 will focus on understanding the existing financial models and tools and documenting the requirements, based on the existing architecture, as outlined in the RFQ. Phase 2 will focus on development and transition to the appropriate IT and Business stakeholders.

Black & Veatch proposes that the Utility considers the addition of an executive dashboard to the existing presentation layer. The executive dashboard will serve as the initiation point for data extraction, and will allow users to view and analyze previously stored data to determine trends, errors, and review key performance indicators.

Users will initiate the data extraction process for the financial model and perform minimal inputs such as the designation of date ranges. The detailed requirements will be documented and key inputs recorded. The end result of the process will be the production and importation of a Microsoft Excel-based report into the respective Financial Model Module(s) as required and specified by the Utility.

Upon the importation of the respective data, the financial model can be engaged and results viewed instantaneously. Lastly the user will be given the option to upload the results and store the data in a database. This data then feeds into the executive dashboard to show trending over time, or other dashboard analysis as dictated in the requirements, such as comparing data to the Munis Utility Billing

system report to other applicable reports. The resulting process will be circular in nature to assist in constant feedback.

Figure 8 provides an overview of the functional loop associated with providing the business integration solution.

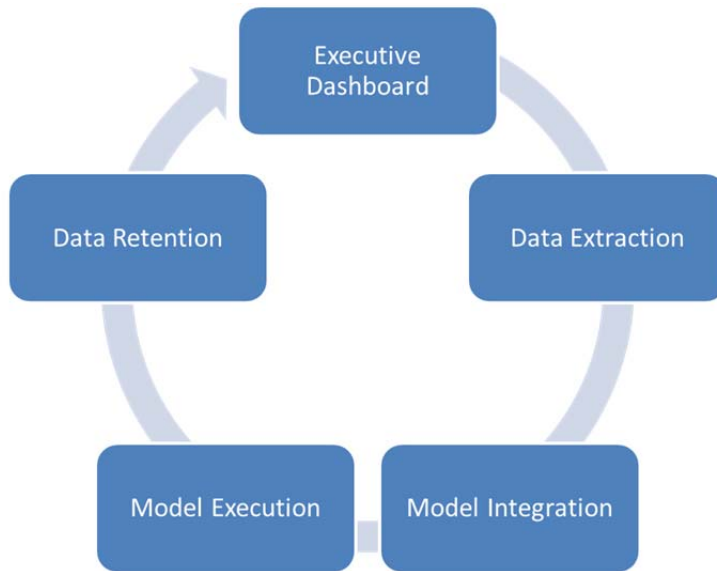


Figure 8 Integration of Business Operations Systems and Tools Functional Loop

Listed below are the project objectives associated with Phase 1 and Phase 2:

Phase 1:

1. Document the existing business processes and any potential changes to those.
2. Develop a list of detailed functional requirements to support the business needs and to facilitate the full transition of the end product to the Utility. Included is a list of requirements for the interface to pull data from GEMS and Munis Utility Billing.
3. Develop a list of detailed functional requirements for the executive dashboard, which will serve as the new interface to initiating model processes and will provide a means to view previous results. Include the Key Performance Indicators in the list of requirements.
4. Develop an implementation plan.

Phase 2:

1. Design and develop the data reporting module for the needed models within the system. Design and develop the executive dashboard and the user interface based on the existing systems.
2. Perform requisite data migration and application testing.

3. Develop the requisite user and administration manuals, and conduct end user training.
4. Launch the production version.

PHASE 1: DETERMINATION OF FINANCIAL MODELS AND TOOLS REQUIREMENTS

The Black & Veatch team will perform the following scope of work to address each of the key tasks presented below.

Task 1: Project Kick-off Meeting

Black & Veatch will conduct a project kick-off meeting with the appropriate staff to initiate Phase 1 of the project. The purpose of this meeting is to confirm the project objectives, scope of work, schedule, project approach, deliverables and the project participants. A data request will be issued prior to the kick-off meeting, and any clarifications on the data received and other issues or concerns will be identified and discussed during the kick-off meeting.

Task 2: Review and Document Existing Business Processes

Black & Veatch will develop the business process documentation through a review of the existing information. If any gaps are found in the existing documentation then Black & Veatch will create documentation and present to the client. The business process documentation of the “as-is” process will include the following:

- High level description of the key activities;
- Business process workflows and timelines; and
- Summary of key business policies associated with the financial model operations.

Task 3: Document Revised Business Processes

The business process documentation of the “to-be” process will include the following:

- Detailed description of changes, if any to the key activities;
- Revised process workflows and timelines; and
- Summary of revised policies.

Task 4: Develop Functional and Technical Requirements

The Black & Veatch team recommends the assignment of a Utility project lead to work with the Black & Veatch team in the development of the detailed business and technical requirements. The Black & Veatch team will lead the development of the following:

- Detailed Functional (Business) Requirements to support the program;

- Detailed Technical Requirements to build the executive dashboard, data extraction reports from GEMS and Munis Utility Billing and uploading of results from the financial models; and
- Documentation of potential High Level Use Cases.

The draft functional and technical requirements will be reviewed with the appropriate business and IT stakeholders. Any suggested changes will be incorporated and a final version of the Requirements documentation will be developed.

Task 6: Develop Implementation Plan

Upon approval of the Functional and Technical Requirements developed in Task 4, the Black & Veatch team will develop an implementation plan that is to serve as a road map for executing Phase 2 of this project. The implementation plan will delineate the key tasks and the team responsible for each task and a completion timeline.

Phase 1: Deliverables

Black & Veatch will prepare a Phase 1 business requirements project report and deliver to the Utility for review and feedback. The report will contain the following:

1. Summary description of the existing financial model business processes, workflows, policies, and issues (as necessary).
2. Summary of the revised business processes, and revised work flows (as may be necessary).
3. Description of all the functional and technical features developed within the Financial Model.
4. Detailed listing of functional and technical requirements for the new modules and executive dashboard.
5. Recommendations for implementation of business requirements in the existing system architecture.

On receipt of feedback from the City, any needed changes will be incorporated and final deliverables will be submitted.

Miscellaneous Service Fees and Charges Analysis

The current schedule of miscellaneous fees and charges for ancillary services, as outlined in the City Code of Ordinances 51, 52, 54, and 57 will be reviewed to determine whether the existing fee for that particular service sufficiently recovers the typical costs associated with providing the service. To the extent that the existing charges do not adequately recover the costs for which they are intended, the need for revisions will be identified.

The review discussed in the previous paragraph will further consider whether fees should be implemented for services currently provided without charge. In performing such a review, recognition will be given to the number of occurrences, the potential impact on revenues, the City's policy, public relations, political acceptance, and other relevant factors. The principal reason for miscellaneous fees and charges is to recover specific costs from customers who use specific services. Offsetting this need is the loss of good public relations because of perceived "nuisance charges". In determining the need for additional ancillary charges, consideration will be given to the following:

- Is the service one which should be discouraged, such as delinquent bill shut-offs?
- Is the service one that all customers eventually use and hence could be considered a "cost of doing business" to be recovered from all customers through the regular rate structure?
- Is the service one that is used by only a minimal number of customers (i.e. few occurrences) and hence the cost should not be recovered from all customers?

The cost of providing each ancillary service identified will be estimated. Cost estimates will include labor, equipment, and material requirements for providing the ancillary service based on available data and discussions with City staff responsible for providing the respective services. In addition, the occurrence of activities associated with performing this service will be assessed to determine the frequency of the service and all associated activities.

The results of the cost analysis described herein will be utilized to develop proposed charges for each miscellaneous service. The proposed fees and charges will recognize and consider the estimated impacts of the relevant intangible factors previously discussed.

A neighboring utility comparison of the proposed miscellaneous fees and charges will be conducted to compare similar fees charged by other utilities in the region. As directed by the Utility, neighboring utilities in Palm Beach County, Broward County, and Miami-Dade County will be selected based on proximity to the City, relative size of the system, and input provided by City staff regarding other utilities of interest. In addition, the proposed miscellaneous charges and analyses applied in developing such charges will be incorporated into a final report document.

Bond Feasibility Analysis

Black & Veatch will prepare reports and deliverables for purposes of authorization and issuance of proposed revenue bond offerings.

Data Collection and Review

Much of the data to be used in the anticipated financial feasibility studies will come from other analyses described herein. Black & Veatch's financial planning

and rate model will be equipped to evaluate long-term financial planning periods as required in a bond feasibility study. The data that will already be made available to Black & Veatch includes audited financial reports, operating and capital budgets, outstanding debt Official Statements, current and historical customer billing information, master planning documents, and internal operating reports. The development of the financial feasibility study will rely upon and utilize such existing data already available. Additional information would be requested in conjunction with the engineering inspections, review of regulatory compliance, and other activities associated with the preparation of the study. As the study progresses, Black & Veatch may submit requests for additional data and clarifications of initial data received.

Projected Revenues

Black & Veatch will utilize revenue projections as developed and loaded into the financial model and adjustments to the assumptions and revenue projections may be made as necessary based on input from Utility staff other members of the financing team. The projected revenues from user rates will include anticipated revenue adjustments necessary to meet the financial requirements of the utility system. In addition, the projections will include revenues from miscellaneous service charges, interest earnings, capital-related fees and other applicable revenue sources.

Projected Expenditures

Black & Veatch will utilize the projected cash expenditures and applicable assumptions developed as a basis for this analysis for the first full feasibility study. Adjustments to the assumptions and expenditure projections may be made as necessary based on input from Utility staff and/or other members of the financing team. The projected expenditures will include operating and maintenance expenses, capital to be funded from revenues, debt service from outstanding bond obligations, estimated debt service from the proposed Series of bonds, anticipated debt service associated with future bond issues that may be necessary to fund the capital improvement program, and any other transfers or cash requirements associated with the utility system. The expenditure projections will be for the study period.

Projected Financial Results

The projected revenues and expenditures will be summarized into a financial plan statement providing the projected financial results of the utility system under the existing rates, as well as a determination of additional revenue needs on an annual basis. The cash flow statement will identify annual adjustments in utility rates/revenues necessary to meet bond covenant and insurance covenant requirements for debt service coverage, cash reserves, parity bond issuance tests, and other bond covenant compliance analysis and tests. The estimated timing and magnitude of future debt issues required to finance proposed capital improvements will also be addressed.

Facilities Review

Black & Veatch will visit major water and wastewater system facilities, and review the Utility’s existing facilities fixed asset records, reporting records for regulatory compliance, and proposed major capital improvement programs, to: (1) identify whether the list of proposed projects appears to adequately and comprehensively address system capital improvement needs for the planning period, and (2) determine whether the Utility’s methodology for project cost estimating appears reasonable. This is important to position the Utility to provide bond holders with reasonable assurance of revenue generation capability and that all capital costs are recognized in the Utility’s financial planning.

Review of Projects and Identification of Impacts on Future Revenue Requirements

Black & Veatch will meet with Utility staff to review the capital improvement program for the study period. Discussions will center on understanding the need of the identified projects and the basis for their projected costs. The discussion will also identify any additions or proposed changes in staff or other operation expenses as a result of the proposed capital improvements. Black & Veatch will provide an opinion of the reasonableness of the capital program in terms of the specific projects, their projected costs, and any impact which the projects may have on future revenue requirements.

Bond Feasibility Report:

A bond feasibility report will be prepared to address the financial projections and the assumptions applied in the development of such projections. An electronic PDF copy of the bond feasibility report will be submitted to Utility staff and other members of the project team for review.

ANTICIPATION OF COMMON PROBLEMS

In the delivery of any complex solution, uncertainty exists and the measure of success is determined by the Team’s ability to minimize risk of uncertainty, as well as to foresee, quickly react to, and address/correct the symptom or outcome of such uncertainty. Typical problems can be broadly categorized as follows:

Compromised Schedule	
■ Schedule is unknown or not set	■ Schedule is inadequate
■ Detailed schedule is not prepared	■ Difficult and time-consuming access to data
■ Schedule is inadequate	■ Insufficient resources
■ Difficult and time-consuming access to data	■ Lack of decisions to advance projects
■ Schedule is unknown or not set	■ Unanticipated conditions
■ Detailed schedule is not prepared	

These problems may be overcome by ensuring close collaboration with Utility staff, establishing a high-level of trust, providing efficient and effective facilitated workshops and progress meetings, enhanced communications, top-notch leadership team, and executive-level commitment and involvement.

Compromised Budget

- Insufficient details identified in the scope of work
- Inadequate staffing plan
- Insufficient detail on project deliverables
- Unanticipated conditions

Unmet Expectations

- Insufficient details identified in the scope of work
- Lack of coordination and collaboration with City staff
- Insufficient communications with stakeholders
- Project conditions change

Detailed review of these categories shows that **proper project planning at the outset and proper project management and monitoring during the project, minimizes the opportunity for serious impact on the projects.** In addition, these problems may be overcome by ensuring close collaboration with Utility staff, establishing a high-level of trust, providing efficient and effective facilitated workshops and progress reports, enhanced communications, top-notch leadership team, and executive-level commitment and involvement.

PROJECT ORGANIZATION

To provide the Utility with sound and comprehensive financial planning solutions, we have assembled a **“Team”** of experts that are experienced in all aspects of financial planning, rate setting, and business integration matters specific to water utilities that bring lessons learned and industry best practices serve the Utility.

Our team will bring a fresh perspective and unlimited resources to serve the Utility.

Our Project Organization and Team approach are illustrated in Figure 9.



Figure 9 Project Team Organization Chart

To utilize a “**Team**” approach, the Utility staff, Project Leadership, and the respective Subject Matter Experts will coordinate directly on the completion of agreed upon task orders. This will create a clear communication and an operating environment that is transparent for the Project Organization.

The **Project Leadership** of the Black & Veatch Team includes Rafael Frias, Client Service Director, Richard Campbell, Project Director, and Robert Chambers, Project Manager. This team will be responsible for the overall management of all aspects of this contract, providing the appropriate and adequate resources required to serve the City, and managing and overseeing the day-to-day activities which may include the scheduling and achievement of project milestones agreed upon as a part of this contract, directly communicating with Utility staff and Black & Veatch personnel, and foreseeing and resolving issues that may become evident.

Our **Subject Matter Experts** will lead and manage task orders in the subject matter areas outlined in the Project Team Organization Chart, provide the overall thought leadership, and deliver on agreed upon task order deliverables on schedule and within budget. Listed below are a few of the typical tasks and project that will be managed by out subject matter experts:

A similar Project Organization was applied for the successful completion of the Utility’s Energy Efficient Master Plan.

- Large User True-up Analysis
- Renewal and Replacement Improvement True-up Analysis
- Retail and Wholesale Utility Rate Analysis
- Reserved Capacity Study
- Financial Sufficiency Assessments
- Financial Modeling
- Stakeholder Communications Facilitation
- Update of Multi-Year Rates and Fees Ordinance
- Business Tools Integration Assessment

Black & Veatch views quality control as one of the single most important aspects of the proper completion of all engagements. All Black & Veatch project deliverables are put through a rigorous round of quality control and assurance testing prior to delivery. As such, our **Quality Control Lead** will be responsible for the quality of all analysis and deliverables completed under this contact.

Table 5 provides a summary of the roles and responsibilities of the project team members as outlined in the Project Team Organization Chart.

Table 5 Roles and Responsibilities of Project Team Members

TEAM MEMBER	ROLES & RESPONSIBILITIES
Client Service Manager	Mr. Frias will oversee the commitment of Black & Veatch to provide the appropriate resources and solutions to the Utility in order to meet the project requirements and objectives of this contract.
Project Director	Mr. Campbell will oversee all task orders, provide quality assurance reviews, and maintain our company's commitment to providing all the appropriate resources under this contract.
Project Manager	Mr. Chambers will manage this contract and be responsible for the successful delivery of all deliverables based on the established project objectives, schedule, and milestones. In addition, Mr. Chambers will serve as the primary point of contact for all task orders under this contract.
Quality Control Lead	Our Quality Control lead will provide technical oversight, guidance, and quality assurance reviews on all agreed upon projects.
Subject Matter Experts	Our Subject Matter Experts will be responsible for the successful delivery of task orders in the Subject Matter Area presented in the Project Team Organization Chart.

PRINCIPAL OFFICE LOCATION

Black & Veatch will serve this contract from our local Broward County office in Sunrise, Florida, which is backed by tremendous firm-wide and global resources that are available to the Utility. Over the life of this contract, we will



1. **HOLLYWOOD CITY HALL**
2. **BLACK & VEATCH**

coordinate and provide our dedicated service from **our office in Sunrise, Florida, which is less than a 20-minute drive from the City of Hollywood City Hall**. Additional nearby expertise and support, as required, will be provided from our other Florida office locations. Specific Subject Matter Area expertise will be provided from other offices, as needed, to bring the best and latest to the Utility. Black & Veatch is committed to making our best financial and technical resources available to the City.

Black & Veatch opened our first Florida office over 50 years ago. We currently provide utility services in Florida from six

strategically-placed offices with more than 100 staff members. We have registered PEs, CPAs, and MBAs in the State of Florida, providing services in a wide range of fields. In addition to our local office in Broward County, Black & Veatch can provide supplemental services from our offices in Miami, Fort Myers, Orlando, Tampa and Jacksonville.

The combination of having our local leadership directly engaged with City staff and our extensive global technical resources fully accessible to support the Utility in solving complex financial and operations issues will serve to be of great value to the Utility.

PRIORITY OF CITY PROJECTS

Black & Veatch recognizes the importance of the City of Hollywood's Department of Public Services and this was a key decision in locating our office in Broward County, Florida. As the responsible, local Senior Project Manager for Black & Veatch in Broward County, Mr. Chambers will give high priority and dedicated attention to all projects assigned to Black & Veatch by the Utility. Furthermore, our integrated leadership team, Mr. Rafael Frias and Richard Campbell, will be fully available to the Utility staff as required by the Utility.

It will be a priority of the Project Team to team to be responsive in fulfilling the goals and objectives established by the Utility under this contract.

WORKLOAD

Black & Veatch fully understands that the aforementioned contract requires significant commitment to completing the all project and studies as outlined in the RFQ. We have the personnel depth and capacity to provide the required services and outlined annually in the RFQ. We are diligent about managing workload, shifting resources, and anticipating resource requirements in order to meet project schedules.

Black & Veatch is committed to providing the key staff identified in this proposal as well as other local, regional, national and international financial and technical resources required to successfully complete any tasks assigned by the Utility. Based upon our current level of commitment and the recent and upcoming completion of several projects, Black & Veatch has sufficient available capacity to complete this contract.

Anticipated Workload

The workload of the individual Team members has been analyzed, and it has been determined that Team members will have at a minimum 40% availability throughout this engagement, and the project leadership will be fully available upon receiving a notice to proceed as outlined in the RFQ. At the appropriate times, selected members will have 100% availability to complete their portion of the projects. **All professionals are fully devoted to performing their respective project work on schedule and budget.**

Table 6 presents a summary of Project Team Members' Forecasted Workload.

Table 6 Key Project Team Members' Forecasted Workload

PROJECT TEAM MEMBERS	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR
Rafael Frias	40%	30%	30%	25%	25%	30%	30%	30%	30%
Richard Campbell	25%	30%	40%	30%	30%	40%	40%	30%	20%
Robert Chambers	60%	50%	40%	30%	30%	40%	40%	40%	30%
Ann Bui	25%	30%	30%	40%	40%	30%	20%	20%	20%
Prabha Kumar	60%	50%	50%	40%	30%	40%	50%	40%	40%
Brian Jewett	40%	35%	35%	30%	30%	40%	40%	30%	30%
Chuck Milliken	35%	40%	40%	30%	20%	30%	30%	30%	30%
Pam Lemoine	50%	50%	60%	40%	30%	30%	30%	30%	30%
Isabel Botero	40%	60%	60%	60%	40%	30%	30%	30%	30%

Summary of Proposed Project Team

THE PEOPLE MAKE THE TEAM

Black & Veatch has assembled an experienced and highly qualified team of professionals to perform the proposed utility rate and financial consulting services in collaboration with and for the City. Our people are the most important part of our organization, and we have carefully selected a team of experts in rate consulting financial and technical services—all of whom have successfully performed numerous studies of a similar nature to those requested.

Black & Veatch offers a dedicated project team that provides a depth of expertise on the very issues that the City faces every day.

The Project Team is composed of professionals with backgrounds in engineering, accounting, computer modeling, finance and public participation. Of particular value to the City is the fact that the project team consists of team members with extensive industry experience.

A description of the organization structure for this engagement, our management structure, the capabilities of each team member and individual references are provided in this section.

Most members of the proposed project team have previously worked together in similar engagements including Miami-Dade, FL; North Miami, FL; City of Lauderhill, FL; City of Norfolk, VA; City of Columbia, SC; City of Philadelphia, PA; and others. Based on our experience in providing financial and rate advisory and consulting assistance and knowledge of the City's needs, we've selected a team specifically for this project that includes the following critical attributes:

- **Strong knowledge and understanding** of all facets of utility operations, finances and rates
- **Proximity to the utility for our leadership team** so as to attend meetings frequently and at short notice, and also coordinate closely with utility and City staff
- **Project Director and Project Manager with experience in leading a multi-disciplinary team** and in engaging various stakeholder groups including management, wholesale customers, elected officials, citizen's advisory groups and the general public

We believe our Project Team's combination of expertise and experience will enable Black & Veatch to serve the City in a cost effective and expeditious manner. The chart presented below illustrates the overall organization of the Project Team.

City of HOLLYWOOD

PROJECT LEADERSHIP

CLIENT SERVICE DIRECTOR

Rafael Frias, PE

PROJECT DIRECTOR

Richard Campbell, PE

PROJECT MANAGER

Robert Chambers, MBA

SUBJECT MATTER EXPERTS

Rates and Cost of Service

Richard Campbell Robert Chambers

Financial Modeling

Jeff Dykstra Matt Powis

Reserve Capacity Assessment

Brian Jewett

Business Process Integration

Chuck Milliken

Utility and Customer Affordability

Pam Lemoine

Stormwater Financial Planning

Prabha Kumar

Water System Planning

Isabel Botero, PE

QUALITY CONTROL LEAD

Utility System Planning

Ann Bui

MANAGEMENT STRUCTURE

The leadership team, comprised of professionals from our Sunrise, Florida, office is dedicated to working in close collaboration with City staff. Led by our Client Services Director, Rafael Frias; Project Director, Richard Campbell; and Project Manager, Robert Chambers; this leadership team is fully committed to ensuring the success of this engagement.



Rafael Frias | Client Services Director

Mr. Frias is a Client Director at Black & Veatch with over 18 years of experience specializing in water supply, water treatment, and stormwater planning and design. In addition, Mr. Frias has implemented sustainability principles into specific engineering and design and planning projects.

Mr. Frias recently managed a utility-wide **Energy Efficiency Master Plan** for the Utility, which resulted in the identification of 20 Energy Conservation Measures.

Mr. Frias will oversee the commitment of Black & Veatch to provide the appropriate resources and solutions to the Utility in order to meet the project requirements and objectives of this contract.

Mr. Frias served on the Board of Directors for the

American Water Resources Association (AWRA), and is active in the Water Environment Federation (WEF) and American Water Works Association (AWWA).

Richard Campbell | Project Director



Mr. Campbell currently serves as the Project Director and leads all Black & Veatch financial planning engagements which includes annual wholesale customer true-up assessments.

Mr. Campbell has 27 years of experience rate consulting services for electric, water and wastewater clients across the United States. He is a Director at Black & Veatch and brings strong project management, people management and technical skills to this project. Mr. Campbell has led numerous rate consulting engagements and is a major contributor to the Wholesale True-Up and Rate Projections that Black & Veatch has performed over the past decade at Miami-Dade Water and Sewer Department. He currently serves on AWWA's Rates and Charges committee.

As Project Director, Mr. Campbell will oversee all task orders, provide quality assurance reviews, and maintain Black & Veatch's commitment to provide all the appropriate resources under this agreement.

Robert Chambers | Project Manager



Robert has had the privilege to serve the Utility in the completion of the economic feasibility analysis associated with the Utility's [Energy Efficiency Master Plan](#).

Mr. Chambers is a Manager at Black & Veatch with 15 years of extensive utility and consulting experience involving a variety of projects associated with electric, water and wastewater, both public and private, throughout the southeastern United States. His utility knowledge covers a wide range of utility finance issues, including capital financing analyses, valuation studies for acquisitions, revenue bonds, utility rates, utility regulatory processes, economic feasibility studies and cost-of-service studies.

Mr. Chambers is an active in the Water Environment Federation (WEF) and has spoken at national conferences and published journals on topics such as, demand management, program development, energy management, customer affordability, and financial planning.

As Project Manager, Mr. Chambers will manage this contract and be responsible for the successful delivery of all deliverables based on the established project objectives, schedule, and project milestones. In addition, Mr. Chambers will serve as the primary point of contact for all task order under this contract.

PROJECT TEAM MEMBER QUALIFICATIONS

Key to fulfilling the objectives of the City's Rate Consulting and Financial and Technical Services is a Team that understands the technical, regulatory, financial, and operational requirements of water, wastewater facilities and buildings for optimum energy efficiency and management. The diverse group of experienced specialists and technical experts that compose our Team were selected with close regard to the successful delivery of comprehensive Energy Efficiency Master Plans. A brief overview of the qualifications of each selected key staff member, as identified in the organizational chart, is provided in Table 7.

Table 7 Summary of Project Team Qualifications

TEAM MEMBER ROLE / YEARS OF EXPERIENCE	QUALIFICATIONS / SPECIALTY / VALUE TO THE CITY
PROJECT LEADERSHIP TEAM	
Rafael Frias Client Services Director Experience: 16 Years	<ul style="list-style-type: none"> ■ Dedicated commitment to client service and satisfaction ■ Local project leadership, located in Black & Veatch's Sunrise, FL office
Richard Campbell Project Director Experience: 27 Years	<ul style="list-style-type: none"> ■ Member of AWWA Rates and Charges Committee ■ Dedicated commitment to project execution ■ Extensive wholesale and water and wastewater rates consulting experience ■ Experienced stakeholder facilitator
Robert Chambers Project Manager Experience: 15 Years	<ul style="list-style-type: none"> ■ Local and experienced project manager that has led multiple multi-disciplined projects (located in Black & Veatch's Sunrise, FL office) ■ Extensive utility financial, cost of service, and rate setting consulting experience in Florida ■ Experienced stakeholder facilitator
QUALITY CONTROL LEAD	
Ann Bui QA/QC Experience: 26 Years	<ul style="list-style-type: none"> ■ Managing Director and National Lead for Black & Veatch's Management Consulting Water Practice ■ Vice Chair of AWWA Finance, Accounting and Management Controls Committee ■ Contributing author and editor for more than six AWWA/WEF manuals of practice ■ A quarter century of strategic and business planning, utility ratemaking, and financial valuation studies for utilities
SUBJECT MATTER INDUSTRY EXPERTS AND RESOURCES	
Pam Lemoine Utility and Customer Affordability Experience: 28 Years	<ul style="list-style-type: none"> ■ Subject matter expert in strategic planning, financial analyses, and affordability assessments associated with long-term control plan development required through federal consent decrees.
Prabha Kumar Stormwater Finance and Management Experience: 16 Years	<ul style="list-style-type: none"> ■ Member of AWWA Strategic Management Practices Committee ■ Nationally recognized stormwater planning expert and leads Black & Veatch's stormwater utility consulting practice. ■ Experienced stakeholder facilitator

TEAM MEMBER ROLE / YEARS OF EXPERIENCE	QUALIFICATIONS / SPECIALTY / VALUE TO THE CITY
Brian Jewett Reserve Capacity and Impact Fees Experience: 22 Years	<ul style="list-style-type: none"> ■ Subject matter expert in reserve capacity studies and impact fee analyses ■ Member of AWWA Rates and Charges Committee and Impact Fee Sub-committee
Jeff Dykstra Financial Modeling and Rate Studies Experience: 7 Years	<ul style="list-style-type: none"> ■ Experienced in financial and rate modeling. ■ Completed multiple projects associated with cost of service analysis, retail and wholesale rate making, and special customer true-up assessments.
Chuck Milliken Business Process/Systems Integration Experience: 20 Years	<ul style="list-style-type: none"> ■ Subject matter expert in business process and systems integration of utility technology systems ■ PMP Certified Member of Project Management Institute
Mat Powis Financial Modeling and Rate Studies Experience: 8 Years	<ul style="list-style-type: none"> ■ Experienced in cost of service and asset management studies. ■ Dynamic financial model development experience
Isabel Botero Utility System Planning Experience: 13 Years	<ul style="list-style-type: none"> ■ Extensive utility planning experience and have served numerous utilities in Miami-Dade, Broward, and Palm Beach County. ■ Served as the Assistant Project Manager in the completion of the Utility Energy Efficiency Master Plan
Others Analysts and Consultants	<ul style="list-style-type: none"> ■ Black & Veatch offers a wide variety of analysts, consultants, engineers, and other experts in all areas of utility operations which are available to this project leadership team for this engagement as needed.

RESUMES

Detailed resumes for our key Team members are included in Appendix 1. Some of the industry's foremost experts in their respective fields are on this team ready to serve the Utility. On the Utility's request, we would be pleased to provide additional project detail for any of our Team members to demonstrate their capabilities.

REFERENCES (DETAILED QUESTIONNAIRE FORM)

Attached are reference questionnaires for each Team member listed in the organizational chart.

Issue Date: June 3, 2015

City of Hollywood, Florida
RFQ-4464-15-RL

REFERENCE QUESTIONNAIRE

It is the responsibility of the contractor/vendor to provide a minimum of three (3) similar type references using this form and to provide this information with your submission. Failure to do so may result in the rejection of your submission.

Giving reference for: RICHARD CAMPBELL

Firm giving Reference: MIAMI - DADE WATER + SEWER DEPT

Address: 3071 SW 38th Avenue, Miami, Florida 33146

Phone: 786-552-8038

Fax: 786-552-8645

Email: msuar@miamidade.gov

1. Q: What was the dollar value of the contract?

A: Agreement for \$1.6 million for a 7 year term, and a \$500,000, one-year term.

2. Have there been any change orders, and if so, how many?

A: NONE

3. Q: Did they perform on a timely basis as required by the agreement?

A: YES

4. Q: Was the project manager easy to get in contact with?

A: YES

5. Q: Would you use them again?

A: YES

6. Q: Overall, what would you rate their performance? (Scale from 1-5)

A: ☒ 5 Excellent ☐ 4 Good ☐ 3 Fair ☐ 2 Poor ☐ 1 Unacceptable

7. Q: Is there anything else we should know, that we have not asked?

A:

The undersigned does hereby certify that the foregoing and subsequent statements are true and correct and are made independently, free from vendor interference/collusion.

Name: Maria C Suarez Title: Chief, Budget Management

Signature: [Signature] Date: June 23, 2015

[Signature] CFO 6/23/15

Issue Date: June 3, 2015

City of Hollywood, Florida
RFQ-4464-15-RL

REFERENCE QUESTIONNAIRE

It is the responsibility of the contractor/vendor to provide a minimum of three (3) similar type references using this form and to provide this information with your submission. Failure to do so may result in the rejection of your submission.

Giving reference for: JEFF DYKSTRA

Firm giving Reference: MIAMI-DADE WATER & SEWER DEPT

Address: 3071 SW 38th Avenue, Miami, FL 33146

Phone: 786-552-8038

Fax: 786-552-8645

Email: msuar@miamidade.gov

1. Q: What was the dollar value of the contract?
A: Agreement for \$1.6 million, 7 year term, and a \$500,000 one-year term.
2. Have there been any change orders, and if so, how many?
A: NONE
3. Q: Did they perform on a timely basis as required by the agreement?
A: YES
4. Q: Was the project manager easy to get in contact with?
A: YES
5. Q: Would you use them again?
A: YES
6. Q: Overall, what would you rate their performance? (Scale from 1-5)
A: ☒ 5 Excellent ☐ 4 Good ☐ 3 Fair ☐ 2 Poor ☐ 1 Unacceptable
7. Q: Is there anything else we should know, that we have not asked?
A:

The undersigned does hereby certify that the foregoing and subsequent statements are true and correct and are made independently, free from vendor interference/collusion.

Name: Maria C Suarez Title: Chief, Budget Management

Signature: [Signature] Date: June 23, 2015

Francis J. Ma, CFO 6/23/15

Issue Date: June 3, 2015

City of Hollywood, Florida
RFQ-4464-15-RL

REFERENCE QUESTIONNAIRE

It is the responsibility of the contractor/vendor to provide a minimum of three (3) similar type references using this form and to provide this information with your submission. Failure to do so may result in the rejection of your submission.

Giving reference for: RICHARD CAMPBELL

Firm giving Reference: ALLEGHENY COUNTY SANITARY AUTHORITY

Address: 3300 PEEBLE AVENUE

Phone: 412 734-8705

Fax: 412 734-8714

Email: ADLETTA.WILLIAMS@ALCOSAN.ORG

1. Q: What was the dollar value of the contract?

A: 775,000.00

2. Q: Have there been any change orders, and if so, how many?

A: NO

3. Q: Did they perform on a timely basis as required by the agreement?

A: YES

4. Q: Was the project manager easy to get in contact with?

A: YES

5. Q: Would you use them again?

A: YES

6. Q: Overall, what would you rate their performance? (Scale from 1-5)

A: ☒ 5 Excellent ☐ 4 Good ☐ 3 Fair ☐ 2 Poor ☐ 1 Unacceptable

7. Q: Is there anything else we should know, that we have not asked?

A: EXCELLENT TEAM WITH QUALITY SUBS

The undersigned does hereby certify that the foregoing and subsequent statements are true and correct and are made independently, free from vendor interference/collusion.

Name: ADLETTA SCOTT WILLIAMS Title: EXECUTIVE DIRECTOR

Signature: Adletta M. Williams Date: 6/19/2015

Issue Date: June 3, 2015

City of Hollywood, Florida
RFQ-4464-15-RL

REFERENCE QUESTIONNAIRE

It is the responsibility of the contractor/vendor to provide a minimum of three (3) similar type references using this form and to provide this information with your submission. Failure to do so may result in the rejection of your submission.

Giving reference for: ROBERT CHAMBERS

Firm giving Reference: ALLEGANY COUNTY SANITARY AUTHORITY

Address: 3300 PREBLE AVENUE

Phone: 412 734-8705

Fax: 412 734-8714

Email: ARLENA.WILLIAMS@ALLOSAN.ORG

1. Q: What was the dollar value of the contract?

A: 775,000.00

2. Q: Have there been any change orders, and if so, how many?

A: NO

3. Q: Did they perform on a timely basis as required by the agreement?

A: YES

4. Q: Was the project manager easy to get in contact with?

A: YES ALWAYS

5. Q: Would you use them again?

A: DEFINITELY

6. Q: Overall, what would you rate their performance? (Scale from 1-5)

A: ☒ 5 Excellent ☐ 4 Good ☐ 3 Fair ☐ 2 Poor ☐ 1 Unacceptable

7. Q: Is there anything else we should know, that we have not asked?

A: EXCELLENT w/ QUALITY SUBCONSULTANTS

The undersigned does hereby certify that the foregoing and subsequent statements are true and correct and are made independently, free from vendor interference/collusion.

Name: ARLENA SCOT WILLIAMS Title: EXECUTIVE DIRECTOR

Signature: Arleena Williams Date: 6/19/2015

REFERENCE QUESTIONNAIRE

It is the responsibility of the contractor/vendor to provide a minimum of three (3) similar type references using this form and to provide this information with your submission. Failure to do so may result in the rejection of your submission.

Giving reference for: Robert Chambers

Firm giving Reference: City of North Miami

Address: 776 NE 125 Street, North Miami, FL 33161

Phone: (305) 895-9888

Fax: (305) 893-1367

Email: aghany@northmiamifl.gov

1. Q: What was the dollar value of the contract?

A: Approx. \$80,000

2. Have there been any change orders, and if so, how many?

A: one

3. Q: Did they perform on a timely basis as required by the agreement?

A: Yes

4. Q: Was the project manager easy to get in contact with?

A: Yes

5. Q: Would you use them again?

A: Yes

6. Q: Overall, what would you rate their performance? (Scale from 1-5)

A: ☐ 5 Excellent ☒ 4 Good ☐ 3 Fair ☐ 2 Poor ☐ 1 Unacceptable

7. Q: Is there anything else we should know, that we have not asked?

A: Very responsive

The undersigned does hereby certify that the foregoing and subsequent statements are true and correct and are made independently, free from vendor interference/collusion.

Name: ALEEM A. GHANY Title: CITY MANAGER

Signature:  Date: 6-16-15

REFERENCE QUESTIONNAIRE

It is the responsibility of the contractor/vendor to provide a minimum of three (3) similar type references using this form and to provide this information with your submission. Failure to do so may result in the rejection of your submission.

Giving reference for: Jeff Dykstra

Firm giving Reference: City of North Miami

Address: 776 NE 125 Street, North Miami, FL 33161

Phone: (305) 895-9888

Fax: (305) 893-1367

Email: aghany@northmiamifl.gov

1. **Q:** What was the dollar value of the contract?
A: Approximately \$80,000
2. **Q:** Have there been any change orders, and if so, how many?
A: One
3. **Q:** Did they perform on a timely basis as required by the agreement?
A: Yes
4. **Q:** Was the project manager easy to get in contact with?
A: Yes
5. **Q:** Would you use them again?
A: Yes
6. **Q:** Overall, what would you rate their performance? (Scale from 1-5)
A: ☐ 5 Excellent ☒ 4 Good ☐ 3 Fair ☐ 2 Poor ☐ 1 Unacceptable
7. **Q:** Is there anything else we should know, that we have not asked?
A: Very responsive

The undersigned does hereby certify that the foregoing and subsequent statements are true and correct and are made independently, free from vendor interference/collusion.

Name: ALEEM A. GHANY Title: CITY MANAGER

Signature:  Date: 6-16-15

REFERENCE QUESTIONNAIRE

It is the responsibility of the contractor/vendor to provide a minimum of three (3) similar type references using this form and to provide this information with your submission. Failure to do so may result in the rejection of your submission.

Giving reference for: Rafael Frias / Isabel Botero - Black & Veatch

Firm giving Reference: Broward County Water and Wastewater Services

Address: 2555 W Copans Road, Pompano Beach, FL 33069

Phone: (954) 831-3239

Fax: 954 831-0798

Email: JOROZCO@broward.org

1. Q: What was the dollar value of the contract?

A: *This is a Continuing Eng. Svcs. Contract w/ \$1M for each year of an initial 2 year period.*

2. Have there been any change orders, and if so, how many?

A: *No Change Orders / Some amendments to work Authorizations,*

3. Q: Did they perform on a timely basis as required by the agreement?

A: *yes*

4. Q: Was the project manager easy to get in contact with?

A: *yes*

5. Q: Would you use them again?

A: *yes*

6. Q: Overall, what would you rate their performance? (Scale from 1-5)

A: ☒ 5 Excellent ☐ 4 Good ☐ 3 Fair ☐ 2 Poor ☐ 1 Unacceptable

7. Q: Is there anything else we should know, that we have not asked?

A: *This firm has highly qualified individuals assigned to their team.*

The undersigned does hereby certify that the foregoing and subsequent statements are true and correct and are made independently, free from vendor interference/collusion.

Name: Jorge Orozco

Title: Project Manager

Signature: *Jorge Orozco*

Date: June 15, 2015

Issue Date: June 3, 2015

City of Hollywood, Florida
RFQ-4464-15-RL

REFERENCE QUESTIONNAIRE

It is the responsibility of the contractor/vendor to provide a minimum of three (3) similar type references using this form and to provide this information with your submission. Failure to do so may result in the rejection of your submission.

Giving reference for: JEFF DEXTRA

Firm giving Reference: CITY OF COLUMBIA, SC

Address: PO Box 147, Columbia SC 29217

Phone: 803.545.3289

Fax: 803.401.8824

Email: _____

1. Q: What was the dollar value of the contract?

A: \$200,000

2. Q: Have there been any change orders, and if so, how many?

A: NONE TO DATE

3. Q: Did they perform on a timely basis as required by the agreement?

A: YES

4. Q: Was the project manager easy to get in contact with?

A: YES

5. Q: Would you use them again?

A: YES

6. Q: Overall, what would you rate their performance? (Scale from 1-5)

A: ☒ 5 Excellent ☐ 4 Good ☐ 3 Fair ☐ 2 Poor ☐ 1 Unacceptable

7. Q: Is there anything else we should know, that we have not asked?

A: NO

The undersigned does hereby certify that the foregoing and subsequent statements are true and correct and are made independently, free from vendor interference/collusion.

Name: JOEY JACO Title: DIRECTOR OF UTILITIES & ENGINEERING

Signature: [Signature] Date: 6.15.2015

Issue Date: June 3, 2015

City of Hollywood, Florida
RFQ-4464-15-RL

REFERENCE QUESTIONNAIRE

It is the responsibility of the contractor/vendor to provide a minimum of three (3) similar type references using this form and to provide this information with your submission. Failure to do so may result in the rejection of your submission.

Giving reference for: RICHARD CAMPBELL

Firm giving Reference: CITY OF COLUMBIA, SC

Address: PO BOX 147, COLUMBIA SC 29217

Phone: 803.545.3289

Fax: 803.401.8824

Email: jdjaco@columbiasc.net

1. Q: What was the dollar value of the contract?

A: \$200,000

2. Have there been any change orders, and if so, how many?

A: NONE TO DATE

3. Q: Did they perform on a timely basis as required by the agreement?

A: YES

4. Q: Was the project manager easy to get in contact with?

A: YES

5. Q: Would you use them again?

A: YES

6. Q: Overall, what would you rate their performance? (Scale from 1-5)

A: ☒ 5 Excellent ☐ 4 Good ☐ 3 Fair ☐ 2 Poor ☐ 1 Unacceptable

7. Q: Is there anything else we should know, that we have not asked?

A: NO

The undersigned does hereby certify that the foregoing and subsequent statements are true and correct and are made independently, free from vendor interference/collusion.

Name: JOEY JACO Title: DIRECTOR OF UTILITIES & ENGINEERING

Signature: [Signature] Date: 6.15.2015

Issue Date: June 3, 2015

City of Hollywood, Florida
RFQ-4464-15-RL

REFERENCE QUESTIONNAIRE

It is the responsibility of the contractor/vendor to provide a minimum of three (3) similar type references using this form and to provide this information with your submission. Failure to do so may result in the rejection of your submission.

Giving reference for: Pam Lemoine

Firm giving Reference: Columbus Public Utilities

Address: 910 Dublin Road, Suite 4014 Columbus, OH 43215

Phone: (614) 645-7820

Fax: _____

Email: JSLee@columbus.gov

1. Q: What was the dollar value of the contract?

A: \$708,000

2. Have there been any change orders, and if so, how many?

A: No

3. Q: Did they perform on a timely basis as required by the agreement?

A: Yes, consultant met all contract milestones on a timely basis.

4. Q: Was the project manager easy to get in contact with? A: Yes, consultant was easy to get in contact with both via email and phone and responded timely with all inquires.

5. Q: Would you use them again?

A: Yes

6. Q: Overall, what would you rate their performance? (Scale from 1-5)

A: ☒ 5 Excellent ☐ 4 Good ☐ 3 Fair ☐ 2 Poor ☐ 1 Unacceptable

7. Q: Is there anything else we should know, that we have not asked? A: Consultant was always prepared for project meetings, had excellent understanding of subject matter, and provided insightful recommendations.

The undersigned does hereby certify that the foregoing and subsequent statements are true and correct and are made independently, free from vendor interference/collusion.

Name: Jon Lee Title: Assistant Director

Signature:  Date: 6/11/15

REFERENCE QUESTIONNAIRE

It is the responsibility of the contractor/vendor to provide a minimum of three (3) similar type references using this form and to provide this information with your submission. Failure to do so may result in the rejection of your submission.

Giving reference for: Mathew Powis

Firm giving Reference: Columbus Public Utilities

Address: 910 Dublin Road, Suite 4014 Columbus, OH 43215

Phone: (614) 645-7820

Fax: _____

Email: JSLee@columbus.gov

1. Q: What was the dollar value of the contract?

A: \$708,000

2. Have there been any change orders, and if so, how many?

A: No

3. Q: Did they perform on a timely basis as required by the agreement?

A: Yes, consultant met all contract milestones on a timely basis.

4. Q: Was the project manager easy to get in contact with? A: Yes, consultant was easy to get in contact with both via email and phone and responded timely with all inquiries.

5. Q: Would you use them again?

A: Yes

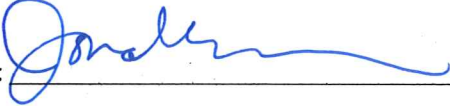
6. Q: Overall, what would you rate their performance? (Scale from 1-5)

A: ☒ 5 Excellent ☐ 4 Good ☐ 3 Fair ☐ 2 Poor ☐ 1 Unacceptable

7. Q: Is there anything else we should know, that we have not asked? A: Consultant was always prepared for project meetings, able to easily decipher technical financial information for financial modeling, and demonstrated expert modeling skills.

The undersigned does hereby certify that the foregoing and subsequent statements are true and correct and are made independently, free from vendor interference/collusion.

Name: Jon Lee Title: Assistant Director

Signature:  Date: 6/4/15

Issue Date: June 3, 2015

City of Hollywood, Florida
RFQ-4464-15-RL

REFERENCE QUESTIONNAIRE

It is the responsibility of the contractor/vendor to provide a minimum of three (3) similar type references using this form and to provide this information with your submission. Failure to do so may result in the rejection of your submission.

Giving reference for: Pam Lemoine

Firm giving Reference: Greater Cincinnati Water Works

Address: 1600 Gest Street Cincinnati, Ohio 45204

Phone: (513) 244-1305

Fax: _____

Email: ihab.tadros@cincinnati-oh.gov

1. Q: What was the dollar value of the contract?

A: \$90,000

2. Have there been any change orders, and if so, how many?

A: No

3. Q: Did they perform on a timely basis as required by the agreement?

A: Yes. Always, perform required tasks on a timely manner.

4. Q: Was the project manager easy to get in contact with?

A: Very easy to get in touch with them, whether phone calls or e-mail.

5. Q: Would you use them again?

A: Definitely, we will if and when we get the opportunity. We already are utilizing their services for years now.

6. Q: Overall, what would you rate their performance? (Scale from 1-5)

A: ☒ 5 Excellent ☐ 4 Good ☐ 3 Fair ☐ 2 Poor ☐ 1 Unacceptable

7. Q: Is there anything else we should know, that we have not asked?

A: Black & Veatch has the depth necessary to provide a highly qualified project team, providing not only financial/rate expertise, but also engineering and planning expertise, as necessary.

The undersigned does hereby certify that the foregoing and subsequent statements are true and correct and are made independently, free from vendor interference/collusion.

Name: Ihab Tadros Title Deputy Director of Finance / CFO

Signature:  Date: 6-11-2015

Issue Date: June 3, 2015

City of Hollywood, Florida
RFQ-4464-15-RL

REFERENCE QUESTIONNAIRE

It is the responsibility of the contractor/vendor to provide a minimum of three (3) similar type references using this form and to provide this information with your submission. Failure to do so may result in the rejection of your submission.

Giving reference for: Mathew Powis

Firm giving Reference: Greater Cincinnati Water Works

Address: 1600 Gest Street Cincinnati, Ohio 45204

Phone: (513) 244-1305

Fax: _____

Email: ihab.tadros@cincinnati-oh.gov

1. Q: What was the dollar value of the contract?

A: \$90,000

2. Have there been any change orders, and if so, how many?

A: NO

3. Q: Did they perform on a timely basis as required by the agreement?

A: Yes. Always, perform required tasks on a timely manner.

4. Q: Was the project manager easy to get in contact with?

A: Very easy to get in touch with them, whether phone calls or e-mail.

5. Q: Would you use them again?

A: Definitely, we will if and when we get the opportunity. We already are utilizing their services for years now.

6. Q: Overall, what would you rate their performance? (Scale from 1-5)


A: ☒ 5 Excellent ☐ 4 Good ☐ 3 Fair ☐ 2 Poor ☐ 1 Unacceptable

7. Q: Is there anything else we should know, that we have not asked?

A: Black & Veatch has the depth necessary to provide a highly qualified project team, providing not only financial/rate expertise, but also engineering and planning expertise, as necessary.

The undersigned does hereby certify that the foregoing and subsequent statements are true and correct and are made independently, free from vendor interference/collusion.

Name: Ihab Tadros Title Deputy Director of Finance / CFO

Signature:  Date: 6-11-2015

REFERENCE QUESTIONNAIRE

It is the responsibility of the contractor/vendor to provide a minimum of three (3) similar type references using this form and to provide this information with your submission. Failure to do so may result in the rejection of your submission.

Giving reference for: Rafael Frias / Isabel Botero - Black & Veatch

Firm giving Reference: Palm Beach County Water Utilities Department

Address: 8100 Forest Hill Boulevard, West Palm Beach, FL 33416

Phone: (561) 493-6003

Fax: _____

Email: MTobon@pbcwater.com

1. Q: What was the dollar value of the contract?

A: \$1.0 million

2. Have there been any change orders, and if so, how many?

A: As needed owner initiated supplements.

3. Q: Did they perform on a timely basis as required by the agreement?

A: yes

4. Q: Was the project manager easy to get in contact with?

A: yes

5. Q: Would you use them again?

A: yes

6. Q: Overall, what would you rate their performance? (Scale from 1-5)

A: ☒ 5 Excellent ☐ 4 Good ☐ 3 Fair ☐ 2 Poor ☐ 1 Unacceptable

7. Q: Is there anything else we should know, that we have not asked?

A: Excellent reports with awesome graphics.

The undersigned does hereby certify that the foregoing and subsequent statements are true and correct and are made independently, free from vendor interference/collusion.

Name: Maurice Tobon Title: Director of Engineering

Signature:  Date: 6/4/15

Issue Date: June 3, 2015

City of Hollywood, Florida
RFQ-4464-15-RL

REFERENCE QUESTIONNAIRE

It is the responsibility of the contractor/vendor to provide a minimum of three (3) similar type references using this form and to provide this information with your submission. Failure to do so may result in the rejection of your submission.

Giving reference for: ANN BUI and BRIAN JEWETT

Firm giving Reference: CITY OF SAN DIEGO / PUBLIC UTILITIES

Address: 9192 TOPAZ WAY, SAN DIEGO

Phone: (858) 614-4042

Fax: _____

Email: LASantos@san diego.gov

1. Q: What was the dollar value of the contract?
A: _____
2. Have there been any change orders, and if so, how many?
A: NO
3. Q: Did they perform on a timely basis as required by the agreement?
A: YES
4. Q: Was the project manager easy to get in contact with?
A: YES, always available
5. Q: Would you use them again?
A: YES
6. Q: Overall, what would you rate their performance? (Scale from 1-5)
A: ☒ 5 Excellent ☐ 4 Good ☐ 3 Fair ☐ 2 Poor ☐ 1 Unacceptable
7. Q: Is there anything else we should know, that we have not asked?
A: _____

The undersigned does hereby certify that the foregoing and subsequent statements are true and correct and are made independently, free from vendor interference/collusion.

Name: LEE ANN JONES SANTOS Title: ASSISTANT DIRECTOR

Signature: [Signature] Date: 6/22/15

REFERENCE QUESTIONNAIRE

It is the responsibility of the contractor/vendor to provide a minimum of three (3) similar type references using this form and to provide this information with your submission. Failure to do so may result in the rejection of your submission.

Giving reference for: Pam Lemoine

Firm giving Reference: Sanitation District No. 1 of Northern Kentucky

Address: 1045 Eaton Drive Fort Wright, Kentucky 41017

Phone: (859) 578-6759

Fax: _____

Email: rschmitt@sd1.org

1. **Q:** What was the dollar value of the contract?
A: \$563,000 (multiple contracts)
2. **Q:** Have there been any change orders, and if so, how many?
A: Yes, 1
3. **Q:** Did they perform on a timely basis as required by the agreement?
A: Yes
4. **Q:** Was the project manager easy to get in contact with?
A: Yes, always accessible.
5. **Q:** Would you use them again?
A: Absolutely!
6. **Q:** Overall, what would you rate their performance? (Scale from 1-5)
A: ☒ 5 Excellent ☐ 4 Good ☐ 3 Fair ☐ 2 Poor ☐ 1 Unacceptable
7. **Q:** Is there anything else we should know, that we have not asked?
A: Very knowledgeable and customer focused company. Pam is an outstanding project lead.

The undersigned does hereby certify that the foregoing and subsequent statements are true and correct and are made independently, free from vendor interference/collusion.

Name: Ron Schmitt Jr. Title: Director of Finance

Signature:  Date: 6/12/15

REFERENCE QUESTIONNAIRE

It is the responsibility of the contractor/vendor to provide a minimum of three (3) similar type references using this form and to provide this information with your submission. Failure to do so may result in the rejection of your submission.

Giving reference for: Mathew Powis

Firm giving Reference: Sanitation District No. 1 of Northern Kentucky

Address: 1045 Eaton Drive Fort Wright, Kentucky 41017

Phone: (859) 578-6759

Fax: _____

Email: rschmitt@sd1.org

1. **Q:** What was the dollar value of the contract?
A: \$563,000 (multiple contracts)
2. **Q:** Have there been any change orders, and if so, how many?
A: Yes, 1
3. **Q:** Did they perform on a timely basis as required by the agreement?
A: Yes
4. **Q:** Was the project manager easy to get in contact with?
A: Yes, always accessible.
5. **Q:** Would you use them again?
A: Absolutely!
6. **Q:** Overall, what would you rate their performance? (Scale from 1-5)
A: ☒ 5 Excellent ☐ 4 Good ☐ 3 Fair ☐ 2 Poor ☐ 1 Unacceptable
7. **Q:** Is there anything else we should know, that we have not asked?
A: Very knowledgeable and customer focused company.

The undersigned does hereby certify that the foregoing and subsequent statements are true and correct and are made independently, free from vendor interference/collusion.

Name: Ron Schmitt Jr. Title: Director of Finance

Signature:  Date: 6/12/15

Issue Date: June 3, 2015

City of Hollywood, Florida
RFQ-4464-15-RL

REFERENCE QUESTIONNAIRE

It is the responsibility of the contractor/vendor to provide a minimum of three (3) similar type references using this form and to provide this information with your submission. Failure to do so may result in the rejection of your submission.

Giving reference for: Black and Veatch Corporation

Firm giving Reference: City of Santa Ana

Address: 220 S. Daisy Avenue, M-85, Santa Ana, CA 92703

Phone: 714-647-3385

Fax: _____

Email: bige@santa-ana.org

1. Q: What was the dollar value of the contract?

A: \$480,000

2. Have there been any change orders, and if so, how many?

A: There have been a total of 3 change orders due to a change in project requirements.

3. Q: Did they perform on a timely basis as required by the agreement?

A: Yes

4. Q: Was the project manager easy to get in contact with?

A: Yes

5. Q: Would you use them again?

A: Yes

6. Q: Overall, what would you rate their performance? (Scale from 1-5)


A: ☒ 5 Excellent ☐ 4 Good ☐ 3 Fair ☐ 2 Poor ☐ 1 Unacceptable

7. Q: Is there anything else we should know, that we have not asked?

A: _____

The undersigned does hereby certify that the foregoing and subsequent statements are true and correct and are made independently, free from vendor interference/collusion.

Name: Brian Ige Title: Assistant Engineer II

Signature:  Date: 6/12/15

REFERENCE QUESTIONNAIRE

It is the responsibility of the contractor/vendor to provide a minimum of three (3) similar type references using this form and to provide this information with your submission. Failure to do so may result in the rejection of your submission.

Giving reference for: Rafael Frias/Isabel Botero/Black & Veatch

Firm giving Reference: South Florida Water Management District

Address: 3301 Gun Club Road, West Palm Beach, FL 33406

Phone: (561) 682-2049

Fax: _____

Email: lserra@sfwmd.gov

1. Q: What was the dollar value of the contract?

A: \$299,647.00

2. Have there been any change orders, and if so, how many?

A: NONE

3. Q: Did they perform on a timely basis as required by the agreement?

A: YES

4. Q: Was the project manager easy to get in contact with?

A: YES

5. Q: Would you use them again?

A: YES

6. Q: Overall, what would you rate their performance? (Scale from 1-5)

A: ☐ 5 Excellent ☒ 4 Good ☐ 3 Fair ☐ 2 Poor ☐ 1 Unacceptable

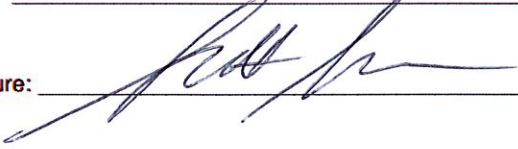
7. Q: Is there anything else we should know, that we have not asked?

A: THE CONSULTANT HAS BEEN COURTEOUS, PROFESSIONAL AND ATTENTIVE TO THE CONTRACT WORK

The undersigned does hereby certify that the foregoing and subsequent statements are true and correct and are made independently, free from vendor interference/collusion.

Name: Scott Serra

Title: Project Manager

Signature: 

Date: 6/17/15

Summary of Experience

SINGLE SOURCE SOLUTIONS

Black & Veatch prides itself on being the “one-stop-shop” for our clients offering a wide variety of solutions to the issues. We deliver value through the application of first-hand industry expertise, exceptional program and project execution, thought leadership, proven methodologies and processes, and ethical business practices. Our proven capability to deliver is local, national and international. We are a dynamic organization that strives to change as our clients’ needs evolve.

NATIONAL INDUSTRY EXPERTS ACROSS MULTIPLE UTILITY DISCIPLINES

Black & Veatch professionals are active participants in the agencies that set the regulations and standards for the industry. Black & Veatch project team members are active members and participants in industry organization.

Provided below is a brief summary of team member industry participation:



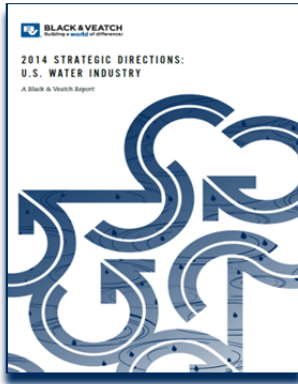
- **Rafael Frias:** Active Members
- **Richard Campbell:** Active Member and serves on the Rates and Charges Committee
- **Ann Bui:** Active Member and Chair of the Finance, Accounting and Management Controls Committee
- **Brian Jewett:** Active Member and serves on the Rates and Charges Committee
- **Pam Lemoine:** Active Member
- **Prahba Kumar:** Active Member and serves on the Rates and Charges Committee
- **Isabel Botero:** Active Member



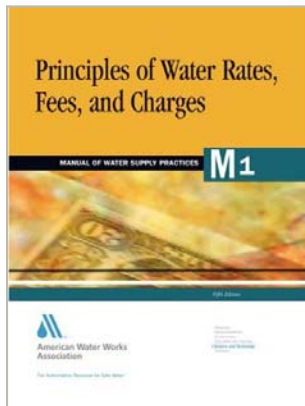
- **Rafael Frias:** Active Members
- **Robert Chambers:** Active Member
- **Ann Bui:** Active Member
- **Pam Lemoine:** Active Member
- **Prahba Kumar:** Active Member and serves on the Stormwater Management Committee
- **Isabel Botero:** Active Member
- **Matt Powis:** Active Member

Publications

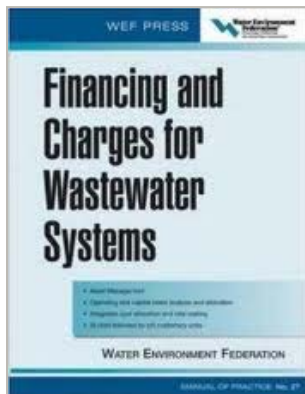
Black & Veatch project team members have served in publishing industry recognized articles, journals, manuals, and surveys. On the following page is a brief list of publications that Black & Veatch team members have served in providing thought leadership and research analysis as a part of the preparation of these documents.



■ **Black & Veatch Corporation**



- **Richard Campbell:** Active AWWA Member and served in the publication of this manual.
- **Ann Bui:** Active AWWA Member and served in the publication of this manual. Also served in the development of the M29 manual.
- **Brian Jewett:** Active AWWA Member and served in the publication of this manual. Also serviced in the development of the M54 and M5.



- **Ann Bui:** Active WEF Member and served in the publication of this manual.

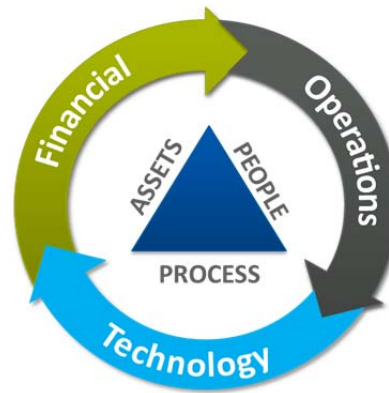


- **Prabha Kumar:** Served and the lead Author in the development of Chapter 3: Feasibility Study. This chapter outlines the general consideration associated with developing a feasible stormwater program.
- **Ann Bui:** Active WEF Member and served in the publication of this manual.

Conclusions

Black & Veatch is uniquely qualified to serve as the Utility's financial consulting partner. Black & Veatch understands that the Utility values the services provided by its financial consulting partner considers this relationship to be a fundamental component of the overall financial strategy of the Utility. Black & Veatch considers it a privilege to present our capabilities and potentially serve in this capacity.

As a company, Black & Veatch provides a unique mix of technical and business process capabilities that can be of great value to the Utility. In Miami-Dade County, FL, Black & Veatch serves as a strategic consulting partner by providing financial and bond engineering services which is a diverse and interdisciplinary role because it encompasses the convergence technical and business process requirements. Members of the Black & Veatch team presented herein have served Miami-Dade County for over 8 years.



The Utility will have the ability to access all the national and international Black & Veatch resources from our Sunrise, FL office through our experienced Client Director and Project Manager, Mr. Rafael Frias and Mr. Robert Chambers, respectively. We pride ourselves on being responsive to our client's needs, so our local presence will enhance this philosophy and allows us to be at the Utility's offices within 25 minutes of notice.

Black & Veatch has helped to establish the standard for professional care in the fields of utility rate, financial, and regulatory consulting services. Professionals at Black & Veatch were involved in the preparation of the first edition of the American Water Works Association M1 Manual – Water Rates in 1954. Our deep knowledge base, national best practices, and historical lessons learned will be utilized to support and enhance, where necessary, the Utility's existing Financial Management Policy.

As the Utility seeks to reduce the financial burden on existing customers, improve operating efficiency, and maintain the financial stability of the Utility certain conflict variables may negate or enhance these efforts. Black & Veatch will provide the guidance, the necessary cause and effect assessments, and the roadmap to navigate specific competing variables such as; understanding the variables associated with offering affordability and conservation support on revenue stability, appropriately adjusting the Utility's capital structure in an effort to diversify debt service recovery, and the value gained and experiences of utilities that implement an operating philosophy of stakeholder acceptance, to name a few.

In the City of North Miami, FL, Black & Veatch served the City in implementing conservation based water rates which were based on the Conservation Plan outlined in the North Miami's Consumptive Use Permit tendered by the SFWMD. During the process of implementing the multi-year rate plan, the North Miami responded to numerous stakeholder concerns, complaints, and questions. Through these times, Black & Veatch was steadfast in supporting North Miami with the facilitation of stakeholder exchanges and workshops before and after the approval of the proposed rates.

Black & Veatch views the opportunity to serve the Utility as a privilege and we believe that we are uniquely qualified to support the Utility on this important engagement.

The Black & Veatch team believes that our past experiences and successful implementation of projects similar in nature for other complex utilities will provide great VALUE to the City in maintaining/ improving the current levels of utility service provided to existing and future customers at the lowest possible cost.

List of Completed Water and Sewer Rate Studies

PROJECT REFERENCES

In order to show our industry expertise and direct experience with the needs of this engagement, we have compiled ten sample projects completed by the members of our project team. Some of these assignments are continuing services for long-time clients and represent on-going service for, in some cases, 40 years. We present these assignments as proof of the dedication and commitment Black & Veatch has to our clients.

Our team members have worked together on similar projects, delivering rate consulting solutions that are comprehensive, innovative, industry accepted, and value adding to our clients as evidenced by our track record of repeat and long-term clients.

The following project descriptions provide additional details of representative projects and the involvement by our proposed Team members. Client references are given for each project. We encourage you to contact our references to gain a better understanding of our expertise and capabilities to complete projects on time, within budget, and to the complete satisfaction of the client.

Florida Experience

PROJECT & LOCATION	Wholesale Rates, True-up, Rate Model, Wholesale Customer Engagement, Retail Rate Study, and Bond Engineering Miami-Dade Water and Sewer Department, Miami, FL	Financial Consulting Services
CLIENT & CONTACT	Miami-Dade Water and Sewer Department Ms. Frances Morris Chief Financial Officer 3071 SW 38th Avenue Miami, FL 33146 786-552-8104	Black & Veatch has provided rate and financial advisory services to Miami-Dade Water and Sewer Department (MDWASD) since 2005. This effort has included cost of service analyses for water and wastewater, retail rate development, review of bond covenants, and annual wholesale rate development and true-up analysis. Black & Veatch performs annual wholesale customer rate projections and true-ups, presents results in workshops to senior management, and prepares and presents materials to wholesale customers in meetings each year.
SCHEDULE	Start: 2005 End: Continuing	Black & Veatch developed an interactive, comprehensive financial rate model for use by the Department. The model includes user friendly navigation, help and data input features and is currently in use by Miami-Dade Water and Sewer Department.
COST	Annual Rates and Fees: Initial: \$150,000 Actual: \$150,000 2015 Annual Bond Engineer and Adequacy of Rates and Fees: Initial: \$284,016 Actual: \$284,016	In addition to the Rates and Fees contract discussed above, Black & Veatch has served as the Bond Consultant Engineer for the Miami Dade Water & Sewer Department since 2009. Bond Consultant Engineering services are provided to ensure that the Department remains in compliance with the Master Bond Ordinance 93-134, which specifies a number of operational and financial requirements that the

	Series 2013 Bond Consulting Engineers Report and Study: Initial: \$298,212 Actual: \$298,212	Department must meet on a recurring basis and for the issuance of additional bonds. Black & Veatch has been responsible for the preparation of two reports annually.
ROLE & SERVICES	Prime Consultant Rate Model Provided	<p>As Consulting Engineer, Black & Veatch assisted MDWASD with issuance of the Series 2010 Bonds which totaled \$594,330,000 and the sale of the Series 2013 Bonds which totaled \$340.3 million in new money and \$152.4 million in refunded bonds.</p> <p>The Annual Bond Consultant Report which assesses the Department's overall operations and financial performance, serves to document the physical status of system assets, the adequacy of the Renewal & Replacement (R&R) deposit and the adequacy of the capital improvement program.</p> <p>Under this and other contracts with MDWASD, Black & Veatch currently completes an annual water loss audit, organizational efficiency studies, and other utility finance and operations studies for the water and sewer utility. Analyses have also included an updated sewer surcharge cost of service and rate design analysis, miscellaneous and special services fees, a cross-connection fee study, and a financial plan to plan for and pay for Consent Decree requirements.</p>
PROJECT & LOCATION	Wholesale Customer Rate Model Development and Bond Feasibility Study; Tampa Bay Water, Clearwater, FL	Financial Consulting Services
CLIENT & CONTACT	Tampa Bay Water Wholesale Rate Model: Ms. Lynda Vatter Budget Administrator 2575 Enterprise Rd. Clearwater, FL 33763 727-791-2360 Bond Feasibility Study: Ms. Christina Sackett Chief Financial Officer 2575 Enterprise Rd. Clearwater, FL 33763 727-669-4840	<p>Tampa Bay Water is a regional water supply authority that provides approximately 170 mgd of potable water supply to three counties and three cities in the Tampa Bay area. Black & Veatch was contracted by Tampa Bay Water to develop a comprehensive rate and financial planning model to develop and project user rates for Tampa Bay Water's member utilities. This long-term planning model gives Tampa Bay Water the ability to evaluate how the use of various sources of supply to meet customer demands would impact the overall rates and costs of service. The model includes a user-friendly input and dashboard with key performance indicators over a twenty five year planning period.</p> <p>Black & Veatch also served as Consulting Engineer for Tampa Bay Water's Revenue Bonds issued in 2012. As a part of this study, Black & Veatch provided a bond feasibility report which covered a financial analysis and engineering opinions on the system to be filed as part of the Official Statement on the issuance.</p>
SCHEDULE	Wholesale Rate Model: Start: 06/2013 Est. End: 12/2013 Actual End: 12/2013 Bond Feasibility: Start: 06/2012 Est. End: 08/2012 Actual End: 08/2012	
COST	Wholesale Rate Model: Initial: \$66,860 Actual: \$66,860 Bond Feasibility:	

	Initial: \$102,000 Actual: \$102,000	
ROLE & SERVICES	Black & Veatch Prime Consultant Rate Model Provided	
PROJECT & LOCATION	Cost of Service Rate Study City of North Miami, FL	Financial Consulting Services
CLIENT & CONTACT	City of North Miami, FL Mr. Aleem Ghany City Manager 776 NE 125 Street North Miami, FL 33161 305-895-9830 ext. 12247	Black & Veatch have served as the Financial Consultant for the City of North Miami in completing comprehensive water and sewer rate study including the implementation of conservation based rates in order to be compliant with the South Florida Water Management District water use mandates. The cost of service study required a comprehensive analysis of the cost and rates associated with providing water and sewer service to the City's customers.
SCHEDULE	Start: 06/2009 End: Continuing	
COST	Initial: \$82,000 Actual: \$110,000	The goals of this study were to: (i) fully evaluate and optimize the revenue generating potential of water and sewer rates considering the water conservation mandates and regulatory requirements issued by the water management districts in Florida, (ii) evaluate the appropriateness and adequacy of cost recovery mechanisms for the water and sewer system (iii) obtain buy-in from external and internal stakeholders, and (iv) develop rates fair and equitable water and sewer rates. Black & Veatch led the facilitation of all stakeholder exchanges and the team was successful in getting the approval of a multi-year rate ordinance.
ROLE & SERVICES	Prime Consultant	In addition, Black & Veatch has provided specific financial feasibility assessments and secured about \$30.0 million in low interest and special provisions funding for the upgrade of the City's Water Treatment Plant
PROJECT & LOCATION	Financial Services City of Lauderhill, FL	Water and Sewer Impact Fee Analysis
CLIENT & CONTACT	City of Lauderhill, FL Mr. Sean Henderson Assistant Finance Director 5581 W. Oakland Park Blvd Lauderhill, FL 33313 954-714-1535	Black & Veatch was retained by the City of Lauderhill to perform a water and sewer impact fee analysis. At the time of the study, the City was facing significant growth in its water and sewer customer base, so it was necessary to assess the equitability of existing water and sewer impact fees. Black & Veatch conducted a complete review regarding the capacity related cost necessary to serve new customers. The findings and recommendations of the analysis were summarized in a letter report and Black & Veatch hosted several workshops and supported City staff in presenting the finding and recommendations to the City Commission.
SCHEDULE	Start: 02/2010 End: 08/2010	
COST	Initial: \$56,000 Actual: \$56,000	
ROLE & SERVICES	Black & Veatch Prime Consultant	Water and Sewer Cost of Service Study
		Black & Veatch was selected to perform a cost of service study for the City of Lauderhill. The study required a comprehensive analysis of the cost and rates associated with providing water and sewer service to customers residing within the City limits of Lauderhill. The goals of this study were to: (i) fully evaluate and optimize the revenue generating potential of water and sewer rates considering the scarcity mandates

		and regulatory requirements issues by South Florida Water Management District, (ii) evaluate the financial sufficiency of the water and sewer rates, (iii) obtain buy-in from external and internal stakeholders, and (iv) develop a multi-year rate plan and ordinance. Black & Veatch supported the City in getting buy-in from stakeholders and getting the approval of a multi-year rate and financial plan.
PROJECT & LOCATION	Cost of Service Rate Study City of Venice, FL	Water Utility Rates and Stakeholder Facilitation
CLIENT & CONTACT	City of Venice, FL Mr. Len Bramble City Manager 401 West Venice Avenue Venice, FL 34286 941-486-2626	In 2010, Mr. Robert Chambers, the proposed Project Manager, rejoined Black & Veatch after serving as the Southeast Regional Manager for Financial Services at Red Oak Consulting. During this period, Mr. Chambers served the City of Venice in completing a Water and Sewer Rate Study and presenting the results of the analysis to the City Council for approval.
SCHEDULE	Start: 03/2010 End: 09/2010	The Black & Veatch team that supported the City was successful in completing the analysis and retaining approval from the City Council of a multi-year Financial Plan and Rates.
COST	Initial: \$26,500 Actual: \$26,500	
ROLE & SERVICES	Black & Veatch Sub-Consultant	

National Experience

PROJECT & LOCATION	Rate Consultant, Financial Planning, Cost of Service Rates, Bond Issuance Assistance, and Wholesale Rate Analyses and Contract Development Assistance, Norfolk, VA	Water Utility Rates, Appraisal, and Contract Negotiations
CLIENT & CONTACT	City of Norfolk Mr. Robert "Bob" Carteris Manager of Budget and Accounting 400 Granby Street Norfolk, VA 23510 757-664-6727	Black & Veatch has prepared biennial true-up calculations of wholesale customer rates since 1996, most recently conducting a true-up analysis of Virginia Beach rates in 2013 using audited figures to test the formula driven rates included by provisions in the wholesale service contracts. In 2014, Black & Veatch conducted a biennial rate study for Virginia Beach rates.
SCHEDULE	Start: 1977 End: Continuing	In 2010, Black & Veatch also conducted a financial planning and benchmarking study that forecasted cash flows for the water and sewer utility over a 10 year horizon. Several benchmarks and financial ratios were calculated based on the projection of cash flows and subsequently compared against historical industry results. The industry results provided context for Norfolk water and sewer forecasted trends.
COST	Initial: Annual contract of up to \$300,000 for wholesale rates and true-up, multiple bond feasibility reports and issuances, financial planning Actual: 5-Yr. annual avg. approximately \$140,000	Black & Veatch has assisted the Department of Utilities and legal counsel with developing contract provisions for wheeling raw water, treatment, and delivery of potable water to Virginia Beach, Virginia. Services included development of a cost allocation methodology recognizing industry standards, exhibits demonstrating cost recovery impacts of provisions, evaluations of customer proposed alternative provisions, and meeting attendance to discuss the financial impacts of contract provisions and to negotiate equitable compromise proposals. Black & Veatch assisted with negotiations of service charges for the U.S. Navy, and has helped the Department in preliminary negotiations for
ROLE & SERVICES	Black & Veatch Prime Consultant Rate Model Provided	

		<p>supplying wholesale water service to other neighboring communities.</p> <p>Water Revenue Bond Feasibility Studies</p> <p>Black & Veatch was commissioned to conduct feasibility studies of its operations and financing and to provide Engineer's Certificates on the ability of the City's Department of Utilities to issue \$68,43M in Series 1993, \$115,68M in Series 1995, \$84,6M in Series 1998, \$35M in Series 2001 Water Revenue Bonds, \$47,41M in Series 2010 Water Revenue Bonds, \$43M in Series 2013 Water Revenue Bonds, \$29,67M in Series 2015A Water Revenue Bonds, and \$54M in Series 2015B Water Revenue Refunding Bonds.</p> <p>Black & Veatch also assisted the underwriting and bond counsel teams with preparation of the second, third, and fourth supplemental Indenture of Trust, Official Statement, and presentations to rating agencies and bond insurance firms.</p> <p>Black & Veatch provides revenue bond engineering support with engineering assessments and financial feasibility analyses for the City and utility's bond issuances. Analyses have also included the evaluation of refunding revenue bonds considering the implications to existing contracts with large wholesale customers.</p> <p>Black & Veatch also performed a long-term financial planning and benchmarking study that forecasted cash flows for the water and sewer utility over a 10-year horizon. Utility benchmarks and financial ratios were calculated based on the projection of cash flows and compared against historical industry results.</p>
PROJECT & LOCATION	Columbia, SC	<p>Financial Consulting Services</p> <p>Black & Veatch is currently supporting the City for an ongoing rate and cost of service study performing a comprehensive rate design study and an impact fee analysis. The City is currently under a Consent Decree, which is driving their capital program. Black & Veatch is in the process of assisting Columbia in the preparation of cost of service, and rate design study for the water, wastewater, industrial sewer surcharge rates, and impact fees. The analysis includes development of a comprehensive financial planning and rate model, and development of rates to meet the projected capital investment requirements of each of the water and wastewater utilities. The study included presenting the results of the study at multiple City Council meetings, workshops, and public hearings.</p>
CLIENT & CONTACT	City of Columbia, S.C. Mr. Joey Jaco Director of Utilities and Engineering 1136 Washington St. Columbia, S.C. 29201 803-545-3289	
SCHEDULE	Start: 10/2014 Est. End: 06/2014 Actual End: Continuing	
COST	Initial: \$199,150 Actual: \$199,150	
ROLE & SERVICES	Black & Veatch Prime Consultant	
PROJECT & LOCATION	Rate Consultant, Financial Planning, Cost of Service Rates, Bond Issuance Assistance, And Wholesale Contract Assistance, Philadelphia, PA	<p>Financial Consulting Services</p> <p>Black & Veatch has provided financial planning, rate, utility financing and related consultation to the City's Water Department on a continuous basis since 1972. We were recently selected for providing the next four-year cost of service and rate design</p>
CLIENT & CONTACT	Ms. Melissa LaBuda Deputy Water Commissioner	

	1101 Market Street Philadelphia, PA 19107 215-685-6177	services, which is due to be initiated in November 2014.
SCHEDULE	Start: 1972 End: Continuing	The comprehensive water, wastewater, and stormwater rate study that we conducted during 2011-2012, included the projection of revenues and revenue requirements for a six year period, cost of service analysis by customer class, and design of rates. The study also included revisions to the combined wastewater cost allocations between sanitary sewer and stormwater utilities.
COST	2011-2015 4-year rate study, bond engineering, consulting services and financial planning Initial: \$1,257,129 Actual: \$1,257,129	Services provided in conjunction with the cost of service rate studies also included the preparation of expert witness testimony, responses to interrogatories, and presentation during rate hearings before an appointed Hearing Officer.
ROLE & SERVICES	Black & Veatch Prime Consultant Rate Model Provided	Black & Veatch used the cost of service principles of AWWA's "M1 Manual – Principles of Rates and Charges" and the WEF's "MOP 27 – Financing and Charge for Wastewater Systems" in performing the study, and used the user-friendly and robust rate model for completing the financial planning and the retail/wholesale cost of service analysis and rate design. Rates were designed for inside City retail service customers and for ten outside City suburban customers who are provided service on a wholesale wastewater basis and two on a wholesale water basis. Both the water and wastewater rates for contract services are designed on the utility basis; i.e., in terms of operation and maintenance expense, depreciation expense and return on investment.
PROJECT & LOCATION	Rate Consultant, Financial Planning, Cost of Service Rates, Consent Decree Negotiations and Affordability Analyses, ALCOSAN, Pittsburgh, PA	Financial Consulting Services
CLIENT & CONTACT	Allegheny County Sanitary Authority (ALCOSAN) Ms. Arletta Williams Executive Director 3000 Preble Avenue Pittsburgh, PA 15233 412-734-8363	Black & Veatch was selected and contracted directly to ALCOSAN to assist in completing a financial analyses related to an upcoming consent decree from the Environmental Protection Agency (EPA). Black & Veatch was tasked to perform a cost of service rate, financial planning, and revenue sufficiency study. A detailed review and projection of all revenue requirements was completed which included operation and maintenance expense, recurring capital, existing debt service, cost of new debt, maintenance of required reserve funds, and anticipated major capital improvements associated with the Wet Weather Plan developed by ALCOSAN to meet the EPA's requirements. In addition, Black & Veatch evaluated the sufficiency of the utilities' existing rate and revenue stream, performed monthly revenue reconciliations, and forecasted the ability of existing revenues to meet future anticipated obligations.
SCHEDULE	Start: 2011 End: Continuing	
COST	Rate Study, Affordability, Consent Decree Financial Plan Initial: \$775,000 Actual: \$775,000	
ROLE & SERVICES	Black & Veatch Prime Consultant Rate Model Provided	Detailed cost of service allocations for ALCOSAN's sewer system customers were developed and rates were designed based on these allocations. Black & Veatch used the cost of service principles of WEF's "MOP 27 – Financing and Charge for Wastewater Systems" manual in performing the study, and used

		<p>the user-friendly and robust rate model for completing the financial planning and the cost of service analysis and rate design. Black & Veatch provides continuing financial analyses in support of ALCOSAN's negotiations with the EPA regarding this matter.</p> <p>Finally, the Black & Veatch team facilitated all stakeholder discussion, workshops, and presentations related to the financial implications of implementing the Wet Weather Program.</p>
PROJECT & LOCATION	Financial Planning, Cost of Service, and Rate Design, Wilmington, DE	Financial Consulting Services
CLIENT & CONTACT	City of Wilmington, DE Mr. Sean Duffy Water System Director Dept. of Public Works City of Wilmington 302-576-3074	Black & Veatch has provided annual financial planning and rate study services to the City's Public Works Department on a continuous basis since 2004. The objective of this annual study is to perform a six-year proforma analysis for the City's water and sewer enterprise fund, to determine the magnitude of annual rate increases required during the six-year study period. The six-year cash flow analysis includes projections of water, sewer, and storm water revenues from operating and non-operating sources, annual Capital Improvement Program expenditures, Operation & Maintenance (O&M) expenditures, annual existing and projected debt service, transfers between various funds, debt issuance expense, 60-day operating reserves, other miscellaneous expenditures, and capital revenues.
SCHEDULE	Start: 2004 End: Continuing	
COST	Annual General Consulting Contract 2011: \$500,000 2012 \$583,000 2013 \$559,000 2014 \$460,000	
ROLE & SERVICES	Black & Veatch Prime Consultant Rate Model Provided	<p>The annual study also involves the apportioning of combined sewer revenue requirements between sanitary sewer and storm water functional areas, to determine the annual storm water revenue requirements to be recovered through dedicated storm water user charge. The study also involves rate impact analysis, benchmarking of residential rates, executive committee and council presentations. The annual rate increases recommended for FY 2005 through FY 2013 were approved by the council.</p> <p>In 2007, Black & Veatch completed the development and implementation of a storm water utility to facilitate equitable recovery of costs associated with the City's CSO mitigation and integrated storm water management. The scope of services provided includes the following tasks: utility feasibility analysis and development, implementation management, and ongoing support.</p> <p>In addition to the water and sewer utility financial planning, and stormwater utility development and implementation, Black & Veatch has assisted the City of Wilmington since 2009 in conducting a comprehensive utility billing operations optimization assessment to document business process, improve and streamline workflows, enhance utilization of CIS/billing system functionality, and enhance activity performance, and has designed and developed a database application to programmatically analyze the data integrity and read exceptions of monthly AMR meter read data.</p>

PROJECT & LOCATION	Comprehensive Cost of Service Rate Study and Recycled Water Study City of San Diego, CA	Financial Consulting Services Black & Veatch has conducted a number of projects for the City of San Diego. Of relevance are those involving our work on the recent Recycled Water Study and the Comprehensive Cost of Service Rate Study.
CLIENT & CONTACT	City of San Diego, Public Utilities Department Ms. Lee Ann Jones Santos 9192 Topaz Way San Diego, CA 92123 858-614-4042	The City of San Diego Recycled Water Study evaluated the potential to create a local, reliable water resource from more than 200 MGD of wastewater generated in the City of San Diego.
SCHEDULE	Start: 2012 End: Continuing	Comprehensive, integrated reuse plans require innovative approaches, especially when the goal is to look at reusing every drop of wastewater available to the City. The study is nationally significant in the field of water recycling and reclamation and included an evaluation of non-potable and indirect potable reuse opportunities including reservoir and groundwater augmentation.
COST	Initial: \$793,208 Actual: Pending	
ROLE & SERVICES	Black & Veatch Prime Consultant Rate Model Provided	In 2012, the City of San Diego contracted Black & Veatch to assess its water and wastewater rates with respect to cost of service principals. The study takes a comprehensive look at the City's financial condition and rate structure for both utilities. Faced with large purchased import water increases and required wastewater investments at its primary wastewater treatment facility, the City is actively looking for innovative ways to restructure its rates and incorporate Indirect Potable Reuse and Non-Potable Reuse as well as desalination into the rate structure. For the 2012 Rate Case, Black & Veatch conducted over 75 public meetings to educate all stakeholder groups about proposed rate structure changes. Black & Veatch is currently working with the City to update its Industrial Waste Discharge Program fees, develop drought rates in response to the Governor's mandated water restrictions, and update the City's recycled water fees for the 2015 Rate Case.
PROJECT & LOCATION	Wastewater and Stormwater Rate Study, Ongoing Consent Decree Negotiation Support Services Sanitation District No. 1 of Northern Kentucky	Financial Consulting Services SD1 engaged Black & Veatch to provide a comprehensive financial plan and rate study, and an affordability analysis. The work required an evaluation of the revenues and revenue requirements of the wastewater and storm water utilities managed by SD1, and the financial position of SD1 as a whole. Key issues considered included the appropriate allocation of wet weather costs between the wastewater and storm water utilities, allocation of all costs, including wet weather costs, to customer classes within each utility, and review and recommendation of appropriate rate structures to recover such costs in an equitable manner. In addition, Black & Veatch evaluated certain affordability concerns related to the rate study, including calculation of average annual typical bills compared to median household income and calculation of the Residential Indicator as defined by the EPA.
CLIENT & CONTACT	SD1, Kentucky David Rager Executive Director 1045 Eaton Drive Ft. Wright, KY 41017 859-578-7465	
SCHEDULE	Start: 2012 End: Continuing	
COST	Rate Study: Initial: \$252,615 Actual: \$252,615 Ongoing Consent Decree: Initial: \$310,330 Actual: Ongoing	
ROLE & SERVICES	Black & Veatch Prime Consultant	SD1 subsequently engaged Black & Veatch to continue to provide

		<p>assistance related to their negotiations with state and federal regulators. This work includes the review of economic, financial and demographic factors, a review of capital cost estimates and assistance in developing alternative schedules, and development of overall strategy for demonstrating affordability concerns. Due to the on-going nature of these negotiations, specific information regarding the detailed analysis may not be disclosed at this time.</p>
PROJECT & LOCATION	Wastewater Rate Study, Ongoing Consent Decree Negotiation Support Services Metropolitan Sewer District of Greater Cincinnati, Ohio	<p>Financial Consulting Services</p> <p>Black & Veatch has provided financial planning and wastewater rate assistance to MSDGC on a biennial basis since the 1960s. A computerized cost of service allocation and rate design model, developed in 1987, was updated in 1999 and 2007 as technology and MSDGC's needs changed. Black & Veatch is currently undertaking the latest update of the model, incorporating a more robust dashboard and scenario analysis capability, and a graphical presentation of results. During this time, we have assisted MSDGC in implementing a new nitrogen strength element to the traditional suspended solids and BOD strength parameters used to recover the quality related costs of wastewater. Black & Veatch most recently completed a comprehensive rate review in support of MSDGC's 2015 budget and rate proposal, and continues to provide assistance in evaluating alternative rate structures based on stakeholder needs. Over the years, Black & Veatch has provided reports, data and presentations to many stakeholders related to rate-making issues, including the Sierra Club, local Chamber of Commerce environmental committee, County Commissioners, City Council and MSDGC staff to explain the need and basis for proposed rate adjustments to the business community.</p> <p>Affordability Analyses and Consent Decree Negotiation Assistance</p> <p>From 2005-2009, Black & Veatch assisted the MSDGC in developing an affordability plan for the implementation of its multi-billion dollar CSO/SSO Consent Decree plan. Multiple financing plans were developed during planning and negotiations, illustrating the level of capital improvement funding possible under various economic situations, and given different limitations on annual revenue increases and overall total level of residential user charges. The Black & Veatch team also supported the MSDGC in determining the financial affordability and clearly communicating the financial affordability constraints of customers served. We participated in discussions with regulators and the Sierra Club to assist in presenting the financial limitations the MSDGC's stakeholders, and worked directly with Regulator consultants to develop mutually agreeable data sources and calculations for several elements of the Financial Capability Analysis.</p>
CLIENT & CONTACT	Cincinnati MSD Tony Parrott Executive Director 1600 Gest Street Cincinnati, OH 45204 513-244-5121	
SCHEDULE	Start: 1960s End: Continuing	
COST	2011 Comprehensive Rate Study: Initial: \$125,000 Actual: \$125,000 Stormwater Rate Study Initial: \$19,252 Actual: \$19,252	
ROLE & SERVICES	Black & Veatch Prime Consultant	



Other Financial Assistance

Black & Veatch conducted a financial analysis and rate study for the City's stormwater utility, managed by the District. As a result of the study, revised rates were recommended in order to provide adequate funding for planned utility expenditures.

In addition, we assisted in the establishment and implementation of a cost accounting system for reporting operation and maintenance expenses recognizing the Uniform System of Accounts as well as the establishment of a fixed asset accounting system.

Appendix 1—Resumes

Rafael E. Frías III, P.E.

Mr. Frias serves as a Client and Project Director with the global water business of Black & Veatch Corporation and is responsible for the management of the Company's operations in Florida and the Caribbean. Rafael specializes in the management of water resources projects, including water supply, water treatment, hydropower and stormwater planning and design. Mr. Frias is also experienced in incorporating sustainability principles into project designs and in the development of sustainable water planning technologies for the management of watersheds and ecosystems, water scarcity and wet-weather conditions. Rafael is a national Board member of the American Water Resources Association (AWRA), and an active member of the Water Environment Federation (WEF) and American Water Works Association (AWWA), for which he has published papers and delivered presentations on comprehensive water resources issues, including sustainable water planning, surface water management, water treatment technologies, aquifer storage and recovery (ASR) and small hydropower.

Some of Mr. Frias' key recent assignments and experience include:

- Development of a comprehensive Energy Efficiency Master Plan for the City of Hollywood, Florida.
- Project management for dam failure studies and seismic evaluations in Puerto Rico.
- Program Management/Construction Management for implementation of a \$455 million Capital Improvement Program in Puerto Rico.
- Project management for chemical facilities at a water treatment plant.
- Experience using of surface water and groundwater modeling applications including HEC-1, HEC-HMS, HEC-GeoHMS, HEC-RAS, HEC-GeoRAS, XP-SWMM, ICPR, TR-55, EPANET, Processing MODFLOW, PLUMES, ArcGIS and project scheduling applications, including Primavera P3e/c and Microsoft Office Project.

PROJECT EXPERIENCE

Palm Beach County Water Utilities Department | Sustainability and Strategic Planning Services; Palm Beach County | 2014 – Present

Project Director. Currently, leading Black & Veatch's efforts for the development of a Strategic Sustainability Plan (SSP) for PBCWUD to shape the future state of the utility and support it in continuing to be a leader in the water and wastewater utility industry. As part of the SSP, Black & Veatch is using our Pathfinder strategic planning process, which was developed based on our proven experience working with clients within the water and energy industries. The Pathfinder methodology uses a collaborative approach to meld bottom-up initiatives with top-down strategic intent. The methodology combines sustainability, financial, and operational analytics with technical depth and



CLIENT DIRECTOR

Specialization:
Water Resources,
Stormwater and Water
Treatment Systems

Office Location
Sunrise, FL

Education

- Master of Civil Engineering, University of Kansas, December 2002
- BS, Biological Engineering, Louisiana State University, December 1997

Professional Registration
PE – 2004, FL, 61912
PE – 2011, PR, 24726
PE – 2003, KS, 17469

Specialization Certification and Awards:

- Designing for Effective Sediment and Erosion Control
- 10-hour OSHA Safety and Health Construction Certification
- AWRA A. Ivan Johnson Outstanding Young Professional Award – 2006
- Public Works Magazine 2007 Trendsetters List
- Member of the Board of Directors for AWRA – 2010
- Member of the Potable Reuse Committee for the Water Reuse Association – Florida

Professional Associations

- American Water Resources Association – Board Member
- Water Environmental Federation
- American Water Works Association
- Water Reuse – Florida

Year Career Started
1997

Year Started with B&V
1999

insights for development of the PBCWUD SSP. Sustainability planning for PBCWUD's SSP considers the Institute of Sustainable Infrastructure's (ISI) Envision rating system, which covers all infrastructure aspects, including water and wastewater facilities.

Black & Veatch is also supporting PBCWUD with the developing an asset management strategy for the 2014-19 strategic sustainability planning process. The overall strategy will consider the complete life cycle of assets and focus on improving the utility's management systems around People, Processes and Assets. For this, the PAS 55 management framework will be followed, with the vision of achieving an ISO 55001 compliant management system for the utility.

PRASA | Lago Loiza Hydroelectric Redevelopment Project; Puerto Rico | 2013 – Present

Principal in Charge. Assisting PRASA with the redevelopment of the Lago Loiza (Carraizo) Hydroelectric Facility using a traditional engineering design contracting structure. The Carraizo Hydroelectric Facility has been out of service since Hurricane Hugo impacted the region in 1989. PRASA has selected one of the original three units to be returned to service, with an installed capacity of approximately 1.1 MW. Energy generated from the redeveloped hydropower facility will be used to supply power to PRASA's nearby water facilities. The scope of work involves planning and preliminary design, regulatory permitting, turbine/generator procurement, detailed design, bid phase services, construction phase services and start up/commissioning support.

PRASA | Lago Cidra Dam and Candelas Pump Station Rehabilitation; Puerto Rico | 2013 – Present

Principal in Charge. During the past five years, evaluations of the Lago Cidra Dam and Candelas Pump Station (PS) revealed varying degrees of deterioration within the mechanical and electrical components of each facility. Significant rehabilitation efforts are required to restore these facilities to acceptable operation. Responsible for the successful preparation of preliminary and final design documents for the rehabilitation of the Lago Cidra Dam Wet Well and Dry Well and Candelas Pump Station. Design services include civil-structural improvements, hydro-mechanical equipment, electrical and I&C, as well as bid phase and construction phase services.

PRASA | East Region CIP Program Management Consortium; Puerto Rico | 2013 – Present

Principal in Charge. Leading Black & Veatch's Program Management Consortium (PMC) for PRASA's fastest growing east region. As a PMC, Black & Veatch's role consists of managing a program for the implementation of critical water and wastewater infrastructure projects that involve planning, design, construction oversight, inspection of utility assets and commissioning of facilities. The Black & Veatch team currently has 30 projects ongoing at various stages representing \$250 million of capital investment. Projects include wastewater treatment plant

(WWTP) improvements, such as grit removal, emergency generator enhancements and sewer rehabilitation, as well as improvements to the potable water treatment system.

The Black & Veatch team is working for the Puerto Rican people, providing the most necessary infrastructure services needed for a community—safe, reliable drinking water and effective and efficient sewer service.

MDWASD | Hydraulic Modeling in Support of Planning Activities; Miami | 2013 – Present

Project Director. Black & Veatch is currently performing multiple capacity studies initiated by the Miami-Dade Water & Sewer Department's (Department) Planning Division. The services being performed include: Water and Wastewater Capacity Analyses Orientation; Water Hydraulic Model Operation and Maintenance using the Department's existing distribution system model (InfoWater); and Collection System Capacity Analyses using the Department's existing collection system model (Infoworks CS).

PREPA | Stability and Deformation Analyses for the Patillas Dam; Puerto Rico | 2012 – Present

Principal in Charge. Leading Black & Veatch Puerto Rico's efforts in the execution of stability and deformation analyses for the Patillas Dam to evaluate the stability, deformation and potential for liquefaction of the dam and foundation soils. Analyses being performed include Seismic Hazard Analysis, Liquefaction Analysis, Stability and Earthquake-induced Deformation Analysis, and a Risk Analysis. Black & Veatch Puerto Rico will prepare a report of findings that provides a summary of the embankment geometry, soil parameters, analyses performed, risk analysis, results and conclusions.

City of Hollywood | Energy Efficiency Master Plan; Hollywood | 2013 – 2014

Senior Project Manager. Black & Veatch developed a comprehensive Energy Efficiency Master Plan for the City of Hollywood's Water and Wastewater systems and facilities. The master plan resulted in an implementation plan for 20 recommended energy cost savings projects and strategies with a net positive value of \$4.4 million to the City over the life of the improvements. Specific tasks included: development of an existing energy use baseline for the City's water and wastewater facilities and equipment; evaluation of the current and potential alternate electric utility rate structures at each facility; energy efficiency assessments; operations optimization evaluation for the raw water supply, treatment and potable water distribution systems; feasibility assessment for the development of renewable energy sources, including solar PV; development and analysis of over 50 energy conservation measures; development and use of an "Energy Project Decision Cash Flow Model;" and completion of a Master Plan Report that provides a roadmap for the City to implement the recommended energy cost savings projects and strategies over the planning horizon.

Our systematic and holistic approach to energy master planning resulted in the identification and evaluation “best fit” energy conservation measures (ECMs) for a combined annual energy savings of approximately 7 GWh, or 15% of the Utilities Department total energy use in 2012.

MDWASD | Hialeah WTP Feasibility Study; Miami, FL | 2013 – 2014

Project Director. Supported the development of a feasibility study for the decommissioning of the Hialeah WTP and redirecting of flows to the Preston WTP. The evaluation included an analysis of the existing treatment processes and system hydraulics at the Hialeah and Preston WTPs to determine the viability of decommissioning the Hialeah WTP. The results of the study included modifications required to transfer all of the process treatment to the Preston WTP. The evaluation included the development of capital and operations and maintenance costs for the improvements that would be required for decommissioning of the Hialeah WTP.

City of Sunrise | Solar Photovoltaic Evaluation; Sunrise | 2013

Senior Project Manager. A solar photovoltaic (PV) evaluation was performed by Black & Veatch to evaluate the potential implementation of a solar PV system at the City of Sunrise (City) water or wastewater treatment facilities. The City has water and wastewater treatment plants co-located at the Sawgrass and Springtree complexes. Black & Veatch developed a feasibility evaluation to prepare the conceptual design of two solar PV installations for the City. A financial evaluation was also performed for the cash purchase of the solar PV system including rebates by Florida Power & Light (FPL), the City’s electricity provider.

MDWASD | Sewer Service to Commercial Properties Master Plan; Miami | 2013

Project Director. Black & Veatch assisted the Miami-Dade Water & Sewer Department (MDWASD) with developing a plan, including planning level cost estimates and project schedules for the addition of sewer infrastructure to commercial properties within MDWASD’s service area currently not connected to these systems. The services performed by Black & Veatch included: Sewer System Extensions; Pump Station Basin Capacity Assessments; Pump Station and Force Main Capacity Analysis; Capital Improvement Plan Level of Cost; Financial Evaluation; and Project Schedules Development. The master plan was a fast track project to meet a deadline established by the Miami-Dade County Commission; a draft master plan was completed in 3 months, and a final master plan submitted 6 months after the notice to proceed.

PREPA | Dam Failure Study at Guajataca Dam; Puerto Rico | 2012 – 2013

Project Director. Manage the completion of a dambreak and flood mapping study for the Guajataca Dam, which is located in northwest Puerto Rico, between the municipalities of San Sebastian, Isabela and Quebradillas. In cooperation with the Puerto Rico Electric Power Authority (PREPA), led the completion of a

hydrologic and hydraulic study to assess the potential hazard to human life and property downstream from the Guajataca Dam, associated with the hypothetical failures of the dam for the probable maximum flood (PMF) resulting from a 6- and 24-hour probable maximum precipitation (PMP) and for the 100-year flood resulting from a 6- and 24-hour 100-year rainfall event. The hydrologic and hydraulic study consisted of the determination of outflow hydrographs from Guajataca Dam under non-failure and failure conditions corresponding to the PMF, 100-year flood, and non-flood condition (sunny day), and their subsequent routing 10 miles downstream to the Atlantic Ocean. To perform the hydraulic analysis, the HEC-RAS program was utilized to simulate and analyze the various flood conditions produced by breaching Guajataca Dam. The dambreak analysis was performed using the unsteady flow module available in HEC-RAS. Dam breach results were compiled for each of the 6- and 24-hour PMF and 100-year storm events to determine the event that produced the larger inundation limits for flood mapping in ArcGIS and emergency action planning purposes.

PREPA | Dam Failure Study at Carite Dam; Puerto Rico | 2011 - 2012

Project Director. Manage the completion of a dambreak and flood mapping study for the Carite Dam, which is located in southeast Puerto Rico, about six miles north of the municipality of Guayama and within the municipal boundaries of Guayama and Cayey. In cooperation with the Puerto Rico Electric Power Authority (PREPA), led the completion of a hydrologic and hydraulic study to assess the potential hazard to human life and property downstream from the Carite Dam, associated with the hypothetical failures of the dam for the probable maximum flood (PMF) resulting from a 6- and 24-hour probable maximum precipitation (PMP) and for the 100-year flood resulting from a 6- and 24-hour 100-year rainfall event. The hydrologic and hydraulic study consisted of the determination of outflow hydrographs from Carite Dam under non-failure and failure conditions corresponding to the PMF, 100-year flood, and non-flood condition (sunny day), and their subsequent routing through the lower reach of the Rio de la Plata. To perform the hydraulic analysis, the HEC-RAS program was utilized to simulate and analyze the various flood conditions produced by breaching Carite Dam. The dam break analysis was performed using the unsteady flow module available in HEC-RAS. Dam breach results were compiled for each of the 6- and 24-hour PMF and 100-year storm events to determine the event that produced the larger inundation limits for flood mapping in ArcGIS and emergency action planning purposes.

PRASA | Program Management/Construction Management Services; Puerto Rico | 2008 – 2014

Program Manager/Client Service Manager. Currently assisting with the management of Black & Veatch's Program Management Consortium (PMC) for the Puerto Rico Aqueduct and Sewer Authority (PRASA) South Region. The main task of the PMC is to implement PRASA's five-year \$455 million Capital Improvement Program (CIP) to improve the reliability of water and wastewater services; replace, expand or rehabilitate treatment facilities (either for

compliance issues, changes in regulatory requirements or as a result of deterioration); and create value and sustainability in the water and wastewater systems of Puerto Rico. Responsible for the project management of planning projects, including evaluation and optimization of water supply systems, assessment of water and wastewater collection systems (pipeline conditions assessments), value engineering for the Rio Valenciano Dam Project, and implementation of renewable energy projects. In addition, responsible for client management and business development activities.

Hillsborough County | New Chemicals Facility at the Fawn Ridge Water Treatment Plant; Tampa, FL | 2008 - 2011

Project Manager. Managed the addition of a new chemicals facility at the Fawn Ridge Water Treatment Plant; additional chemical storage provided includes sodium hypochlorite, sodium hydroxide, fluoride and phosphate. Pumps, piping and spill containment protection were provided for all chemicals. Based on chemical properties, storage requirements and site characteristics, the improvements include one large chemical building and smaller buildings throughout the site. Performed a study to evaluate site layout alternatives and provided recommendations during the conceptual design level. For the selected alternative, led the completion of preliminary design, detail design and bidding-phase services. Currently, the team is providing construction phase services on the project and representing the best interests of the Client.

Hillsborough County | Drainage Improvements at the Fawn Ridge Water Treatment Plant; Tampa, FL | 2008 - 2009

Project Manager. Managed the implementation of drainage improvements at the Fawn Ridge Water Treatment Plant to alleviate flooding and allow for the installation of a 90-ft antenna pole. Drainage improvements would involve design and construction-phase services including surveying, site re-grading design, development of final design drawings with technical specifications and an opinion of probable construction cost, project bidding assistance, response to RFIs, construction inspections and development of construction record drawings.

City of Fort Myers | East Water Reclamation Campus; Fort Myers, FL | 2008

Project Engineer. Assisted with the permitting evaluation for a new 8-mgd water reclamation facility for the City of Fort Myers. The evaluation included an assessment of the needs for Total Maximum Daily Load (TMDL) discharge requirements and the potential for project funding as a result of project improvements to maximize stormwater retention at the site and receive treated wastewater effluent from other City facilities (minimizing discharge to surface waters). The new water reclamation facility will include influent pump station, fine screening, grit removal, moving bed biological reactors, dissolved air flotation, tertiary filtration and hypochlorite disinfection.

Hillsborough County | South/Central Wastewater Service Area Wastewater Master Plan Update Report; Tampa, FL | 2007 - 2008

Engineering Manager. Managed support services for the production of the South/Central Service Area Wastewater Master Plan Update Report for Hillsborough County. The updated report evaluates different configuration alternatives for a wastewater and reclaimed water system. Support services included technical and editorial review, quality control, cost evaluation and development of GIS schematics for each evaluated alternative.

South Florida Water Management District | L-63N Canal ASR System Reactivation for the Lower Plan; West Palm Beach, FL | 2007

Project Manager. Managed the Bench-scale and pilot-scale testing efforts for the L-63N Canal Aquifer Storage and Recovery (ASR) Reactivation project, as part of the Lake Okeechobee and Estuary Recovery (LOER) Plan developed by the South Florida Water Management District (SFWMD) and other state agencies. The objective of the project is to implement a 5 mgd water treatment system, expandable to 10 mgd, at the Taylor Creek/Nubbin Slough ASR site. The new system would use a combination of filtration and disinfection to meet primary drinking water standards, prior to storage. Bench-scale and pilot-scale testing was recommended to determine the best filter and disinfectant for reducing total coliforms to less than 4 cfu/100 mL and resulting in the absence of fecal coliforms. The testing project included a combination of the Gunderboom Marine Life Exclusion System (MLES) for filtration and ozone, UV, peracetic acid/UV, chlorine, and chlorine dioxide for disinfection.

Tampa Bay Water | South Pasco Water Treatment Plant Chemical Feed Modifications; Tampa, FL | 2007

Engineering Manager. Managed the completion of a drainage study for the South Pasco Water Treatment Plant to evaluate the hydraulic performance of the existing stormwater treatment facility (dry-retention) and determine if it had sufficient storage capacity to treat the additional runoff resulting from the chemical feed modifications (4,000 ft² of impervious area). The evaluation suggested that additional storage volume was required to provide the necessary water quality and water quantity benefits and meet SWFWMD ERP requirements. As a result, design modifications were developed for the dry-retention facility in ICPR, AutoCAD and ArcGIS to accommodate the additional runoff and meet permit requirements. Permit discussions on the improvements were held with the SWFWMD, resulting in an ERP exemption.

Tampa Bay Water | Continued SWFWMD ERP Permitting Services – Inspection of Stormwater Treatment Facilities; Tampa, FL | 2006 - 2009

Engineering Manager. Managed the completion of numerous inspections for all of Tampa Bay Water's stormwater treatment facilities to assure compliance with SWFWMD ERP requirements. The stormwater inspections involved qualitative evaluations of the facilities to assure proper operation and maintenance, based on specific permit requirements. Statements of Inspections for Proper Operation

and Maintenance were submitted to the District for all facilities, together with detailed inspection reports, and all statements received District approval. Final deliverable to Tampa Bay Water included an inspection log identifying all stormwater facilities requiring inspection and the suggested time frame for the inspection to assist with proactive inspections of all facilities in the future.

PRASA | Optimization of the Lajas Valley Irrigation System; Puerto Rico | 2006 - 2008

Engineering Manager. Managed the development of a Water Balance Model (WBM) for the optimization of the Lajas Valley Irrigation System (LVIS), located in the southwestern part of Puerto Rico. The LVIS includes 5 reservoirs, with a total drainage area of 65 square miles, located in 3 different watersheds and interconnected through a series of tunnels, totaling approximately 13 miles in length. Black & Veatch's WBM was used to estimate the yield of the LVIS and optimize its operations, while evaluating the impacts on streamflows, reservoir levels and hydropower generation. A graphical user interface (GUI) was also developed as part of the model to make it more user-friendly. Numerous scenarios were analyzed for engineering feasibility and conceptual cost estimates for different alternatives were developed. A cost/benefit analysis, including the cost per acre-foot of additional storage, was performed for each alternative and the most cost-effective alternative was identified.

City of Lakeland | English Oaks Wastewater Booster Pump Station Project; Lakeland, FL | 2007

Engineering Manager. Managed the stormwater modeling, site grading and drainage facilities design, and ERP permitting efforts for the Drane Field and Air Park facilities. A Standard General ERP was completed for the Drane Field facility and a Noticed General ERP for the Air Park facility. Hydrologic and hydraulics calculations were performed for the Drane Field facility in ICPR. A wet detention system was designed to treat the stormwater runoff that would result from the site and attenuate the peak runoff flow, based on SWFWMD ERP requirements.

City of Ocala | Consumptive Use Permit (CUP); Ocala, FL | 2006

Project Engineer. Assisted the City of Ocala with a response to a Request for Additional Information (RAI) from St. Johns River Water Management District (SJRWMD), regarding the City's application for renewal of its CUP. Processing MODFLOW and DRAWDOWN, a localized groundwater model, are being used to model aquifer drawdown and analyze the impacts to wetlands, springs, surface water bodies, and interference to existing legal users in the vicinity of the City's wellfields for projected groundwater withdrawals over the next 20 years. ArcView GIS is being used to develop drawdown contours for the Surficial and Upper Floridan Aquifer (UFA) to present impact results.

City of Ocala | Lake Tuscawill and Old City Yard Watersheds Flood Analysis; Ocala, FL | 2006

Engineering Manager. Managed the evaluation of stormwater drainage systems modeled by the Federal Emergency Management Agency (FEMA) for the Flood Insurance Study (FIS) of Marion County, Florida, to compare with data modeled by the City of Ocala for the Lake Tuscawill and Old City Yard watersheds. By using the previous XP-SWMM models developed for the City watersheds, project results showed that the additional drainage system details provided in the City models allow for lower BFEs, which may be used to update the FEMA FIRMs for the City.

South Florida Water Management District | Everglades Agricultural Area (EAA) Reservoir A-1, Canals, Earthworks, and Structures Design; West Palm Beach, FL | 2006

Project Engineer. Completed and managed a design schedule for the EAA Reservoir A-1. The schedule was completed in Primavera P3e/c and included design activities for reservoir Canals, Earthworks, and Structures.

Tampa Bay Water | Seawater Desalination Facility Modifications; Tampa, FL | 2006 - 2007

Project Engineer. Completed and managed a construction schedule in Microsoft Office Project for modifications to the Tampa Bay Seawater Desalination Facility, the largest reverse osmosis (RO) – membrane based desalination facility in the U.S. Modifications to the 25-mgd RO facility include the addition of unit processes including pre-treatment, filtration, post-treatment, and solids treatment. Capital cost for the modifications is approximately \$29 million.

Tampa Bay Water | Regional Reservoir Expansion Analysis; Tampa, FL | 2006

Project Engineer. As part of the Downstream Augmentation Project, Tampa Bay Water is exploring the possibility of increasing the surface water storage capacity of its water supply system to capture the additional flows that may become available. To increase this storage capacity, a technical analysis was performed to evaluate the potential development of a new surface water storage reservoir near the existing 15 BG, C. W. Bill Young Regional Reservoir. The new reservoir would be hydraulically connected to the existing reservoir and would have a storage capacity between 7.5 BG and 15 BG. The analysis considered the hydraulics, geotechnical, environmental, and water quality issues that would be associated with the addition of the potential reservoir. A planning level opinion of probable cost was also developed for the new reservoir.

South Florida Water Management District | Everglades Agricultural Area (EAA) Reservoir A-1, Seepage and Borrow Canal Excavation; West Palm Beach, FL | 2006

Project Engineer. Assisted in the preparation of design drawings for the construction of a seepage collection canal and borrow canal. The seepage

collection canal would control the seepage from the Everglades Agricultural Area (EAA) Reservoir A-1 by collecting the flows that result at variable depths. The borrow canal would collect the low water within the reservoir. The soil volume excavated for the construction of the canals would be separated into 3 types of fill materials (rock fill, random fill, and raked random fill) and used for the construction of the 21-mile long reservoir embankment. The construction package included design drawings, specifications, schedule, and opinion of probable cost for the construction of both canals.

City of Ocala | Old City Yard Drainage Study and Detention Basins Design; Ocala, FL | 2005 - 2006

Project Engineer. The Old City Yard watershed has a drainage area of approximately 150 acres. The project involves the completion of a drainage study that involves hydrologic and hydraulic modeling with XP-SWMM to determine the amount of runoff resulting from various rainfall events, including the 25-year 96-hour and 100-year 24-hour storms. The model will also be used to analyze and design improvements to the existing Old City Yard drainage retention area to increase its water quality and quantity storage volume. ArcView GIS is being used to determine specific hydrologic and hydraulic parameters and expedite the development of the model. This project is part of a Stormwater Master Plan that includes the Lake Tusawilla, Thompson's Bowl, and Old City Yard watersheds, which Black & Veatch is developing for the City of Ocala as part of the City's Downtown Redevelopment Plan.

South Florida Waters Management District | Everglades Agricultural Area Reservoir A-1, Water Balance Model; West Palm Beach, FL | 2004 - 2006

Project Engineer. As part of the design of the Everglades Agricultural Area (EAA) Reservoir A-1, a Water Balance Model (WBM) was developed to analyze and optimize the storage capacity and operations of the reservoir on a daily basis (time step), while evaluating the impacts on flows in the North New River Canal, Miami Canal, Holeyland Distribution Canal, and the STA 3/4 Supply Canal. The WBM was also used to evaluate pumping facility locations and the distribution of releases from the reservoir for agricultural irrigation and environmental purposes. To make the model more user-friendly, a graphical user interface (GUI) was created to allow the input of reservoir characteristics and display results. The model has the capabilities of evaluating numerous water balance scenarios, providing instant results, and optimizing water supply operations. The Water Balance Model was designed by Black & Veatch and may be tailored to other water balance projects.

City of Lakeland | West Lakeland Wasteload Reduction Facility; Lakeland, FL | 2004 - 2007

Project Engineer. Lead the hydrology and hydraulics analyses, site grading plan, and wet detention system design efforts for the construction of the West Lakeland Wasteload Reduction Facility. Hydrologic and hydraulics calculations were performed with the surface water modeling software ICPR. The wet

detention system was designed to treat the stormwater runoff that would drain from the site and attenuate the peak runoff flow, based on SWFWMD stormwater requirements. Assisted in the preparation of the Environmental Resource Permit (ERP) application for the construction of the facility.

City of Ocala | SR-40 Drainage Study and Detention Basins Design; Ocala, FL | 2004 - 2007

Project Engineer. The SR-40 project involves the completion of a drainage study for 2 watersheds within the City of Ocala and Marion County. The Study involves hydrologic and hydraulic modeling with XP-SWMM and ICPR to determine the amount of runoff resulting from various rainfall events, including the 25-year, 25-year 96-hour, and 100-year storms. The models are also being used to analyze and design 2 new detention basins that will provide runoff treatment and storage, eliminating discharges to the Spring River, and improve 4 existing detention basins. ArcView GIS is being used to determine specific hydrologic and hydraulic parameters and expedite the development of the models.

City of Ocala | Lake Tusawilla Drainage Study; Ocala, FL | 2004

Project Engineer. The project involves the completion of an engineering study and design to redirect stormwater flow from a portion the Lake Tusawilla drainage basin to a new proposed detention basin adjacent to Lake Tusawilla. The new detention basin will be modeled in XP-SWMM and designed to maximize stormwater treatment and storage. ArcView-GIS will be used to determine the hydrologic and hydraulic parameters for input into the model, such as drainage area, percent imperviousness, slope, and roughness coefficients. ArcView-GIS will also be used for analysis of the existing and future land use of the watershed, which will dictate the capacity of the new basin based on water quality criteria (i.e. pollutant loads assigned to a specific land use type). Environmental and construction permitting services will be provided for the implementation of the basin.

Heartland Water Alliance (HWA) | Water Supply Planning; DeSoto, Hardee, Highlands, and Polk Counties, FL | 2004

Project Engineer. Assisted with the development of surface water alternatives as a supply source for the HWA. Performed a statistical analysis of flow data from USGS stream gages to determine the availability and reliability of the surface water source. The recommended alternatives were evaluated and ranked based on water supply yield and other criteria, such as source location and distribution. ArcView GIS was used for data management and to assist with the alternative evaluation process.

City of Ocala | Thompson's Bowl Drainage Study and Re-Permitting Efforts; Ocala, FL | 2004

Project Engineer. The project involved the completion of an engineering study to determine the existing storage capacity of a wet detention and "infiltration trench" basin system to meet St. John's River Water Management District's

(SJRWMD) water quality and quantity requirements. The two-basin system was modeled in XP-SWMM. ArcView-GIS was used to verify the hydrologic and hydraulic data used in the model and analyze the existing and future land use of the watershed, which would dictate the capacity of the basins based on water quantity criteria (i.e. change in percent imperviousness). Modeling results were used for ERP re-permitting efforts with the District and to design the recommended improvements.

Tampa Bay Water | Regional Water Treatment Plant – Drainage Study; Tampa, FL | 2004

Project Engineer. Completed a drainage study for the Tampa Bay Regional Water Treatment Plant to determine the amount of land that should be set aside for a future wet detention system that would replace existing drainage facilities. The wet detention system evaluated followed SWFWMD and Hillsborough County guidelines for development of stormwater facilities. The study involved hydrologic and hydraulic calculations and modeling with ICPR and ArcView GIS.

Tampa Bay Water | System Engineering Services; Tampa, FL | 2004

Project Engineer. The project involved the redesign of five gate automation systems for slide gates located in the Harney Canal and Tampa Bypass Canal in Tampa, Florida. The new design included the addition of maintenance free gear boxes above the gates to relocate existing motor operators from that location to the walkway of the road that crosses each canal. The relocation of the operators will facilitate their maintenance and provide additional safety precautions. Final deliverable included design drawings, specifications, and a construction cost estimate.

Nestle Waters North America | Groundwater Monitoring; Tampa, FL | 2004

Project Engineer. Assisted with a groundwater monitoring and data management program to assess the water quality of a spring in the Floridan Aquifer. Groundwater monitoring equipment was installed in the field and measurements of parameters, such as water table elevation, temperature, dissolved oxygen, pH, and conductivity among others, were obtained at 15-minute intervals for a period of 4 months for data evaluation and trend analysis.

Johnson County | Captain/Kill Watershed Study; Johnson County, KS | 2003 - 2005

Project Engineer. Developed hydrologic and hydraulic computer models for a 23-square mile watershed using the following state-of-the-art tools: ArcView GIS, Spatial Analyst, 3D Analyst, HEC-GeoRAS, HEC-RAS, CHECK-RAS and HEC-1. A digital terrain model in the form of a triangulated irregular network (TIN) was created for the watershed using ArcView's Spatial Analyst and 3D Analyst. The TIN was converted to a GRID in ArcInfo to digitally divide the watershed into approximately 225 subareas for which hydrologic calculations were performed. The existing stormwater conveyance system of the watershed was evaluated for the 2-, 10-, 50-, 100-, and 500-year design storms in HEC-1. Over 500 cross-

sections for 41 miles of natural channels were cut in HEC-GeoRAS and imported into HEC-RAS. HEC-RAS modeling results were used to develop existing and future floodplains and the FEMA floodway in HEC-GeoRAS for submittal to FEMA. The use of HEC-GeoRAS to develop a hydraulic model of the streams and crossings for this large watershed and plot floodplains resulted in large cost savings for the client.

SELECTED PUBLICATIONS

Energy Efficiency Master Planning: A Florida Utility Case Study, Florida Water Resources Journal, March 2015, Coauthor

2014 Strategic Directions: U.S. Water Industry – A Black & Veatch Report – Southeast Perspective: Prepare for Disruptions with More Resilient Systems, 2014, Author

An Island-Wide Hydropower Study, Hydrovision International, July 2012, Coauthor

Sustainable Water Resources Technologies for a Changing Climate, American Water Resources Association *Water Resources IMPACT*, July 2010, Coauthor

Numeric Nutrient Criteria on the Horizon – Can Nutrient Removal Surpass the Limits of Technology? Water, Environment and Technology, April 2010, Coauthor

Water Resources Technologies for Sustainable Water Planning, Journal of the American Water Works Association – International Issues, May 2009, Coauthor

Testing of Disinfection Alternatives for South Florida ASR Facility, Journal of the New England Water Works Association, December 2008, Coauthor

Disinfection Alternatives for South Florida Water Management District's ASR Facility, Florida Water Resources Journal, April 2008, Coauthor

Old Faults Aren't Our Fault: Proposed Rio Valenciano Dam, Juncos, Puerto Rico, Safety Issue of Perception Problem, WEFTEC Latin America, 2001, Coauthor

OTHER INFORMATION

"The Black & Veatch team loves what they do. It's very refreshing to see that every day when I visit a project, when I talk to them, and when I meet with them. They're very passionate about their work and they feel very important about being part of the PRASA team."

Lynette Ramírez, PE, PRASA's Executive Director of Infrastructure, writing about Rafael Frias and his team.

“One of the key strengths of Black & Veatch’s performance to date is the team’s leadership, attention to details, and commitment to success by providing efficient project resource use and coordination, which also involves local sub-consultants.”

Adamaris Quiñones, PE, Auxiliary Director of Infrastructure – PRASA East Region, writing about Rafael Frias and his team.

“Black & Veatch’s staff is knowledgeable, client focused, and dedicated to providing quality work that allows PRASA to confidently make rational, well-informed decisions. As a Program Manager, Black & Veatch has a successful history interacting with designers, consultants, contractors and PRASA to successfully implement projects, adhering to schedule and budget. One of the many reasons PRASA selected Black & Veatch to manage the projects for the East Region.”

Adamaris Quiñones, PE, Auxiliary Director of Infrastructure – PRASA East Region, writing about Rafael Frias and his team.

“On behalf of all our personnel, I would like to express our sincere appreciation for your display of professionalism and support as speakers during this technical workshop. We look forward to continue working in the future with Black & Veatch on this and other matters regarding our Dam Safety Program.”

Carlos A. Negrón Alfonso, PE, Head of the Public Irrigation, Dams & Reservoir Division, Puerto Rico Electric Power Authority (PREPA), writing about Rafael Frias and his project team

“As the District Manager, I oversaw Black & Veatch’s work, and they successfully met project schedule and budget requirements. The District was very pleased with the professional services provided by Black & Veatch.”

Robert Verrastro, PG, Lead Hydrogeologist, South Florida Water Management District, writing about Rafael Frias and his project team.

PRESENTATIONS

Expanding Puerto Rico’s Renewable Energy Efforts: The Redevelopment of the Lago Loíza Hydroelectric Facility, American Water Resources Association Annual Conference, Washington DC, 2014, Author

PRASA’s Hydropower Project: Roadmap for the Successful Rehabilitation and Optimization of Puerto Rico’s Hydroelectric System, Puerto Rico Water & Environment Association Annual Conference, San Juan, 2013, Co-author (In conjunction with CSA Group)

Conduit Hydropower: Implementation of Innovative Renewable Solutions for Water Systems, American Water Resources Association Annual Conference, Jacksonville, 2012, Author

Conduit Hydropower: Maximizing Renewable Energy in PRASA's Water and Wastewater Systems, Puerto Rico Water & Environment Association Annual Conference, San Juan, 2012, Author

Membrane Treatment Processes to Manage Source Water Quality and Protect Human Health in Puerto Rico, AWRA National Conference, Albuquerque, 2011, Author

Water Resources Strategies for Climate Change & Shortages: An AWWA Webcast, AWWA, March 2010, Co-Author

Optimization of the Lajas Valley Reservoirs to Maximize Water Supply and Hydropower Generation, AWWA ACE, San Diego, 2009, Author

Sustainable Planning Practices and Technologies for "Green" Utilities, Puerto Rico Water & Environment Association Annual Conference, Rio Grande, 2009, Author

Mass Balance Modeling for Optimizing Surface Water Reservoirs, ASCE Water Resources Seminar, Orlando, 2008, Author

Sustainable Planning is Key to Becoming a "Green" Utility, FSAWWA Fall Conference, Orlando, 2008, Coauthor

Optimization of Reservoir Operations to Meet Multiple Water Supply Demands in Puerto Rico, AWRA National Conference, New Orleans, 2008, Author

Water Requirements for Energy Generation: Opportunities for Combined Efficiencies, AWRA National Conference, New Orleans, 2008, Presenter

Optimization of the Lajas Valley Reservoirs to Meet Multiple Demands, Puerto Rico Water & Environment Association Annual Conference, Rio Grande, 2008, Author

Surface Water Reservoirs: A Sustainable Approach to Everglades Restoration, FSAWWA Fall Conference, Orlando, 2007, Author

Disinfection Alternatives for South Florida Water Management District ASR Facility, FSAWWA Fall Conference, Orlando, 2007, Author

ASR for Lake Okeechobee and Estuary Restoration – The Taylor Creek/L-63N Canal ASR System, Aquifer Storage and Recovery VII, Orlando, 2007, Author

Testing of Disinfection Alternatives for South Florida ASR Facility, NEWWA 126th Annual Conference, Baltimore, 2007, Author

ASR as a Water Management Strategy, NJAWWA Annual Conference, Atlantic City, 2007, Author

Everglades Agricultural Area Reservoir A-1 – Management of Runoff for Everglades Restoration and Agricultural Irrigation, WEFTEC, Dallas, 2006, Author (Poster)

Reservoirs for Everglades Restoration and Agricultural Irrigation, AWRA National Conference, Baltimore, 2006, Author

XP-SWMM vs. ICPR – Surface Water Modeling, Black & Veatch Technology Conference, Kansas City, 2006, Author

Supply and Demand: Optimizing Operations of the Everglades Agricultural Area (EAA) Reservoir A-1, AWRA Conference, Key West, 2005, Author

Moving Latin America towards an Appropriate Solid Waste Management, National Technical & Career Conference, Minneapolis, 2002, Coauthor

Stormwater Drainage to Support Small Communities in Honduras, National Technical & Career Conference, Fresno, 2001, Author

Richard Campbell

Mr. Campbell has extensive consulting experience and has served as Project Manager on a variety of projects associated with municipal electric, natural gas, water, wastewater, stormwater and reclaimed water utilities. His experience encompasses the full range of utility finance issues, including wholesale and retail ratemaking, revenue bond financial feasibility reports, valuation studies for acquisitions and mergers (including condemnation proceedings), capital financing analyses, economic feasibility studies, and strategic and business planning.

Mr. Campbell also has experience in analyzing the economics of small-engine peaking generation facilities and other peaking and/or load management programs. He has assisted in the development of operation and management studies of municipal and rural electric cooperative utility systems and has managed and coordinated the development of distribution system studies, alternative power supply analyses and peak shaving studies.

Mr. Campbell has participated in preliminary hearings and settlement conferences for open-access transmission (FERC Order 888), as well as municipal annexation hearings, and has provided expert witness testimony before state commissions.

PROJECT EXPERIENCE

Development of Stormwater Financial Model | City of Raleigh, N.C. | 2008

Mr. Campbell served as Project Manager in providing the City Stormwater Department with an interactive, Windows-driven financial model to assist staff in budgeting and projecting expenditures and revenue needs, as well as providing rate-setting capabilities. The process also allows staff to track operational targets and provides reporting capabilities for both operations staff and upper level management.

Miami-Dade County Water and Sewer Department | Miami, Fla. | 2007-Present

The Miami-Dade County WASD provides utility services to both residential and nonresidential customers as well as many wholesale customers. Mr. Campbell served as the Project Manager for the ongoing Water and Sewer Cost of Service and Rate Study. One of the major goals of this study was to design an equitable rate structure that is consistent with industry standards and provides economic incentives to encourage conservation. To assist in the strategic planning efforts of the City, the study addressed certain areas of concern with regard to the customer characteristics and associated billing practices, as well anticipated funding mechanisms for the capital improvement program. The study concluded with the development of a 10-year projection of operating results in order to provide a strategic planning tool for estimating future revenue needs and rate impacts.

PROJECT DIRECTOR

Specialization:
Valuation, Condemnation, Rates, Power Supply Assistance, Mergers / Acquisitions, and Revenue Bonds

Education

- B. S., Electrical Engineering, University of Central Florida
- United States Naval Nuclear Power Training

Experience

1988-present

Joined Black & Veatch
2000

Regulatory Appearances

- Federal Energy Regulatory Commission
- Virginia Utilities Commission

Professional Associations

- American Public Power Association
- American Water Works Association

Committees

- National AWWA Rates and Charges Committee

Office Location

Dallas, TX

Orlando Utilities Commission (OUC) | Evaluation of Regionalization Alternatives, City of Orlando, Fla. | 2007

Mr. Campbell served as Project Manager on the Evaluation of Regionalization Alternatives, which focused on the development of a regional plan for the use of reclaimed water in augmenting the withdrawal of ground water by local water utilities. The analysis consisted of evaluating various system configurations relative to the City of Orlando's wastewater system in an effort to identify the most economically and fiscally prudent means of transporting 9.2 mgd of reuse water to the Northwest Orange County area.

The analysis included consideration for the transport of reclaimed water from those facilities where treatment is currently being provided as well as the conveyance of raw wastewater from current service territories to more geographically convenient facilities where treatment would occur. The analysis also included consideration for the impact of incremental operating and capital revenue requirements on all participants, including OUC, the City of Orlando, current wholesale customers, current retail customers, and various intergovernmental agencies and authorities.

Electric Authority (JEA) | Transmission System and Ancillary Services Rate Design, Jacksonville, Fla.

Mr. Campbell served as Project Manager in providing transmission service and ancillary services rate analysis to JEA. JEA desired to have its current transmission and ancillary services rates and charges reviewed for applicability and effectiveness in covering existing and projected costs. Also included in this analysis was the review and restructuring of all applicable tariffs.

Jacksonville Electric Authority (JEA) | Unbundled Cost-of-Service, Rate Design and Capacity Fee Study, Jacksonville, Fla. | 2002

Mr. Campbell has served as Project Manager to provide a cost-of-service and rate study for JEA. JEA desired to have a comprehensive study of all of its current rates, fees and charges for the electric, water, wastewater, and reclaimed water utilities performed. The goals of this study were to fully evaluate and optimize the revenue generating potential of every rate and charge; design rates for electric and water/wastewater that will promote and cause a change in the usage characteristics of certain JEA customer classes; evaluate the appropriateness and cost recovery mechanisms of each ancillary fee and miscellaneous service charge; obtain buy-in from external and internal stakeholders; functionally unbundle the cost of service for each utility for use in rate design and for future use in a partially or totally deregulated environment; and successfully obtain approval from the Florida Public Service Commission for any and all rate changes.

Water/Wastewater Impact Fee Study, City of Brownsville, Tex. | 2009

Mr. Campbell served as Project Manager for a water/wastewater impact fee study to determine maximum allowable impact fees for a projected five-year

test period. This process required development of projected land use assumptions, as well as a capital improvement plan to meet system needs for the projected study period. The analysis required review of the City's existing impact fees that are applied to all new development as a means of recovering capital costs of facilities constructed to make capacity available for such new development. In addition to adjusting the fees to allow for greater capital recovery, the study also reviewed the methodology for applying the fees to provide for a more administratively efficient process.

Water/Wastewater Cost-of-Service and Rate Study, City of Brownsville, Tex. | 2001

Mr. Campbell has served as Project Manager for a water/wastewater cost-of-service and rate study to determine revenue requirements and applicable customer class rates for a specific test year period. This process required a cost-of-service evaluation to adequately allocate proper costs to various rate classes based upon a pre-determined test year.

Water/Wastewater Inside-/Outside-City Rate Differential Study, City of Fort Worth, Tex. | 2006

Mr. Campbell served as Project Manager for a water/wastewater Inside-City/Outside-City rate differential study to determine fair and equitable rates applicable to outside-city customers. This process required a cost-of-service evaluation to adequately allocate proper costs to various rate classes based upon a pre-determined test year.

Gas System Cost-of-Service and Rate Study, Commission of Public Works, Greer, S.C. | 1996

Mr. Campbell served as Project Manager for a gas system cost-of-service study to determine allocable costs associated with existing customer classes, as well as new wholesale customer classes. This was accomplished through evaluation of historical customer and system data to develop projections of test year revenues and revenue requirements. The derived data was then allocated to various customer classes and associated rates were then developed.

Wastewater Wholesale Cost-of-Service and Rate Study, City of Fort Worth, Tex. | 2008

Mr. Campbell served as Project Manager for a wastewater cost-of-service and rate study to determine the annual wholesale revenue requirements for a prospective test year based upon the most recent actual historical costs, adjusted for known and measurable changes. Annual revenue requirements were classified under the utility basis approach and assigned to functional cost categories (volume/capacity, BOD, TSS and metering) using a design-causative approach. Functionalized costs were then allocated to approximately 27 individual wholesale customer entities based on their respective loadings and strength contributions to the system, and charges under a four-part rate structure were developed. The results were presented in a series of meetings to

a Wastewater Wholesale Advisory Subcommittee and ultimately to the full Advisory Committee.

Revenue Bond Feasibility Report, City of High Point, N.C. | 2004

Mr. Campbell served as Project Manager for a bond feasibility study for the City for inclusion into an official statement for Series 2004 bonds greater than \$37.5 million to fund water and sewer capital improvements.

Billing/Metering Conversion Analysis, City of Raleigh, N.C. | 2004

Mr. Campbell served as Project Manager/Client Coordinator for an analysis of the financial impact of switching current billing practices to operate on a monthly basis from a bi-monthly basis. Included in this analysis was the potential impact on the system and its customers should the City pursue varying levels of improved technologies in the billing and metering processes.

Revenue Bond Feasibility Report, City of Raleigh, N.C. | 2004

Mr. Campbell served as Project Manager for a bond feasibility study for the City for inclusion into an official statement for Series 2004 bonds in the amount of \$109 million to fund water and sewer capital improvements, as well as for refunding of existing debt.

10-Year Capital Financing Analysis, City of Raleigh, N.C. | 2006

Mr. Campbell was the manager of a project that provided the City of Raleigh with a financial analysis model that allowed the City to determine its current financial operational standing with respect to its water and sewer utilities. It also projected the impact to the City's financial position from proposed future Capital Projects and provided funding direction for these potential projects. This analysis model provided the City with a management tool that allows the City to consider several scenarios and test sensitivities for various growth scenarios and the timing and funding sources of anticipated capital projects.

Water/Wastewater Rate Study, City of High Point, N.C. | 2006

Mr. Campbell served as Project Manager in the performance of a Water and Wastewater Rate Study for the City. The City owns and operates a municipal water and wastewater system that provides utility services to both residential and non-residential customers within the city limits, as well as surrounding unincorporated areas. Recent annexations and development near the City have resulted in a changing customer base for the utility system.

Due to its close proximity to high-growth areas such as Greensboro and Winston-Salem, the City has experienced extraordinary growth and an increased demand on its water and wastewater utility system. This growth has resulted in the need for increased system expansions and significant capital improvement expenditures.

The rapid growth, as well as the resulting impacts on system operations and financial obligations, necessitated a review of the existing user rates and

charges. Black & Veatch was retained to perform a comprehensive cost-of-service rate analysis, design an equitable rate structure and develop a 10-year projection of operating results in order to provide the City with a strategic planning tool for estimating future rate impacts.

Bulk Power Supply, Distribution System Study, Unbundled Cost of Service, City of San Marcos, Tex.

Mr. Campbell worked with the City and provided financial and rate analyses consulting services, including litigation support services with respect to the City's wholesale electric supplier's rates regulated by the Public Utilities Commission of Texas; biannual electric rate studies, including the development of fully distributed and allocated cost-of-service analyses, revised rate schedules and terms and conditions of service; evaluation of alternative bulk power supply arrangements and the impact of those alternative costs on the City's retail electric rates and the City's industrial development activities; the development and implementation of special contract rates applicable to cogeneration projects connected to the City's system; and the formulation and development of new pricing strategies, which included the unbundling of the various electric services designed to allow the City to compete effectively in its evolving business environment, as well as effectively support the City's efforts to attract new and expanding businesses.

Mr. Campbell worked to evaluate the potential costs and benefits of the City purchasing the electric distribution system serving the City and operating that system as a Municipal enterprise fund. Services provided included inventory and valuation of system facilities, equipment and materials and supplies; development and negotiation of and implementation of facilities and bulk power supply agreements, including the seller's agreement to operate the system as the City's agent for five years; and the development and implementation of initial retail rates and billing and accounting systems.

The facilities purchase agreement included the City's right to purchase the four 138/12.5 kV power substations serving the system after five years. Mr. Campbell served as Project Manager in evaluation of the costs and benefits to the City of exercising its option to purchase the 120 MVA of substation capacity, including all ancillary equipment, land and land rights; determination of the condition of the substations; and development, negotiation and implementation of the agreements for the purchase of the substations, including the supplemental agreements for the operation and maintenance of the substation equipment and the provision of spare transformer capacity.

Robert Chambers

Mr. Chambers is a Manager with extensive utility and consulting experience involving a variety of projects associated with electric, water and wastewater, both public and private, throughout the southeastern United States. His utility knowledge covers a wide range of utility finance issues, including capital financing analyses, valuation studies for acquisitions, revenue bonds, utility rates, utility regulatory processes, economic feasibility studies, business case analysis, affordability assessments, and cost-of-service studies.

In addition, Mr. Chambers has led teams in the completion of projects to address complex issues around cost-of-service studies, rate studies, financial benchmarking, affordability analysis, feasibility analyses, business case analysis, system expansion programs, capital acquisition alternatives, wholesale capacity transactions and utility regionalization scenarios. Mr. Chambers has spoken at national utility programs such as AWWA – Utility Management, the Southwest Florida Government Financial Officers Association, the Florida American Water Works Association Conference, and the Alabama Mississippi American Water Works Association conferences, to name a few, on topics such as demand management, program development, energy management, customer affordability, and financial planning. In addition, Mr. Chambers has earned a Masters of Business Administration with a concentration in Finance from the Crummer Graduate School of Business at Rollins College.

PROJECT EXPERIENCE

Financial Consulting Services, ALCOSAN, Pennsylvania

ALCOSAN is currently under consent decree and are in negotiations with the Environmental Protection Agency related to the development of a \$3.0 billion Wet Weather Plan to address Combined Sewer Overflow. ALCOSAN is the sewer treatment services provider for 83 municipalities in around the City of Pittsburgh and required support in assessing the financial implication associated with implementation this planning. Mr. Chambers served as the Project Manager in leading a team that completed a comprehensive rate study in order to demonstrate Alcosan's ability to appropriately fund and maintain the Wet Weather program. As a result of the study, the project team developed a 20 year financial plan and supported to utility in interfacing with stakeholders and presenting the multi-year rate increase to support the Wet Weather Plan.

Financial Consulting Services, San Antonio Water System (SAWS), Texas

Black & Veatch was contracted to perform a comprehensive rates and charges assessment for SAWS. Mr. Chambers is serving as the project manager in completing the water and sewer system rates design and assessments related to special services charges, industrial surcharges, charges for wholesale services, and a complete review of SAWS' customer affordability program.

PROJECT MANAGER

Specialization:

Cost of Service Analysis, Capital Financing, Acquisitions and Valuations, Revenue Bonds, Utility Rates, Utility Regulatory Processes

Education

- B.S., Finance University of Central Florida, 2002
- B.A., Finance University of Central Florida, 2002
- M.B.A., Crummer Graduate School of Business, Rollins College, 2007

Experience: Utility Finance
2000–Present

Hartman & Associates, Inc.
2000–2002

Black & Veatch, Inc.
2003–2008

Malcolm Pirnie, Inc.
2008–2010

Black & Veatch, Inc.
2010–Present

Water and Sewer Financial Consulting Services, City of North Miami, FL

Black & Veatch supported the City in completing a water and sewer rate study that included the implementation of conservation based rates in order to be compliant with the South Florida Water Management District water use mandates. The cost of service study required a comprehensive analysis of the cost and rates associated with providing water and sewer service to the City's customers. In addition to performing the cost of service study, Black & Veatch completed a review of the utility level customer affordability program offered by the City. At the completion of the review, Black & Veatch facilitated workshops with the City leadership of the City and formulated a plan to implement an updated utility level customer affordability program.

Water and Sewer Financial Consulting Services, City of Lauderdale, FL

Black & Veatch was selected to perform a cost of service study for the City of Lauderdale. The study required a comprehensive analysis of the cost and rates associated with providing water and sewer service to customers residing within the City limits of Lauderdale. The goals of this study were to: (i) fully evaluate and optimize the revenue generating potential of water and sewer rates because the City's service area was built out and the City faced serious water scarcity mandates and regulatory requirements issues by the water management districts in Florida, (ii) evaluate the appropriateness and adequacy of cost recovery mechanisms for the water and sewer system (iii) obtain buy-in and approval from external and internal stakeholders, (iv) develop a affordability based rate design mechanism that supported fixed income customers served by the City, and (v) develop rates fair and equitable water and sewer rates.

Water & Wastewater Rate Study, City of Venice, Fla.

The City of Venice required a comprehensive financial and rate analysis to determine its ability to meet the annual utility system obligations. The project team, in association with the appropriate city staff, developed a financial forecast for the period FY 2010 through FY 2014, which was designated as the forecast period. The financial forecast provided the city with the ability to understand the financial responsibilities, address and mitigate potential revenue requirement needs, determine a plan to fund annual renewal and replacement needs, and establish the revenue needs of the utility system over the forecast period.

In addition, the project team performed a cost service analysis, designed new water and sewer, and reviewed all the utility system rates charged by the City of Venice. Mr. Chambers served as the Project Manager of this engagement.

At the completion of the analysis, Mr. Chambers presented the final results of the entire study to the appropriate City staff, the City Council, and other stakeholders as directed by the City and was successful in getting the approval of a multi-year rate plan..

Water & Wastewater Rate Study, Puerto Rico Aqueduct and Sewer Authority, Puerto Rico

The Puerto Rico Aqueduct & Sewer Authority required a comprehensive financial water and wastewater rate analysis to determine its ability to meet the annual authority system obligations. Since FY2007, the authority has experienced significant reductions in revenues which are embedded in significant reductions in water usage, coupled with extreme customer affordability pressure, and the elasticity associated with a cumulative multiyear rate increase of 128% which was initiated in October 10, 2005 and completed on July 1, 2006.

The authority required a rate study that captured its intricate revenue requirements while designing water and wastewater rates that incorporated a support mechanism to serve customers facing extreme affordability challenges and related coefficient elasticity factors to prevent potential revenue requirement shortfalls after the implementation of the proposed rates. Mr. Chambers served as the project manager on the project team that performed a detailed analysis of the authority's system revenues and revenue requirements in an effort to develop a sound financial forecast. The financial forecast was developed for the period FY 2009 through FY 2018 and provided the authority with the ability to understand its financial responsibilities, address and mitigate potential revenue requirement needs, simulate the customer bill impacts of potential rate increases, track the performance of specified bond resolution ratios, and assess the authority's ability to generate sufficient cash balances.

Upon completing the financial forecast, the project team worked with authority staff to design water and wastewater rates based on the established rate-setting objectives determined at the initiation of the project. Provided below are the rate-setting objectives identified at the initiation of the project:

- Revenue stability and predictability
- Support to customers having extreme affordability constraints
- Promotion of efficient water usage
- Simplicity, understandability, and public acceptance
- Defendability (freedom from controversies as to proper interpretation)

The project team developed a rate design model that incorporated elasticity coefficients, bill impact comparisons, revenue stability comparisons, and an explicit illustration of existing utility rates compared to proposed utility rates for all the customer classes served by the authority. At the completion of the analysis, the project team supported the authority staff in presenting the proposed financial plan and the rate design alternatives to the authority's respective stakeholders. In addition to financial plan and the rate design plan support, the project team trained the appropriate PRASA staff in using the models developed during the course of the study and transferred these models accordingly.

Strategic Sustainability Plan, Palm Beach County, FL, Water Utilities Department

Black & Veatch was contracted to update the utilities strategic plan for the period FY 2016 through FY 2020. The strategic plan is called a Strategic Sustainability Plan (SSP) that incorporates specific sustainability initiatives as a part of the Utility's Mission and Vision. The Black & Veatch team has facilitated over 15 workshops and meetings in order to get buy-in by all Utility staff and stakeholders. The SSP is currently under its final stages of development. Mr. Chambers has served as the Project Manager throughout the entirety of the analysis.

Wastewater & Stormwater Utility Rate & Feasibility Analysis, City of Key West

Black & Veatch has been providing financial consulting services to the City of Key West as the City endeavors to complete over \$50 million in wastewater construction projects required to enhance environmental protection in the Florida Keys. The City, which operates a wastewater collection and treatment system as well as a stormwater system, is responding to requirements of the Florida Department of Environmental Protection, as well as the desires of the citizenry. The construction program has been supported by the acquisition of Federal and State grant funds, and is being completed using retained revenues of the wastewater and stormwater enterprise funds. Black & Veatch has conducted annual rate study updates, feasibility studies, and business case assessments for the City's wastewater and stormwater system since the inception of the wastewater construction project. Mr. Chambers has served as the project manager for these engagements.

Energy Master Plan, City of Hollywood, Florida

Mr. Chambers served as the Project Manager for the financial and economic feasibility components of a Energy Master Plan for the Water and Sewer Department of the City of Hollywood. In support of the technical evaluations, the financial team developed detailed business case analysis to determine the feasibility of implementing specific Energy Conservation Measures (ECMs) related to the Energy Master Plan. The financial team performed a detailed rate analysis, forecasted energy output before and after the implementation of the ECMs, and simulated the economic impact of implementing the Energy Master Plan. At the completion of the analysis, the project team developed an optimized implementation plan that was fully funded by the incremental revenues contribution generated from implementing the Master Plan projects.

Miami-Dade Water and Sewer Department | Common Cost Allocation Study, Fla.

Miami-Dade Water and Sewer Department required a common cost allocation assessment to assess their common cost allocation procedures related to regional and local water and wastewater functions. The cost allocation

assessment was performed utilizing the principles established in the Federal Office of Management and Budget Circular A-87, which established a dedicated procedure that governmental agencies must follow in calculating the direct and indirect cost that may be included for grant applications and other federally funded projects. Mr. Chambers served as the project manager on the project team that completed the assessment.

Miami-Dade Water and Sewer Department | Adequacy of Rates and Charges Study, Fla.

As a part of Miami-Dade Bond Ordinance, the County is required to perform an annual Adequacy of Rates and Charges assessment to provide an opinion related to the adequacy of existing water and sewer rates to meet planned revenue requirements obligations. Mr. Chambers serves as the Project Manager in the completion of this analysis.

Water and Sewer Rate Study, City of Anderson, S.C.

The City of Anderson owns and operates public wastewater treatment, collection and disposal facilities. The City provides wastewater utility services for residential, commercial and industrial customers within its corporate limits, as well as surrounding unincorporated areas. The City was interested in applying for a State Revolving Loan that will fund upcoming sewer projects. Mr. Chambers developed a rate model that projected the City's operating results to determine the city's ability to meet its long-term obligations pertaining to the State Revolving Loan.

Wastewater Wholesale Cost-of-Service and Rate Study, City of Fort Worth, Tex.

Mr. Chambers served as a Project Assistant and developed a financial model for a wastewater cost-of-service and rate study to determine the annual wholesale revenue requirements for a prospective test year based upon the most recent actual historical costs, adjusted for known and measurable changes. Annual revenue requirements were classified using the utility basis approach and assigned to functional cost categories (volume/capacity, BOD, TSS and metering) using a design-causative approach. Functionalized costs were then allocated to approximately 27 individual wholesale customer entities based on their respective loadings and strength contributions to the system. Charges under a four-part rate structure were developed.

Utility Revenue Bond Consulting Engineer's Report, Cobb County Water System, Ga.

The Cobb County Water System (CCWS) provides water and wastewater service to approximately 160,000 retail utility customers located in the County. In addition, the CCWS provides wholesale wastewater service to all five of the municipalities within the County that operate retail utility systems, as well as the City of Atlanta, Fulton County and three other surrounding counties. According to an article in *The Bond Buyer*, the CCWS is one of only two county-

owned systems in the nation to have an unenhanced AAA rating based solely on system revenues, not on taxpayer dollars.

Mr. Chambers served as a Project Assistant for the development of a comprehensive Consulting Engineer's Report that was included in the Official Statement for \$100 million of Series 2003 Revenue Bonds. Proceeds of the bonds were utilized to fund various capital improvement projects for both the water and wastewater systems that were planned to facilitate the continued growth in the County and the region. In addition to developing the five-year projected operating results and debt service coverage estimates generally included in the Consulting Engineer's Report, the project required an additional 15-year projection of debt service coverage in order to satisfy bond resolution covenants.

Utility Revenue Bond Consulting Engineer's Report, Tohopekaliga Water Authority, Kissimmee, Fla.

The City of Kissimmee and Osceola County jointly agreed that a regional approach to the delivery of water and wastewater utility services within the County would provide the best opportunity to develop an efficient and environmentally sensitive approach to utility planning, obtain economies of scale, provide service at cost-effective rates, operate facilities in an environmentally responsible manner, better manage expansion and extension procedures and protect water supply resources. As such, the City and County entered into an inter-local agreement that transferred all of their respective utility facilities to the jointly formed Tohopekaliga Water Authority.

The transaction represented an acquisition of existing City and County facilities by the Authority. It was necessary for the Authority to issue debt to fund the acquisition. Mr. Chambers participated served as the lead Project Analyst for the project team that prepared the Consulting Engineer's Report included in the Official Statement for the Authority's Series 2003A Utility System Revenue Bonds. Due to the nature of the inter-local agreement and another acquisition that was occurring concurrently with the primary transfer, the successful completion of the funding project required significant coordination and communication with other participants, including lawyers, financial advisors and investment bankers, as well as other engineering and consulting firms.

Water & Sewer Rate, Debt Issuance Support, City of Greensboro, N.C.

The City of Greensboro provides water and sewer service to customers inside and outside the City's corporate boundaries. The City is located in an area with limited water supply capacity. The City is a member of the Piedmont Triad Regional Water Authority with other cities that share in the costs of building a water treatment plant in an outlying county where more abundant water supply is available to provide additional water capacity to each of the participating members. The City is the largest participant in the Authority.

Mr. Chambers served on the project team that was retained to perform a Bond Feasibility Study for the issuance of the Combined Enterprise System Revenue Bonds, Series 2005B. The study tasks were to:

- Determine revenues and expenditures of the water and sewer utility systems over the test period;
- Determine if each system was operating on an independent, stand-alone basis, and
- Provide recommendations for proposed rates to meet the operational, financial, and administrative objectives of the City as a result of rapid growth.

The results of the analysis were presented in a Bond Feasibility report.

Water / Wastewater Rate Study, City of High Point, N.C.

Mr. Chambers served as the lead analyst in the development of a water and wastewater rate study for the City. The City owns and operates a municipal water and wastewater system providing utility services to both residential and non-residential customers within the city limits, as well as surrounding unincorporated areas.

Recent annexations and development near the City have resulted in a changing customer base for the utility system. Due to its close proximity to high-growth areas such as Greensboro and Winston-Salem, the City has experienced extraordinary growth and an increased demand on its water and wastewater utility system. This growth has resulted in the need for increased system expansions and significant capital improvement expenditures.

The rapid growth, as well as the resulting impacts on system operations and financial obligations, necessitated a review of the existing user rates and charges. As such, Black & Veatch was retained to perform a comprehensive cost-of-service rate analysis, design an equitable rate structure and develop a 10-year projection of operating results in order to provide the City with a strategic planning tool for estimating future rate impacts.

Water and Wastewater Rate Study & Bond Feasibility Report, Town of Mooresville, N.C.

The Town of Mooresville provides water and sewer service to customers inside and outside the Town's corporate boundaries. The Town is in close proximity to Charlotte and is directly affected by Charlotte's rapid growth. Mr. Chambers has served as Project Assistant in performing annual water and sewer rate studies for the Town since 2003.

The findings of these reports were presented to the Town Board. A five-year projection of revenues and expenses was also developed for the Town to use as a planning tool in determining timing of planned capital improvement projects and the required water and wastewater rate increases to fund those projects.

In conjunction with these rate studies, Mr. Chambers also served on the project team that developed the Bond Feasibility Reports for inclusion into a bond official statement. Since 2003, nearly \$200 million in bonds has been issued. Proceeds of the bonds were used toward bank debt and to provide money for capital projects. Important components of the Bond Feasibility Report included the debt service coverage on anticipated revenue bond issuances and the ending available revenue fund balances each year of the projection period. These two components are important indicators as they:

- Determine the strength of the utility going forward;
- Determine the potential ratings assessed by the bond rating agencies;
- Assist in receiving approval from the North Carolina Local Government Commission (LGC), and
- May determine the final interest rate the Town will receive on future revenue bond issuances.

The five-year projected operating results were developed utilizing the typical flow of funds methodologies required by conditions of the rate covenants contained in the revenue bond ordinances drafted by the Town's Bond Counsel and was accepted by the LGC.

Water and Wastewater Cost of Service and Rate Study, City of Sumter, S.C.

The City owns and operates a municipal water and wastewater system that provides utility services to both residential and non-residential customers within the City limits, as well as surrounding unincorporated areas. Due to its close proximity to Columbia, as well as the presence of a local U.S. Air Force base, the City has experienced growth and an increased demand on its water and wastewater utility system. Such growth caused a significant change in the area economy, as well as the makeup of the utility system's customer base. In order to prepare for continued growth and dynamic changes anticipated in the future, the City determined that a review of the existing utility rates and rate structure was necessary.

Although the utility systems were not facing material financial problems, the existing rates had evolved into an inequitable form that did not meet the needs of the changing customer base and potentially opened the City for possible legal action. Mr. Chambers served as a Project Assistant for the performance of a comprehensive cost-of-service rate analysis. The project involved designing an equitable rate structure that was consistent with utility industry standards, offered economy-of-scale benefits to very large users and did not place inappropriate financial burdens on low-use customers.

To assist in the strategic planning efforts of the City, the study addressed certain areas of concern with regard to the existing practices for billing, classifying customers and maintaining customer records. The study also offered recommendations accordingly, and it concluded with the development of a five-

year projection of operating results in order to provide a strategic planning tool for estimating future revenue needs and rate impacts.

Feasibility Study for the Formation of Regional System/Revenue Bond Issue, Onslow Water and Sewer Authority, Onslow County, N.C.

The Onslow Water and Sewer Authority (ONWASA) was formed by the Cities of Jacksonville, Holly Ridge, Swansboro, and Richlands and Onslow County, N.C. Black & Veatch assisted this new entity in several aspects of its initial steps to bring the utilities together and to determine the feasibility of merging the systems together.

This project was unique in that ONWASA was working together with the Camp Lejeune Marine Corps Base in Jacksonville. The two entities have inter-local agreements that provide for the Marine Base to supply wholesale water and wastewater treatment service to ONWASA.

The project also developed projected operating results to determine the impact on each of the member entities' current customers. Debt service estimates were developed based on each of the scenarios, and then these estimates were applied to the projected operating results to determine if the merger was financially feasible and beneficial to each member entity's current and potential customers.

Mr. Chambers served as the Lead Analyst on the Black & Veatch team that was engaged to perform a comprehensive bond feasibility study required to support the issuance of revenue bonds to complete the merger.

Water and Wastewater Rate Study, Bennettsville, S.C.

The City owns and operates municipal water, wastewater, electric and gas facilities that provide utility services to both residential and non-residential customers within the city limits, as well as surrounding unincorporated areas. Unlike many other communities in the region, the City and its utility system have experienced very little development and growth. In addition, due to the local political climate, the water and wastewater rates had not been increased in a decade. Over the years, this resulted in a situation whereby capital maintenance and improvements were being postponed and cash reserves were being eroded to support annual operations.

The City eventually initiated plans to issue revenue bonds in order to provide funding for needed capital improvements. In preparing for the financial impacts of the new debt, the City commissioned a water and wastewater rate study. Mr. Chambers served as a Project Assistant for the performance of a comprehensive cost-of-service rate analysis.

The project involved revising the existing rate structure to be equitable, administratively efficient and consistent with utility industry standards and to generate revenues sufficient to meet the bond covenant requirements. The

study also included the development of a five-year projection of operating results in order to provide a strategic planning tool for estimating future revenue needs and rate impacts.

Water and Sewer Rate Study, Winston-Salem, N.C.

Black & Veatch has provided financial consulting services to the City for more than 10 years. Mr. Chambers worked on the project team in the development and update of a water and sewer rate study for the City. Key issues of concern for the City included the development of conservation rates for its regular and irrigation water customers. Mr. Chambers served as a Project Assistant in the development of a bond feasibility report in support of a revenue bond issue to obtain funds to pay for water and sewer capital improvement projects.

PUBLICATIONS & PRESENTATIONS

Energy Efficiency Master Planning: A Florida Utility Case Study, Florida Water Resources Journal, March 2015

Energy Efficiency Master Planning: A Florida Utility Case Study, Florida American Water Works Association Conference, December 2014

Energy Cost Management, A Discretion or a Necessity – Managing Energy Cost Utilizing the Energy Decision Cash Flow Model, Mississippi Alabama American Water Works Conference, October 2014

How to Implement a Utility Level Customer Affordability Program – Basic Elements and Key Considerations, Mississippi Alabama American Water Works Conference, October 2014

How to Utilize and Administer Low Cost State Revolving Funding in Florida, Florida American Water Works Association Region VII Quarterly Meeting, October 2012

How to Use Program Development Funding to support Financial Needs for Water and Sewer Utilities, Southwest Florida Government Financial Officers Association Conference, June 2012

Ann T. Bui

Ms. Bui's comprehensive experience includes managing financial planning, cost of service, and rate design studies for water and wastewater utilities; preparation of financial feasibility assessments and Consulting Engineer's Reports supporting multi-tiered debt structures for over \$3 billion of revenue bond sales; design of financial management information systems; consulting assistance regarding contractual and other relationships among municipalities, analysis of retail and wholesale customer pricing structures and expert witness services in utility litigation matters; and organizational strengthening reviews for large and small utilities. Using her background in business planning, Ms. Bui's work also includes reviewing and improving her client's operational, engineering, and technology support business practices, resulting in optimized business performance and regulatory compliance assurance. She has worked with international and domestic entities to develop innovative approaches for structuring alternative delivery projects using private and public financing instruments. Her experience spans over 20 years and she has provided business services for public and investor-owned utilities throughout the country and of all different sizes ranging from those with only 5,000 service connections to those that serve populations over 5 million.

The specific types of studies in which Ms. Bui has been engaged include: rate studies involving the development of enterprise fund based revenue requirements; allocation of costs of service and design of rates and new rate structures; engineering and financial feasibility studies related to official statements for revenue bond offerings by municipal water and wastewater utilities; studies of wastewater surcharge rates; studies involving the determination of system development charges for new customer connections; studies of cost accounting systems; property valuation studies; utility mergers and acquisition evaluations; development of public-private participation arrangements; stimulus funding grant applications; back-office process reviews and management / operational audits and assessments; utility enterprise formation; and capital prioritization studies. Ms. Bui also has presented expert witness testimony in utility rate proceedings.

REPRESENTATIVE CLIENT EXPERIENCE

Western US - Water, Wastewater, Stormwater, & Solid Waste Utility Enterprise Financial Planning, Rate & Cost-of-Service Studies, Indirect Cost Allocations, Management Audits /Organizational Assessment Studies, & Business Planning Activities

- City of Glendale, AZ
- City of Phoenix, AZ
- City of Tucson, AZ
- City of Henderson, NV
- City of Santa Monica, CA
- Los Angeles Bureau of Sanitation

MANAGING DIRECTOR

Specialization:
Financial & Management Consulting Services, Debt Issuance Support, Feasibility Studies, Institutional Studies

Education

- B.S., Chemical Engineering, University of British Columbia
- M.S., Chemical Engineering, University of California -- Los Angeles
- M.B.A., Finance, University of California -- Davis

Professional Registration

Engineer-in-Training: California

Experience

1989 - present

Joined Black & Veatch

1989

Professional Associations

- AWWA
- Vice Chair of AWWA's Finance, Accounting & Management Controls Committee
- Member of AWWA's Strategic Management Practices Committee

- City of Long Beach, CA
- City of Orange, CA
- City of Palo Alto, CA
- City of Napa, CA
- City of South Gate, CA
- City of San Diego, CA
- County of San Diego, CA
- Cambria Community Services District
- Marin Municipal Water District
- Helix Water District
- Rancho California Water District
- Indio Water Authority
- City of San Clemente, CA
- City of Soledad, CA
- San Joaquin County Department of Public Works, CA
- City of Port Hueneme, CA
- Santa Ynez River Water Conservation District, CA
- Guam Waterworks Authority
- City of Arlington, TX
- City of Flagstaff, AZ
- City of Salem, OR
- City of Oxnard, CA
- City of Los Angeles, Stormwater Division
- City of San Juan Capistrano, CA
- City of Downey, CA
- City of Orange, CA
- City of Yuba City, CA
- City of Antioch, CA
- Dublin San Ramon Service District
- Padre Dam Municipal Water District
- Western Municipal Water District
- Cucamonga Valley Water District
- City of Patterson, CA
- City of Chino Hills, CA
- Riverside Public Utilities, CA
- Atascadero Mutual Water Company, CA
- Golden States Water Company
- City of Ontario, CA
- City of San Jose, Environmental Services Division, CA

Midwestern & Eastern US - Water, Wastewater, Stormwater, Solid Waste & Gas Utility Enterprise Financial Planning, Rate & Cost-of-Service Studies, Indirect Cost Allocations, & Business Planning Activities

- City of Dayton, OH
- Cincinnati Water Works, OH
- Metropolitan Sewer District of Hamilton County, OH

- City of Mason, OH
- City of Columbia, OH
- City of Wyoming, MI
- City of Detroit, MI
- City of Grand Rapids, MI
- City of Holland, MI
- Philadelphia Water Department, PA
- Philadelphia Gas Works, PA
- Puerto Rico Aqueduct and Sewer Authority, PR
- Northern Kentucky Water District, KY
- Louisville Water Company, KY
- Warren County, KY
- Alleghany County Sanitary Authority, PA
- Johnson County Wastewater, KS
- City of Jasper, AL
- Highland, IL
- City of Bloomington Department of Utilities, IN

Miscellaneous Studies

- Confidential Client – Independent Engineering Water and Wastewater Systems Valuation
- Alinda Capital, Confidential Project – Independent Engineering Due Diligence
- Barclays Capital, Carlsbad Desalination Project – Independent Engineer
- Waste Management Inc., Development of Management Fee
- United Arab Emirates – Ajman Sewerage Concession
- Suape Grain Terminal, Brazil – Commodity Financial Feasibility Study
- Confidential Client, Project Pelican – Off-Balance Sheet Water Wheeling Feasibility Analysis
- Confidential Client, Texas – Off-Balance Sheet Financial Feasibility Analysis for Ozone Production Facilities
- Confidential Client, Washington – Off-Balance Sheet Financing for Paper Company
- Confidential Client, Arizona – Off-Balance Sheet Financing for Privately Owned Landfills

PUBLICATIONS / PRESENTATIONS

“Introduction to Financial Planning” presented at the Pacific Northwest Section of the Clean Water Association Winter Short Course University, Portland, Oregon, February 2010.

“Key Performance Indicators” presented at the Annual AWWA Conference in San Diego, California, June 2009.

“Alternative Funding Sources” presented at the Regional Water Authority Conference in Rancho Cordova, California, April 2007.

“Financial Benchmarks” presented at the Annual AWWA Conference in San Francisco, California, June 2005.

“Maximize Debt Market Options – Minimize Revenue Adjustments” presented at the Kentucky/Tennessee AWWA/WEF Conference in Nashville, Tennessee, August 2004.

“Quantification and Reduction of Risk from Hazardous Air Emissions - Key note address,” presented at the AIChE Annual Conference in San Francisco, California, November 1994.

Prabha Kumar

Ms. Kumar currently leads the stormwater utility consulting practice within Black & Veatch's Management Consulting Division. Ms. Kumar specializes in stormwater utility feasibility studies and utility development, implementation, and program support. Ms. Kumar's comprehensive utility consulting expertise also includes directing business process optimization studies, strategic planning, financial planning, cost of service, and rate design studies; and providing expert witness services in stormwater utility rate cases.

PROJECT EXPERIENCE

Philadelphia Water Department, City of Philadelphia, Pennsylvania | Stormwater Cost of Service and Rate Study | 2012

Technical Director. Ms. Kumar directed the stormwater cost of service analysis, user fee methodology and rate structure review. Prior to this study, she assisted with a series of 10 Citizens Advisory Committee (CAC) meetings that were held to review several stormwater policy and technical issues. The diverse issues included stormwater cost allocation, user fee method, direct dischargers, credit/incentives program, and the non-residential rate increase cap program. Ms. Kumar was the lead expert witness in the stormwater rate hearing proceedings and provided multiple interrogatory responses and briefings. The recommended rate structure and rates were implemented.

City of Olathe, Kansas | Stormwater Rate Restructure Study | 2013

Technical Director. Ms. Kumar is currently directing the rate restructure study to transition the utility from a gross area based user fee to an impervious area based user fee. The study involves policy workshops to define the impervious area methodology, billing policies, and appeals program; parcel analysis to determine billing units; financial analysis to determine the impervious area based system unit rate; and an impervious area rate structure. The study also includes presentations to the City Council and the management of Public Works Department.

City of Wilmington, Delaware | Integrated Wet Weather Management Plan | 2012

Task Lead. Ms. Kumar is assisting the project team with the ongoing development of the Integrated Wet Weather Management Plan. The objective of this plan is to integrate the planning and execution aspects to meet both the City's Long Term Control Plan (LTCP) and its MS4 requirements. The first phase of the study, which involved developing the Mission, Vision, Goals, Objectives, and an assessment of the existing programs has been completed. The second phase, which involves the development of the integrated wet weather management plan has been initiated.

DIRECTOR

Specialization:
Stormwater Utility;
Process Optimization;
Strategic Planning;
Financial Planning; Rate
Studies; Benchmarking;
Systems Needs
Assessment &
Requirements;
Implementation Support

Education

- M.B.A, MIS & Marketing; University of California, Riverside
- M.Phil., English Literature; Madras University, India
- M.A., English Lang. & Literature; Madras University, India
- B.A., English Lang. & Literature; Madurai-Kamaraj University, India

Professional Associations

- National Association of Clean Water Agencies, Stormwater Committee
- Water Environment Federation
- American Water Works Association
- Member of AWWA's Strategic Management Practices Committee (SMPC)

Year Career Started
1999

Year Started with B&V
1999

City of Wilmington, Delaware | Stormwater Utility Billing Support and Advisory Services | 2012

Project Manager. Since the launch of the stormwater utility in 2007, Ms. Kumar has been providing advisory and operations support on policy issues, staff training, parcel data management and billing operations, and stormwater credits and appeals program. During 2006 through 2007, Ms. Kumar completed the development and implementation of a stormwater utility and credit program for the City of Wilmington. Phase I involved the design and development of a stormwater utility and Phase II involved the implementation of a stormwater billing program. The study included financial analysis, user fee method evaluation, master account file development, billing and credit program development, customer outreach, and staff training.

Pittsburgh Water and Sewer Authority, Pittsburgh | Stormwater Management and Rate Structure Project | 2012

Task Lead. Ms. Kumar lead the development of stormwater financial planning, funding options evaluation and rate structure design, and also assisted in defining cost allocation and rate structure policies. The study included concept development, policy development, combined sewer cost allocation, determination of stormwater revenue requirements, and the development of a system unit rate (rate per Equivalent Residential Unit).

Henrico County, Richmond, VA | Stormwater Utility Study | 2011

Task Lead. As a Task Lead, Ms. Kumar was responsible for policy development, stormwater financial planning, and funding options evaluation. The study included program review and level of service alternatives evaluation, financial planning and funding options analysis, impervious area analysis, and rate structure evaluation. The study also included a preliminary review of credits program, appeals process, and billing options evaluation.

Philadelphia Water Department | Stormwater Implementation Management Services, City of Philadelphia, Pennsylvania | 2009 - 2011

Project Manager. Ms. Kumar served as the implementation manager for the Philadelphia Water Department in its parcel area based stormwater charge implementation. The stormwater charge went live on July 1, 2010.

Phase 1 advisory services included providing guidance on customer classification and billing policies, credit program, customer outreach, and extensive rate case expert witness testimony. The Phase 2, Implementation management services included planning and coordinating task execution among the six functional teams: (i) Stormwater Database Application Development (ii) Billing Integration; (iii) Bill Design; (iv) Credits and Appeals program development; (v) Commercial Customer Service; and (vi) Public Outreach/Education. During this phase Ms. Kumar was also responsible for conducting training for nearly 230 members of staff and management.

Developed business processes and associated workflow and guidance documentation for the credit/appeals program.

City of Springfield, Ohio | Stormwater Utility Feasibility Study | 2011

Technical Advisor. As a technical advisor, Ms. Kumar completed a stormwater utility feasibility study. She directed the stormwater utility policy development; parcel data analysis and estimation of billable units of service, rate design; stormwater database development, billing integration, and stormwater credits and appeals program. Ms. Kumar lead the policy and user fee methodology workshops for the Stormwater Advisory Committee, and the development of the Master Account File. The Council approved the rate study recommendations and implementation is in progress.

City of Dallas, Texas | Stormwater Rate Study | 2009 - 2010

Technical Advisor. Ms. Kumar served as a technical advisor in this study. Ms. Kumar led the parcel analysis and determination of stormwater units of service efforts for the City of Dallas Stormwater Rate Study update project. The study involved an evaluation of user fee methodology and alternative rate structures; distribution analysis for tiered rate structure; development of recommendations for proposed changes to user fee methods and rate structure, parcel analysis to develop billable stormwater units of service; and report development. The City adopted the study recommendations.

SELECTED PUBLICATIONS

"User Fee Funded Stormwater Utilities Manual". 2nd Edition. Lead Author for Chapter 3 – Stormwater Feasibility Study. (To be published by the Water Environment Federation (WEF) in October 2013).

"Trends in Stormwater Utilities Across the Nation". Presented at the 24th Annual Environment Virginia Symposium, April 2013, Lexington, VA.

"Managing Non-Revenue Water: Balanced Focus through Holistic Management Approach". Presented at the 2012 Utility Management Conference, February, Miami, FL.

"Stormwater User Fees Come Up Short", PUBLIC WORKS News Service (online), by Prabha Kumar, November 23, 2010. Print version to be published in May 2011.

"Promoting Sustainable Stormwater Management: The Role of a Stormwater Credit Program". Presented at the 2009 Stormcon Conference, August, Anaheim, CA.

"Look Before you Leap: Developing Policies for Stormwater User Fee Implementation," Presented at the August 2008 Stormcon Conference, Orlando, FL.

Kumar, Prabha, White, Anna. (2008). *"Know Your Way – Policy Development in Stormwater User Fee Implementation,"* Published in the May 2008 issue of Stormwater, Vol 9. No.3.

"Stormwater Billing: Navigating the Integration Challenges," Presented at the February 2008 Utility Management Conference, Tampa, Fl.

"Stormwater User Fee Financing: Charge the Runoff, not the Usage," Presented at the 2007 AWWA-WEF Joint Management Conference, Portland, Ore.

"Fundamentals of a Stormwater Utility Feasibility Study," Presented at the Section AWWA Tri-Association Conference, August 2006, Ocean City, Md.

"Activity Based Costing: A Success Story," Presented at the AWWA-WEF Joint Management Conference, February 2000, Seattle, Wash.

Pamela Lemoine

Ms. Lemoine's experience encompasses a diverse range of financial, engineering, and economic studies for wastewater, water and stormwater utilities and solid waste systems. She has extensive experience in the conduct of strategic financial planning studies, cost of service and rate design studies, as well as financial capability analyses and affordability assessments associated with long term control plan development required as a result of federal consent decrees. She has assisted utilities in developing strategies to address affordability in negotiations with regulators. Ms. Lemoine has also assisted in the development of stormwater utilities, including policy development, financial planning, rate and credit program design, and implementation, providing clients with a stable source of revenue to fund necessary stormwater activities as required by NPDES permits and other wet weather related issues.

Ms. Lemoine's experience also includes the development of policies that address a utility's objectives while meeting customers' needs. She has also developed performance measures to allow utilities to better track efficiency and level of achievement of established goals and objectives. She is also experienced in the determination of the economic feasibility of proposed projects or property as well as major expansions to projects. She regularly presents utility issues and study results to city councils, board of commissioners and other stakeholders.

REPRESENTATIVE PROJECT EXPERIENCE

City of Columbus | Blueprint Columbus Affordability Analysis, Ohio | On-going

Ms. Lemoine is serving as Project Manager in the completion of a comprehensive affordability analysis for the City's Division of Sewerage and Drainage. The work is required under the City's consent decree with the Ohio Environmental Protection Agency (OEPA). Black & Veatch is leading a multi-disciplinary team in the evaluation of economic, demographic, financial and policy issues related to the City's implementation of Blueprint Columbus. As part of the affordability analysis, Black & Veatch will be evaluating the impact of alternative schedules for the completion of Blueprint Columbus, as well as the impact of alternative schedules for a "gray" solution. The work will result in a final report that the City will deliver to OEPA in September 2015.

Sanitation District No. 1 of Northern Kentucky | Affordability Analysis, Kentucky | On-going

Ms. Lemoine is assisting the District with an evaluation of affordability concerns related to the District's consent decree and on-going negotiations with federal and state regulators. Issues being addressed include the economic condition and impact of the wet weather program within the service area and specifically for vulnerable populations within the service area, the impact annually and over time on the District's financial condition, and overall impact within the service

PRINCIPAL CONSULTANT

Specialization:
Strategic Financial Planning, Water and Wastewater Rates, Consent Decree Negotiation, Affordability, Stormwater User Fees, Funding and Bond Feasibility, Organizational Efficiency, Citizen Work Groups, Public Information

Education

- B.S., General Engineering, University of Illinois – Urbana-Champaign

Professional Registration

Professional Engineer: Washington

Professional Associations

WEF
AWWA
NACWA – Utility & Resource Management Committee member, Legal Affairs Committee
AWWA – Consumer Confidence Report Workgroup member
PNWS/AWWA past secretary
Financial Management Committee

Year Career Started
1987

Year Started with B&V
1995

area due to the combined effect of wastewater, stormwater and drinking water requirements.

City of Springfield, MO | LTCP Affordability Analysis, Missouri | On-going

Ms. Lemoine is serving as an advisor in the completion of a financial capability and affordability assessment related to the City's Overflow Control Plan (OCP), required as part of the City's Amended Consent Judgment with the Missouri Department of Natural Resources. The OCP reflects the City's integrated planning approach. The affordability analysis includes both long-term financial planning to assess the impact the program could have on the utility's financial condition, and projected rate increases that would be required, as well as a detailed analysis of the economic and demographic conditions in the City and surrounding service area.

City of Shreveport, LA | Financial Capability Assessment, LA | 2012-13

Task Lead/Affordability Analysis. Ms. Lemoine served as Task Lead in the completion of a Financial Capability Assessment and Affordability Analysis for the City. The City proactively engaged in planning and assessment of SSO issues in anticipation of action by the EPA. Ms. Lemoine developed a preliminary financial capability assessment utilizing the guidance documents required by EPA. In addition, she evaluated the long-term impacts on customers based upon typical average residential bills, to understand the year to year impact on customers and to more accurately understand the true impact of the program. For the preliminary analysis, an estimated capital program was utilized, as detailed studies regarding the ultimate LTCP were not yet available. Ms. Lemoine updated the analysis as the LTCP was developed, allowing the City to utilize the affordability analysis proactively in developing a recommended capital program and schedule.

City of Shreveport, LA | Comprehensive Cost Allocation/Rate Study, LA | 2013-14

Project Manager. Ms. Lemoine led the completion of a comprehensive cost allocation and rate design study for the City's water and sewer utilities. Issues addressed in the study included customer equity, revenue stability, and conservation. Numerous rate design scenarios were developed to assist policy makers in balancing conflicting objectives. Black & Veatch conducted numerous presentations to policy makers throughout the study to help facilitate the decision-making process.

Sanitation District No. 1 of Northern Kentucky | Wastewater and Storm Water Financial Planning and Rate Study, Kentucky | 2012-2013

Project Manager. Ms. Lemoine is currently directing the completion of a comprehensive financial plan and rate study for the District. The work requires the evaluation of the revenues and revenue requirements of the wastewater and storm water utilities managed by the District, as well as the financial position of the District as a whole. Key issues being addressed include the appropriate

allocation of wet weather costs between the wastewater and storm water utilities, allocation of all costs, including wet weather costs, to customer classes within each utility, and review and recommendation of appropriate rate structures to recover such costs in an equitable manner. In addition, Ms. Lemoine will be evaluating affordability concerns, particularly related to the wastewater utility, as the District is currently under a federal consent decree and is currently negotiating projects and schedule with federal regulators.

Metropolitan Sewer District of Greater Cincinnati | Wastewater Cost of Service and Rate Design Study, Ohio | 2013, 2011, 2009, 2007

Project Manager. Since 2007, Ms. Lemoine has served as project manager for a biennial comprehensive evaluation of the District's rate schedule. The study includes a detailed projection of revenue requirements, cost of service analysis and rate design. A key issue that has been addressed in each study is the determination of the impact to the District as a whole, and various customer classes in particular, of implementation of the District's Wet Weather Program, known as Project Groundwork, as required under a consent decree with the federal government. Other important issues have included the impact of declining customer volume, changes in rate structure to address affordability concerns while maintaining equity between customers, and evaluation of the most appropriate manner for recovering costs related to infiltration/inflow. In 2008, Ms. Lemoine led the effort to develop a new user friendly model to allow District staff to evaluate alternative capital programs and year-to-date results on an on-going basis.

Greater Cincinnati Water Works | Billing Cost Allocation study, Ohio | 2013

Project Manager. Ms. Lemoine is leading the completion of an analysis of the processes and related costs associated with providing billing and customer service to the Metropolitan Sewer District of Greater Cincinnati (MSD) and the Cincinnati Stormwater Management Utility (SMU). After conducting detailed interviews with staff and evaluation of the existing methodology, Black & Veatch will determine those costs associated with providing billing services and work collaboratively with GCWW and MSD (who also manages SMU) to determine proper and fair allocation of such costs.

Metropolitan Sewer District of Greater Cincinnati | Revenue Requirement and Miscellaneous Financial Policy Analyses, Ohio | 2012, 2010, 2008, 2006

Project Manager. The District performs a comprehensive cost allocation and rate design study every two years. In the alternating years, Ms. Lemoine leads a thorough review of the District's revenue requirements, developing a 5-10 year projection of future revenue needs based upon the District's current operating and capital programs. The District uses this information to implement necessary rate increases and to plan future programs and schedules in a manner that helps ensure continued financial stability and strength. In addition, Ms. Lemoine also worked with District Management in 2009 to evaluate financial policies and recommend changes to the policies to help improve the District's financial

strength and ensure continued success in light of the significant capital requirements the District is facing.

Allegheny County Sanitation District | Consent Decree Oversight Services, Pennsylvania | 2012

Task Lead/Affordability Analysis. Black & Veatch has recently been engaged by ALCOSAN to provide oversight and direction support to ALCOSAN executives in the development of the utility's long term control plan, as required by the federal government. Ms. Lemoine is leading the evaluation of the Program Manager's financial and affordability considerations, and providing guidance and recommendations for completing that analysis. In addition, she is providing insight regarding the federal government's concerns and priorities related to affordability.

Jefferson County, Alabama, Environmental Services Department | Cost Allocation & Rate Design Services | 2010-2011

Project Manager. The Receiver of the sewer utility of Jefferson County, Alabama engaged Black & Veatch to conduct a cost allocation and rate design study for Jefferson County's Environmental Services Division. This analysis included the development of detailed customer and volume projections and resulting revenue under existing rates, and confirmation of revenue increase projections developed by others, under a separate agreement with the Receiver. Ms. Lemoine led the development of a comprehensive cost allocation and rate design model, allowing for the evaluation of alternative rate structures based upon policy direction provided by the Receiver. The results, and associated final report, were incorporated into the Receiver's Interim Report to the Court in June 2011. Currently, Ms. Lemoine also led the update of the analysis to reflect a preliminary settlement recently reached by the County Commissioners and bond holders. The update included the development of rates for fiscal years 2012, 2013, and 2014 under two potential scenarios. The rates have not been implemented due to the County bankruptcy filing in November 2011.

Greater Cincinnati Water Works | Comprehensive Water Rate Study, Ohio | 2011-2013; 2014-2015

Project Manager/Project Director. Ms. Lemoine served as Project Manager for a comprehensive water rate study, including proposed financial planning, cost-of-service analysis and rate design. Key policies evaluated in the study included the need for increased revenue stability in an environment of declining customer usage and limited political support for increasing rates. In addition, Ms. Lemoine oversaw the development of a new user-friendly financial planning and rate design model to provide further enhancement and ease of use by GCWW staff, along with an accompanying user manual. Rates based upon the analysis were implemented in December 2011. In 2013, as part of the City's budgeting process and conversion to a fiscal year, GCWW requested that Black & Veatch evaluate the feasibility of an alternative rate structure. Ms. Lemoine led the completion of an update to the model and design of a rate structure that recovers a portion of

costs associated with the collection system through the base charge. The rates were adopted, and became effective January 2014. Ms. Lemoine is currently serving as Project Director in the completion of a comprehensive update of the model in support of GCWW's FY2016 budget submittal.

Greater Cincinnati Water Works | Litigation Support Services, Ohio | 2011-2012

Project Manager. Ms. Lemoine led an interdisciplinary Black & Veatch team in providing expert witness analysis and testimony related to a service area dispute, wherein a separate party had begun to install infrastructure and serve customers in an existing GCWW service area. Work included the development of a detailed report that provided information concerning the operational and financial issues resulting from the duplication of services within the disputed service area, as well as evaluation of the other party's rate structure, financial plan and capital financing. Ms. Lemoine provided deposition testimony, and assisted GCWW counsel in preparing for depositions of the other party's witnesses. In early 2013, the court ruled in GCWW's favor.

City of Cincinnati, Ohio Stormwater Management Utility | Stormwater Rate Study | 2011

Project Manager. Ms. Lemoine served as Project Manager in the completion of a comprehensive stormwater rate study for the City's Stormwater Management Utility. The analysis included the evaluation of projected revenue requirements and anticipated system-wide revenue increases due to the anticipated need for a large capital program over the study period to rehabilitate and/or replace components of the City's Barrier Dam, which is operated by the stormwater utility and funded by the stormwater user fee. Rates based upon the analysis were implemented in December 2011.

Reading, Pennsylvania | Comprehensive Revenue Requirement and Affordability Analysis | 2009-2010

Project Manager. Ms. Lemoine served as Project Manager in the preparation of a comprehensive revenue requirement and affordability analysis for the City's wastewater utility. The City is under a consent decree to eliminate all Separated Sewer Overflows, and the results of this study provided essential information concerning the affordability of the program required. Based upon the results of the analysis, City officials began working with regulators to revise their consent decree to accommodate a lower cost solution.

City of Springfield, Ohio | Stormwater Utility Development | 2009-2011

Technical and Policy Advisor. The City engaged Black & Veatch to assist with the implementation of a stormwater utility. Project elements included all activities required for the successful implementation of a utility, including organization and financial analysis, parcel analysis, rate structure and fee development, credit program and appeals process development, development of the draft ordinance, and billing database. All activities were conducted with a strong focus on public

involvement, through a citizens' advisory committee and development of a public outreach program. Ms. Lemoine assisted with the development of all policies, parcel analysis and billing database.

Metropolitan Sewer District of Greater Cincinnati | Capital Program Feasibility Study, Ohio | 2005-2009

Project Manager. Ms. Lemoine conducted a detailed evaluation of both the short-term and long-term effects of implementation of significant capital costs associated with the District's Long Term Control Plan, as required by a global consent decree that MSD entered into with the U.S. Environmental Protection Agency, U.S. Department of Justice, and the State of Ohio. The study evaluated the impact of both the capital costs as well as associated additional operating costs on the utility's revenue requirements, and the resulting rates that could be necessary to fully fund revenue requirements, and the effects on affordability based on an analysis of the residential share of costs compared to median household income. Ms. Lemoine worked closely with the District and the District's attorneys throughout the negotiation process to help ensure that the final program would allow the District to remain in a sound financial position and that customer costs could remain as affordable as possible.

City of Arnold, Missouri | Stormwater Utility Development | 2003-2006

Task Leader and Senior Consultant. Ms. Lemoine served as a Task Leader and Senior Consultant developing the framework and fees necessary for implementing a stormwater utility within the City. The work was completed as part of a larger stormwater master plan project. Her work included the development of alternative sources of funding followed by the development of numerous rate structures that would be feasible for the City to implement. Based on approval by the City Council, rates were developed for three alternative levels of operation for the new utility. Identification of additional data needs, database development and implementation procedures were also included in the study.

Southeastern Public Service Authority | Strategic Financial Advisory Services, Virginia | 2004-2005

Senior Consultant. Ms. Lemoine served as a Senior Consultant for the Southeastern Public Service Authority, a regional authority serving the greater Chesapeake, Norfolk, and Virginia Beach area. Ms. Lemoine and the Black & Veatch team provided a comprehensive long-term financial analysis of the entire system, which comprises solid waste transfer and disposal, recycling, and steam and electricity production from a waste-to-energy facility.

Based on the analysis, several recommendations were presented to the Board of Directors. Ms. Lemoine also conducted a cost-benefit analysis of the waste-to-energy system and evaluated numerous options concerning long-term disposal options in the region. Ms. Lemoine conducted an activity-based cost analysis for

all major activities within the Authority and also provided assistance to the client's Executive Director during the budget preparation and approval process.

PUBLICATIONS AND PRESENTATIONS

"The Great Beyond: Congratulations, You are High Burden – Now What?," NACWA National Clean Water Law Seminar, St. Pete Beach, FL, November 2014. (co-presenter)

"Trends/Issues in Wastewater Rate Setting," NACWA Summer Conference, Chicago, Ill., July 2011.

"Financing Consent Decrees – Cincinnati's Approach to an Affordable Solution," poster presentation, WEFTEC 2006, Dallas, Texas.

"The Importance of Long-Range Financial Planning," presented at the Pacific Northwest Pollution Control Association annual conference, Portland, Ore., October 1998.

"Benchmarking: A Tool for Success," presented at the Pacific Northwest Pollution Control Association Annual Conference, Seattle, Wash., Oct. 1997.

"Privatization of Municipal Utilities - What's Happening?" presented at the Northwest Government Finance Institute, Portland, Ore., November 1996.

"A Review of the Effectiveness of Conservation-Oriented Water Rate Structures," (co-author) presented at the American Water Works Association Annual Convention, Anaheim, Calif., June 1995. Published in *Journal AWWA* in November 1996. Presented at the 1998 AWWA Best Conservation Paper Award in February 1998.

Brian Jewett

Brian Jewett has 20+ years of experience in public administration for local government. Much of his work is related to creating and maximizing new and existing revenue sources to maintain and enhance public service delivery and fund capital project needs. Based on this expertise, Mr. Jewett has developed numerous utility financial plans and rate analyses, cost recovery models and a variety of additional funding mechanisms for cities and special districts in several states. He has developed innovative analyses for utility rates and user fees to determine proportional cost structures thus ensuring equity and defensibility in the implementation of funding sources. His expertise has led clients to engage him as a third party reviewer of funding programs and as an expert witness in utility rate cases.

Mr. Jewett is an active member of the American Water Works Association and is a current member of AWWA's Rates and Charge Committee, the industry-leading organization for water rate setting in the United States. In addition, he has presented to various industry groups and government bodies on fiscal and utility related topics. Prior to joining Black & Veatch, Mr. Jewett was Vice President and Manager of a regional consulting firm where he led a diverse team of financial and economic experts dedicated to developing sustainable funding programs including impact fee development, fiscal impact analyses, growth planning, special financing district formations, and utility rate and cost of service analyses.

UTILITY PROJECT EXPERIENCE

City of San Diego | Water and Wastewater Cost of Service Studies; Calif. | 2013

Project Manager. Black & Veatch prepared a comprehensive look at the City's financial condition and rate structure for the water and wastewater utilities. Faced with large purchased water increases and required wastewater investments at Point Loma, the City is actively looking for innovative ways to restructure its rates. As part of this multi-year study, Black & Veatch also provided the City with active public outreach services; wholesale contract reviews; and stakeholder negotiations.

Vallecitos Water District | Water, Wastewater & Reclaimed Water Rate Study; Calif. | 2013

Project Manager. Mr. Jewett helped develop this water, wastewater and reclamation cost of service study for the Vallecitos Water District. This is the first time the District has sought outside assistance to assess the current rate models and provide recommendations to cost of service allocations and rate model components. This effort requires our team to focus on the following areas: 1) rate model components, 2) revenue requirements of each utility, 3) cost of service allocations for each utility, 4) new and updated administrative

PRINCIPAL CONSULTANT

Specialization:
Utility Rate Studies,
Impact Fees, Indirect Cost
Allocation & Financial
Planning

Education

- M.P.A., Public Administration, University of Delaware
- B.A., Political Science, University of California, Santa Barbara

Professional Associations

- American Water Works Association, Rates and Charges Committee, Member - Present

Year Career Started
1993

Year Started with B&V
2011

and engineering/inspection fees, 5) overhead/labor rate development, and 6) development of water and wastewater rates.

Our review and analysis considered important local issues like the potential melding of desalinated water in the District's purchased water supply portfolio, the potential savings from pump station agreement with the Olivenhain Municipal Water District, and the effects of the Encina Wastewater Authority's Phase V allocation of treatment costs to the District.

Leucadia Wastewater District | Long-term Financial Plan; Calif. | 2008 & 2013

Project Manager. The District conducts a comprehensive financial planning effort every five years to project financial conditions of the District and to provide guidance in the financial planning process. As the District transitions from a high growth mode to a longer term environment of operations/maintenance and capital replacement, the financial planning process becomes that much more critical to the planning and strategy efforts of the District. Mr. Jewett updated the District's financial plan with District staff input to ensure that it provided the functionality District staff wants for the project, as well as for future updates. The approach to this project was to effectively blend expert advice with development of useful financial modeling tools to assist in the completion of the financial plan update. To this end, the 20-year plan now provides guidance to the District's financial planning process while the District transitions from a growth-oriented mode to one of long term operations, maintenance and replacement.

City of Winslow, Arizona | Water & Wastewater Rate Study| 2011

Project Manager. Mr. Jewett managed this project for the City of Winslow. The City owns and operates water and sewer systems serving approximately 3,100 customers. As part of this analysis, several objectives were accomplished to guide decisions regarding the financial plans and rate structures. The major objectives of the study were to: 1) ensure utility rates generate sufficient revenues to meet operating costs, capital program requirements through related debt service obligations, and maintain targeted reserves consistent with sound financial management practices; 2) utility rates should be set proportionate to the cost of providing utility service to each customer class to promote fairness and equity; and 3) a financial plan that minimizes future rate impacts on existing and new customers. After a final presentation to elected officials, the City Council voted unanimously to adopt the proposed rate structures and five-year rate schedule plan.

City of Fountain Valley | Water Allocation Budget Analysis and Rate Study; Calif. | 2011

Project Manager. Mr. Jewett performs ongoing utility consulting services for the City for its water and sewer systems. Most recently, Mr. Jewett conducted a water allocation budget analysis for the City. Demographic, parcel, GIS and State

CIMIS data were used to develop indoor and outdoor water budgets for each customer class as appropriate. As a result of developing aggressive water budget targets for each customer, the City was able to determine that City customers have already cut usage to the point that water budget allocations would actually be higher than current use. The City is considering adopting a traditional inclining block, or tier, rate structure to further stimulate conservation efforts.

City of Flagstaff | Water, Wastewater & Reclaimed Water Rate and Capacity Fee Study; Ariz. | 2010

Project Manager. While with TischlerBise, Mr. Jewett managed this project for water, wastewater and reclaimed water rate and impact fee analyses. Due to increasing capital costs and a major downturn in development, the City needed new rate and capacity fee structures to support increasing operations costs, significant debt financing and Water Infrastructure Financing Authority (WIFA) and State Revolving Fund (SRF) loan requirements while encouraging water conservation through a multi-tiered rate system. Mr. Jewett met with the City's Water Commission a total of six times during the course of this project to facilitate discussion on the needs for the rate analysis and the results of recommended structure changes and rate increases. The result was a unanimous recommendation to bring the rate proposal to the City Council with the Council later approving the revenue program.

Laguna Beach County Water District | Water Budget Analysis and Rate Study; Calif. | 2010

Project Manager. Similar to all water agencies in Southern California, the Laguna Beach County Water District is facing increasing cost pressures in providing high quality water service to its customers. Like all Orange County water retailers, the District must reduce its allocation of imported water via the Metropolitan Water District of Orange County or realize significant increases in the cost of imported water. Furthermore, the Governor and State Legislature have mandated that California water agencies cut their per capita water consumption by 20 percent by the year 2020 (via Senate Bill 7). For these reasons, the District retained Mr. Jewett to develop a financial plan and water budget analysis to react quickly to this critical situation.

Mr. Jewett designed a water allocation budget to provide water allotments to each customer account in a fair and objective manner consistent with each account's unique water needs and characteristics. He utilized parcel records, GIS data, and State CIMIS data to develop outdoor allocations for single-family residential and dedicated irrigation accounts. For hotel accounts, he utilized several hotel/motel water use studies to allocate per room water allotments for all hotel accounts. For all other customer classes, an average monthly use over a 36-month period was utilized. The proposed water budget structure was unanimously approved by the District Board of Directors. The structure will promote water conservation and enhance the District's financial stability under varying water supply conditions.

City of Lomita | Water Rate & Bond Feasibility Analysis; Calif. | 2009

Project Manager. Mr. Jewett updated his previous analyses for the City's water enterprise fund. Due to lack of rate increases for the past two fiscal years, the City received a downgrading of their bond rating for the Cypress Street Reservoir Certificates of Participation (COPs). Mr. Jewett developed a new financial plan and revenue requirement analysis to exceed the 1.25x coverage required in the bond covenants. Mr. Jewett assisted the City in its public outreach effort and guided the City through the Proposition 218 noticing effort.

City of Westminster | Water Rate Study; Calif. | 2009

Project Manager. Mr. Jewett was the project manager of this project for the City involving a water rate study. The City required a long-term analysis of its water fund to ensure the financial stability of the fund in the future. As part of this effort, Mr. Jewett created a 10-year pro forma for the fund, reviewed and revised the City's General Fund reimbursement approach and developed formal reserve policies for operating and capital reserve needs in the future. This approach will help the City plan for its future needs and minimize future debt financing. Mr. Jewett created a tiered rate structure for six separate customer classes based on each customer class' proportionate cost of water service. Finally, Mr. Jewett led a citizen-based Water Ad-Hoc Committee through a series of six meetings to establish support of the new rate structure. The Committee unanimously approved the new rate structure.

UTILITY RATE ENGAGEMENTS

- City of Flagstaff, Ariz. | Water, Wastewater and Reclaimed Water Rate and Capacity Fee Study
- Town of Florence, Ariz. | Water, Wastewater and Sanitation Rate Study
- City of Winslow, Ariz. | Water and Wastewater Rate Study
- City of Arvin, Calif. | Wastewater Rate and Connection Fee Study
- City of Avenal, Calif. | Water and Wastewater Rate Study
- City of Calexico, Calif. | Water and Wastewater Rate Study
- City of Claremont, Calif. | Wastewater Rate Study
- City of Covina, Calif. | Water and Wastewater Rate Study
- City of Crescent City, Calif. | Water and Wastewater Rate and Connection Fee Study
- East Valley Water District, Calif. | Water and Wastewater Rate and Connection Fee Study
- Elsinore Water District, Calif. | Water Rate Study
- Encina Wastewater Authority, Calif. | Wastewater Treatment Facility Asset Allocation Analysis
- City of Fort Bragg, Calif. | Water and Wastewater Rate Study

- City of Fountain Valley, Calif. | Water and Wastewater Rate Study
- City of Hollister, Calif. | Water and Wastewater Rate Study
- Joshua Basin Water District, Calif. | Wastewater Treatment Strategy Financial Plan
- City of McFarland, Calif. | Wastewater and Sanitation Rate Study
- City of Merced, Calif. | Water and Wastewater Rate Study
- City of Port Hueneme, Calif. | Water and Sanitation Rate Study
- City of Rio Vista, Calif. | Water and Wastewater Rate Study
- City of Seal Beach, Calif. | Water Rate Study
- City of South Pasadena, Calif. | Water and Wastewater Rate Study
- City of Stockton, Calif. | Water Utility In-lieu Fee Study
- City of Riviera Beach, Fla. | Water and Wastewater Rate Study
- Town of Surfside, Fla. | Water and Wastewater Rate Study
- Village of Swansea, Ill. | Wastewater Rate Study / Inside-Outside Jurisdiction Rate Analysis
- City of Woodland, Wash. | Water and Wastewater Rate Study

RECENT SYSTEM DEVELOPMENT CHARGE/IMPACT FEE PROJECT EXPERIENCE

City of Flagstaff | Water, Wastewater, Reclaimed Water Rate and Fee Study; Ariz. | 2010

Project Manager. Mr. Jewett was the project manager for the City's water, wastewater and reclaimed water rate and impact fee analyses. Due to increasing capital costs and a major downturn in development, the City needs new rate and capacity fee structures that support increasing operations costs, significant debt financing and Water Infrastructure Financing Authority (WIFA) and State Revolving Fund (SRF) loan requirements while encouraging water conservation through a multi-tiered rate system. Mr. Jewett has met with the City's Water Commission a total of six times during the course of this project to facilitate discussion on the needs for the rate analysis and the results of recommended structure changes and rate increases. The result has been a unanimous recommendation to bring the rate proposal to the City Council later this year.

City of Crescent City | Water and Wastewater Rate and Connection Fee Study; Calif. | 2008

Project Manager. Mr. Jewett calculated utility rate and connection fees for the City's water and wastewater utilities. One of the issues with this study was the question of the extent the City would make use of debt financing to fund its Capital Improvements Plan. This necessitated an analyses of the extent to which connection fees would be used to repay the debt service (and inclusion of those financing costs in the fee calculations) versus other revenues which necessitated

a debt service credit to avoid “double payment” issues. Mr. Jewett facilitated meetings with a Stakeholders Committee comprised of citizens, development community members and other interested parties.

USER FEE PROJECT EXPERIENCE

City of Redmond | Comprehensive Development Services Cost of Service Fee Study; Wash. | 2011

Project Manager. Mr. Jewett developed a cost of service study for the City to fully recover costs associated with providing development-related services through its Planning, Building and Safety, Fire and Public Works Divisions. This study updated the City’s current fee schedules, expanded upon the methodology to calculate building and safety plan review and permit fees and developed new fees for services provided by City staff where no fees existed. Specifically, the study recommended the following major changes:

- Utilize the International Code Council (ICC) Building Valuation Data (BVD) table to determine construction valuations in lieu of accepting applicant cost figures or use the BVD to audit applicant cost submittals.
- Adopt a comprehensive Mechanical, Electrical and Plumbing fee schedule to set these types of permit fees.
- Implement an expanded version of the Planning Division fee schedule to recover cost for building permit review and clearly identify fees associated with the formal planning application process, the PREP process and re-submittal fees. These identifications should be clear enough for an applicant to understand what their fees would be if they chose to go through the application process with and without taking advantage of the City’s PREP process.
- Adopt the Public Works fee schedule including new fee categories for transportation inspection related services provided by the City. Adopt separate hourly rates for Public Works General Fund, Public Works Storm Water, and Public Works Water/Wastewater services. Each Public Works area has a different cost structure that warrants separate hourly rates.
- Apply a Credit Card Convenience fee to all fees included in this study. Several agencies in Washington and other agencies throughout the United States utilize this fee to capture the costs associated with providing credit card terminal access to applicants. Applicants can use their credit cards to pay for development services applications, permits and plan checks.

Town of Castle Rock | Development Services User Fee Study; Colo. | 2010

Project Manager. Mr. Jewett conducted a comprehensive user fee study project for the Town’s Development Services Department, including Building, Planning and Fire Fees. Mr. Jewett updated the fee schedules and fee structures to better accommodate the Town’s development services processes and to account for significant cost structure changes that occurred since the last fee analysis. Part of this project involved streamlining the Planning fee schedule to better reflect internal processes and to easily administer the fee schedule in the future.

Several new fee categories were developed for the Town where services are provided without appropriate cost recovery.

City of Hermosa Beach | Comprehensive Fire Flow Fee Study; Calif. | 2010

Project Manager. For this study, Mr. Jewett provided the City with a “roadmap” to assure that new development pays its fair share for fire protection system infrastructure through the fire flow fee program. During this study the project team followed a cost of service-based approach in developing equitable and defensible fire flow fees to enhance City revenue for much needed fire protection equipment and rolling stock.

SAMPLE INDIRECT COST ALLOCATION PROJECT EXPERIENCE

City of Wilmington | Indirect Cost Allocation Plan Development; Del. | 2012–2013

Task Lead. Mr. Jewett was task lead for the Citywide Comprehensive Indirect Cost Allocation Study to determine the cost of providing centralized support services (indirect costs) to the various Departments that provide direct services to the citizens and rate payers. The fast-track study was completed with three months using industry standard cost allocation methodology and with input from every one of the City’s departments. The study resulted in shifting an additional \$1.78 million of Indirect Costs from the General Fund to the Water/Sewer Fund. The study recommendations were implemented and the indirect costs have been included in the City’s FY 2014 Water/Sewer Fund Budget. Mr. Jewett helped guide the project team in developing a user friendly Cost Allocation Model and a detailed report was delivered to the City such that the City staff can periodically update the model to reflect changes to the Indirect Cost budget

SAMPLE COST ALLOCATION ENGAGEMENTS

- City of La Habra Heights, Calif. - Cost Allocation Plan and User Fee Study
- City of Orange, Calif. – Cost Allocation Plan and User Fee Study
- City of Palm Springs, Calif. – Cost Allocation Plan and User Fee Study
- City of Pleasant Hill, Calif. – Cost Allocation Plan and User Fee Study
- City of Soledad, Calif. – Cost Allocation Plan and User Fee Study
- Town of Castle Rock, Colo. – Cost Allocation Plan Review and Development Services User Fee Study

RECENT USER FEE ENGAGEMENTS

- City of Surprise, Ariz. | Development Services Department Organizational Analysis and Building Division Fee Study
- Pinal County, Ariz. | Development Services Cost of Service/User Fee Study
- City of Adelanto, Calif. | Cost of Service/User Fee Study

- City of Bellflower, Calif. | Cost of Service/User Fee Study
- City of Cathedral City, Calif. | User Fee Study
- City of Hermosa Beach, Calif. | Fire Flow Fee Study
- City of Huntington Park, Calif. | Cost of Service/User Fee Study
- City of La Habra Heights, Calif. | Cost Allocation Plan and User Fee Study
- City of Orange, Calif. | Cost Allocation Plan and User Fee Study
- City of Palm Springs, Calif. | Cost Allocation Plan and User Fee Study
- City of Pleasant Hill, Calif. | Cost Allocation Plan and User Fee Study
- City of San Marcos, Calif. | User Fee Study
- City of Soledad, Calif. | Cost Allocation Plan and User Fee Study
- Marin County, Calif. | Cost of Service/User Fee Study
- City of Stockton, Calif. | Water Utility In|lieu Fee Study
- Town of Castle Rock, Colo. | Development Services User Fee Study
- Lincoln County, Nev. | Revenue Enhancement Study including User Fee Analysis
- City Redmond, Wash. | Development Services Cost of Service Study

PUBLICATIONS

- Jewett, Brian. "How to Raise Post-Recession Capital Funds." *Journal American Water Works Association* 104.9 (2012): 14-18.
- Contributing Author, Jewett, Brian, Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices M1, Sixth Edition (2012)

SPEAKING ENGAGEMENTS

Determining and Communicating Utility Support Services Costs through Indirect Cost Allocation and Overhead Analyses. California-Nevada Section, *American Water Works Association, Spring Conference 2014*

Utility Support Services Costs: Thoughtful Cost Allocation Plan Provides a Robust Tool. *Utility Management Conference, Winter 2014*

Utility Rate Setting Process, California-Nevada Section, *American Water Works Association, Fall 2013*

Utility Impact Fees: Are You Ready for the Next Wave of Development? California-Nevada Section, *American Water Works Association, Fall Conference 2012*

System Development Charges, M1 Manual Update Presentation. *American Water Works Association, ACE 2012 Conference*

Utility Impact Fees: Are You Ready for the Next Wave of Development?
California-Nevada Section, *American Water Works Association, Fall Conference 2012*

Utility Impact Fees: Approaches and Considerations. *California Municipal Rates Group, Spring Conference, 2012*

The Perfect Storm is Upon Us: Is Your Ship in Financial Order? *California-Nevada Section, American Water Works Association, Spring Conference, 2012*

Reducing Reliance on Property Taxes, *International City/County Management Association Annual Conference, 2009*

Utility Rate and User Fee Analyses, *International City/County Management Association Annual Conference, 2008*

How to Develop Effective Utility Rates, *Washington Finance Officers Association Annual Conference, 2007*

Business Improvement Districts, *International City/County Management Association Annual Conference, 2007*

Water Rate Setting & How to Develop an Effective Communications Outreach Program, *California State Municipal Finance Officers' Annual Conference, 2006*

Jeffrey Dykstra

Mr. Dykstra is responsible for developing financial and pro forma models for utilities, performing cost-of-service and rate analyses, and analyzing utility finances and operations. He has assisted in the development of many dynamic Microsoft Excel based financial models for utility financial planning purposes and of utility operational benchmarking metrics, cost-of-service and rate analyses, rate surveys, benchmarking studies, and revenue bond and operational feasibility analyses.

PROJECT EXPERIENCE

Norfolk Department of Utilities | Consulting Services; Va. | 2010-2014

Mr. Dykstra served as the Lead Project Analyst, responsible for developing multiple financial models for this multi-year contract to provide financial strategic consulting services to the Department of Utilities. Included in the analyses are several bond feasibility analyses in the amount of \$47 million and a \$43 million respectively; a rates and financial planning analysis to assist the City in setting retail water rates; and an every-other year wholesale customer cost of service analysis required by the contract between the City and their large wholesale customer, the City of Virginia Beach. In addition, Mr. Dykstra assisted the City in the every-other year true-up for this contract. Additional work included a financial and operating benchmark analysis to determine how the water utility was performing in 2011 and 2012. The City considered issuing a refund on some of its existing revenue bonds, which ultimately occurred in 2012. Mr. Dykstra was responsible for developing a financial and business case model that calculated the potential impact of various refunding scenarios through net present value calculations.

Miami-Dade Water and Sewer Department (MDWASD) | Rate and Cost of Service Services; Fla. | 2009-2014

Mr. Dykstra is the Project Lead Analyst for this engagement, which involves the development of a comprehensive water and sewer cost-of-service and rate study, both retail and wholesale cost-of-service analysis, including annual water and wastewater wholesale customer “true-up” analyses, and an in-depth review of system development charges (impact fees). In 2013 and 2014, Mr. Dykstra performed an industrial strength surcharge rate study for the MDWSD’s wastewater system to evaluate the current rates of the program and to provide alternative rate threshold recommendations. In addition to the cost of service rate studies, Mr. Dykstra also performed financial feasibility studies to be included in the Official Statements for the Department’s revenue bond issuances in 2010 and 2013. These bond issuances were nearly \$600 million in 2010 and approximately \$500 million in 2013.

MANAGER

Specialization:

Financial Analysis, Planning, and Modeling, Cost-of-Service Analyses, Bond and Financial Feasibility Studies, Revenue Bond Refunding Analysis, Energy Efficiency Cash Flow Analyses, Utility Operations Benchmarking, Raw Water Valuation

Education

- B.A., Business Administration – Finance, Dordt College, 2008.

Year Career Started

2008

Year Started with Black & Veatch

2008

Tampa Bay Water | Water Revenue Bond Feasibility Study and Financial Model Development; Fla. | 2013

Mr. Dykstra served as the Project Lead Analyst, responsible for developing a financial planning model, for a bond feasibility analysis in conjunction with the issuance of \$75 million in water revenue bonds. The project included the development of a comprehensive financial, budgeting, and rate model for Tampa Bay Water staff to calculate member user rates, assist with scenario analysis related to their capital program, and to determine current and projected budgets for financial planning.

City of Hollywood | Energy Efficiency Master Plan; Fla. | 2012-2013

As Project Lead Analyst, Mr. Dykstra was responsible for developing an energy decision cash flow model to assist engineering staff in the development of the portfolio of projects recommended for the City's energy efficiency master plan. The output of the model is a dynamic dashboard that provides the user with the financial and operational decision making tools to determine the feasibility of implementing a portfolio of projects and individual projects. Outputs include net present value, cash flow, demand and energy savings, energy reduction, and cumulative capital costs. This dynamic model allows the user to select projects to develop the optimal portfolio of projects to include in the energy efficiency master plan. This model was delivered to the City for its internal use upon completion of the project.

Allegheny County Sanitary Authority (ALCOSAN) | Wastewater Cost of Service Rate Study, Financial Forecast, and Wet Weather Plan Feasibility Financial Analyses; Pittsburgh, Pa. | 2012

As Project Lead Analyst, Mr. Dykstra was responsible for developing a detailed and comprehensive financial planning model to help ALCOSAN determine the financial impact of eliminating sewer overflows from the 83 municipalities in its wastewater treatment service area. The model helped ALCOSAN compare multiple capital spending scenarios associated with various Wet Weather Plan options, cash financed capital, bond issuances and rate increases over a 30 year forecast period. Mr. Dykstra also developed a cost of service and rate design model that helped ALCOSAN determine the cost of providing service to its customers, as well as various rate design options that would enable them to recover these costs through user rates.

City of North Miami | Water and Wastewater Cost-of-Service Study and Irrigation Rate Review; Fla. | 2011-2012, and 2014

Mr. Dykstra served as the Project Lead Analyst for this project and developed a comprehensive Excel based financial model for a water and wastewater cost-of-service and rate study. The study determined the annual revenue requirements for a prospective test year based upon the most recent actual historical costs, which were adjusted for known and measurable changes. To assist in the City's strategic planning efforts, the study addressed conservation rate considerations mandated by the South Florida Water Management District. He also managed

and performed an irrigation rate review to determine how the adopted rates were generating revenue for the irrigation customer class and provide alternative rate structure options.

JEA | Electric, Water, Wastewater and Chilled Water Depreciation Rate Study; Jacksonville, Fla. | 2011

Mr. Dykstra served as Project Lead Analyst for this depreciation rate study of JEA's electric, water, wastewater and chilled water systems. He was responsible for developing the models, which were used in the final unit property analyses and to run mass property transactions. In addition, he performed a peer utility benchmarking analysis as a part of the study.

Jefferson County | Wastewater Cost-of-Service Study; Ala. | 2011-2012

Mr. Dykstra served as the Project Lead Analyst for this project and developed a comprehensive Excel based financial model as part of a wastewater cost-of-service and rate study. The study determined the annual revenue requirements for a prospective test year based upon the most recent actual historical costs, which were adjusted for known and measurable changes. In an ongoing effort to assist the County's Receiver with debt settlement negotiations, Mr. Dykstra provided various scenarios and model runs to simulate various debt settlements and restructuring of revenue requirements for the County's sewer system.

City of Lauderhill | Water and Wastewater Cost-of-Service Study; Fla. | 2008 & 2010

Mr. Dykstra served as a Project Lead Analyst and developed a comprehensive Excel based financial model for a water and wastewater cost-of-service and rate study to determine the annual revenue requirements for a prospective test year based upon the most recent actual historical costs, which were adjusted for known and measurable changes. To assist in the City's strategic planning efforts, the study addressed certain areas of concern with regard to the allocation of system costs and customer billing practices. The study also offered recommendations. It concluded with the development of a five-year projection of operating results in order to serve the strategic planning needs of the City by estimating future revenue needs and rate impacts.

Greenville Water System | Water Cost-of-Service and Impact Fee Study; Greenville, S.C. | 2009 and 2010

As Project Lead Analyst, Mr. Dykstra was responsible for developing dynamic financial models to assist in the development of water rates and impact fees for the Water System. The study included a bill tabulation analysis, which detailed the System's water usage by customer class, meter size and location. The development of equitable inside-city and outside-city water rates was a critical component of the study. In addition, revenue requirements and financial forecasts were developed to assist in future financial planning.

Woodruff Roebuck Water District (WRWD) | Water Utility System Feasibility and Cost-of-Service Rate Design; Woodruff, S.C. | 2010

Mr. Dykstra served as Project Lead Analyst for this system feasibility analysis and full cost-of-service rate design to evaluate the potential of developing source of supply facilities. He developed a comprehensive financial planning model, which incorporated various scenario development features to present various rate structure and implementation options to WRWD resulting from the cost-of-service analysis.

City of High Point | Water and Wastewater Utility Bond Feasibility Analysis and Cost-of-Service Rate Design; N.C. | 2010

As the Project Lead Analyst, Mr. Dykstra developed a detailed financial model that allowed the City to evaluate its utility financial performance and needs for future planning, specifically a bond feasibility and cost-of-service study for its water and wastewater utilities. This dynamic model provided the City's water and wastewater utilities with a powerful and highly functional model for future financial planning projections. In addition to the model development, Mr. Dykstra also assisted in the development of the bond report for Series 2010 bonds to fund a new water system.

Gaston County | Wastewater Regionalization Feasibility Study; N.C. | 2009

As an Analyst for this project, Mr. Dykstra helped develop a comprehensive, Excel-based financial model to determine the financial feasibility and regionalization potential of the many wastewater systems within Gaston County. This study was undertaken to determine the feasibility of regionalizing the many wastewater systems within Gaston County to prevent inefficiencies of building new plants and infrastructure, which could be avoided with consolidation.

Brownsville Public Utilities Board | Electric and Water Cost of Service and Financial Planning Analyses, and Impact Fee Semi-Annual Update; Tex. | 2009 and 2013

As an Analyst, Mr. Dykstra developed revenue requirements and assisted in the development of dynamic financial models, which determined cost of service rates for both the electric and water utilities. This study provided BPUB with a financial forecast with projected operating results based on existing and proposed rates which aided in the strategic planning efforts of the combined utility. In addition, Mr. Dykstra manages the twice a year required update to the City and BPUB's impact fees status and reporting.

City of Orange | Water and Sanitation Cost of Service Rate Study and Financial Forecast; Calif. | 2009

Mr. Dykstra developed a comprehensive financial model that forecasted the City's operating results over a seven year period and served as the basis for the study's cost of service and rate design components. This analysis considered a water system that comprised multiple customer classes, various pressure zones

and inside City and outside City customers. Another component of the analysis was a financial model that developed rates to allow the City to cover its sanitation system costs. This system was comprised of street sweeping, street tree maintenance, stormwater management, and sewer maintenance and rates were developed for each component based on their cost of service.

Metropolitan Sewer District of Greater Cincinnati | Affordability Analysis; OH | 2009

Mr. Dykstra analyzed financial and water flow information, median household income (MHI), and other demographic information from some of the largest cities in the U.S. with consent decrees. This provided Cincinnati MSD with an affordability analysis, producing a Residential Affordability Indicator for other large cities, which evaluated the impact of increased costs to customers as a result of mandated programs and the overall performance of these programs. This indicator applied the perceived costs of the program against the MHI of households in the service area responsible for the funding of consent decree mandated programs. Mr. Dykstra evaluated the accuracy of the original cost projections and capital programs developed when the consent decrees were first issued against current achievement levels.

City of Key West | Stormwater and Wastewater Rate Study; Fla. | 2008

As Project Lead Analyst, Mr. Dykstra was involved in developing and updating the City's stormwater and wastewater rate model, which serves as the basis for the City's rate adjustments. Particular issues, such as improving infrastructure and maintaining adequate cash balances, were examined, and tools were added to the Excel based financial model to accommodate such concerns.

Chuck Milliken, PMP

Mr. Milliken is an accomplished Manager with over fifteen years of experience in full life cycle development and design. He has built key skills that are transferable to any technology and has exhibited an ability to learn new technologies and concepts very quickly. Mr. Milliken maneuvers easily between analytical and technical roles and is especially strong in the requirements gathering phase and the development of technical architectures. His wealth of technical knowledge and strong dedication to his team make him an excellent resource.

Mr. Milliken has experience developing work plans involving a cross section of teams and coordinating activities among them. He has demonstrated an ability to manage team activities in a team environment and communicate status to all necessary stakeholders. Mr. Milliken is excellent at determining all details involved in project tasks so that small, but important, details are not overlooked. He has extensive testing and migration experience, which makes him an asset during later phases of a project.

PRINCIPAL CONSULTANT

Specialization:

Project Management,
Release Management,
Requirements Gathering,
Wholesale Energy Market,
User Acceptance Testing,
Full Systems Development
Life Cycle Experience

Education

B.S., Civil Engineering, Ohio
State University

Experience

1995 – present

Joined Black & Veatch

2001

Professional Associations

PMP Certified Member of
Project Management
Institute

REPRESENTATIVE PROJECT EXPERIENCE

Exelon Energy | Production Support and Project Enhancements, Kennett Square, Pennsylvania

Project Manager. Mr. Milliken was a project manager on Exelon Energy's Production Support and Project Enhancements engagement. Mr. Milliken filled multiple vital responsibilities on the team. He was the primary party responsible for meeting the monthly budget and overseeing the monthly invoices. Mr. Milliken was also responsible for managing tasks across the team. Mr. Milliken also had primary responsibility for the production support of the gas management system (GMS). Mr. Milliken worked with the client to gather requirements and prioritize deliverables. He was responsible for delivering solutions in a timely manner. Most deliverables were data repairs or data requests or enhancements to the system. Mr. Milliken was also one of the senior team members involved in the development of the resources at the Denver Solution Center.

ERCOT | Zonal Settlements and Billing, Taylor, Texas

Settlements Lead. Mr. Milliken has been a member of the Settlements and Billing team since 2006. Mr. Milliken has played a key project management role on the team. His responsibilities included managing the shadow settlement process of the ERCOT settlement engine, managing team tasks, representing the team on the ERCOT wide control review board, managing business production support for the team, providing settlements input to project requirements processes, managing the settlements testing effort for multiple projects, interfacing with outside teams to provide settlements input, reporting monthly status to executives via a settlements dashboard. Mr. Milliken was also involved in ERCOT's smart metering project in 2009. Mr. Milliken was involved in the

testing of the project and ensuring seamless integration with existing settlement processes. Mr. Milliken worked with a broad base of client and other vendor personnel to ensure the integrity of ERCOT settlement data.

Commonwealth Edison | Technical Support Team, St. Petersburg, Florida

Technical Resource. As a member of the Technical Support team in 2006, Mr. Milliken performed a short-term activity to make an enhancement to the migration tools and processes. He gathered requirements from technical expert resources and used them to design a solution. He performed all coding and unit testing and worked with technical experts on user acceptance testing to identify gaps and then fixed them in a timely manner. Mr. Milliken developed user documentation for the purpose of training in the enhancements and communicated the updates to the necessary parties for a smooth transition to support the existing technical support personnel.

Wisconsin Public Service | Open CIS Conversion, Green Bay, Wisconsin

Cutover Project Manager. Mr. Milliken was responsible for the overall creation, coordination and execution of the work plan for moving from the legacy CIS system to Open-CIS. In this role, he worked with multiple teams, both technical and business, to define the detailed steps necessary for the implementation. He gathered cross-team requirements and developed the coordination of major activities to fulfill the requirements. He also coordinated with other teams to drive out detailed steps for the implementation and how to fit those steps into the workplan.

Mr. Milliken's responsibilities also required him to schedule implementation preparation tasks with other team managers and communicate the plan to maintain awareness of the latest developments. He also collected status from multiple sources and reported status to project management. Additionally, Mr. Milliken oversaw the execution of the work plan and ensured all resources performed the right task at the right

Hydro One | CIS Assessment Team, Toronto, Canada

Strategy Consultant. As a member of the CIS Assessment team from 2004 to 2005, Mr. Milliken collaborated with team members to develop a long-term CIS strategy for Hydro One. He worked with multiple teams to help define existing technology architecture and document technology requirements. Additionally, he assisted with the gathering of requirements for a CIS system for Hydro One and gathered and categorized the technological requirements and current assessment findings into five categories.

Mr. Milliken authored a document for each of the five categories that provided a current assessment and strategies to better meet the needs of the Hydro One business. He also ensured consistency throughout team members' documents so that the documents could feed into the overall strategy recommendation for Hydro One.

ERCOT | Retail Testing Team, Taylor, Texas

Multiple Roles. As a member of the Retail Testing team from 2003 to 2004, Mr. Milliken performed several functions in the testing of the retail market both internally and externally. He managed the internal testing efforts for several projects and provided the creation and execution of testing scripts. This included the creation of estimates, delegation of tasks, communication of status and timeframes, as well as coordination of subsequent procedures.

Mr. Milliken developed and provided expert knowledge resource support to the Texas SET 2.0 standard EDI, market test script execution, general ERCOT business processes, systems architecture and technologies that included Siebel eEnergy, eGate 4.53 and Paperfree. He also facilitated the market test for the Texas SET 2.0 MIMO release by serving as the primary ERCOT contact to multiple market participants. Additionally, he reviewed ERCOT's business case and market rules for MIMO stacking and created user acceptance test scripts that met the client success criteria. Mr. Milliken also performed user acceptance testing and defect identification.

Commonwealth Edison | eCustomer Implementation, Chicago, Illinois

Technical Lead. From 2002 to 2003, as a member of the eCustomer team, Mr. Milliken participated in all aspects of the design and development of an application to put customer service functions on the Internet. He participated in the design of the application architecture and assisted in the gathering and documenting of business requirements. He also participated in the design of the application's look and feel.

Mr. Milliken's role also required him to create and reviewed functional design documents, perform code test, unit test, issue resolution and the training of other developers. He documented and executed test scripts for integration testing and fixed issues found in integration and product testing. Functioning as the Release Manager, Mr. Milliken promoted code to the testing environment.

Dominion Virginia Power | Data Model Design & Development, Richmond, Virginia

Team Lead. From 2002 to 2003, Mr. Milliken led functional architecture resources with the design and development of a flexible data model to support Dominion's competitive metering and advanced metering application development initiative. His team was part of a larger effort to design and develop a Web-based meter data storage and reporting tool.

Bax Global | TOS 2000 Project, Orange County, California

Technical Resource. As part of the TOS 2000 team, Mr. Milliken served in roles ranging from Business Analyst to Technical Architect. The TOS 2000 project involved building a Web-based application that top clients of BAX Global could use to schedule deliveries and print labels. Mr. Milliken served on the project

team from the beginning of business requirements definition until the completion of testing immediately preceding implementation.

In this role, Mr. Milliken's responsibilities included the mapping of business functions that were used to design an application. He designed and developed a technical architecture for the application. The technologies used also included JSP, Java, Servlets, Oracle, EJB, Applets and HTML.

FreshPlex | Pilot Web-Based Application Development, Orlando, Florida

Technical Resource. In 2000, as part of the Freshplex team, Mr. Milliken assisted in the development of a pilot Web-based application that served as the updated version for a trading engine. Mr. Milliken assisted in the development of business requirements, design, development and application testing.

In this role, Mr. Milliken analyzed the present application to design and develop a pilot. He met with client both before and after the development process. Mr. Milliken used technologies that included ASP, Stored Procedures, SQL Server, Personal Web Server and HTML to complete the project.

Accenture | Reusable eCommerce Technical Architecture (ReTA)

Technical Architect. Mr. Milliken aided the accomplishment of the Reusable eCommerce Technical Architecture goal of developing a standard technical architecture to be used on various client engagements to deliver e-commerce capabilities. In this capacity, he was responsible for maintaining the technical architecture and provided assistance on projects when necessary. In order to complete the project, he utilized technologies that included ASP, Java, IIS, MTS, Oracle, Access and HTML.

Thames Water | Program Version Control Process, Reading, England

Technical Resource. As a member of the Thames Water Technical team in 1999, Mr. Milliken was responsible for designing and implementing the project version control process. He gathered the requirements from the client as well as multiple consulting companies. He was also responsible for designing a process that benefited all parties.

Accenture | Technical Architecture Team, St. Petersburg, Florida

Consultant. As part of the Technical Architecture Team from 1997 to 1999, Mr. Milliken managed, designed, modified and enhanced the client-side technical architecture for multiple clients. He promoted code to internal environments and to external client sites and performed client-side technical reviews at the center. Mr. Milliken used technologies, such as C, UNIX, Windows NT and PVCS, to complete the project.

Accenture | Marketing Support Team, St. Petersburg, Florida

Analyst. As part of the Marketing Support Team from 1995 to 1997, Mr. Milliken was responsible for the support and maintenance of the Customer/1® and other demo prototype environments. He served as the primary point of contact

for clients utilizing the demo environment and configured a UNIX server dedicated to running streamlined batch processes. He also was responsible for the set-up of workstations to run alternative demos and prototypes. Mr. Milliken used C, UNIX and Windows NT technologies to complete this project.

TECHNICAL SKILLS:

- MS Access, SQL Server, SSIS, DTS, Stored Procedures
- Java, JavaScript, JSP, EJB, Applet, Servlet, Oracle
- VB Script, ASP, VBA
- HTML
- HP Quality Center, Lodestar, PVCS, Customer/1, IIS, MS Developers Studio, Apache Tomcat, Excelergy
- MS Office Suite including Project

Mathew Powis

Mathew Powis serves as a project manager in Black & Veatch's Management Consulting practice. He has project and modeling experience in financial forecasting, water, wastewater, stormwater, energy, and gas rate studies, capital budget optimization, weather normalization, bond feasibility studies, depreciation studies, system development charges, and valuation analyses.

PROJECT EXPERIENCE

Water, Wastewater, and Stormwater

Tulsa Metropolitan Utility Authority (TMUA) | Utility Enterprise Initiative | 2013-2014

Senior Consultant for the Capital Prioritization and Optimization task of TMUA's Asset Management implementation initiative, Utility Enterprise Initiative. He is assisting in the implementation of Black & Veatch's innovated and proven 'Project Prioritization and Optimization' solution for several water and wastewater projects. He is responsible for leading workshops with engineering and maintenance staff, developing business case approaches for each water/wastewater project, performing Monte Carlo and Optimization simulations, and developing strategies for the Utility's CIP during a period of tight budget constraints to minimize rate increases. TMUA is currently expanding the Capital Prioritization and Optimization Process to their whole CIP and codifying it within their budget cycle.

Broken Arrow Municipal Authority (BAMA) | Water, Wastewater, and Stormwater Cost of Service and Rate Design Study; OK | 2013-2014

Mr. Powis was the task lead for the model development portion of a comprehensive water, wastewater, and stormwater rate study. This study included financial planning, cost-of-service analysis and rate design. Since this was the first time a cost of service study had been completed for BAMA, the team performed 4 workshops for staff and city council to walk them through the process after each step of the rate study was completed. BAMA also received three user-friendly financial planning and rate design models to enable ongoing use by BAMA staff.

Sanitation District No. 1 of Northern Kentucky (SD1) | Wastewater and Storm Water Financial Planning and Rate Study; Ken. | 2012-2014

Lead Consultant for a comprehensive financial plan and rate study for SD1. The work requires the evaluation of revenues and revenue requirements of the wastewater and storm water utilities managed by SD1, as well as the financial position of the District as a whole. Key issues addressed include the appropriate allocation of wet weather costs between the wastewater and storm water utilities, allocation of all costs, including wet weather costs, to customer classes within each utility, and review and recommendation of appropriate rate structures to recover such costs in an equitable manner. Mr. Powis is also helping evaluate affordability concerns, particularly related to the wastewater



SENIOR CONSULTANT

Specialization:
Financial Modeling, Price Forecasting, Capital Budget Optimization, Revenue Requirements, Cost of Service, Reproduction Cost, Affordability Analysis, Valuation

Education

- MB.A, Finance, University of Missouri - Kansas City, 2006
- B.B.A., University of Missouri - Kansas City, 2004

Year Career Started
2004

Year Started with B&V
2007

utility, as the District is currently under a federal consent decree and is currently negotiating projects and schedule with federal regulators.

Citizens Energy Group | Water and Wastewater Cost of Service Study; Indianapolis, Ind. | 2012

Lead Consultant for the development of cost of service and rate studies for the water and wastewater utilities owned by Citizens Energy Group. Tasks included developing cost of service allocations to functional cost components and the various water and wastewater customer classes. Also performed rate design functions to recover cost of service rates and analyzed transition from declining block rate structure to a more conservation-oriented rate structure.

Metropolitan Sewer District of Greater Cincinnati | Wastewater Cost of Service and Rate Design Study; OH | 2009-2014

Lead Consultant for the annual preparation of a comprehensive evaluation of the District's rate schedule. The study includes a detailed 30-year projection of revenue requirements, comprehensive cost of service analysis and rate design. Also responsible for the design and implementation of an improved rate model to go along with the rate design study.

City of St. Joseph | Revenue Requirements and Cost of Service Rate Studies; Mo. | 2008-2014

Lead Consultant for the annual preparation of revenue requirements and a cost of service rate study for the municipal wastewater utility of the City of St. Joseph, Missouri. Assists in providing comprehensive financial planning services for the sewer enterprise fund. Tasks include development of five-year revenue requirements, allocation of costs to functional components and design of rates.

Tulsa Metropolitan Utility Authority | Water and Wastewater Model; Okla. | 2012

Managed the design and completion of a detailed cost-of-service rate model for the City's water and wastewater utility. The project updated the previous model, which Black & Veatch designed, to a more user-friendly layout for ongoing use by staff. Mr. Powis trained staff on the new models and created a user manual, which provided a step-by-step approach to update the model each year and explained how each input impacted different pieces of the model.

City of Kansas City | Water Rate Study; Mo. | 2011-2012

Lead Consultant for the completion of a detailed cost-of-service rate study for the City's water utility. This study was an update to one completed in 2010. The study included updating the capital financing plan, revenue requirements, cost-of-service analysis, and rate design. Assisted the City with the presentation of results to the wholesale customers.

City of Independence | Water Rate Study; Mo. | 2012

Lead Consultant for a comprehensive water rate study, including financial planning, cost of service and rate design. This study was an update to one completed in 2008. It included updating the capital financing plan, revenue requirements, cost-of-service analysis, and rate design. Assisted the City with the presentation of results to the board.

Greater Cincinnati Water Works (GCWW) | Water Rate Study and Model; OH | 2010-2011

Lead Consultant for the preparation of a comprehensive water rate study, which included financial planning, cost-of-service analysis and rate design. Helped lead the development of a user-friendly financial planning and rate design model to enable ongoing use by GCWW staff.

City of Mason | Wastewater and Storm Water Rate Study; OH | 2011

Lead Consultant for the preparation of a wastewater and storm water rate study, which included financial planning, cost-of-service analysis and rate design. The study included an examination of alternative rate structures for the wastewater utility.

Johnson County Wastewater | Wastewater Rate Study; Kan. | 2010-2011

Lead Consultant for the preparation of a wastewater financial planning analysis and rate design engagement. The study included an examination of recent declines in billable usage and their corresponding impact on financial forecasting and rates.

City of Aurora | Water and Wastewater Rate Study and Model; Ill. | 2010-2011

Lead Consultant for the preparation of a comprehensive water and wastewater rate study, which included proposed financial planning, cost of service analysis and rate design. Assisted in the development of a user-friendly financial planning and rate design model to enable on-going use by the utility staff.

City of Grand Rapids | Comprehensive Master Plan Update Financial Analysis; Mich. | 2010-2011

Lead Consultant for an update to the City's water and sewer master plans. The City provides water and sewer utility service to multiple neighboring communities and has an established methodology for determining rates and charges. Using this methodology, Black & Veatch developed a forward-looking model that determines the impact to community revenue requirements of proposed water and sewer capital improvements that result from the master planning process. The model also estimated the impact to the City's water and sewer enterprise fund debt service coverage.

City of Reading | Wastewater Program Affordability Study; Pa. | 2010

Lead Consultant for the preparation of a comprehensive revenue requirement and affordability analysis for the City's wastewater utility. The City was under a consent decree to eliminate all sanitary sewer overflows, and the results of this study provided essential information concerning the affordability of the program required.

Greater Cincinnati Water Works | Utility District Valuation; OH | 2009-2010

Lead Consultant for an initiative that included strategic planning, asset valuation, and a feasibility assessment of district formation. The primary goal of the initiative was to evaluate the impact of transitioning GCWW from a municipal water department to an autonomous water district. In support of the feasibility assessment, a valuation of the utility was conducted using a combination of approaches to determine a reasonable range of value, from which negotiations on the purchase of utility assets from the City could be negotiated. Mr. Powis helped create multiple models to calculate the value of the assets, future cash flows, and a payment structure GCWW would use to purchase the utility.

City of Decatur | High Level Analysis; Ill. | 2008

Lead Consultant for a high level analysis of the estimated reinvestment required to maintain the value and functionality of the City's above-ground supply and production facilities. The analysis trended original cost to replacement cost and determined an estimated reinvest requirement for the client.

Electric and Gas

Grant County PUD | Electric Cost of Service Analysis; Wash. | 2010

Lead Consultant for an ongoing electric cost of service analysis study for the Grant County PUD. The analysis includes revenue requirement and rate modeling, cost allocation and rate design.

Pacific Gas and Electric Company | Utility Valuation; South San Joaquin, Calif. | 2009

Mr. Powis assisted in estimating the fair market value of Pacific Gas and Electric Company's (PG&E) electric transmission and distribution system property in the City of San Joaquin, California based on an objective and thorough examination of PG&E's databases and on economic and other assumptions that are standard practice in the valuation of similar assets.

Missouri Gas Energy | Weather Normalization, Customer Annualization, Rate Design | 2009

Mr. Powis assisted in the model preparation for normal heating degree-days, weather normalization, customer annualization and rate design. The models were used to support the direct field testimony and rate filing before the Missouri Public Service Commission.

Philadelphia Gas Works | Engineer's Report | 2009

Mr. Powis assisted in the model preparation for the engineer's reports developed for Philadelphia Gas Work's (PGW) \$315 bond issue. Proceeds from the bond issues funded needed capital improvements to PGW's distribution system and refunded existing debt. The engineer's report summarized the findings of a study of PGW's facilities, management, operations, gas supply, rates and marketing, and customer service, and assessed the financial feasibility of the bond issue.

Board of Public Utilities (BPU) | Financial Forecasting, Revenue Requirements, Cost of Service, and Rate Design; Kansas City, Kan. | 2008-2010

Lead Consultant for the preparation of financial forecast and revenue requirements, unbundled class cost of service and rate design for the electric utility. The analysis includes development of a comprehensive cost of service model, five-year projection of revenue requirements and development of rates to meet the projected capital investment requirements of the utility.

Pacific Gas and Electric Company | Utility Valuation; San Francisco, Calif. | 2008

Mr. Powis assisted in estimating the fair market value of Pacific Gas and Electric Company's electric transmission and distribution system property in San Francisco, based on an objective and thorough examination of PG&E's databases and on economic and other assumptions that are standard practice in the valuation of similar assets.

Department of Public Utilities | Financial Forecasting, Revenue Requirements, Cost of Service, and Rate Design; Orangeburg, SC | 2008

Lead Consultant for the preparation of financial forecast and revenue requirements, and rate design for the Department of Public Utilities' water and electric division. The analysis includes development of a comprehensive cost of service model, four year projection of revenue requirements and development of rates to meet the projected revenue requirements of the utility.

Isabel C. Botero, P.E.

Ms. Botero is a Project Manager and environmental engineer with more than twelve years of experience and knowledge of water and wastewater systems. Ms. Botero has served as project manager, engineering manager, and project engineer on a number of environmental engineering projects including water and wastewater treatment plant facilities design. She has participated in detailed design of water and wastewater projects for alternative delivery methods (design/build/operate). She is also experienced in developing scope documents for pricing of design/build projects.

PROJECT EXPERIENCE

SFWMD | IT Shelter Replacement Construction Project, Palm Beach and Hendry Counties, Florida | 2015-Ongoing

Project Manager. Ms. Botero is currently assisting in the construction management of four IT shelters in Palm Beach and Hendry County for the South Florida Water Management District. The project includes construction observation staff, management of submittals/RFIs/cost proposals/change orders and quality control testing.

MDWASD | Water Service Improvement to Non-Residential Properties | 2015

Project Manager. Ms. Botero assisted the Miami-Dade Water & Sewer Department (MDWASD) with developing a plan, including planning level cost estimates and project schedules for the improvements of water infrastructure to non-residential zoned properties within MDWASD's service area currently under-sized to bolster commercial re-development. Once the project is implemented, over 15,000 parcels sites will have improved water service.

BCWWS | Improvement Projects – General Engineering Services | 2014-Ongoing

Engineering Manager. As part of the execution of the General Engineering Services for wastewater, Ms. Botero has participated on the design and construction phase services for multiple improvements projects at the North Regional WWTP including replacement of pump pads for the effluent pumps and improvements to the aeration basins, shorting contactors panels replaces at the outfall pump station and clarifiers rehabilitation.

PRASA | Redevelopment of the Lago Loiza (Carraizo) Hydroelectric Facilities | 2013-2014

Engineering Manager. The project includes rehabilitation of one turbine generator unit to supply approximately 1.1 MW. The energy generated by the rehabilitated facility will supply power to a raw water pump station supplying water to a water treatment plant.



PROJECT MANAGER

Specialization:
Water and Wastewater Systems

Office Location
Sunrise, Florida

Education

- M.S., Environmental Engineering, University of Kansas, 2004
- B.S., Civil and Environmental Engineering, University of Missouri-Kansas City, 1999

Professional Registration
PE – 2007, FL, 67176
PE – 2005, MO, 2005001044
PE – 2013, PR, 25626

Professional Associations

- Water Environmental Federation, Florida Water Environment Association

Year Career Started
2000

Year Started with B&V
2000-2007; 2012

MDWASD | Sewer to Commercial Properties | 2013-2014

Engineering Manager. Ms. Botero assisted the Miami-Dade Water & Sewer Department (MDWASD) with developing a plan, including planning level cost estimates and project schedules for the addition of sewer infrastructure to commercial zoned properties within MDWASD's service area currently not connected to these systems to bolster commercial re-development. Over 3,000 parcels sites were analyzed for sewer system extensions.

City of Key West | RFQ Development | 2013

Engineering Manager. Ms. Botero is currently developing a Request for Proposals (RFP) to select a contractor for the Operations and Maintenance of the Wastewater Treatment Plant, Sewer and Stormwater Collection Systems for the City of Key West. After the publication of the RFP, Ms. Botero will participate in the review and ranking of the submittals for the final City's selection.

PRASA | Lago Cidra Dam and Candelas Pump Station Rehabilitation | 2013

Engineering Manager. Ms. Botero assisted in the development of the accelerated design for improvements to the Lago Cidra Dam and Candelas Pump Station. The project included the replacement of mechanical equipment, including valves, gates and pumps at the existing PRASA facilities. Improvements to the electrical system and instrumentation and controls were also part of the project.

City of Hollywood | Energy Efficiency Master Plan | 2012-2013

Engineering Manager. Ms. Botero participated in the development of a comprehensive Energy Efficiency Master Plan for the City of Hollywood's Water and Wastewater systems and facilities. The master plan resulted in an implementation plan for 20 recommended energy cost savings projects and strategies with a net positive value of \$4.4 million to the City over the life of the improvements.

PRASA | PRASA Hydroelectric System Evaluation | 2012 – 2013

Engineering Manager. Ms. Botero assisted in the evaluation of existing hydroelectric facilities. The initial phase included the assessment of the existing facilities and issuing recommendations on rehabilitation and modernization. A water availability model and operation reservoir curves were developed for the Loco, Luchetti, Guayo, Yahuecas and Prieto reservoirs. The final component of the project include an economic feasibility evaluation for the implementation of the improvements.

Bogota Water & Sewer Authority | Water Distribution System Master Plan; Bogota, Colombia, South America | 2011-2012

Project Manager. Preparation of the Water Distribution System for the City of Bogota which serves approximately 8 million people. The masterplan issued recommendations for infrastructure improvements for a period of 20 years in the future.

Bogota Water & Sewer Authority | Water Pipeline Geotechnical Stabilization; Bogota, Colombia, South American | 2011-2012

Project Manager. Preparation of the final design of geotechnical stabilization measures for two water distribution mains, a 24-inch and a 60-inch situated in critical locations of the City of Bogota.

City of Boynton Beach | East Water Treatment Plant Disinfection System Upgrade; Boynton Beach, FL | 2011-2012

Construction Project Manager. Execution of the disinfection system upgrade for the 24-mgd East Water Treatment Plant.

Miami Dade County | Alexander Orr Jr. Water Treatment Plant, Chlorine Gas Onsite Generation System; Miami, FL | 2009-2010

Project Manager. Design of a new chlorine gas onsite generation system for the 215-mgd water treatment plant with an average consumption close to 9,000 pounds per day (ppd). The system is designed with a firm capacity of 20,000 ppd of chlorine production and will replace the existing practice of storing 90-ton chlorine gas railcars at the plant located in a residential area.

City of Dania Beach | Solids Handling System and Backwash Recovery Modifications; Dania Beach, FL | 2009

Project Manager. Led the design of a new lime sludge thickener for the existing water treatment plant, and modifications to the existing backwash recovery basin to improve the residuals handling system at the water plant.

Solid Waste Authority of Palm Beach County | North County Resource Recovery Facility Alternative Water Supply Evaluation; Palm Beach County, FL | 2009

Project Engineer. Identified the current and future water demands for the facilities to help identify various water supply alternatives. Several alternative water supplies were evaluated including different reuse options and LPRO treatment onsite.

City of Boynton Beach | East Water Treatment Plant Disinfection System Upgrade; Boynton Beach, FL | 2007-2010

Project Manager. Responsibilities included development of preliminary design of the new on-site sodium hypochlorite generation system, obtaining the Palm Beach County Health Department Permit, and development of bidding documents. The new disinfection system is housed in the existing chlorine building, including coordination of demolition and new construction while maintaining the existing plant online with a temporary chlorination system. The system will have a capacity to treat 24-mgd.

South Florida Water Management District | Lake Okeechobee Fast Track (LOFT) Project; Lakeside Ranch, FL | 2007-2009

Project Engineer. Preliminary design and coordination with multiple sub-consultants during the development of two new pump stations to support the

LOFT project. The design includes the S-191A flood control pump station with 450-cfs capacity, and the intake pump station with 250-cfs capacity for the Lakeside Ranch stormwater treatment area. Managed survey work.

Seacoast Utility Authority | Hood Road Water Treatment Plant Membrane Conversion; Palm Beach Gardens, FL | 2007-2008

Project Engineer. Provided detailed design of the transfer system (from the new clearwell to the existing ground storage tanks) and the NF and LPRO concentrate pumps using the WATERGEMS modeling application for the 30.5-mgd plant. Also assisted with the design of the NF and LPRO membrane feed pumps.

Western Corridor Recycled Water Pty Ltd | Bundamba Advanced Water Treatment Plant; Brisbane, Australia | 2006-2007

Engineering Manager. Developed technical scope documents for pricing and procurement for the 20-mgd design-build reuse plant. Process equipment included ultraviolet (UV) disinfection, microfiltration (MF) and reverse osmosis (RO) membranes, plate settlers, clarifiers, and denitrification filters. Responsibilities included coordination of the detailed design of the following areas: treated water, residuals, and chemical feed facilities with team members located in offices in three different continents.

Yucaipa Valley Water District | Wochholz Wastewater Treatment Plant Secondary Treatment Expansion; Yucaipa, CA | 2005

Project Engineer. Assisted with completing the detailed design of an integrated fixed-film/activated sludge (IFAS) aeration system, return activated sludge pumping, and UV disinfection to expand the plant from 4.5 to 8 mgd. Developed a hydraulic profile for the entire facility to include all the improvements to existing structures and the addition of new processes.

Maricopa County | White Tanks Water Treatment Plant; Maricopa County, AZ | 2003-2005

Engineering Manager. Provided detailed design for a new 13.4-mgd water treatment plant. The design included: intake structure, raw water pump station, raw water tanks, flocculation, dissolved air flotation system, filters, UV disinfection, finish water reservoir and pump station, site layout, and underground utilities plan. Developed documents to obtain construction permits of all facilities.

City of Phoenix | Lake Pleasant Water Treatment Plant; Phoenix, AZ | 2003

Project Engineer. Assisted in the development and coordination of the basis of design report for this 80-mgd water treatment plant.

City of Phoenix | Lake Pleasant Water Treatment Plant; Phoenix, AZ | 2001-2002

Design Engineer. Provided the technical design for a design/build proposal including 80-mgd Actiflo complex (rapid mixing, coagulation, flocculation and sedimentation), ozone contact basins and building, and UV disinfection facilities.

Metropolitan Council Environmental Services | Eagles Point WWTP; Cottage Grove, MN | 2001-2002

Design Engineer. Provided detailed design for a design/build project including expansion of a 10-mgd wastewater treatment plant. Provided design for UV disinfection facilities, a re-aeration basin, influent pumping station (rated at 30-mgd), screening facilities, site drainage and yard piping. Developed drawings and specifications using client standards.

Puerto Rico Aqueduct and Sewer Authority (PRASA) | CIP Annual Inspections; Puerto Rico | 2001

Inspector. Inspected, evaluated, and collected field data of the urban San Juan potable water distribution system. The facilities inspected included potable water booster pumping stations, and reservoirs. The evaluation included existing maintenance conditions and structural integrity of the facilities visited. She also evaluated preventive maintenance and capacity of response to emergency situations.

USAID / FHIS | Hurricane Mitch Relief Projects; Honduras, Central America | 2000-2001

Design Engineer. Design engineer for a group of reconstruction projects located in the south region of Honduras. The projects included the design of water, wastewater, and solid waste systems. Served as a liaison between the design work done in Kansas City headquarters and the local office at Tegucigalpa Honduras.

AFI | Dorado Regional Wastewater Treatment System, AFI; Dorado, Puerto Rico | 2000-2001

Design Engineer. Provided preliminary design of different options for the headworks building including influent pumping station, intermediate pumping station, and stormwater pumping station. Prepared a Request for Proposals document and cost estimate. Other responsibilities included developing liquid and solids schematics, and layout for the plant; and coordinating with other disciplines involved in the project. Performed research on different equipment manufacturers to be added to the PRASA approved manufacturers list.

Appendix 2—Financial Report

One copy of our confidential audited financial statement is included with the 'original' copy of this proposal, as part of our submittal to the City. Condensed financial information for Black & Veatch Holding Company and related companies for the past three years is presented in Table 87.

Table 8 Black & Veatch Financial Statements ('000s)

FINANCIAL REVIEW 2014

Condensed consolidated financial information for BVH, Inc. (beginning 2014, previously Black & Veatch Holding Company) as presented below (in millions):

FOR THE YEAR ENDING 31 DECEMBER	2014	2013
Revenues on Contracts	\$ 3,030	\$ 3,563
Costs of Contracts	2,241	2,761
Overhead Expenses	583	580
Operating Income, Before Special Charge*	\$ 206	\$ 222
Amendments to Stock-based Benefit Plans	(31)	–
Operating Income, After Special Charge*	\$175	\$222
Other Expenses & Taxes	62	73
Net Earnings	\$ 113	\$ 149
AT YEAR ENDING 31 DECEMBER		
Cash & Cash Equivalents	\$ 672	\$ 759
Contract Receivables	295	428
Costs & Estimated Earnings in Excess of Billings	220	197
Other Current Assets	66	46
Total Current Assets	\$ 1,253	\$ 1,430
Building, Equipment & Other Non-Current Assets	\$ 257	\$ 275
Total Assets	\$ 1,510	\$ 1,705
Notes Payable & Current Portion of Long-Term Debt	\$ 6	\$ 6
Billings in Excess of Costs & Estimated Earnings	383	421
Accounts Payable & Other Current Liabilities	615	722
Total Current Liabilities	\$ 1,004	\$ 1,149
Other Non-Current Liabilities	\$ 204	\$ 63
Equity**	302	493
Total Liabilities & Equity	\$ 1,510	\$ 1,705
REVENUE BACKLOG	\$2,963	\$2,558

*2014 reported Operating Income is \$175 million. This result includes \$31 million of expenses resulting from amendments to stock-based plans pursuant to CEP. This expense is not expected to be recurring at the 2014 level and for that reason is excluded for comparison purposes.

**Reduced equity resulted from redemptions of stock pursuant to CEP Transaction.

Appendix 3—Litigation Statement

Black & Veatch Holding Company, together with its affiliates (Black & Veatch), constitutes a large, international engineering and construction firm. Inevitably, like similarly-sized firms, at any given point in time we are involved with claims and litigation. Black & Veatch maintains a program of insurance to protect against claims arising out of its work. In the opinion of Black & Veatch management, no pending claim or litigation will have a material impact on Black & Veatch's ability to execute this project.