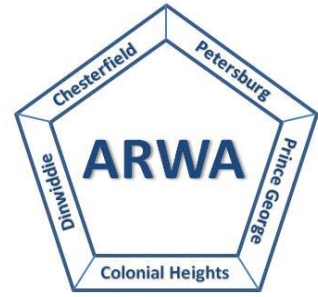


Appomattox
River
Water
Authority



21300 Chesdin Rd. - S. Chesterfield, VA 23803 - Phone (804) 590-1145 - Fax (804) 590-9285

Appomattox River Water Authority Board of Directors Meeting

DATE: July 20, 2017

TIME: 2:00 PM

LOCATION: Appomattox River Water Authority
Board Room, Administration Building
21300 Chesdin Road
South Chesterfield, Virginia 23803

AGENDA

1. Call to Order/Roll Call
2. Approval of Minutes: Minutes of the Regular Board Meeting on March 16th, 2017 and May 18th, 2017
3. Public Comment
4. Executive Director's Report:
 - Reservoir Status Update for June/July 2017
 - Discussion of Phase 1, Step 1 & 2 – Brasfield Dam Raise Project
 - Davenport Presentation: Scope of Work – Future of the Authority
 - Status Reports: Ongoing Projects/Financials
5. Items from Counsel:
 - Status of Amendment 4 to 1964 Water Service Agreement
6. Closed Session
7. Executive Director's Annual Review
8. Other Items from Board Members/Staff Not on Agenda
9. Adjourn

Cc: W. Dupler/George Hayes, Chesterfield
D. Harrison, Petersburg Public Works
W. Henley, Colonial Heights
R. Wilson, Dinwiddie Water Authority
A. Anderson, McGuire Woods

1. Call to Order/Roll Call

2. Approval of Minutes: Minutes of the Regular Board Meeting on March 16th, 2017 and May 18th, 2017

Following are the Minutes of the Regular Board Meeting on March 16th, 2017 and May 18th, 2017.

Absent any corrections or revisions, we recommend approval of the minutes as submitted.

BOARD OF DIRECTORS MEETING

Appomattox River Water Authority

March 16, 2017 at 2:00 p.m.

**Location: South Central Wastewater Authority
900 Magazine Road, Petersburg, Virginia**

PRESENT:

Percy Ashcraft, Chairman (Prince George)
Joseph Casey, Vice-Chairman (Colonial Heights)
Kevin Massengill, Secretary (Dinwiddie)
William Henley, (Colonial Heights)
Tom Tyrrell, (Petersburg)
George Hayes, (Alternate, Chesterfield)
Robert B. Wilson (Alternate, Dinwiddie)
Charles England, (Alternate, Prince George)
William Dupler, (Alternate, Chesterfield)
William Johnson, (Alternate, Colonial Heights)

ABSENT:

Daniel Harrison (Alternate, Petersburg)

STAFF:

Robert C. Wichser, Executive Director, (ARWA & SCWWA)
James C. Gordon, Asst. Executive Director (ARWA & SCWWA)
Dale Mullen, (McGuire Woods)
Arthur Anderson, (McGuire Woods) via conference call
Melissa Wilkins, Accounting/Office Manager (ARWA & SCWWA)
Kathy Summerson, Administrative Assistant (SCWWA)
Cindy Nester, Administrative Assistant (ARWA)

OTHERS:

Chris Tabor (Hazen & Sawyer)
Mike Wooden, (Arcadis)
Barry Woods (AECOM Technology)
Steven Micas, (Prince George)
Ted Cole, (Davenport)
Jack Berry, (Petersburg)

Mr. Ashcraft, Chairman, called the meeting to order at 2:27 p.m.

1. Call to Order/Roll Call.

Mr. Anderson was put on conference call at 2:27 p.m.

The roll was called.

2. Approval of Agenda (Section 3.6 of Bylaws)

Mr. Ashcraft asked that Agenda Item #5, Closed Session, be replaced with an Agenda item called Discussion of Study on the Future of the Authority.

Upon a motion made by Mr. Massengill and seconded by Dr. Casey the following resolution was adopted:

RESOLVED, that the Agenda Item Closed Session be replaced with a Discussion and Study on the Future of the Authority:

For: 5 Against: 0 Abstain: 0

3. Approval of Minutes: Minutes of the Regular Board Meeting on January 19, 2017:

Upon a motion made by Mr. Massengill and seconded by Dr. Casey the following resolution was adopted:

RESOLVED, that the minutes of the Regular Meeting of the Board on January 19, 2017 are hereby approved:

For: 5 Against: 0 Abstain: 0

4. Public Comment and Public Hearing on Proposed FY2017/18 Operating Budget

There were no public comments. Mr. Ashcraft opened the proposed 2018 budget Public Hearing at 2:32 p.m. and there being no comments the Public Hearing was closed at 2:33 p.m. Mr. Ashcraft stated adoption of the proposed 2018 budget will be held at the May 18, 2017 Board meeting.

5. Discussion and Study on the Future of the Authority

The Closed Session Item was amended with a Discussion of a Study on the Future of the Authority. Mr. Ashcraft stated it was important that the members know who and what the Authority is and what it owns. Mr. Henley asked about the definition of the scope of the proposed study and if it were a financial or operational study or both. Mr. Ashcraft replied it could be several things as some have been shared publicly with other localities that could change even the membership of this Authority. Those entities need to know what the Authority is totally all about. He further stated he didn't think the information would be

difficult to come up with. Mr. Henley stated he had the impression that the goal of introspection for the Authority had as much to do with how to operate more efficiently and effectively as well as better governance and Mr. Ashcraft agreed. Mr. Henley stated we would want to define the goals and objectives of the Study as a group first before we look at an analysis. Mr. Ashcraft stated in the end he is going to ask for a request of a motion and approval for staff to engage with Davenport to develop that scope and then bring it back to the May meeting for approval. He further stated to let staff and Davenport do the analysis and then we would review and discuss the information meeting by meeting. Mr. Henley said the scope of the study should include things like how to have more effective governance, how the Authority could operate more efficiently and effectively and how we could have better relational decisions amongst the members.

Dr. Casey stated that Chesterfield welcomes this. He further stated that part of the confusion is we have more questions than answers. There could be alternatives to things we are not thinking about. Davenport is a reputable firm and they have national resources. There should be constant communications between the Executive Director, the Chairman and Davenport to be sure it's in the best interest of ARWA.

Mr. Massengill stated he didn't disagree with developing the scope and coming back to the Board. If he were a citizen of one of the localities not knowing what the Authority was doing and reading in the paper about the privatization and retail efforts of Petersburg he would be concerned about ARWA's efforts to somehow be connected with the privatization and retail efforts of Petersburg. That's not what we are talking about here. Mr. Ashcraft stated the information that could be contained in a document could add value to any effort that would involve privatization or any involvement with the Authority. Mr. Massengill stated he wanted to clarify that it's not the intent to do that.

Mr. Tyrrell stated there is confusion on what Petersburg is doing. There are eight alternatives that they are considering and privatization is the last resort. He further stated that no matter what they do, there will be a body of people interpreting it the way they want to.

Mr. Cole stated there is going to be financial disciplines, legal disciplines and engineering disciplines that are all going to come together to establish the status quo. He further stated it is going to be a combination of financial, legal and engineering related work to move that option analysis forward. Mr. Henley stated the issue he sees is with management involving policy and strategy. He further stated that the finances of the Authority are sound and that's not an issue. He stated he would trust Davenport to define what they know of this entity. Mr. Massengill stated when they say Management they are not talking about the Executive Director, specifically they are talking about governance. Dr. Casey stated we should be looking to modernize the 1964 idea of the Authority.

Upon a motion made by Mr. Ashcraft and seconded by Dr. Casey the following resolution was adopted:

RESOLVED, that the Staff be authorized to engage in discussions with our financial advisor, Davenport, to develop a scope of work regarding an eventual definition of the Authority's governance, operations, responsibilities and assets:

For: 5 Against: 0 Abstain: 0

Mr. Cole stated he would come back with a scope for discussion at the May Board meeting.

6. Executive Director's Report

- **Reservoir Status Update for February/March 2017**

Dr. Wichser reported on the Status of the Reservoir. He reported the Reservoir has been full and the dam is overflowing. According to the NOAA long range prediction model, weather conditions (precipitation and temperature) will be normal to above normal for April, May and June. He further stated that before Memorial Day we would be issuing our annual voluntary conservation press release. This annual press release will be presented at the next Board meeting to be voted on.

- **Discussion of Financing Options for In-Plant Project-Davenport**

Dr. Wichser reported that the In-Plant Projects address Raw Water Pump Station No.1 and the electrical substation that supports this pump station, Finished Water Pump Station No.1 and the electrical apparatuses and motor control centers that support this pump station, along with replacing a thirty-three year old emergency generator. This proposed project was brought before the Board last May in the budget and was approved to move forward. He further stated financing has not yet been approved to-date by this Board. Dr. Wichser stated that on Friday, March 10, 2017 we closed on our RFP's for engineering services related to this project. The Authority received four proposals for the Evaluation Team (Mr. Wilson, Mr. England, Scott Morris from Chesterfield, Mr. Gordon and Dr. Wichser) to review and make a recommendation. They hope to have the proposals reviewed, interviews completed, and selections made. The team should have a recommendation for the Board at the May 18, 2017 meeting. Dr. Wichser introduced Ted Cole with Davenport. Mr. Cole stated based on last year's budget and current budget, funding is in place for the project's design and engineering work through the bid date which is expected to be around February 2018. That portion of the project is funded and the dollars are there to do that. At the February meeting we discussed there is not an urgency to finance this

project on a long term basis at this time although you could consider moving forward with the financing. He further stated the last time we spoke we were awaiting the funding commitment or proposal from the VRA and everyone now has received a copy of that. VRA has approved moving forward with the caveat that any combination of financing by members is going to require that the member jurisdictions excluding Petersburg are going to need to provide a moral obligation commitment to cover Petersburg's share of this borrowing. He further stated that the bond indenture is written where you can't carve out any member jurisdiction. VRA would not move off of that position. He further stated based on the borrowings that are being discussed, the annual debt service that Petersburg's share would be is somewhere between \$130,000 and \$180,000 per year depending on the amortization schedule that would ultimately be selected. Some combination of the other four member jurisdictions would need to cover Petersburg's share through moral obligation pledges if you were to move forward now with VRA's current proposal. He stated that an option is to set this aside and take it up at a later date or go outside for private financing proposals.

Dr. Casey asked if VRA gave a certain time duration that needed to be reached in the future to remove the moral obligation clause and Mr. Cole stated it's nothing specific other than an acceptable long term solution to some of Petersburg's financial situation that would give them comfort of moving forward on just the revenue pledge of the Authority. Mr. Anderson stated that VRA has done things like that before where they allow moral obligations to burn off if certain financial goals are passed. Mr. Henley stated the moral obligation in VRA's offer is a deal killer for Colonial Heights and he would like someone to address other options for financing. Mr. Cole stated VRA would then require a moral obligation support agreement from the remaining three or some combination thereof. They will take any and all combinations at this time.

Mr. Tyrrell stated he wanted to give a sense of timing. They are going to submit a structurally balanced budget next week and will end the fiscal year with a balanced budget. Right now they are negative \$6 million and feel by the end of the second quarter of 2018 they will have three or four quarters of steady budget to actual performance. He further stated they will be inviting the ratings agencies out to see them and hopefully that will be a positive outlook. Their financial advisors are saying they are two years away from the rating they would like to see. He stated the best case scenario before Petersburg improves their rating is probably twenty-four to thirty-six months out. That is presuming responsible performance over that time.

Mr. Massengill stated he has had a conversation with his Board on this and if it came down to moral obligation they have a close stance to Colonial Heights. He sees this as a very complicated process for their body to be able to go back and do this.

Dr. Casey asked in reference to the cash that has been set aside for debt service, how much can be used on the projects over the next year. Mr. Cole stated he thought a reimbursement resolution would give you that flexibility to outlay some cash ahead of time to reimburse yourselves. He further stated there are other options besides VRA that we have explored in the past. It's safe to assume that whomever the lender may be some additional clarity on the Petersburg situation would more than likely be desired.

Mr. Ashcraft asked Dr. Wichser what he could get done with what he had in house and Dr. Wichser replied that the Authority feels comfortable entering into the design phase portion of the project. He stated it depends on the fees from the engineering firm and what they finally come in at. The bid stage would put us at January/February, 2018. He further stated he wouldn't want to go into construction with a contractor without having the construction funds approved. However, he stated that he feels comfortable moving forward and holding off with VRA until fall to secure the project's construction funds.

Mr. Ashcraft asked for comments from members. Mr. Henley stated to pay cash for engineering and hold off on the borrowing. Mr. Ashcraft directed Dr. Wichser to go as far as he can in house. Dr. Casey stated to see if there was a need for reimbursement resolution. Mr. Ashcraft asked Mr. Cole if there was a chance that interest rates would be going up and Mr. Cole replied rates have gone up since the election. Most of the increases are with the short term loans. Rates are currently still at the low side for borrowing. With VRA being on hold for the time being, he would suggest that he get with Dr. Wichser, Mr. Anderson and Mr. Gordon and they would be able to come back to the Board about another lender. He stated this would give the Board a chance to think about this. Dr. Casey stated we should invite VRA to future funding discussions. Mr. Ashcraft asked Mr. Cole about Petersburg's portion being between \$130,000 and \$180,000 and if it would kick in in FY18 and Mr. Cole said if we were to participate in a VRA program there would be a partial payment in FY18. The total debt service for the Authority would be about \$580,000 in FY18. It's about \$100,000 for Petersburg in FY18 and depending on amortization it settles between \$130,000 and \$180,000 per year. Mr. Ashcraft stated it would eliminate the moral obligation possibility and strengthen the confidence level among localities that are having trouble coming to grips with it.

Mr. Ashcraft stated that we would hold off on any VRA involvement until the end of the year. We will entertain any other lender possibilities. Mr. Cole stated he would coordinate with Staff and Bond Council in coming back to the Board at the next meeting with some ideas of alternative funding mechanisms. Mr. Ashcraft stated staff could move forward with in house funding up through the engineering stage based on what the engineering fees end up being. Mr. Ashcraft asked

through FY18 if the budget included the project's debt service increases that the other localities would be paying, and Dr. Wichser replied correct.

- **Presentation of Proposed Amendment to 1964 Water Service Agreement**

Dr. Wichser and Mr. Anderson presented the Proposed Amendment to the 1964 Water Service Agreement. Dr. Wichser stated we were asked in 2013 to update the existing Water Service Agreement. One concern related to the current Water Service Agreement is that it does not provide ownership of the treatment plant capacity to what the membership thinks they bought into and the ability to buy or sell Allocation of Total Capacity to another Participating Jurisdiction. Mr. Anderson stated what they tried to do with this Amendment was to focus on two things: 1) To convert the notion of an allocation of total capacity which is the basis under which the expansion rates are allocated in the existing Agreement and also the base rates. To convert those rates from simply a rate base function to creating an ownership, a property right for each of the localities in that allocation of total capacity, and 2) Allowing that property right to be freely traded on either a permanent or temporary basis. The most critical need that the Authority and the members have is to allow the purchase and sale of excess capacity. The Commonwealth, including VRA, would like to see the Authority enable this if possible so that a sale of Petersburg's excess capacity could happen. He further stated that we sent this out for members' consideration. He heard comments from members after they received the Board package and has incorporated those comments into the document. Dr. Casey asked if Chesterfield could agree to this Amendment would that warrant the immediate removal of the throttling valve. Dr. Wichser told Dr. Casey the throttling valve was a transmission line design flow control/hydraulic element and is something totally separate from this issue. Mr. Anderson stated he did agree with that. Dr. Casey said he respectfully disagrees. Mr. Ashcraft said if three fifths of this Board wanted the throttling valve to be eliminated it would be done. He further stated entering into this Agreement does not solve the problem of delivery for Prince George. Mr. Henley stated Colonial Heights had a discussion over this and they can support it but he would do so with remorse. He further stated it has been three years now, countless hours of staff and expensive legal bills and he feels this should have been done early on. Mr. Tyrrell stated the comments reflect why it has been three years to get the Service Agreement done. He feels it's an ownership issue. Mr. Ashcraft stated he and Dr. Casey agree it's the right thing to do but without the Resolution of other issues. Dr. Casey asked how total capacity is defined and Dr. Wichser said his understanding is this is in reference to treatment plant production capacity. Mr. Massengill asked if this included the raw water of the reservoir itself and Dr. Wichser replied yes, once it enters ARWA's raw water intake pipes. Mr. Massengill stated anything we can do to help Petersburg be in a better position both with the Commonwealth of Virginia and VRA we should focus on that, but at the same time we have to work for what is best for us individually. Mr. Tyrrell stated you need to include the potential for Petersburg to revert to a township at some point. He asked how you work with a City who is unable to pull out of its own bankruptcy and what the impact would be on the surrounding Counties and jurisdictions.

Dr. Wichser asked the Board to look over the Amendment and stated this item would be brought back at the May 18, 2017 Board meeting. Dr. Casey stated he would like to know all the ways in which an engineer could trump a legal agreement. They can't buy the water they need because of the throttling valve. Dr. Wichser replied there have been numerous reports on this issue that defines why it's necessary. Mr. Tyrrell stated if at any point we want him to talk to anybody about the state of Petersburg he would.

- **Brasfield Dam Raise Project Proposed 2018 Budget Impacts**

Dr. Wichser reported on Phase 1 of the Brasfield Dam Raise Project. The estimated cost of Phase 1 is \$10 million minus the \$5 million matching state grant. Mr. Gordon reported on the potential rate impacts from the project. Dr. Casey asked the issuance date of the \$5 million and Mr. Cole answered it would be spring with an interest payment only in the FY18. Mr. Massengill asked if Colonial Heights didn't participate who was going to pay for it and Mr. Henley stated they continue to have discussions with City Council about this and will continue to do so. Mr. Tyrrell stated Petersburg couldn't participate in this project. Mr. Henley stated that Colonial Heights needs more time and would like to hold off on this issue for several weeks. Mr. Henley asked if the Authority had the cash balance to start into Phase 1 or is it totally dependent on the borrowing and Dr. Wichser replied if you are looking at Phase 1, Step 1, the Virginia Water Protection Permit opening and modification estimated at \$150,000, the Authority has \$150,000 available. Dr. Wichser stated through Phase 1, Step 2, we are looking at \$600,000 potentially expended. Dr. Casey stated that he would like to make a suggestion. He started by stating that overall he feels that everyone agrees that the time line looks good. He would suggest, that out of respect for Delegate Cox, that we ask the DEQ to confirm that they will accept the time line as presented. Mr. Ashcraft stated this would be revisited at the May Board meeting.

- **Status Report: Ongoing Projects/Operational/Financial**

Mr. Gordon reported on the Status Report of Ongoing Projects/Operational/Financial.

7. **Items from Counsel**

There were no Items from Counsel.

8. Other Items from Board Members/Staff Not on Agenda

Mr. Tyrrell stated staff needed to look at truck traffic on Pocahontas Island and how to resolve the issue of hours and quantity of the vehicles coming through. Dr. Wichser replied that South Central Wastewater Authority had a City of Petersburg policeman visit the plant and based on the conversation with the officer, we immediately requested Mr. Burpoe, our Operations Manager, to contact the trucking firms and instruct them not to park on the Island and not show up before the set time. Mr. Tyrrell asked how many are permitted each day and Dr. Wichser replied 18 landfill related trucks are permitted and there presently is no other way to get them to discharge into SCWWA. Mr. Tyrrell asked Dr. Wichser to send him a time line report on that and Dr. Wichser stated he would.

Dr. Casey suggested a sign be put on the bridge so that citizens would know how to get to SCWWA.

Mr. Hayes presented an update on Chesterfield's system. In accordance with ARWA's Trust Engineer's recommendation, Chesterfield County Utilities has installed one VFD at their Enon Pump Station. This change will allow Chesterfield Utilities to pull at lower flows and potentially reduce their hourly peak flows. Additionally, Mr. Hayes stated that it has been budgeted in the FY18 Budget for the other two pumps to receive VFD's. This action should help address peak hour's flows on that specific transmission line.

Mr. Henley stated he would like to see some consideration given to what is the right level of transparency for the Authority in terms of information that we provide to the public and through which channels. He feels there is insufficient information being put out on the web.

Mr. Henley further stated he would like to see budgets and minutes of the meeting on the website and Dr. Wichser replied they are already presented and continuously updated on both ARWA's and SCWWA's websites. Dr. Wichser stated both Authorities have modernized their websites and are posting technical studies, financial reports, Board packages, budgets and offer complete clarity to the public.

Mr. Ashcraft asked if the Authority was doing flushing and Dr. Wichser replied flushing was completed last week with no issues noted.

9. Adjourn

Upon a motion made by Mr. Massengill and seconded by Mr. Tyrrell the meeting was adjourned at 4:18 p.m.

The next regularly scheduled Board meeting is Thursday, May 18, 2017 at 2:00 p.m. at the Appomattox River Water Authority.

MINUTES APPROVED BY:

Kevin Massengill
Secretary/Treasurer

BOARD OF DIRECTORS MEETING

Appomattox River Water Authority

May 18, 2017 at 2:00 p.m.

**Location: Appomattox River Water Authority
21300 Chesdin Road, S. Chesterfield, Virginia**

PRESENT:

Percy Ashcraft, Chairman (Prince George)
Joseph Casey, Vice-Chairman (Chesterfield)
Kevin Massengill, Secretary (Dinwiddie)
Douglas Smith, (Alternate, Colonial Heights)
Tom Tyrrell, (Petersburg)
George Hayes, (Alternate, Chesterfield)
Robert B. Wilson (Alternate, Dinwiddie)
William Dupler, (Alternate, Chesterfield)

ABSENT:

William Henley, (Colonial Heights)
Daniel Harrison (Alternate, Petersburg)

STAFF:

Robert C. Wichser, Executive Director, (ARWA & SCWWA)
James C. Gordon, Asst. Executive Director (ARWA & SCWWA)
Arthur Anderson, (McGuire Woods)
Melissa Wilkins, Accounting/Office Manager (ARWA & SCWWA)
Kathy Summerson, Administrative Assistant (SCWWA)

OTHERS:

Dickie Thompson, (Prince George)
Herb White (WW Associates)
Jack Berry, (Petersburg)
Chris Tabor (Hazen & Sawyer)
Ted Cole, (Davenport)
Stephen Crowe, (AECOM)
Roy Covington, (Arcadis)
Mike Wooden, (Arcadis)
Craig Wood (McGuire Woods)

Mr. Ashcraft, Chairman, called the meeting to order at 3:05 p.m.

3. Call to Order/Roll Call.

The roll was called.

2. Approval of Minutes: Minutes of the Special Board Meeting on February 23rd and Regular Board Meeting on March 16, 2017:

Upon a motion made by Mr. Massengill and seconded by Mr. Tyrrell the following resolution was adopted:

RESOLVED, that the minutes of the Special Board Meeting on February 23, 2017 are hereby approved:

For: 5 Against: 0 Abstain: 0

Upon a motion made by Dr. Casey and seconded by Mr. Massengill the following resolution was adopted:

RESOLVED, that the minutes of the Regular Board Meeting of March 16, 2017 is hereby deferred until the next Board Meeting:

For: 5 Against: 0 Abstain: 0

Dr. Casey stated that they would be changing direction on the Matoaca School site.

3. Public Comment and Public Hearing on Proposed FY2017/18 Operating Budget

There were no public comments.

4. Executive Director's Report

- **Reservoir Status Update for April/May 2017**

Dr. Wichser reported on the Status of the Reservoir. He stated all stream flows are at normal or above normal conditions in the Commonwealth and all groundwater levels for observation wells are normal to above normal. He predicts the reservoir pool level will be in good shape for the Fourth of July.

- **Seasonal Chesdin Water Wise Conservation Measures**

Dr. Wichser reported that this water conservation request is what the Authority puts out annually to the public where we encourage seasonal Chesdin Water Wise Conservation Measures. Dr. Casey stated that Chesterfield has an interconnected system with various other sources and have their own Water Conservation Standards to their own customers that they direct bill. This does create confusion for the customer. The standards that ARWA has are slightly different from Chesterfield's. Dr. Wichser asked Dr. Casey if he would provide their suggested edits before ARWA issued this out. Mr. Hayes will email this information to Dr. Wichser who will make the needed edits and adjustments. Dr. Casey stated that they have a general website that speaks of conservation methods.

Upon a motion made by Mr. Tyrrell and seconded by Mr. Massengill the following resolution was adopted:

RESOLVED, that the Board approves the Executive Director to publish the release on Seasonal Chesdin Water Wise Conservation Measures along with any changes by the localities:

For: 5 Against: 0 Abstain: 0

- **Award of Annual Financial Audit Services for 2018-2021**

Dr. Wichser reported that ARWA would like to award the Annual Financial Audit Services for 2018-2021 to Robinson, Farmer, Cox Associates in the amount of \$7,500 annually. Mr. Smith asked if this was the same as discussed at the SCWWA Board meeting with the rotation of field staff and CPI increases and Dr. Wichser replied this was correct.

Upon a motion made by Dr. Casey and seconded by Mr. Smith the following resolution was adopted:

RESOLVED, that the Board authorizes the Executive Director to execute a Professional Financial Audit Services Agreement for Appomattox River Water Authority with Robinson, Farmer, Cox Associates, Charlottesville, Virginia for the period of 2018-2021 in the amount of \$7,500 annually:

For: 4 Against: 1 (Tyrrell) Abstain: 0

- **Approval on Award of "In-Plant" Project Engineering Services**

Dr. Wichser reported on the In-Plant Project Engineering Services. He stated this project has been discussed for several years and entails upgrading Raw Water Pump Station No. 1 and Finished Pump Station No. 1, the communication systems and the electrical systems. This project also entails replacing an emergency generator. This project was advertised on February 12, 2017 and four engineering firm proposals were received. A selection committee made up of representatives from Chesterfield County, Dinwiddie County Water Authority, Prince George County along with Dr. Wichser and Mr. Gordon. After interviews were conducted, the selection committee also reviewed the non-binding cost estimates for design services, bid services, construction administration and construction inspection. The selection committee decided that the engineering firm of Hazen & Sawyer/WW Associates to be recommended to the Board for award of the Engineering Services "In-Plant" project contract. Hazen & Sawyer/WW Associates submitted a lump sum fee estimate of \$915,000.

Mr. Ashcraft asked if this would take us through the end of the year and Dr. Wichser replied that was correct. He stated it would take us through the bid process for the construction contractor and also provide for construction administration and inspection services by the Engineer. He stated he expects us to bid this project in December 2017 or January 2018. We would look at bonding this project in the next calendar year in January or February. We would then award the Construction Contract in February with construction starting in the spring. Our initial discussion with the engineering firm has recommended pre-purchase on the large pumps because of the delay in receiving the pumps. As we enter into this project we expect to put in for the pre-purchase of the pumps, electrical motor control centers and the generator. We expect the delivery date to be around August 2018 on equipment. After August 2018 is when we would expect payment on the invoices for this equipment to occur. He further stated once we go into pre-purchase then there is potentially no pull back. Mr. Ashcraft stated that Dr. Wichser had said before that the budget doesn't allow you to pay as you go so we have to work out the bonding within the next several months.

Upon a motion made by Dr. Casey and seconded by Mr. Tyrrell the following resolution was adopted:

RESOLVED, that the Board authorizes the Executive Director to execute an Engineering Services Agreement for the "In-Plant" Upgrade project with Hazen & Sawyer/WW Associates for a lump sum not to exceed total engineering service fee of \$915,000 to be funded out of the In-Plant Upgrade Project budget as approved by the Board of Directors in May 2016. Staff is also authorized a 10% contingency for this work to be used at the discretion of the Executive Director only if he considers it necessary for the project and authorizes in writing any increase of the original contract amount:

For: 5 Against: 0 Abstain: 0

- **Discussion on Potential Brasfield Dam Raise Project**

Dr. Wichser stated the next item is a discussion for the Board on the Potential Brasfield Dam Raise Project. At the March Board meeting it was requested we go back to DEQ presenting them with our proposed Phase #1 phasing that was presented to the Board in March 2017. Phase #1 (Step 1, 2 & 3) is estimated at a cost of \$10 million. He further stated when we proposed the phasing to Walter Gills, who is Director of Finance for DEQ and Scott Kudlas, their reply was that this state grant was going to be run as a WQIF grant. Mr. Gills stated the only thing he is paying for is the construction of the dam and the permitting work, any FERC technical studies, the bridge replacements, the purchase of needed environmental credits would be the Authority's financial responsibility.

Dr. Casey asked if they had any questions about the time, order or duration of the phasings and Dr. Wichser replied he was surprised when Mr. Gills came back and stated for the WQIF mode of operation we would require a PER. If one is required he would expect it to be another \$50,000 to \$75,000. Dr. Casey stated that this is such an important project, from Chesterfield and ARWA's perspective, and it's a sensitive project anytime you are changing something that has existed for a period of time. He thinks we should be mindful of emails and communications. He further stated he views this as economic development and there is a degree of trying to operate and formulate the best deals possible some of which are best said in discussions. He would be careful of what could be interpreted as subjective terms such as "repercussions" and "negative".

Mr. Ashcraft asked what the next step would be if we moved on this and Dr. Wichser replied if the Board decided to move forward with Phase #1, Step 1, the next step would be addressing any needed the permit changes with federal and state regulatory agencies. Dr. Casey stated that was the \$150,000 of which there are available projects or cash balances to do that so we didn't have to get into the portioning of each locality and asked if this was correct and was told yes. Dr. Casey stated the summary Dr. Wichser did was a great summary which helped position us as an ARWA Board and to secure the \$5 million grant.

Dr. Wichser referred to the Budget sheets in the back of the Estimated Phasing Schedule which is based on the five members in this project, without Colonial Heights, without Petersburg and what the debt impacts would be.

Mr. Ashcraft stated if we approve Phase #1, Step 1 today, when is Step 2 coming before the Board and Dr. Wichser replied we have to discuss the permit with FERC and DEQ and see what parameters will change on our existing permit. Once we agree with FERC and DEQ we could start moving to the second Step, which would be submitting the Federal FERC permit modification application. When you submit the Federal FERC permit modification application, it then opens it up for the USEPA, United States Fish & Wildlife Service, Virginia Game and Inland Fisheries and the U.S. Corps of Engineers who will all become involved including archaeological and historical agencies. Dr. Wichser stated that we would expect FERC to require some very technical studies on the dam. Also, they will probably require remodeling the maximum flood flow releases and a dam structural stability analysis. These types of studies could take 4 to 6 months and could be expensive. Mr. Ashcraft asked if there was anything in that step that would trigger us to be able to go and capture the General Assembly's money. Dr. Wichser replied we need to be discussing and meeting with the regulatory agencies before we are satisfied with the permit changes at the Federal and State level. As we are opening this permit, we need to meet with DEQ and find out if they will allow us to use grant funds for some of this work. Dr. Casey stated he would like Delegate Cox to know before the next Assembly session what he has done for us, that we are thankful and show him what we have done as a Board. Dr. Wichser stated the issue we have is we might get through the State level but we might not get through the Federal level since the permitting changes and or requirements might be too demanding. Mr. Ashcraft asked if the \$150,000 was in next year's budget and Dr. Wichser replied it could be taken out of the reserves (Replacement Fund). Mr. Massengill asked what is involved in the process of opening up the VWP Permit and Dr. Wichser replied the major item the regulatory agencies will look at is the environmental impacts to comply with the Clean Water Act. Mr. Massengill stated we did the IFIM report last time and wanted to know if it would be looked at again and Dr. Wichser replied that the IFIM study determined the potential impacts on the fish below the dam and the need for certain aquatic species to have a certain amount of hydrologic flow/water. That was based on the last permit. They potentially could request another IFIM study, additional release modeling to determine what impacts raising the dam would have as part of the major permit modification.

Mr. Massengill asked if the \$150,000 was all inclusive or could you generate additional reviews and Dr. Wichser replied yes for the initial Phase 1, Step 1, that should be sufficient funding and we might expect any additional IFIM work to be approximately \$75,000 or somewhat greater. Dr. Wichser further stated the \$150,000 is to be initially used to open the permit and preliminary discussions and modeling that may be required. Mr. Massengill asked what role does the public play in this and Dr. Wichser replied that the public plays a lot in this. He further stated the Board needs to consider if we need to consider planning for some type of public interaction and holding a public information meeting. Mr. Tyrrell stated over a period of time he would not be averse to taking a step under the assumption that the amendment Petersburg wants to discuss later would be approved.

Upon a motion made by Dr. Casey and seconded by Mr. Massengill the following resolution was adopted:

RESOLVED, that the Board approves Phase #1, Step 1, as presented by the Executive Director with an appropriation up to \$150,000 out of the contingency fund. The schedule is to be revamped to reflect the key dates going forward with a time line of public meetings:

For: 5 Against: 0 Abstain: 0

Mr. Smith stated he would support this today with the understanding we are talking about the Phase #1, Step #1, \$150,000 and if it's more than that then we come back and discuss it. He further stated that we all know from previous communications with Mr. Henley that Colonial Heights Council was not in favor of the project previously. He cannot make a commitment to where they will be down the road but he will support the Phase #1 Step #1.

• **Davenport Presentation: Scope of Work – Future of the Authority**

Dr. Wichser introduced Ted Cole with Davenport who gave a presentation on the Scope of Work concerning the Future of the Authority. Mr. Cole stated this was a follow up item from the March 16, 2017 Board meeting. Davenport had various conversations with ARWA Staff, representatives from member jurisdictions, McGuire Woods, and various ARWA consultants to get some background and understanding of what this engagement might look like. He stated this is called an Evaluation Project to review potential changes or enhancements to the Governance and ownership of ARWA. This work could take two paths. The first path could be solving whatever problem may be out there, which is still to be determined. One problem could be through various governance changes. These include: Amendments to the Service Agreement, Dissolution or Reconstitution, Alterations to the Governing Structure and Alterations to Board Representation. The second path would be through some change in ownership that would likely include the valuation of the Authority as we know it. That change of ownership could come again in many forms. These include: sale of system assets, sale of capacity rights, valuation of the ARWA system, impact to future rate setting and legal/regulatory issues. Mr. Cole further stated if they were to take the lead in facilitating this engagement, they will need additional help with ARWA staff, McGuire Woods, other consultants already working with ARWA and other firms. He stated they propose to come back to the Board at the July meeting with a detailed proposal that includes a specific scope of work, a schedule, pricing and fee information to be considered at that time. One key question that Davenport has going into that potential next step is what the pleasure of the Board will be as it relates to the potential of subcontractors. He asked if the Board wanted to give Davenport the discretion over who to use in those roles or would the Board like to be part of that decision.

Dr. Casey asked Mr. Cole if Davenport paid for their subcontractors would they welcome members giving names of subcontractors that they have dealt with and Mr. Cole replied yes. Mr. Cole stated they did speak with several firms on a preliminary basis. Mr. Ashcraft asked Dr. Wichser if we were in a better position to budget this and Mr. Cole stated that they were proposing to come back in July with firm pricing that you could make a decision upon. Mr. Smith asked Mr. Cole that at the July meeting would he be in position to have his list of subcontractors identified and Mr. Cole responded he would. Mr. Smith stated he thought as long as we had the opportunity to approve the whole project with Davenport's selective subcontractors and know something about their qualifications that would be good with members.

Upon a motion made by Dr. Casey and seconded by Mr. Massengill the following resolution was adopted:

RESOLVED, that the Board approves for Davenport to proceed and put a firm proposal together to come back at the July 20, 2017 Board meeting. Davenport is to break one and two apart with costs for each:

For: 5 Against: 0 Abstain: 0

• **Status Report: Ongoing Projects/Operational/Financial**

Mr. Gordon reported on the Status Report of Ongoing Projects/Operational/Financial.

5. Approval of Proposed Fiscal Year 2017-2018 Budget

Dr. Wichser presented the Proposed Fiscal Year 2017-2018 Budget which was Public noticed in several newspapers.

Upon a motion made by Mr. Tyrrell and seconded by Mr. Massengill the following resolution was adopted:

RESOLVED, that the Board adopts the advertised budget setting forth rates and charges for Fiscal Year 2018:

For: 5 Against: 0 Abstain: 0

6. Items from Counsel: Amendment to 1964 Water Service Agreement

Mr. Anderson presented the fourth amendment to the Water Service Agreement. He stated he had received some comments since the last Board meeting that he reflected in this revised Agreement. It was a limitation on how much a capacity could be bought by any one participating jurisdiction during each five year period. It addresses the major concern that was expressed

when we started the process and that is to give each member jurisdiction a saleable ownership right in the capacity of the plant. This is just a member's share of production capacity.

He stated he had prepared a short Resolution if members want to move forward. The Resolution can be approved by a vote of three of the five members of this Board. This would have to go to each of the member jurisdictions for approval by your governing bodies because it is an amendment to a contract by each jurisdiction. Dr. Casey referred to the methodology of the number five and asked what its intent was. Mr. Anderson answered the desired intent not to allow huge radical changes in a very short period of time. It only applies each five year period. A jurisdiction could increase its ownership capacity by five percentage points in each fifth year period. Dr. Casey asked if they could sell more than five and Mr. Anderson replied yes that the seller could sell to more than one jurisdiction. Dr. Casey stated he could not buy all his allotted capacity due to the throttling valve.

Mr. Ashcraft stated a couple of years ago Prince George tried to execute a sale with the City of Petersburg. They were told that they could not do that because the definition of capacity was not established and asked if this was correct and Mr. Anderson replied that you had no fixed ownership right to capacity. Mr. Ashcraft stated the adoption of this Amendment would allow those transactions to take place under the restrictions of the language that is in the Amendment and Mr. Anderson replied agreed. Mr. Ashcraft asked Mr. Anderson if this was the "meat and potatoes" of the whole Agreement and Mr. Anderson replied yes.

Mr. Massengill asked Mr. Anderson if Prince George had the ability to be a customer of the City of Petersburg. Prince George has the desire to grow the Crater Road area. There is nothing in the current Service Agreement that would prohibit Prince George and Petersburg from negotiating a rate and becoming a customer to Petersburg and Mr. Anderson stated that is correct. Mr. Massengill stated that could be a negotiated rate and as long as you have users that could draw that water then you can negotiate a sale based on the rate that may be and that could happen and Mr. Anderson replied correct. Mr. Massengill stated to Mr. Anderson that the way it is now is first come first served and Mr. Anderson answered that was correct as long as you are drawing immediately your ability to get that water is protected.

Mr. Ashcraft asked why we need this Agreement and Mr. Massengill stated it's a difference between withdrawing it immediately and owning. Dr. Casey asked if the water is in their system and they have another locality that needs it, why they couldn't make a contract with another jurisdiction. Mr. Anderson stated that the Authority's service area is confined to the service area that was enunciated as set forth in the original articles. Dr. Casey questioned if they had a pipe that was going into Hopewell, why would he have to trace which of his water sources it came from. Mr. Anderson stated at that point we might want to look at the Articles of the Authority and expand those to allow for sales outside of the territory. Mr. Ashcraft asked if he bought five percentage points from somebody would that raise him to seven percent and reduce Petersburg to eleven percent and Mr. Anderson stated correct and in another five years they could buy another five percent. Mr. Tyrrell stated this is an asset they want to modify. This is a significant opportunity for Petersburg and will take the City forward. He will send copies of papers to members which show they have a negative \$6 million fund balance. They had a debate last week on whether they could make payroll. They have cut over one hundred employee positions and are working on some more. Mr. Ashcraft asked how this Amendment helps the Authority and Mr. Anderson stated the stronger the Authority can make Petersburg the better off the Authority is. Mr. Tyrrell stated the quicker they are not in the negative the better off it is for everybody. Mr. Ashcraft stated if there is no capacity to be bought for the future or once someone buys it all, then where does that leave the others. Dr. Casey stated until the throttling valve goes he cannot support changes like this. Dr. Casey stated that as an ARWA member this wouldn't be best for ARWA and as County Administrator he wouldn't be able to recommend it because of its restrictions to Chesterfield.

Upon a motion made by Mr. Tyrrell and seconded by Mr. Ashcraft the following resolution was adopted. Mr. Ashcraft called for a roll call vote:

RESOLVED, that the Amendment be sent to the jurisdictions for their consideration pursuant to the Resolution:

For: 3 (Tyrrell, Smith, Ashcraft) Against: 2 (Casey, Massengill) Abstain: 0

7. Other Items from Board Members/Staff Not on Agenda: Discussion on Resolution from City of Petersburg

Mr. Anderson stated he was asked to review the Resolution from Petersburg and will reserve his comments until after Mr. Tyrrell's presentation.

Mr. Tyrrell stated this would allow Petersburg to move forward with one of the three options that were identified and needs the Authority's approval to proceed. Mr. Anderson stated he is not in a position to recommend from a legal perspective that we adopt this. There are two items that need to be completely determined: 1) Is this some sort of an amendment to the existing Service Agreement? The Service Agreement was first written in the early 1960's before privatization was even considered, and 2) Unlike the situation we have with SCWWA where not only is this type of thing explicitly contemplated in the Agreement was, but we have no debt outstanding with SCWWA. We do have bonds outstanding and tax exempt bonds outstanding at ARWA and he needs to run the traps from a legal perspective to make sure that any such sale or transfer disposition of the Petersburg system would have to be approved or consented to by the holders of the ARWA bonds. Also, we have to make sure

that whatever is done with that system doesn't adversely affect the tax status of the Authority's outstanding bond. As was discussed during the break it may be possible to have everyone consider approving the Resolution but adding a proviso that would have legal counsel advise you that we don't have to take this to the jurisdictions and we would be satisfied and communicate to you that we're not running afoul with any debt covenants or tax restrictions. There may be other things that you might wish to include in that and maybe have the Executive Director do it. He further stated that there may be a way to go forward and report by June 1. He doesn't think it will take that long once the members understand what the alternatives are. Mr. Tyrrell asked is this was required by the ARWA agreement as it sits today and Mr. Anderson stated he couldn't answer that for the same reason he couldn't tell him whether we would have to take this to the member jurisdictions. He does know if Petersburg privatizes their system it could have an effect on the tax exempt status of the Authority's bonds. Mr. Tyrrell stated he would like the Authority to act one way or another on this with whatever amendments you are comfortable with.

Mr. Tyrrell stated he would make a motion with the considerations that were suggested. Mr. Smith stated this Resolution was received here at this meeting and there are a lot of unknowns. If we need to get back together and just discuss this topic, he could do that but he will not be prepared to vote in favor of it if we were to vote right now. Mr. Ashcraft asked Mr. Tyrrell if we still had a little time on this and Mr. Tyrrell responded yes as he just wanted to move this forward. Mr. Massengill stated he felt the same way as Mr. Smith.

This item was tabled until a special meeting is called with a 24 hour notice.

8. Closed Session

Mr. Anderson read the Resolution to go into Closed Session (attached).

Upon a motion made by Mr. Massengill and seconded by Mr. Tyrrell the Board went into Closed Session at 4:45 p.m.

For: 5 Against: 0 Abstain: 0

Upon a motion made by Mr. Massengill and seconded by Mr. Tyrrell the Board came out of Closed Session at 5:21 p.m.

For: 5 Against: 0 Abstain: 0

Mr. Anderson read the Certification regarding the Closed Session and, upon a motion made by Mr. Massengill and seconded by Mr. Tyrrell, it was approved by a unanimous roll call vote (attached).

Upon a motion made by Mr. Massengill and seconded by Mr. Smith the following resolution was adopted:

RESOLVED, that the Executive Director is authorized to sign and deliver the documents to settle the employment claim:

For: 5 Against: 0 Abstain: 0

9. Other Items from Board Members/Staff Not on Agenda: July 3rd-Request for 8 hours additional holiday time for all employees

Mr. Tyrrell stated they are interviewing for City Manager position for Petersburg on Monday.

Dr. Wichser stated that the Commonwealth of Virginia was granted July 3, 2017 as an additional eight hour Holiday for state employees. The Counties of Dinwiddie and Prince George as well as the Dinwiddie County Water Authority have also granted July 3, 2017 as an additional Holiday. Dr. Wichser requested that the Board approve an additional eight hours for July 3rd.

Upon a motion made by Mr. Massengill and seconded by Mr. Smith the following resolution was adopted:

RESOLVED, that the Board grants SCWWA employees an additional 8 hours holiday time on Monday, July 3, 2017:

For: 5 Against: 0 Abstain: 0

There will be no regular Board meeting in June but a special meeting could be called.

10. Adjourn

Upon a motion made by Mr. Massengill and seconded by Mr. Tyrrell the meeting was adjourned at 5:27 p.m.

The next regularly scheduled Board meeting is Thursday, July 20, 2017 at 2:00 p.m. at the Appomattox River Water Authority.

MINUTES APPROVED BY:

Kevin Massengill
Secretary/Treasurer

3. Public Comment

The Guidelines for Public Comment are:

GUIDELINES FOR PUBLIC COMMENT AT SCWWA/ARWA BOARD OF DIRECTORS MEETINGS

If you wish to address the SCWWA/ARWA Board of Directors during the time allocated for public comment, please raise your hand or stand when the Chairman asks for public comments.

Members of the public requesting to speak will be recognized during the specific time designated on the meeting agenda for "Public Comment Period." Each person will be allowed to speak for up to three minutes.

When two or more individuals are present from the same group, it is recommended that the group designate a spokesperson to present its comments to the Board and the designated speaker can ask other members of the group to be recognized by raising their hand or standing. Each spokesperson for a group will be allowed to speak for up to five minutes.

During the Public Comment Period, the Board will attempt to hear all members of the public who wish to speak on a subject, but it must be recognized that on rare occasion presentations may have to be limited because of time constraints. If a previous speaker has articulated your position, it is recommended that you not fully repeat the comments and instead advise the Board of your agreement. The time allocated for speakers at public hearings are the same as for regular Board meeting, although the Board can allow exceptions at its discretion.

Speakers should keep in mind that Board of Directors meetings are formal proceedings and all comments are recorded on tape. For that reason, speakers are requested to speak from the podium and wait to be recognized by the Chairman. In order to give all speakers proper respect and courtesy, the Board requests that speakers follow the following guidelines:

- Wait at your seat until recognized by the Chairman;
- Come forward and state your full name and address. If speaking for a group, state your organizational affiliation;
- Address your comments to the Board as a whole;
- State your position clearly and succinctly and give facts and data to support your position;
- Summarize your key points and provide the Board with a written statement or supporting rationale, when possible;
- If you represent a group, you may ask others at the meeting to be recognized by raising their hand or standing;
- Be respectful and civil in all interactions at Board meetings;
- The Board may ask speakers questions or seek clarification, but recognize that Board meetings are not a forum for public debate; Board Members will not recognize comments made from the audience and ask that members of the audience not interrupt the comments of speakers and remain silent while others are speaking so that other members in the audience can hear the speaker;
- The Board will have the opportunity to address public comments after the Public Comment Period has been closed;
- At the request of the Chairman, the Executive Director may address public comments after the session has been closed as well; and
- As appropriate, staff will research questions by the public and respond through a report back to the Board at the next regular meeting of the full Board. It is suggested that citizens who have questions for the Board or staff submit those questions in advance of the meeting to permit the opportunity for some research before the meeting.

To The Appomattox River Water Authority Board of Directors
From Davenport Public Finance
Date July 20, 2017
Subject Proposed Engagement to Identify and Analyze Options Related to Governance and Ownership Changes of the Appomattox River Water Authority

I. Background:

As a follow-up to our May 18, 2017 presentation to the Appomattox River Water Authority (“ARWA”) Board of Directors, Davenport & Company LLC (“Davenport”), serving as ARWA’s Financial Advisor, conducted a Request for Proposal (“RFP”) process to solicit proposals from firms interested in serving as a sub-contractor to Davenport for an Evaluation Project to review potential changes or enhancements to the governance and ownership of ARWA.

The RFP was sent to 19 firms identified by Davenport and ARWA staff. A full listing of the firms that received the RFP is included as Exhibit 1 to this memo. As requested by the RFP recipients, Davenport held conference calls with multiple firms to review the RFP and ensure a common understanding of the goals and objectives of the engagement. In response to the RFP, Davenport received four proposals from the following firms (listed alphabetically):

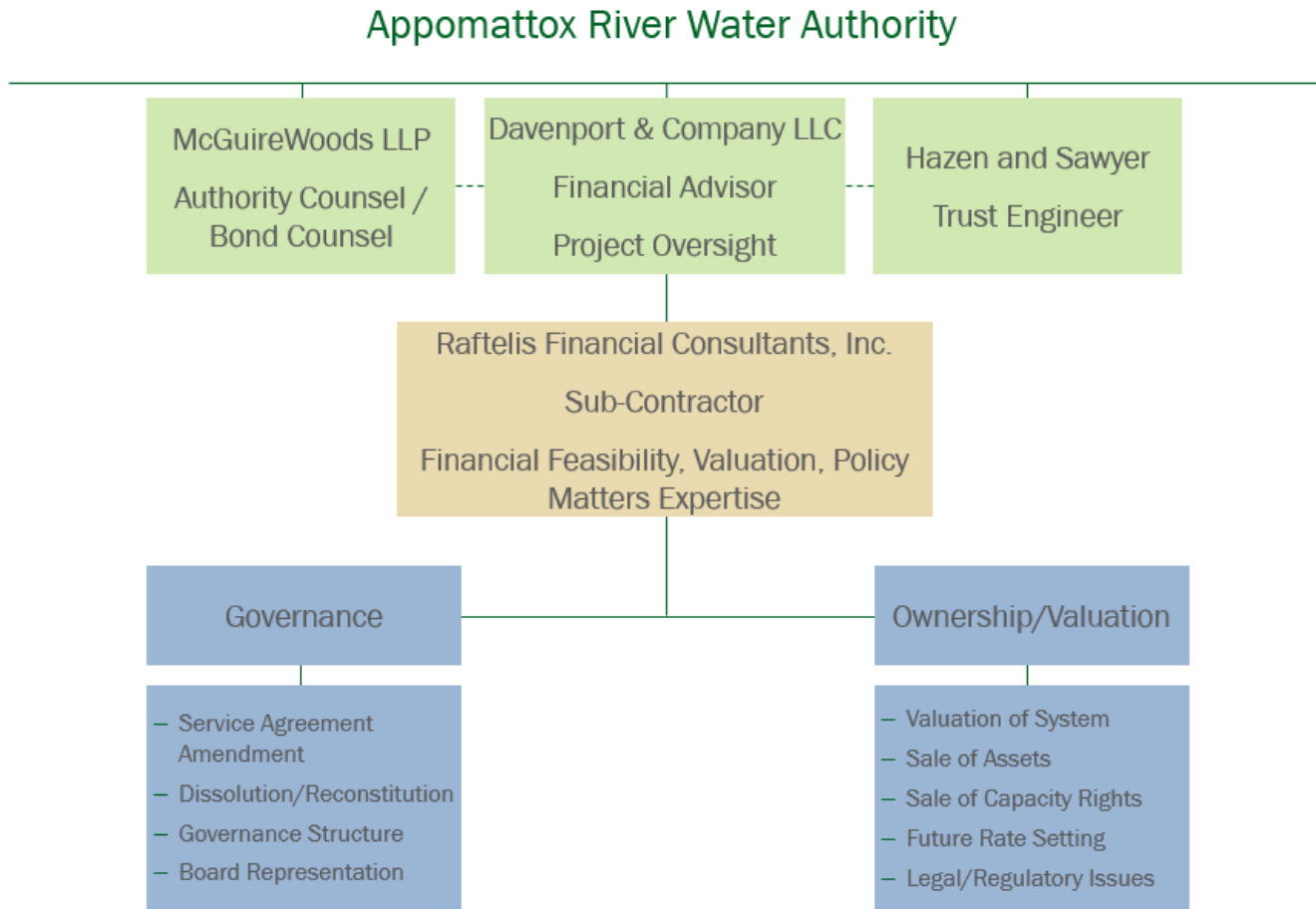
1. GDS Associates, Inc. (“GDS”);
2. Municipal & Financial Services Group (“MFSG”);
3. Raftelis Financial Consultants, Inc. (“Raftelis”); and
4. Willdan Financial Services (“Willdan”).

Following the receipt of the proposals, Davenport reviewed the proposals internally and conducted a series of phone interviews with the firms to further assess their understanding of the engagement, their approach to the engagement, their relevant experience in providing the requested services and their overall qualifications.

II. Proposed Sub-Contractor:

Based on this review process, Davenport proposes to partner with Raftelis as its sub-contractor for this engagement. What follows is a series of discussion items related to the Raftelis proposal, their approach to the engagement, preliminary engagement pricing and recommended next steps. Raftelis’ full proposal is included as Exhibit 2 to this memo.

III. Proposed Working Group:



IV. Proposed Approach to the Engagement:

For a complete review of Raftelis’ approach to the engagement, please refer to Exhibit 2.

PHASE 1 – PRELIMINARY VALUATION ASSESSMENT AND REVIEW OF GOVERNANCE AND OWNERSHIP ALTERNATIVES

Under Phase 1 of our [Raftelis’] proposed scope of work, Raftelis will work with Davenport & Company, LLC (“Davenport”) to identify and understand the challenges associated with the Authority’s current governance and ownership structure, identify and assess the potential alternatives to the governance and ownership structure, and complete a preliminary valuation of the water system assets. These activities will inform the Authority and its stakeholders about the potential financial impacts related to changing ownership structure.

TASK 1 – PROJECT INITIATION AND INFORMATION GATHERING

A productive kick-off meeting is the most effective way to begin a project of this nature. We [Raftelis] will work with Davenport to schedule this meeting, so we [Raftelis] can collaborate with the Authority to initiate the project.

TASK 2 – PRELIMINARY VALUATION ASSESSMENT

One of the primary objectives of the project is to establish the value of the Authority’s system assets so that the potential financial impacts of changing its ownership and/or governance structure can be assessed. Under this task, we [Raftelis] will prepare a summary valuation assessment in general accordance with the Uniform Standards of Professional Appraisal Practice (“USPAP”) guidelines and considering the unique valuation aspects of publicly-owned water utilities. This preliminary valuation will take the form of a desktop assessment. It will provide a range of values using common industry approaches to valuing utility assets. The estimated value of the system will reflect three approaches to asset valuation:

1. Cost Approach
2. Income Approach
3. Market Approach

TASK 3 – PRELIMINARY OWNERSHIP AND GOVERNANCE ALTERNATIVES EVALUATION

Following the completion of the preliminary valuation assessment, Raftelis will identify and review potential governance and ownership alternatives that address the Authority’s objectives and challenges. We [Raftelis] will compile these alternatives into a summary table with each alternative identified, along with their potential advantages, disadvantages, merits, and limitations. We [Raftelis] will then facilitate a Phase 1 Evaluation Results Meeting with Davenport and the Authority to review and discuss the results of the valuation, and to review and discuss potential ownership alternatives considering the value estimate we [Raftelis] prepared.

PHASE 2 – REFINED ASSESSMENTS OF VALUE, GOVERNANCE, AND OWNERSHIP ALTERNATIVES

Under Phase 2 of the proposed scope of work, and depending upon the results of Phase 1, Raftelis will complete a more detailed assessment of the value of the water system and refined assessments of the governance and ownership alternatives. The tasks presented below will be completed depending upon the results of Phase 1 and the direction of most interest to the Authority. As such, some of the tasks presented below may or may not be completed as directed by the working group.

TASK 4 – REFINED VALUATION ASSESSMENT

Raftelis will complete a refined valuation assessment, if requested by the Authority. The refined valuation assessment will build upon the preliminary estimate of value and refine the estimates and assumptions included. As part of this assessment, we [Raftelis] will complete a visual inspection of the assets to refine the remaining useful life used/useful estimates included in the preliminary valuation.

TASK 5 – REFINED GOVERNANCE ASSESSMENT

Raftelis will complete a refined assessment related to each of the preferred ownership alternatives that was identified under Phase 1 for further consideration. This assessment will consist of preparing details related to the financial impacts to the Authority and/or each of the municipalities under the preferred alternative.

TASK 6 – REFINED OWNERSHIP ASSESSMENT

Raftelis will complete a refined assessment related to each of the ownership alternatives that was identified under Phase 1 for further consideration. This assessment will consist of preparing details related to the financial impacts to the Authority and/or each of the municipalities under each alternative.

TASK 7 – GOVERNANCE AND STRUCTURE WORKSHOP (OPTIONAL)



Raftelis has completed governance and organizational structure projects for numerous utilities. These efforts have demonstrated the value of engaging decision makers early and often to understand their positions, expectations and parameters. We [Raftelis] have found that one of the best ways to do this is through facilitated workshops held prior to embarking on the alternatives analysis and then again after we [Raftelis] produce the assessment results. Raftelis is fortunate to have a facilitator who is a former utility and city manager that is highly experienced in the process of transitioning municipal and utility governance structures.

Raftelis proposes adding two workshops to the scope of work. These two, two-hour workshops with the Authority's Board would provide tremendous value. They would help guide the assessment work and allow the Authority to move to the next phase of work with a clearer and more focused perspective. They are a way to find common ground expeditiously. Finally, they would provide a forum to discuss alternatives with the assistance of an expert that has helped several agencies through governance and structure changes.

V. Preliminary Engagement Schedule:

Based upon Raftelis’ proposed approach to the engagement, the following schedule has been developed. Depending upon the tasks that the Authority desires to undertake and the Working Group’s meeting availability, this timetable is subject to change. That said, we [Raftelis] believe that this schedule represents a reasonable estimate of the engagement’s duration.

TASKS	Weeks																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
Phase 1																		
1 Project Initiation and Information Gathering	🗨️																	
2 Preliminary Valuation Assessment				🗨️		📄												
3 Preliminary Governance & Ownership Evaluation	👤			🗨️		📄		👤										
Phase 2																		
4 Refined Valuation Assessment											🗨️		👤		🗨️		📄	
5 Refined Governance Assessment											🗨️		🗨️		👤		📄	
6 Refined Ownership Assessment											🗨️		🗨️		👤		📄	

-  Kick-off Meeting
-  In-Person Meeting / Workshop
-  Delivery of Draft/Final Reports, Technical Memoranda, Financial Models.
-  Web meeting
-  Optional Workshop

VI. Proposed Engagement Pricing:

Tasks	Principal	Senior	Admin	Total						
	Consultant	Manager			Consultant	Hours	Labor	T&C	Travel	Total
	\$280	\$255	\$175	\$75						
Phase 1 - Preliminary Assessment										
1	Project Initiation and Information Gathering	8	8	12		28	\$ 6,380	\$ 280	\$ 1,600	\$ 8,260
2	Preliminary Valuation Assessment	44		56	2	102	\$ 22,270	\$ 1,020	\$ 800	\$ 24,090
3	Preliminary Governance & Ownership Evaluation	8	24	32	2	66	\$ 14,110	\$ 660	\$ 800	\$ 15,570
Phase 2 - Refined Assessment										
4	Refined Valuation Assessment	20	32	80	2	134	\$ 27,910	\$ 1,340	\$ 2,800	\$ 32,050
5	Refined Governance Assessment	40	40	80	2	162	\$ 35,550	\$ 1,620	\$ 1,600	\$ 38,770
6	Refined Ownership Assessment	40		40	2	82	\$ 18,350	\$ 820	\$ 800	\$ 19,970
Total										
		160	104	300	10	574	\$124,570	\$ 5,740	\$ 8,400	\$138,710
7	Optional - Governance and Structure Workshops	24		6	2	32	\$ 7,920	\$ 320	\$ 1,600	\$ 9,840

In addition to Raftelis' pricing shown above, Davenport proposes to bill the Authority for our work in accordance with our existing agreement included as Exhibit 3 to this memo.

For budgeting purposes, Davenport estimates that our work related to the engagement will approximate 50-75% of those fees charged by Raftelis plus \$20,000 representing our estimated fees-to-date for the engagement. Davenport can invoice the Authority on a regularly scheduled basis or upon completion of any tasks performed in accordance with the engagement approach. All invoices will provide a breakout of fees due to Davenport and Raftelis.

In addition, services of other professionals may arise in the process. For example, ARWA's general counsel and trust engineers will likely be involved depending on the tasks the Authority pursues. Their fees cannot be estimated at this time with certainty. Davenport and ARWA Staff will update the Authority as services of these consultants are needed.

VII. Next Steps:

With ARWA Board approval today, Davenport and Raftelis will initiate the desired/selected tasks as outlined in the engagement approach. Based upon our discussions with Raftelis, ARWA staff and ARWA Board members; we recommend the following initial Scope of Work:

Phase 1 including Tasks 1-3 with an optional workshop to be scheduled upon the completion of Task 1. This ***initial*** Scope of Work is estimated to span a 9-week period with a total estimated cost as detailed below:

Initial Scope of Work Fees		
Task 1	Project Initiation and Information Gathering	\$8,260
Task 2	Preliminary Valuation Assessment	\$24,090
Task 7	Optional - Governance and Structure Workshop	\$4,920
Subtotal: Raftelis Fees (Tasks 1, 2, & 7)		\$37,270
	Davenport Engagement Fees (50% - 75% of Raftelis)	\$18,635 - \$27,953
	Davenport Fees to Date	\$20,000
Subtotal: Davenport Fees (Tasks 1, 2, & 7)		\$38,635 - \$47,953
Subtotal: Total Fees (Tasks 1, 2, & 7)		\$75,905 - \$85,223
Task 3	Raftelis Preliminary Governance & Ownership Evaluation	\$15,570
	Davenport Engagement Fees (50% - 75% of Raftelis)	\$7,785 - \$11,678
Subtotal: Task 3		\$23,355 - \$27,247
Total Initial Scope of Work Fees		\$99,260 - \$112,470

Davenport would recommend that ARWA consider additional Tasks based upon the outcomes of this initial Scope of Work.

Exhibit 1 – List of Firms who Received the RFP

1. Arcadis US Inc.;
2. AUS Consultants, Inc.;
3. Black & Veatch;
4. Boenning & Scattergood, Inc.;
5. Burns & McDonnell;
6. CH2M HILL, Inc.;
7. Cozen O'Connor;
8. Draper Aden Associates;
9. Gannett Fleming Valuation And Rate Consultants, LLC;
10. GDS Associates, Inc.;
11. Hazen and Sawyer;
12. Herbert Rowland & Grubic, Inc.;
13. Municipal & Financial Services Group;
14. Raftelis Financial Consultants, Inc.;
15. Scott Madden, Inc.;
16. Timmons Group;
17. Willdan Group, Inc.;
18. The Wooten Company; and
19. WW Associates.

Exhibit 2 – Raftelis Proposal

APPOMATTOX

RIVER WATER AUTHORITY

**WATER SYSTEM GOVERNANCE & VALUATION ANALYSIS
AND RELATED CONSULTING SERVICES**

PROPOSAL / JUNE 23, 2017

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June 23, 2017

Mr. Ted Cole and Mr. Jimmy Sanderson
Davenport & Company, LLC

Subject: Proposal for Water System Governance & Valuation Analysis and Related Consulting Services

Dear Mr. Cole and Mr. Sanderson:

Raftelis Financial Consultants, Inc. (Raftelis) is pleased to submit this proposal to Davenport & Company, LLC (Davenport) for providing Water System Governance & Valuation Analysis and Related Consulting Services. These services will help the Appomattox River Water Authority (Authority) evaluate potential changes or enhancements to its governance and ownership structure, and understand the value of its water system.

With 70 consultants, Raftelis has the largest and most experienced public water and wastewater utility financial and management consulting practice in the country. Our staff have provided financial planning, valuation, rate-setting, and governance support assistance to numerous water utilities across the country, including many throughout Virginia and the Mid-Atlantic region, such as the City of Manassas, Loudon County, the City of Suffolk, the City of Virginia Beach, and DC Water. Our depth of resources will provide the Authority with a Project Team knowledgeable of industry best practices that can identify and evaluate the best ownership and governance alternatives for the Authority.

Raftelis has assembled a Project Team with extensive experience in utility valuation and governance, and a reputation for high quality service. John Mastracchio, PE, CFA will serve as the Project Manager and is the person authorized to bind the firm. John has completed numerous water utility valuation and governance assignments, including those for utilities throughout the eastern U.S., private investors such as Macquarie Securities, as well as public utility commissions. John brings broad valuation and governance experience that will allow for the evaluation of ownership and governance alternatives from multiple perspectives. John will be supported by Seth Garrison and Doug Bean, both have experience as public-sector officials and leaders in the industry on governance, inter-governmental cooperation, and facilitation. Seth and Doug will help to identify the most viable governance and ownership alternatives and assist in facilitating a process for the Authority and its stakeholders to reach consensus on the best path forward.

We are confident that Davenport and the Authority will be well-served with the resources that we can offer. We welcome to opportunity to be of assistance on this engagement, and are excited about the opportunity to work with Davenport and the Authority. If you have any questions about this proposal, please do not hesitate to contact me at 518.391.8944 or jmastracchio@raftelis.com.

Very truly yours,

RAFTELIS FINANCIAL CONSULTANTS, INC.

A handwritten signature in blue ink that reads 'John M. Mastracchio'.

John M. Mastracchio, PE, CFA

Vice President

ENGAGEMENT APPROACH

PROJECT UNDERSTANDING

The Appomattox River Water Authority (ARWA or the Authority) was formed to provide drinking water to Chesterfield, Dinwiddie, and Prince George Counties, and the cities of Colonial Heights and Petersburg. The Authority owns the Brasfield Dam that impounds a portion of the Appomattox River forming the Chesdin Reservoir, two raw water pumping stations, a water filtration treatment facility, and two finished water pumping stations. It is governed by a board of directors consisting of county administrators, city managers, and public works directors of the cities and counties that it serves. The Authority's member municipalities have varying capacity needs and financial conditions. They have experienced different levels of population growth. Because of the varying conditions, the Authority desires to evaluate governance and ownership alternatives that may help it better provide services to

its member municipalities. A major component of the alternatives analysis is a valuation of system assets. The Authority has already completed a preliminary review of governance alternatives, so the valuation of system assets will be important to help clarify alternatives.

PROJECT APPROACH

Raftelis has prepared a scope of work that reviews governance and ownership alternatives, but focuses significant effort on a preliminary valuation of the system. We have phased the work such that we will develop an estimated range of values that can be used to inform the Authority's considerations of ownership and governance alternatives. Depending on the results of the initial phase, future phases may include a more detailed valuation of assets or a more focused review and assessment of certain governance and ownership alternatives. Our proposed scope of work has the flexibility to provide the Authority with support

as the focus evolves based on the results of the initial phase.

PHASE 1 – PRELIMINARY VALUATION ASSESSMENT AND REVIEW OF GOVERNANCE AND OWNERSHIP ALTERNATIVES

Under Phase 1 of our proposed scope of work, Raftelis will work with Davenport & Company, LLC. ("Davenport") to identify and understand the challenges associated with the Authority's current governance and ownership structure, identify and assess the potential alternatives to the governance and ownership structure, and complete a preliminary valuation of the water system assets. These activities will inform the Authority and its stakeholders about the potential financial impacts related to changing ownership structure.

TASK 1 – PROJECT INITIATION AND INFORMATION GATHERING

A productive kick-off meeting is

the most effective way to begin a project of this nature. We will work with Davenport to schedule this meeting, so we can collaborate with the Authority to initiate the project. The kick-off will provide the following:

- > A forum to finalize the work plan and schedule
- > An opportunity for Raftelis staff to meet the Authority and municipality representatives
- > A vehicle to confirm the goals of the project and understand the challenges of the Authority's existing governance and ownership structure
- > A way to gather information on prior discussions, efforts, and preliminary conclusions that have been made around governance structures, and
- > A way to review the data and information needs for the project

Accomplishing these objectives will help ensure that the project progresses as smoothly and successfully as possible.

Prior to the project kick-off meeting, we will provide Davenport and the Authority with a list of information needed to complete the various analyses associated with the project. We will also hold a teleconference with Davenport to plan for the project kick-off meeting and to better understand the financial and political environments.

Meetings: *Project Kick-off Meeting*
Deliverables: *Project Kick-off Meeting Summary*

TASK 2 – PRELIMINARY VALUATION ASSESSMENT

One of the primary objectives of the project is to establish the value of the Authority's system assets so that the potential financial impacts of changing its ownership and/or governance structure can be assessed. Under this task, we will prepare a summary valuation assessment in general accordance with the Uniform Standards of Professional Appraisal Practice ("USPAP") guidelines and considering the unique valuation aspects of publicly-owned water utilities. This preliminary valuation will take the form of a desktop assessment. It will provide a range of values using common industry approaches to valuing utility assets. The estimated value of the system will reflect three approaches to asset valuation:

- > Cost Approach
- > Income Approach
- > Market Approach

While we will consider these three recognized approaches, we will primarily rely on the Cost Approach to estimate value. The logic behind the Cost Approach is that a prudent buyer will not pay more for the property than the cost of acquiring a substitute property of equal utility. Water utilities are natural monopolies and require special consideration in the valuation process. While we will consider the Market Approach by reviewing applicable water system transactions, and using sales comparisons to estimate the potential value of the Authority's system, there

is not an active market for the buying and selling of water utility systems. That makes it difficult to find true and recent comparable sales transactions. Furthermore, under the Income Approach the value of a government owned and regulated water utilities are purposefully impaired because of the regulatory and rate setting processes. This framework constrains the earnings power of an otherwise unregulated monopoly to protect customers. While the income and market approaches will be considered, we will primarily rely on the Cost Approach to prepare a preliminary estimate of the value of the system.

Under the Cost Approach, we will estimate the original cost of assets less depreciation ("OCLD") and the replacement cost less depreciation ("RCNLD") values. We will review annual system reports, operational data, and other technical reports regarding the condition of the water system to discount the original and replacement costs to account for depreciation. We will use common industry values for asset useful lives and adjust these values to account for the condition of the assets. Typically, the transaction value of water systems fall between the OCLD and RCNLD value estimates. Therefore, we will use these values as the range of potential values of the system. However, we will adjust these values based on other considerations, such as the amount of grant and developer contributions used to fund the infrastructure, the used and use-

fulness of the components of the water system, and the amount of equity and liability associated with the water system, among other factors.

We assume that the Authority has adequate fixed asset records with asset descriptions, original cost data, dates placed in service, equipment/material type and quantities, and historical maintenance and repair records to perform the assessment. Based on this information, we will utilize the trending method for estimating the replacement cost of the assets, rather than the quantity-unit cost method.

Meetings: Held via teleconference as necessary to gather information to support the valuation effort

Deliverables: Summary Level Valuation Report

TASK 3 – PRELIMINARY OWNERSHIP AND GOVERNANCE ALTERNATIVES EVALUATION

Following the completion of the preliminary valuation assessment, Raftelis will identify and review potential governance and ownership alternatives that address the Authority's objectives and challenges. We will compile these alternatives into a summary table with each alternative identified, along with their potential advantages, disadvantages, merits, and limitations. We will then facilitate a Phase 1 Evaluation Results Meeting with Davenport and the Authority to review and discuss the results of the valuation, and to review

and discuss potential ownership alternatives considering the value estimate we prepared. Prior to the meeting with the Authority, we will schedule a teleconference with Davenport to review the results of the valuation, preliminary governance and ownership alternatives assessment, and prepare for the meeting with the Authority.

Ownership alternatives that may be considered, include the transfer of ownership of a portion or all the Authority's water system assets, modification of the Water Service Agreement to include the sale of capacity rights, and other alternatives to be identified by the working group. Governance alternatives that may be considered include alterations to the composition of the Authority's Board, modification of the weighting of the decision-making power of each of the municipalities that comprise the board, service agreement amendments, and other alternatives to be identified by the working group.

After the Phase 1 Evaluations Results Meeting, the working group will identify a short list of alternatives for further consideration that meet the Authority's objectives. These alternatives will be reviewed and evaluated in greater detail under Phase 2 of the work.

Meetings: Phase 1 Evaluation Results Meeting

Deliverables: Summary Preliminary Governance and Ownership

Evaluation. Phase 1 Results meeting summary.

PHASE 2 – REFINED ASSESSMENTS OF VALUE, GOVERNANCE, AND OWNERSHIP ALTERNATIVES

Under Phase 2 of the proposed scope of work, and depending upon the results of Phase 1, Raftelis will complete a more detailed assessment of the value of the water system and refined assessments of the governance and ownership alternatives. The tasks presented below will be completed depending upon the results of Phase 1 and the direction of most interest to the Authority. As such, some of the tasks presented below may or may not be completed as directed by the working group.

TASK 4 – REFINED VALUATION ASSESSMENT

Raftelis will complete a refined valuation assessment, if requested by the Authority. The refined valuation assessment will build upon the preliminary estimate of value and refine the estimates and assumptions included. As part of this assessment, we will complete a visual inspection of the assets to refine the remaining useful life used/ useful estimates included in the preliminary valuation. We will also gather recent construction cost estimates for several components of the Authority's water system and prepare cost curves to validate or refine the replacement cost estimates that were prepared using the trend-



ing method. We will refine and narrow the valuation range presented in Phase 1 by considering other potential negotiated terms of the ownership alternatives that are contemplated, such as recovery of recapitalized asset value, the pricing structure and limitations on rate adjustments under a new ownership scheme, debt retirement or transfer, and compliance with trust indenture requirements, among others.

The revised valuation assessment will be documented in an updated summary level valuation assessment report.

TASK 5 – REFINED GOVERNANCE ASSESSMENT

Raftelis will complete a refined assessment related to each of the

preferred ownership alternatives that was identified under Phase 1 for further consideration. This assessment will consist of preparing details related to the financial impacts to the Authority and/or each of the municipalities under the preferred alternative. For example, if Water Service Agreement amendments are proposed to establish and define dedicated shares of capacity of the water system among the municipalities, then this assessment will likely consist of defining the allocation of capacity, recommending how the cost of capacity will be shared or reallocated, and drafting the service agreement language modifications that would support this alternative. Furthermore, if transfer of ownership of the system is a preferred alternative

under consideration, then the refined ownership assessment may consist of preparation of financial models and future rate structures for the municipalities so that the future financial impacts associated with the ownership change are projected and the Authority and its members can better understand the potential financial ramifications associated with the alternatives.

Raftelis will identify recommended process steps and a timeline to execute the ownership transfer. We will meet with the working group to present and discuss the refined ownership assessment.

Following this detailed assessment of alternatives, we will

facilitate a meeting with the Authority and Davenport to review and discuss the results of the assessment. We will also prepare a brief report or memorandum that documents the results of the refined ownership assessment and next steps under each alternative considered. We will provide the working group with financial models, and draft agreement language, if applicable.

Meetings: *Governance Assessment Meeting*

Deliverables: *Refined Governance Assessment Report*

TASK 6 – REFINED OWNERSHIP ASSESSMENT

Raftelis will complete a refined assessment related to each of the ownership alternatives that was identified under Phase 1 for further consideration. This assessment will consist of preparing details related to the financial impacts to the Authority and/or each of the municipalities under each alternative. For example, if Water Service Agreement amendments are proposed to be made to establish and define dedicated shares of capacity of the water system among the municipalities, then this assessment will likely consist of drafting the allocation of capacity, recommending how the cost of capacity will be shared or reallocated, and drafting the specific service agreement language modifications that would support this alternative. Furthermore, if transfer of ownership of the system is an alternative under consideration, then the refined

ownership assessment may consist of preparation of financial models and future rate structures for the municipalities so that the future financial impacts associated with the ownership change are projected and the Authority and its members can better understand the potential financial ramifications associated with the alternatives. Under this task, we will also identify the recommended process steps and timeline that will need to be followed in order to execute the ownership transfer. We will meet with the working group to present and discuss the refined ownership assessment.

Following this detailed assessment of alternatives, we will facilitate a meeting with the Authority and Davenport to review and discuss the results of the assessment. We will also prepare a brief report or memorandum that documents the results of the refined ownership assessment and next steps under each alternative considered. We will also provide the working group with financial models, and draft agreement language, if applicable.

Meetings: *Ownership Assessment Meeting (combined with the Governance Assessment Meeting if both Tasks 5 and 6 are executed)*

Deliverables: *Refined Ownership Assessment Report, financial models, and draft agreement language.*

TASK 7 – GOVERNANCE AND STRUCTURE WORKSHOP (OPTIONAL)

Raftelis has completed governance and organizational structure projects for numerous utilities. These efforts have demonstrated the value of engaging decision makers early and often to understand their positions, expectations and parameters. We've found that one of the best way to do this is through facilitated workshops held prior to embarking on the alternatives analysis and then again after we produce the assessment results. Raftelis is fortunate to have a facilitator who is a former utility and city manager that is highly experienced in the process of transitioning municipal and utility governance structures. He's walked in your shoes as a utility leader and understands the politics and sensitivity associated with governance.

Raftelis proposes adding two workshops to the scope of work. These two, two-hour workshops with the Authority's Board would provide tremendous value. They would help guide the assessment work and allow the Authority to move to the next phase of work with a clearer and more focused perspective. They are a way to find common ground expeditiously. Finally, they would provide a forum to discuss alternatives with the assistance of an expert that has helped several agencies through governance and structure changes.

WHO IS

RAFTELIS

RAFTELIS HAS THE LARGEST AND MOST EXPERIENCED PRACTICE IN THE NATION THAT IS FOCUSED ON FINANCIAL AND MANAGEMENT CONSULTING FOR THE WATER, WASTEWATER, AND STORMWATER UTILITY INDUSTRY.

In 1993, Raftelis Financial Consultants, Inc. (Raftelis) was founded to provide services that help utilities local governments function as sustainable organizations while providing the public with clean water and quality services at an affordable price. With this goal in mind, Raftelis has grown to have the largest and most experienced water and wastewater utility financial and management consulting practice in the nation. Raftelis has experience providing these services to hundreds of jurisdictions across the country and abroad, allowing us to provide our clients with innovative and insightful recommendations that are founded on industry best practices. Throughout our history, we have maintained a strict focus on the financial and management aspects of utilities, building a staff with knowledge and skills that are extremely specialized to the services that we provide, and thus allowing us to provide our clients with independent and objective advice.

Visit www.raftelis.com to learn more about Raftelis' story.

WHAT MAKES RAFTELIS **UNIQUE?**



DEPTH OF RESOURCES

With nearly 70 consultants, Raftelis is the largest and most experienced firm in the nation that is solely focused on financial and management consulting for the water, wastewater, and stormwater utility industry.

BENEFIT TO THE DEPARTMENT

Our depth of resources will allow us to sufficiently staff this project with the qualified personnel necessary to efficiently and expeditiously meet the Department's objectives.



FOCUS

Raftelis' services are solely focused on providing financial, rate, and management consulting services to water-industry utilities.

BENEFIT TO THE DEPARTMENT

This focus allows Raftelis professionals to develop and maintain knowledge and skills that are extremely specialized to the services that we provide, and will allow us to provide the Department with independent and objective advice.



UNPARALLELED EXPERIENCE

Raftelis staff have assisted many utilities throughout the U.S. with financial, valuation, and governance consulting services.

BENEFIT TO THE DEPARTMENT

Our extensive experience will allow us to provide innovative and insightful recommendations to the Department, and will provide validation for our proposed methodology ensuring that industry best practices are incorporated.



MSRB REGISTERED
**MUNICIPAL
ADVISOR**

RFC is registered with the U.S. Securities Exchange Commission (SEC) and the Municipal Securities Rulemaking Board (MSRB) as a Municipal Advisor. Registration as a Municipal Advisor is a requirement under the Dodd-Frank Wall Street Reform and Consumer Protection Act. All firms that provide financial forecasts that include assumptions about the size, timing, and terms for possible future debt issues, as well as debt issuance support services for specific proposed bond issues, including bond feasibility studies and coverage forecasts, must be registered with the SEC and MSRB to legally provide financial opinions and advice. RFC’s registration as a Municipal Advisor means our clients can be confident that RFC is fully qualified and capable of providing financial advice related to all aspects of utility financial planning in compliance with the applicable regulations of the SEC and the MSRB.



CONSENSUS BUILDING

Raftelis has assisted numerous agencies in working collaboratively with stakeholders and getting proposed solutions successfully adopted by elected officials.

BENEFIT TO THE DEPARTMENT

Our experience has allowed us to develop an approach that effectively collaborates and communicates with stakeholders and elected officials about the financial consequences and rationale behind recommended solutions. This includes developing messages regarding the changes in the proposed governance structure and conveying that message in an easy-to-understand manner and providing forums and avenues for stakeholder feedback.



MODELING EXPERTISE

Raftelis has developed some of the most sophisticated yet user-friendly valuation, financial, and rate models available in the industry.

BENEFIT TO THE DEPARTMENT

Our models are tools that allow us to examine different policy options, ownership structures, and cost allocations and their financial/customer impacts in real time. Our models are non-proprietary and are developed with the expectation that they will be used by the client as financial planning tools long after the project is complete.



INDUSTRY LEADERSHIP

Our senior staff is involved in shaping industry standards by chairing various committees within the American Water Works Association (AWWA) and Water Environment Federation (WEF). Raftelis’ staff members have also contributed to many industry standard books regarding utility rate setting.

BENEFIT TO THE DEPARTMENT

Being so actively involved in the industry will allow us to keep the Department informed of emerging trends and issues, and to be confident that our recommendations are insightful and founded on sound industry principles.



LEADING THE INDUSTRY

Raftelis staff shape industry standards for water and wastewater utility finance and rate setting through our active leadership in AWWA, WEF, and EPA. Raftelis' staff includes:

AWWA

- Chair and three members of Rates and Charges Committee
- Trustee of Management and Leadership Division
- Chair of Management and Leadership Division
- Member of Strategic Management Practices Committee
- Vice Chair and member of Finance, Accounting, and Management Controls Committee
- Division Liaison to Workforce Strategies Committee
- Trustee of Technical and Education Council

WEF

- Three members of Utility Management Committee
- Subcommittee Chair of Finance and Administration
- Member of Technical Practices Committee
- Two members of WEFTEC Conference Planning Committee
- Member of Utility Management Conference Planning Committee

EPA

- Member of Environmental Financial Advisory Board



WE WROTE THE BOOK

Raftelis staff have co-authored many of the industry's leading guidebooks regarding water and wastewater financial issues and rate setting, including:

- *AWWA's Manual M1, Principles of Water Rates, Fees and Charges*
- *AWWA's Water Rates, Fees, and the Legal Environment, 2nd Edition*
- *AWWA's Manual M29, Water Utility Capital Financing*
- *AWWA's Financial Management for Water Utilities: Principles of Finance, Accounting, and Management Controls*
- *AWWA's Manual M5, Water Utility Management, 2nd Edition*
- *WEF's Manual of Practice No. 27 - Financing and Charges for Wastewater Systems*
- *WEF's The Effective Water Professional: Leadership, Communication, Management, Finance, and Governance*
- *Water and Wastewater Finance and Pricing: The Changing Landscape*

Raftelis also conducts and publishes the national *Water and Wastewater Rate Survey* in conjunction with AWWA. This survey is the most comprehensive collection of water and wastewater utility financial and rate data available in the industry.

VALUATION

SERVICES OVERVIEW

Raftelis has provided a wide range of valuation services to meet the needs of all types of buyers and sellers in the water and wastewater marketplace. Raftelis' extensive experience and leadership in the water and wastewater utility industry gives us a key advantage over other specialists and appraisers. Furthermore, Raftelis' objectivity and consistency in approach has provided confidence as to the reliability and objective nature of its results.

Raftelis staff hold a unique set of experience, skills, and education vital to utility valuation. Currently, Raftelis personnel hold the designations of Professional Engineer (PE) in several states; Certified Public Accountants (CPA); and Chartered Financial Analyst (CFA). The CFA is a professional designation that signifies professional standards in finance, valuation, and investment management.

Raftelis has assisted public entities with valuation issues for communities throughout the United States, and has performed more than 40 utility valuation analyses over the past 15 years. The majority of these engagements included an assessment of the value of the subject asset(s), valuation for impact fee development, and a financial feasibility analysis to estimate customer rate impacts and the long-term economic impact associated with acquisition or divestiture of utility assets.

Raftelis has provided a variety of services in the water and wastewater industry including:

FAIR MARKET VALUE APPRAISALS

Raftelis utilizes the income, market, and/or asset approaches to value utility assets based on an arms length exchange between willing buyers and sellers in the marketplace. This service has involved more detailed, formal appraisals or high-level, preliminary valuation analyses. The subject of the appraisals has included physical infrastructure assets, appraisals of utility business as a going concern, or valuation of "intangible" utility assets, such as water rights or capacity rights in a system.

INVESTMENT VALUE (FEASIBILITY) ANALYSIS

Raftelis has determined the "value" of a set of utility assets to specific buyers or sellers. These analyses have typically included the feasibility of buying a utility at a range of purchase prices. "Value" in this sense is typically defined by the client and can include the consideration of potential loss/gain in revenues, ability to pay for a system, specific rate impacts on customers, etc.



ACQUISITION/REGIONALIZATION CONSULTING

Raftelis has provided assistance to utilities wishing to consolidate their operations through acquisition or regionalization. This assistance has included: consultation regarding potential political, public relation, and resource impacts; assessment of acquisition costs; assistance with negotiations; development and evaluation of various financing and repayment options; due diligence review of financials; operations procurement; and rate setting.

LITIGATION SUPPORT

Raftelis has experience in working with legal counsel to provide litigation services in support of its appraisal determination, appraisal review, and has provided expert witness testimony involving its appraisal work or other valuation matters.

APPRAISAL REVIEW

Raftelis has reviewed and critiqued valuation analyses and/or appraisals performed by other appraisers. This type of service has been particularly important when two parties require an independent, third-party to review the appraised value of a utility.

VALUATION METHODOLOGY

There are three approaches for analyzing and estimating Fair Market Value. These are referred to as the Income Approach, Market Approach, and Cost Approach.

Income Approach values an asset based on the present value of its earnings in the future.

Market Approach assesses transactions in the market place in order to value an asset.

Cost Approach considers the cost to replace the asset to be valued.

All three of these approaches must be considered to perform a Fair Market Value Appraisal. The appraiser then weights each approach to assess an overall value, or uses the three approaches to establish a range of value.

Raftelis also utilizes the Investment Value methodologies to both the buyer and seller. These methodologies are specifically developed during the course of the project as they are specifically tied to the perspectives and specific needs of the parties involved. These methodologies can include, but are not limited to, net present value cash flow analyses comparing various ownership scenarios, or consideration of various rates of return on investment in utility assets.

GOVERNANCE & ORGANIZATIONAL OPTIMIZATION SERVICES OVERVIEW

Now more than ever, utilities are benefiting from thoughtful examination and assessment of their organizations to drive enhanced performance. This includes examining the optimal governance and ownership structure for the utility. Raftelis provides a variety of organizational and governance services to address these issues.

ORGANIZATIONAL OPTIMIZATION

Successful 21st century public utility organizations must embrace the need to continuously enhance organizational effectiveness and efficiency. RFC's clients are utilities, both newly implemented and decades (or centuries) old. Each faces pressures, from resource constraints to aging leadership, that drive organizational change. RFC excels in the diverse skill sets needed to assist clients in envisioning, implementing, and managing organizational change.

Each client is different, but typically our utility optimization approach follows these four steps to guide utilities to enhanced effectiveness and efficiency.

ENGAGE the organization to understand the organizational structure, culture, and employee and stakeholder perceptions of the functional business area being examined, and any initiatives currently in progress.

ASSESS current conditions, practices, procedures, roles and responsibilities, coordination and collaboration, policies, technology, and organizational approaches used to manage the functional business area under review.

COMPARE the current approach and performance of the functional area with those of others to identify differences in approach and performance for consideration as potential enhancement/optimization opportunities.

ENHANCE current approaches and resulting performance (optimization) by developing implementation steps to elevate functional area efficiency and/or effectiveness.

RFC also provides business process analysis and improvement services to address the evaluation, analysis, optimization, and development of key



*Doug Bean
facilitating a
workshop with
City of Baltimore
staff as part of
our organizational
optimization work.*

business processes that drive each organization's effectiveness. Development and delivery of business process and workflow models are used to support decision making and drive enhanced efficiency in utility organizations. A typical process would include: working with management and key stakeholders to assess goals and drivers for analysis and improvement; development of a framework for information gathering and assessment; detailed interviews with staff performing current processes; independent assessment of data sources, systems, and resource levels and needs for current and envisioned processes; detailed documentation, analysis, and solution generation; working with utility staff to envision and codify changes to processes and new processes; and producing information management solutions to support business effectiveness.

RFC's strengths in organizational analysis and information management are brought together to help utility organizations improve services and boost efficiency.

GOVERNANCE

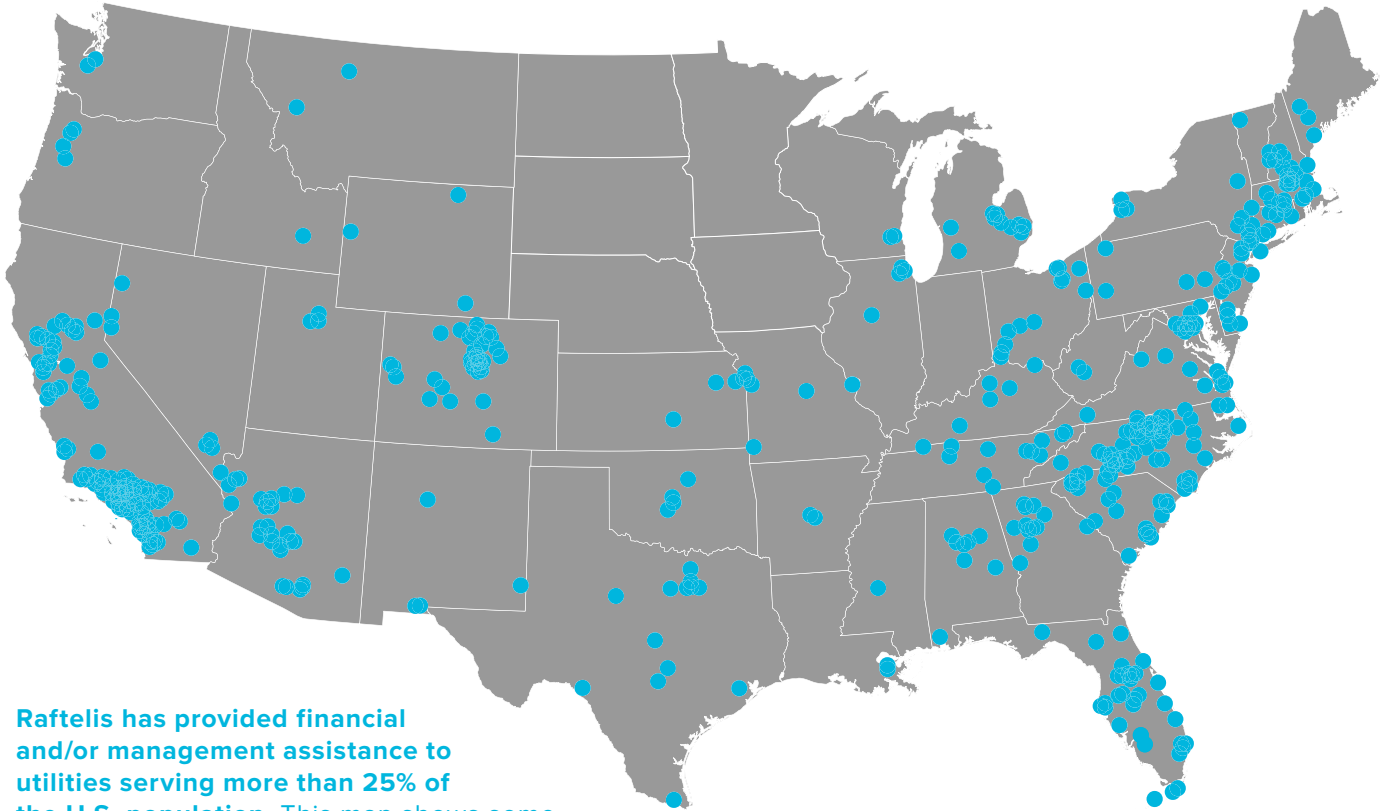
It's a new world. Stakeholders want high performance, responsive public services. And, they're asking organizations to provide them without additional resources. Can you get by with the same

old ways of doing business that predecessors used? Doubtful. Raftelis can help you adapt your organization's governance and structures to solve today's complex requirements.

There are many proven models for providing public services from traditional municipal structures to public-private partnerships. There is an equally diverse number of governance and management approaches. Sorting through the options and then transitioning to new structures is complex. Things can get politically and emotionally charged.

Raftelis has governance and organizational development experts that have walked in your shoes as elected and appointed officials, public organization directors and workers in government units. We can help you transition to a new, more effective organization.

You need customers, employees and other stakeholders on board as you adopt new approaches and structures. They want to know what's in it for them. How you collaborate and communicate with them is critical. Raftelis can bring an array of effective approaches to engage these groups. We can help build communication pathways and form new relationships that will improve your organization.



Raftelis has provided financial and/or management assistance to utilities serving more than 25% of the U.S. population. This map shows some of the water, wastewater, and/or stormwater utility clients where Raftelis staff have provided financial/management consulting.

RELEVANT EXPERIENCE

Raftelis has focused on financial and management consulting for water, wastewater, and stormwater utilities since the firm's founding in 1993, and our staff consists of some of the most experienced consultants in the industry. Raftelis has provided financial, valuation, rate, management, governance, and operational assistance to hundreds of water, wastewater, and stormwater utilities across the U.S. In the past year alone, Raftelis worked on more than 400 financial, rate, management, and operational consulting projects for over 300 water, wastewater, and/or stormwater utilities in 36 states, the District of Columbia, Canada, and Puerto Rico.

NATIONAL EXPERIENCE

This matrix shows a brief sample of some of the utilities throughout the U.S. and Canada that Raftelis staff have assisted and the services performed for these utilities.

		FINANCIAL AND RATE CONSULTING										MANAGEMENT CONSULTING									
STATE	CLIENT	AFFORDABILITY ANALYSIS AND PROGRAM DEVELOPMENT	DEBT ISSUANCE SUPPORT	DISPUTE RESOLUTION	FINANCIAL AND CAPITAL IMPROVEMENTS PLANNING	IMPACT FEES	RATE CASE SUPPORT	RATE STUDY	RISK ANALYSIS	STORMWATER UTILITY DEVELOPMENT	CUSTOMER RELATIONSHIP MANAGEMENT	CUSTOM SOFTWARE AND TOOL DEVELOPMENT	DATA SERVICES	GOVERNANCE / ORGANIZATIONAL OPTIMIZATION	PERFORMANCE MANAGEMENT AND BENCHMARKING	PROJECT/PROGRAM PROCUREMENT ASSISTANCE	PUBLIC/STAKEHOLDER EDUCATION, OUTREACH, AND FACILITATION	STORMWATER PROGRAM DEVELOPMENT SUPPORT	STRATEGIC BUSINESS PLANNING	WATER/WASTEWATER UTILITY VALUATION	
AL	Birmingham Water Works Board	●	●	●	●	●		●	●			●	●	●		●		●	●	●	
AL	Mobile Area Water & Sewer System				●			●					●						●	●	
AR	Central Arkansas Water				●			●					●	●					●	●	
AR	Little Rock Wastewater Utility				●			●					●	●		●				●	
AZ	Phoenix, County of		●		●								●	●	●					●	
AZ	Pima County			●	●	●		●	●				●		●					●	
AZ	Tucson Water				●			●	●				●				●			●	
CA	Anaheim, County of				●			●					●							●	
CA	Beverly Hills, County of				●			●	●				●	●						●	
CA	MWD of Southern California			●	●			●	●				●	●						●	
CA	San Diego, County of				●	●		●	●				●							●	
CA	San Francisco PUC				●			●					●						●	●	
CO	Denver Water							●				●	●				●			●	
CO	Denver Wastewater, County of		●					●					●	●		●				●	
DC	DC Water				●	●		●	●			●	●	●					●	●	
DE	Wilmington, County of												●		●				●	●	
FL	Clearwater, County of												●	●						●	
FL	Pompano Beach, County of				●			●					●							●	
FL	Port St. Lucie, County of				●	●		●					●							●	
FL	St. Johns County		●		●	●		●	●				●							●	
GA	Columbus Water Works		●		●			●	●				●		●					●	
HI	Honolulu ENV, County and County of				●			●					●							●	
IL	Naperville, County of				●			●					●							●	
KS	Wichita, County of				●			●	●				●							●	
KY	Hardin County Water District #1				●		●	●					●							●	
LA	New Orleans, Sewerage & Water Board of		●		●			●		●		●	●	●	●	●	●	●		●	
MA	Boston Water and Sewer Commission								●			●	●					●		●	
MD	Baltimore, County of	●			●			●	●	●	●	●	●			●	●	●		●	
MD	Oakland County				●								●							●	
MI	Saginaw, County of				●			●					●				●			●	
MI	Saginaw-Midland Municipal Water Supply Corporation				●			●					●			●				●	

STATE	CLIENT	FINANCIAL AND RATE CONSULTING										MANAGEMENT CONSULTING									
		AFFORDABILITY ANALYSIS AND PROGRAM DEVELOPMENT	DEBT ISSUANCE SUPPORT	DISPUTE RESOLUTION	FINANCIAL AND CAPITAL IMPROVEMENTS PLANNING	IMPACT FEES	RATE CASE SUPPORT	RATE STUDY	RISK ANALYSIS	STORMWATER UTILITY DEVELOPMENT	CUSTOMER RELATIONSHIP MANAGEMENT	CUSTOM SOFTWARE AND TOOL DEVELOPMENT	DATA SERVICES	GOVERNANCE / ORGANIZATIONAL OPTIMIZATION	PERFORMANCE MANAGEMENT AND BENCHMARKING	PROJECT/PROGRAM PROCUREMENT ASSISTANCE	PUBLIC/STAKEHOLDER EDUCATION, OUTREACH, AND FACILITATION	STORMWATER PROGRAM DEVELOPMENT SUPPORT	STRATEGIC BUSINESS PLANNING	WATER/WASTEWATER UTILITY VALUATION	
MI	Wyoming, County of				●			●								●					
MO	Metropolitan St. Louis Sewer District		●		●		●	●					●								
MS	Jackson, County of	●			●			●				●				●		●			
NC	Charlotte Water	●			●	●		●	●			●	●	●	●	●	●		●		
NC	Durham, County of		●		●			●											●		
NC	Raleigh, County of		●		●	●		●		●			●				●		●		
NV	Henderson, County of				●			●											●		
NY	New York County Water Board				●			●				●									
OH	Northeast Ohio Regional Sewer District	●			●			●		●		●		●			●				
OR	Portland Water Bureau, County of		●		●				●			●									
PA	Philadelphia Water Department	●	●		●							●	●					●			
RI	Newport, County of		●		●		●	●						●							
RI	Providence Water Supply Board				●		●	●				●	●						●		
SC	Spartanburg Water System		●		●			●	●				●						●		
TN	Nashville and Davidson County MWS		●		●	●		●				●	●			●			●		
TX	Dallas, County of							●				●				●	●		●		
TX	El Paso Water Utilities PSB		●	●	●	●		●		●		●				●	●	●	●		
TX	San Antonio Water System	●			●	●		●	●							●			●		
UT	Salt Lake City, City of				●			●								●			●		
VA	Henrico County				●	●		●											●		
VA	Hopewell, City of		●		●			●											●		
VA	Newport News Waterworks, City of		●		●			●	●			●							●		
VA	Prince William County Service Authority				●	●		●											●		
VA	Richmond DPU, County of	●			●			●				●				●	●		●		
VA	Suffolk, County of		●		●			●	●										●		
VA	Virginia Beach, City of		●		●	●		●											●		
VA	Wight County, Isle of		●		●	●		●											●		
WA	Tacoma, County of							●				●						●			
WI	Milwaukee Water Works				●		●	●											●		
Can	Ottawa, County of				●			●				●							●		

REFERENCES

The following are project descriptions and reference from similar projects, who can attest to the project team's and firm's knowledge, quality of work, timeliness, diligence, flexibility, and ability to meet budget constraints.

EXPERIENCE (2014 - PRESENT)



CITY OF MANASSAS

CLIENT REFERENCE

Tony H. Dawood, P.E.
Director of Utilities
P.O. Box 192
Manassas, VA 20108
P: 703.257.8382
E: tdawood@ci.manassas.va.us

RELEVANT FEATURES

Water system valuation

Raftelis Financial Consultants, Inc. (Raftelis) was engaged by the City of Manassas, Virginia (City) to provide utility and valuation related services. The City was considering the potential purchase of the City of Manassas Park's (Manassas Park) water distribution and wastewater collection system (collectively, the System). Raftelis' scope of services included an initial estimate of the value of the System to facilitate discussions between the City and Manassas Park.

In this study Raftelis utilized the Income Approach to valuing Manassas Park's System, which is based on the premise that an asset is worth the present value of its future earnings. Raftelis worked collaboratively with the City and its engineering consultants to develop a projection of cash flows that were used to estimate the distributable income of the utility in perpetuity, discounted back to the valuation date. The cash flow projections considered the revenues generated by the System; the incremental costs the City will incur to operate, maintain, and capitalize the System; and any potential savings for the City related to the deferral of capital investments as a result of more efficient wastewater capacity utilization.



CITY OF WILMINGTON

CLIENT REFERENCE

Cleon Cauley, Former Chief of Staff (currently with The Cauley Firm)

800 French Street - 6th Floor

Wilmington, DE 19801

P: 302.304.3171

E: cleon.cauley@

thecauleyfirm.com

RELEVANT FEATURES

Governance, finance, management, and operations assessment

The City of Wilmington (City) has water, sewer, and stormwater public utility services which are provided through its water/sewer utility enterprise fund. Over the last several years, the poor financial condition of the utility fund has required inter-governmental support to maintain financial viability. The City's utility organization, like many public utility organizations around the country, is challenged by increased regulatory requirements, aging infrastructure, and reduced revenues.

For the City, providing water services to areas outside the City and wastewater treatment services to large areas of New Castle County, add further complexities in assuring financial sufficiency. As a result, the Mayor and City Council decided to engage a consultant to conduct a comprehensive assessment of the City's Water and Sewer Enterprise Fund to identify opportunities to strengthen the financial sustainability of the City's utilities to enable the water and sewer enterprise fund to regain its ability to be self-supporting.

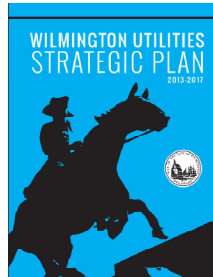
To accomplish this objective, the Raftelis consulting team focused its assessment and evaluation in the following four focus areas: governance, finance, management, and operations. The assessment sought to evaluate how the policies and procedures, organizational structure, management approach, and operational practices of these four focus areas impact the City's ability to achieve the desired long-term financial sustainability of its utilities. The project team utilized the Effective Utility Management (EUM) framework promoted by AWWA, WEF, US EPA, and several other industry organizations, which includes 10 Attributes of effectively managed water sector utilities and the 5 Keys to Management Success.

Raftelis conducted a series of workshops, stakeholder interviews, employee focus group meetings, and a management-level employee survey, as well as reviews of key reports, planning documents, and financial statements. From these efforts the project team assembled an inventory of existing issues associated with current governance, finance, management, and operations practices being utilized by the City which served as the basis for comparisons to industry best practice. Four focus area teams were then created that included members of the consulting team and City staff to compare how the City's current approach to governance, finance, management, and operations either enhances or impedes the City's ability to address specific challenges, obstacles, and changes necessary to strengthen the overall utility financial health.

CITY OF WILMINGTON (CONTINUED)

This engagement resulted in a series of recommendations that will:

- > Enhance communication and cooperation between the branches of City government and between the City of Wilmington and New Castle County
- > Strengthen the financial position of the water and sewer enterprise fund through the establishment of reserves and enhanced financial management
- > Improve the overall management of the utility through implementation of a series of recommendations designed to bring the utility closer to the ideal state as compared to the Keys to Management Success as they are defined by EUM
- > Enhance operations through more effective performance measurement and the implementation of recommendations addressing each of the 10 Attributes of an Effectively Managed Utility



CUSTOMER SERVICE		WORKFORCE	
RECOMMENDATIONS	STATUS	RECOMMENDATIONS	STATUS
<ol style="list-style-type: none"> 1. Increase the number of customer service employees. 2. Increase the number of customer service employees. 3. Increase the number of customer service employees. 	<ol style="list-style-type: none"> 1. Increase the number of customer service employees. 2. Increase the number of customer service employees. 3. Increase the number of customer service employees. 	<ol style="list-style-type: none"> 1. Increase the number of customer service employees. 2. Increase the number of customer service employees. 3. Increase the number of customer service employees. 	<ol style="list-style-type: none"> 1. Increase the number of customer service employees. 2. Increase the number of customer service employees. 3. Increase the number of customer service employees.
STAKEHOLDER UNDERSTANDING & SUPPORT		FINANCIAL SUSTAINABILITY	
RECOMMENDATIONS	STATUS	RECOMMENDATIONS	STATUS
<ol style="list-style-type: none"> 1. Increase the number of customer service employees. 2. Increase the number of customer service employees. 3. Increase the number of customer service employees. 	<ol style="list-style-type: none"> 1. Increase the number of customer service employees. 2. Increase the number of customer service employees. 3. Increase the number of customer service employees. 	<ol style="list-style-type: none"> 1. Increase the number of customer service employees. 2. Increase the number of customer service employees. 3. Increase the number of customer service employees. 	<ol style="list-style-type: none"> 1. Increase the number of customer service employees. 2. Increase the number of customer service employees. 3. Increase the number of customer service employees.

Sample of the Strategic Plan document developed and designed by RFC as part of this engagement.



CITY OF ASHEVILLE

CLIENT REFERENCE

Gary Jackson
City Manager
City of Asheville
PO Box 7148
Asheville, NC 28802
P: 828.259.5604
E: gjackson@
ashevillenc.gov

RELEVANT FEATURES

Governance and asset ownership assessment

In response to the recommendations of the NC General Assembly’s Metropolitan Sewerage/Water System Committee (Committee) to “...consolidate the Public Utility Water System (City of Asheville) with the Metropolitan Sewerage District of Buncombe County (MSD),” the City of Asheville (City) engaged Raftelis to assist the City by conducting a study of governance and cooperative models for providing water and wastewater services. Raftelis explored several avenues, including a survey of best practices and case study analysis across North Carolina. Raftelis also utilized the knowledge of its senior utility consultants and industry professionals. This study focused on regional cooperation models, drivers for consolidation, governance models, and examples of these topics in practice in North Carolina.

Regionalization in North Carolina has primarily been motivated by financial or capacity drivers, but in some cases it has been motivated by regulatory or environmental issues. The variability of regionalization circumstances have led to the adoption of a number of different utility regional models in North Carolina, which vary in their level of complexity and costs associated with implementation. The cooperative models have included interconnections, shared service, wholesale purchase, capacity purchase, joint ownership, and full consolidation. While financial, capacity, and regulatory issues typically drive utility systems to consolidate, it is often the debate around ownership of assets, legal responsibilities, accountability, control, and protecting individual interests that determine if consolidations take place and whether they are ultimately successful. This study sought to determine the preferred governance structure of the proposed regionalized utility.

The City of Asheville Water Resources Department (Department) recently engaged Raftelis to evaluate the City’s water rate structure to determine if modifications should be made to the rate structure to more equitably recover costs from its various customer classes. Raftelis is preparing a ten-year financial forecast for the water utility that projects water rates, expenses and revenues, and debt service coverage ratios in order to be in compliance with outstanding revenue bonds. Raftelis is developing a financial planning model for the Department to use for future planning purposes. Raftelis will train Department staff to utilize the model for future rate updates.

ADDITIONAL EXPERIENCE *(prior to 2014)*

VALUATION

BIRMINGHAM WATER WORKS BOARD (AL)

Raftelis conducted multiple valuation and economic feasibility studies of municipal water and sewer systems for the Birmingham Water Works Board (BWWB). BWWB was able to successfully move out of the sewer business, selling their systems at values within Raftelis' range of estimations. BWWB is also in the process of negotiating a purchase of a municipal water system within the range of values provided by Raftelis. Consistent with appraisal practices, Raftelis utilized the same valuation methodologies for all purchases, regardless of whether BWWB was the buyer or seller. Raftelis continues to provide on-going financial and pricing assistance to BWWB including annual rate updates, bond feasibility studies, and drought surcharge analyses.

WHITE HOUSE UTILITY DISTRICT (TN)

Raftelis estimated the Fair Market Value and assessed the financial feasibility of White House Utility District (WHUD) selling their sewer assets to two neighboring municipalities. As a follow-up, WHUD requested Raftelis to perform a similar analysis for a portion of their water system. It is Raftelis' understanding that negotiations are currently on hold given the current economic environment. Raftelis has also provided WHUD with financial and rate consulting services for the past five years.

CITY OF CONCORD (NC)

Raftelis performed an investment value analyses for the City of Concord (City) and the Town of Midland (Town). The City is considering selling a portion of its system to the Town, whose residents are customers of the City. We utilized our market transaction database to determine the value the current marketplace places on sales of similar service areas. The City and Town both agreed upon Raftelis' price conclusions; however, negotiations are stalled due to current economic conditions. Raftelis continues to provide on-going consulting services to the City

including wholesale analyses, bond feasibility studies, as well as conservation rate structure design.

CITY OF REDLANDS (CA)

Raftelis estimated the value of the water and sewer assets owned by the City of Redlands (City) under the asset approach to valuation. It is Raftelis' understanding that this report will be used by the City to determine an appropriate annual lease payment if it wishes to lease its water and sewer facilities to another party. Raftelis' analysis included a valuation of the City's water rights.

LITTLE ROCK WASTEWATER UTILITY (AR)

In conjunction with MWH Americas, Raftelis performed an asset approach valuation of the Little Rock Wastewater Utility (LRWU) assets as part of an Asset Management program. The final outputs of the project also included a flexible database tool that will continue to track statistics on all asset data, original and replacement cost asset values, condition assessments, depreciation, as well as a projection of the year of replacement and the corresponding future replacement cost for each asset. The data gathered and conclusions of this analysis will be utilized to manage and optimize the existing equity in the LRWU system by facilitating a variety of management decisions, including: rate making, asset management endeavors, long-range financial planning, long-range capital funding needs, and requirements for insurable assets.

SAN DIEGO METROPOLITAN

JOINT POWERS AUTHORITY (CA)

Raftelis provided services to value the capacity rights in the Metro Wastewater JPA system. Raftelis' scope of work included the assessment of the various methodologies used to value capacity and to recommend the most appropriate methodology. The analysis included an assessment of methodologies to address valuations of their capital investments and/or capacity rights. Raftelis also valued the transfer of capacity rights for a pending transaction, as well as recommended a method-



ology to be used for determining value in future capacity transactions.

SAN DIEGO COUNTY WATER AUTHORITY (CA)

Raftelis conducted a valuation analysis of the San Diego County Water Authority's capacity-related assets. Raftelis relied upon engineering data provided by Montgomery Watson Americas, Inc. to calculate the total replacement value of the Authority's asset. The value will be used by the Authority to calculate its System Capacity Charge. The project also entails identification of next steps in the Authority's pursuit of a more comprehensive asset management program.

CITY OF PEORIA (AZ)

Raftelis conducted valuation and economic feasibility studies of three private water systems in the Peoria, Arizona area. The City of Peoria considered purchasing one or more of the three utilities

through friendly negotiations if it was determined to be economically feasible. Raftelis assessed the fair market value of the three systems, as well as the investment value of the systems to the purchasing municipality, and was engaged to update the analysis in subsequent years.

GREENVILLE UTILITIES COMMISSION (NC)

Raftelis assisted the Greenville Utilities Commission (GUC) by providing a valuation and economic feasibility analysis for the purchase of a disputed customer service territory. Raftelis performed an investment value analysis that determined the feasibility of purchasing the disputed customer service area at a range of purchase prices. We utilized our market transaction database to determine the value that the current marketplace places on sales of similar service areas. Raftelis was also engaged to assist the City in considering the purchase of a neighboring utility.

GAC HOLDINGS, INC. (SC)

Raftelis valued a water source located in the Aiken, South Carolina area. The current land owner has up to 42 million gallons per day that he is interested in selling to a local utility. Raftelis performed a formal appraisal of the Fair Market Value of the water on a per thousand gallon basis, as well as long-term rights to the water in the future.

CHARLOTTE-MECKLENBURG UTILITIES (NC)

Raftelis served as Project Manager and lead technical consultant for a valuation analysis of a utility to be purchased by Charlotte-Mecklenburg Utilities (CMU). Raftelis also managed an extensive market analysis of buying and selling patterns in the utility marketplace. Given Raftelis' analysis, CMU was able to negotiate a favorable transaction.

SAN DIEGO COUNTY WATER AUTHORITY (CA) (through assistance to Hawkins, Delafield and Wood)

Raftelis was engaged by special counsel to the San Diego County Water Authority (Authority) to provide valuation services to assist the special counsel in offering legal advice to the Authority. Details of this project are confidential.

CITY OF SAN DIEGO (CA)

Raftelis conducted a valuation analysis of the City of San Diego's ownership of capacity in the All American Canal (AAC). Raftelis' analysis will potentially be used in negotiations with the Government of Mexico and the International Boundary and Water Commission to ease political tensions that have risen due to the relining of the AAC and decreased water supply to border residents.

CITY OF SOUTH SHORE (KY)

Raftelis provided utility appraisal services for the City of South Shore (City). The City was considering the purchase of South Shore Water Works Company. Raftelis determined the fair market value of the physical and intangible assets of this privately-held agency and provided the results in a formal Appraisal Report.

GRAND STRAND WATER AND SEWER AUTHORITY (SC)

Raftelis provided consulting services regarding the purchase of land currently leased to the Grand Strand Water and Sewer Authority (Authority) for the location of water and sewer treatment facilities. The analysis entailed developing a variety of methodologies to consider both the fair market and investment values of the land to the Authority and the current land holder.

WAKE COUNTY (NC)

Based on the results of the study, the County's planners voted to proceed toward consolidation of the County's water and sewer utilities into two separate utilities, an East Wake utility with service provided by the City of Raleigh and a West Wake utility with service provided by Town of Cary.

Since the time of the initial study, Raftelis has assisted a number of the participating utilities with the structuring of merger transactions such that the individual parties to the transactions benefit equally.

GOVERNANCE AND ORGANIZATIONAL OPTIMIZATION

GLOUCESTER COUNTY (VA)

Gloucester County's (County) Public Utilities Department (Department) requested assistance to evaluate and make recommendations to improve the efficiency and fiscal solvency of its water and wastewater utility operations.

RFC used our structured approach to evaluate the overall effectiveness and efficiency of the Gloucester County utility organization. The approach examined the Four Pillars of Governance, Finance, Management, and Operations.

A series of workshops, stakeholder interviews, employee focus group meetings, and an online management level employee survey were conducted. The project team assembled an inventory of existing issues associated with current governance, finance, management, and operations practices being uti-



lized in the County, which served as the basis for more detailed evaluation of the Department.

During the analysis phase of this assessment, RFC examined how the County's current approach to governance, finance, management, and operations either enhances or impedes its ability to achieve the desired outcome of financially sustainable utility services. Where applicable, the analysis compared the existing approaches used by the County to industry best practices. Findings and recommendations were made across the four pillars which address the following issues:

- > Governance - Legal structure, setting and communicating strategic vision and policy development, relationships with staff, and stakeholder understanding and support.
- > Finance - Financial sufficiency, fiscal policy objectives/controls, debt service/management, rate setting & affordability, budget management, CIP planning.
- > Management - Leadership, strategic planning, organizational structure, performance measurement.

- > Operations - Operational best practices & benchmarking, asset management, and information technology.

YORK COUNTY (SC)

York County, South Carolina (County) has experienced significant growth over the last decade and anticipates a continuation of above average levels of growth in future years. The increase in population throughout the County has impacted the ability of water and wastewater service providers (the City of Rock Hill, the City of York, the Town of Fort Mill, the Town of Clover, the City of Tega Cay, and York County) to address their service area's growing needs. Historically, each entity has independently provided these services, either through a contract with a neighboring utility or with the use of its own water and wastewater treatment plants. However, as the population has increased, the demands on each individual system have grown, causing some entities to incur significantly higher costs which are passed on to retail customers in the form of higher water and wastewater rates. In 2001, the municipalities joined with the County to form the York County-

wide Water and Sewer Committee (Committee) to explore the best method for providing water and wastewater services within the County. In an effort to more efficiently meet the growth in demand and provide more rate equity among retail customers, the Committee engaged Raftelis to help determine the most cost-effective solution for providing water and wastewater services in the York County area.

To assist the Committee in determining the most cost-effective solution for providing water and wastewater services, Raftelis conducted an economic feasibility study which was comprised of two phases. Phase I identified the “status quo” costs and existing relationships that would serve as the baseline for all comparisons. Raftelis developed an economic feasibility model which incorporated each entity’s capital improvement plan, operations and maintenance costs, and indirect expenses such as engineering costs, billing and collection costs, etc. These costs were projected over a twenty-year planning period for each entity. Phase I also involved the identification of viable alternatives for providing long-term water and wastewater services within York County. Raftelis relied upon a review of the existing relationships, analysis of the status quo costs, and our extensive experience in conducting economic feasibility studies to identify two regional alternatives for the most cost effective, long-term means of providing water and wastewater services within York County. Next, Raftelis evaluated different scenarios within each alternative based on the ownership and operation of system assets. Phase II projected long-term costs for the alternatives identified in Phase I and utilized the model to compare the alternatives to the status quo costs.

TOWN OF GREENBURGH (NY)

The Town of Greenburgh is responsible for providing water service to more than 40,500 of the 43,000 residents of unincorporated population of the Town of Greenburgh. The Town purchases water from New York City, pumps, conveys, and delivers water on a retail basis to its customers. The town maintains numerous water tanks, pumping stations, and water lines.

The Town of Greenburgh is another community that Woodard & Curran and team members from Raftelis have worked with for many years on a range of projects. John Mastracchio and Phil Sapone from Raftelis completed a water financial plan and rate study for the Town of Greenburgh Consolidated Water District, part of the DPW. The study was completed to assist the Town with ensuring that they generate adequate revenues to pay for system capital improvements, including upgrades to transmission mains, pumping stations, and the rehabilitation of water lines and storage tanks in need of repair. The financial plan and model was prepared to forecast cash flow and revenue requirement needs over a 10-year period. The model included forecasts of customer accounts and water consumption, operations, maintenance, and capital project costs, and capital funding needs over the forecast period, including the cost of purchased water from New York City.

The rate study consisted of an allocation of costs to the Town’s customers, and an evaluation of rate structure alternatives to provide sufficient revenues to the Town and to ensure an equitable and stable revenue source over time to support the needs of the system. At the completion of this work, our team members prepared and provide the Town with financial and rate models, and presented rate recommendations to the Town Board and the Water Advisory Committee. Our team continues to be engaged with the Town as their financial and rate consultant.

Seth Garrison from Raftelis worked on an operational assessment and organizational study for the Town of Greenburgh’s DPW. The study focused improving the efficiency and effectiveness of the DPW, including the Consolidated Water District. The report included a discussion on collaboration and consolidation activities that occur with the villages in the Town of Greenburgh. It provided actionable ideas for cutting costs, succession planning, automations, and improving operations.

SAMPLE VALUATION REPORT

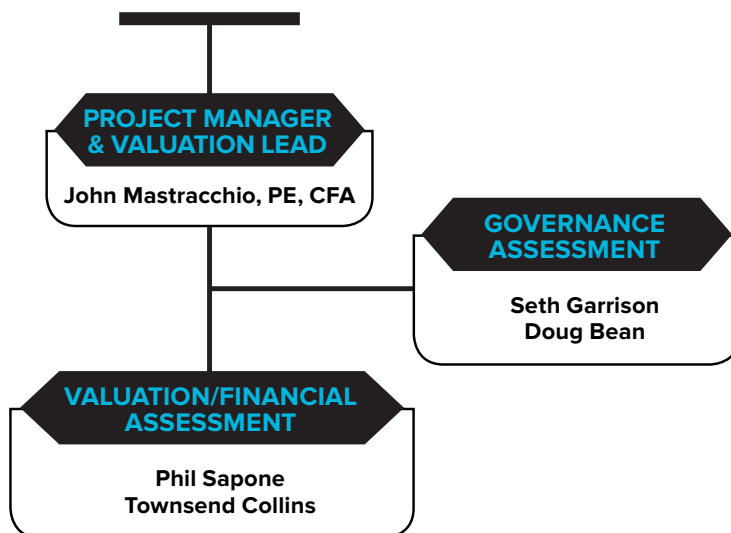
In Appendix A of this proposal, we have included a sample valuation study report, as requested in the RFP.

PROJECT TEAM QUALIFICATIONS

Our Project Team consists of some of the most knowledgeable and skilled consulting professionals in the water, wastewater, and stormwater utility industry.

Raftelis has assembled a Project Team with extensive experience in utility valuation and governance, and a reputation for high quality service. John Mastracchio, PE, CFA will serve as the Project Manager and is the person authorized to bind the firm. John has completed numerous water utility valuation and governance assignments, including those for utilities throughout the eastern U.S., private investors such as Macquarie Securities, as well as public utility commissions. John brings broad valuation and governance experience that will allow for the evaluation of ownership and governance alternatives from multiple perspectives. John will be supported by Seth Garrison and Doug Bean, both having experience as

APPOMATTOX RIVER WATER AUTHORITY



public-sector officials and leaders in the industry regarding governance, inter-governmental cooperation, and facilitation. Seth and Doug will help to identify the most viable governance and ownership alternatives and assist in facilitating a process for the Authority and its stakeholders to reach consensus on the best path forward.

Raftelis places a high priority on being responsive to our clients and, therefore, actively manages each consultant's project schedule to ensure appropriate availability for addressing client needs. All of our proposed Project Team members have sufficient availability to provide high quality services in a timely manner for this project.

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**WATER, WASTEWATER, & STORMWATER UTILITY
FINANCIAL/MANAGEMENT CONSULTANTS,
RAFTELIS HAS THE LARGEST PRACTICE
IN THE NATION.**

*Raftelis can draw upon other staff to provide
support for this project as necessary.*



TECHNICAL SPECIALTIES

- » Financial analysis and modeling
- » Financial planning, cost of service, and rate design
- » Bond feasibility studies
- » Transactional due diligence support
- » Government consolidation / regionalization
- » Public-private partnerships
- » Inter-municipal agreement support
- » Valuation assessments
- » Expert witness and litigation support
- » Benchmarking
- » Capital financing and project planning
- » Business process improvement
- » Asset management / business case evaluations

PROFESSIONAL HISTORY

- » Raftelis Financial Consultants, Inc. - Vice President (2017-present)
- » Arcadis, U.S., Inc. (2003-2017)
- » Arthur Andersen (2001-2002)
- » Parsons Corporation (1994-2000)

EDUCATION

- » Master of Business Administration, Finance – Cornell University (2001)
- » Master of Science, Civil & Environmental Engineering – Clarkson University (1994)
- » Bachelor of Arts – State University of New York, College at Geneseo – (1993)

CERTIFICATION

- » Chartered Financial Analyst
- » Professional Engineer (PA)
- » Lean Six Sigma

PROFESSIONAL MEMBERSHIPS

- » American Water Works Association: Vice Chair of Finance, Accounting, and Management Controls Committee
- » National Council for Public-Private Partnerships
- » Water Environment Federation

JOHN MASTRACCHIO, PE, CFA

PROJECT MANAGER & VALUATION LEAD

Vice President

PROFILE

Mr. Mastracchio is a Vice President with Raftelis with over 22 years of experience as a financial and management consultant serving the utility, governmental, and private sectors. His experience includes utility valuation, regionalization, transactional consulting, pricing associated with inter-municipal agreements, financial planning, and utility rates, and spans several utility sectors including water, wastewater, electric, solid waste, and stormwater, along with consulting for general government, transportation, and ports.

Mr. Mastracchio is a published author and an active member of several industry committees. He is a member of the Rates & Charges and Finance, Accounting & Management Controls committees of the American Water Works Association (AWWA), and is a contributing author of many industry publications on rate-setting, financial planning, and capital financing, including the Principles of Water Rates, Fees, and Charges Manual of Practice M1, Water Rates, Fees, and the Legal Environment, Water Capital Financing Manual of Practice M29, Financial Management for Water Utilities: Principles of Finance, Accounting, and Management Controls published by AWWA and the textbook The Effective Water Professional: Leadership, Communication, Management, Finance, and Governance, published by the Water Environment Federation. Mr. Mastracchio is a professional engineer and has earned the Chartered Financial Analyst (CFA) designation.

RELEVANT PROJECT EXPERIENCE

THE METROPOLITAN DISTRICT (CT)

Water Utility Valuation. Completed valuations of publicly-owned and investor-owned water utilities regulated by the Department of Public Utility Control to assist our client in making utility acquisition decisions. The target utilities provide water service to more than 200,000 people in the northeastern US.

BOROUGH OF HALEDON (NJ)

Water System Valuation. Completed an appraisal of a municipal water system in New Jersey to assist the client in making acquisition decisions. The appraisal was completed to establish a baseline for the utility system and its negotiated sale.

CITY OF MIAMISBURG (OH)

Water System Valuation. Completed a water system valuation assessment for the City to support the financial evaluation of the potential sale of the City's water system to a neighboring municipality.

NEW JERSEY DEPARTMENT OF PUBLIC ADVOCATE (NJ)

Water Utility Valuation. Served as a valuation expert and provided testimony in the matter of the Joint Petition of the City Trenton, New Jersey and New Jersey American Water Company, Inc. for authorization of the purchase and sale of the assets of the outside water utility system of the City of Trenton, New Jersey. Prepared expert testimony and assisted the NJPUC make a decision regarding approval of the acquisition proposal.

MACQUARIE SECURITIES, INC. (NY)

Financial and Technical Support Regarding Water System Acquisition. Task Leader for the financial analysis as part of due diligence investigation for the valuation and acquisition of a Water Company in the eastern U.S. Services included assistance in developing long-term capital improvement plan, review and development of financial modeling assumptions regarding supply and demand, operation and maintenance costs, capital expenditures and general rate setting methodology in accordance with each state's rate setting principles and requirements. Recommendations regarding the acquisition and future capital and operating requirements including projections of revenues and rate of return ROR for each of the five regulated utilities were presented.

UTILITIES INC (IL)

Water System Valuation and Strategic Financial Consulting. Managed the completion of financial assessments, including the projection of performance and business value for more than 90 operating companies of an investor-owned utility. Provided analysis results to the senior leadership team of Utilities, Inc.

CAPITAL REGION WATER (PA)

Asset Valuation, Capital and Financial Planning Sup-

port. Led financial analysis efforts in the planning and execution of the transfer of conveyance assets from the City of Harrisburg to the client, involving asset valuation, revenue and expense projections, and analysis of shared services costs between the City and client. Completed a bond feasibility report for the water system consisting of asset condition assessment and the development and projection of capital improvement needs over a five year forecast period to satisfy trust indenture requirements. Provided financial consulting services to the client, including the development of financial plans and rate projections, consisting of demand forecasts, projections of revenues and expenses, modelling fiscal requirements and targets, identification of rate revenue requirements, allocation of costs to both retail and wholesale customers, and calculation of utility rates.

HILL AIR FORCE BASE (UT)

Public-Private Partnership Lease Arrangement. Senior Analyst for the financial analysis of a proposed Enhanced Use Lease (EUL) at Hill Air Force Base. The analysis included evaluating real estate market conditions and land sales data, completing a life cycle cost analysis of Air Force office space procurement options and developing valuation models for potential site development scenarios. Other activities included developing the financial portion of the Business Case analysis, supporting presentations to leadership, responding to technical questions and developing potential site development scenarios.

LEE COUNTY (FL)

Asset Valuation and Business Case Evaluation. Provided economic and financial support of the Lee County Asset Management program. Facilitated asset valuation and business case evaluation workshops to help develop asset risk prioritization and a capital improvement plan prioritization approach. Developed an interactive financial model to assess the financial implications of funding the capital plan to meet the desired level of service goals.

WESTCHESTER JOINT WATER WORKS (NY)

Governance and Financial Evaluation. Provided financial consulting support to the WJWW including developed projections of rate revenue requirements, completed cost of service studies to ensure costs allocated equitably to each of its customers, and assisted the member municipalities in revising their rate structures. Also assisted the WJWW in evaluating various governance structures, developing annual budgets, and has also assisted the WJWW in revising its rate methodologies associated with its wholesale water customers, changing from a location-specific cost of service approach to an average cost approach. The results of these efforts have improved the fairness and equity of the water rates charged to WJWW's customers.

NASSAU COUNTY (NY)

Water System Consolidation Study. Assisted the Nassau County Executive evaluate the potential benefits and challenges of consolidating, regionalizing or otherwise optimizing water service within the County, and to development of a blueprint for such optimization. The study addressed the manner in which regional optimization could affect the cost of water service to County residents and the potential impacts on water service within the County. Led consulting team in evaluating the financial implications of consolidating 52 water systems in Nassau County.

METROPOLITAN SEWER DISTRICT (NC)

Merger Feasibility Study. Evaluated the cost and financial impacts of merging the City of Asheville water system with the Metropolitan Sewer District. Prepared financial assessments and financial models under various operational and governance alternatives.

RECENT PUBLICATIONS/ PRESENTATIONS

- > Mastracchio, J.M. "New & Emerging Capital Providers for Infrastructure Funding", presented at the 2017 NACWA Conference, Tampa, FL, February 6, 2017.
- > Mastracchio, J.M. "Innovations in Water

Infrastructure Financing: Addressing the Infrastructure Gap", presented at the 2017 Utility Management Conference, Tampa, FL, February 8, 2017.

- > Mastracchio, J., Huestis, T., Petersen, E. 2017. New & Emerging Capital Providers for Infrastructure Funding. Project #4617. Denver, Colo.: Water Research Foundation.
- > Mastracchio, J., A. Santos, R. Giardina, R. Raucher, K. Raucher, M. Wyatt Tiger, J. Hughes, and R. Atwater. 2016. Rate Approval Process Communication Strategy and Toolkit. Project #4455. Denver, Colo.: Water Research Foundation. Mastracchio, J.M. "The Effective Water Professional: Leadership, Communication, Management, Finance, and Governance", Water Environment Federation, 2015.
- > Mastracchio, J.M. "Five Ways to Achieve Long-Term Financial Strength", presented at the 2015 Utility Management Conference, Austin TX, February 18, 2015.
- > Mastracchio, J.M. "Financial Management: Equip Your Utility for Economic Resilience", presented at the 2014 American Water Works Association Conference, Boston, MA, June 9, 2014.
- > Mastracchio, J.M. "Rate Approval Triumphs and Challenges: Keys to Successful Governing Board Communications", presented at the 2014 American Water Works Association Conference, Boston, MA, June 10, 2014.
- > Mastracchio, J.M., et al., "Water Capital Financing, Manual of Practice M29," Led the subcommittee involved in updating and publishing a new edition of the M29 manual.
- > Mastracchio, J.M., et al., "Developing Rates for Small Systems M54," Chapter author involved in updating and publishing a new edition of the M54 manual.
- > Mastracchio, J.M., "Preparing a Utility For Financing," presented at the 2013 Utility Management Conference, Glendale, AZ, March 11, 2013.
- > Mastracchio, J.M., et al., Financial Management for Water Utilities: Principles of Finance, Accounting, and Management Controls, American Water Works Association (AWWA), 2nd Edition, 2012.

- > Mastracchio, J.M., "Financial and Rate Planning, A Strategic Perspective," presented at the New York State County Manager's Association Annual Meeting, Albany NY, February 29, 2012.
- > Corssmit, C.W., Editor, and contributing editors, reviewers, and technical editors: Hildebrand, M., Giardina, R.D., Malesky, C.F., Matthews, P.L., Mastracchio, J.M., "Water Rates, Fees, and the Legal Environment," American Water Works Association (AWWA), 2nd Edition, 2010. ISBN 978-1-58321-796-2.
- > Mastracchio, J.M., Ginley, J.F., "Utility to Utility Collaboration: Working Together to Tackle Today's Issues," presented at the Annual Conference of the American Water Works Association, New York Section, Saratoga Springs NY, April 20-22, 2010.
- > Mastracchio, J.M., "Budgeting and Financial Planning," Wastewater Collection System Management, Manual of Practice No. 7, Chapter 8. Water Environment Federation 2009.
- > Mastracchio, J.M., "The Dollar Stretch: A Rate and Financial Review Warm Up," presented at the Workshop on Strategic Financial Planning: The Utility's Road Map to Financial Health, Annual Conference and Exposition of the American Water Works Association (AWWA), San Diego CA, June 14-18, 2009.
- > Mastracchio, J.M., et al., "Financing Water and Wastewater Utility Capital Program Needs," presented at the Utility Management Conference sponsored jointly by the American Water Works Association and Water Environment Federation (AWWA/WEF), New Orleans LA, February 17-21, 2009.
- > Mastracchio, J.M., "Capital Project Funding: Improving Your Success Rate," presented at the 26th Annual Greater Buffalo Environmental Conference, New York Water Environment Association, Western Chapter, Buffalo NY, March 18, 2008.
- > Mastracchio, J.M., et al., "Water Capital Financing, Manual of Practice M29," workshop presentation at the 126th Annual Conference and Exposition of the American Water Works Association (AWWA), Toronto ON, June 23-28, 2007.
- > Lockridge, R., Mastracchio, J.M., Santos, A., "Maintaining Long Term Financial Health," Talk of the Towns, pp. 25-26, May/June 2007. Association of Towns of the State of New York.
- > Mastracchio, J.M., "Economic and Financial Elements of Water Utility Facilities Master Planning," presented at the Spring Meeting of the American Water Works Association, New York Section, Saratoga Springs NY, April 24-27, 2007.
- > Mastracchio, J.M., "Budget Forecasting in the New Construction Cost Era - It's Not as Simple as the ENR Anymore," presented at the Conference of the United States Society of Dams, Pittsburgh PA, March 7, 2007.
- > Gangemi, A.N, Mastracchio, J.M., "Dynamic Utility Financial Modeling - A Utility Manager's Crystal Ball," presented at the Annual Conference of the New England Water Works Association, Danvers MA, September 17-20, 2006.
- > Mastracchio, J.M., "The Next Challenge in Eliminating Sewer Overflows: Who Pays?," Clearwaters, Vol. 35, p. 26-27, Winter 2005. New York Water Environment Association, Inc.
- > Lockridge, R.L., Mastracchio, J.M., "Dynamic Financial Modeling for Local Governments," Proceedings, 91st Annual Conference of the International City/County Management Association (ICMA), Minneapolis MN, September 25-28, 2005.
- > Mastracchio, J.M., "Interactive Financial Modeling: An Effective Tool for Utility Management and Planning," Proceedings, 68th Annual Conference of the Indiana Water Environment Association, Indianapolis IN, November 15-17, 2004.
- > Mastracchio, J.M., "The Use of Financial Modeling to Support Utility Management and Planning," presented at the 78th Annual Conference of the Ohio Water Environment Association, Columbus OH, June 21-24, 2004.
- > Mastracchio, J.M., "Using Financial Models to Establish and Update Water and Sewer Rates," presented at the Winter Conference of the County Commissioners Association of Ohio, Columbus OH, December 1, 2003.

TECHNICAL SPECIALTIES

- » Utility management
- » Operational efficiency and effectiveness
- » Performance management (measurement, benchmarking, etc.)
- » Organizational Structures and Governance
- » Staffing assessments
- » Capital planning and budgeting
- » Organizational capacity building

PROFESSIONAL HISTORY

- » Raftelis Financial Consultants, Inc.: Senior Manager (2016-present)
- » Portland Water District: Board of Trustees Member - Administration and Finance Committee Chair (2014-present)
- » Scarborough Sanitary District: Board of Trustees Member (2014-2016)
- » Woodard & Curran, Inc.: Vice President – Utility Management Practice Leader (2012-2016)
- » CDM Smith, Inc.: Senior Management Consultant (2004-2012)
- » Bath Water District: General Manger/ Superintendent (1995-2004)
- » State of Maine – Drinking Water Program: Surface Water Treatment Coordinator (1993-1995)

EDUCATION

- » Master of Public Policy and Management – University of Maine (2010)
- » Masters Certificate in Performance Management – University of Maine (2009)
- » Masters Certificate in Non-Profit (Public Sector) Management – University of Maine (2008)
- » Bachelor of Science in Engineering (Minor Economics) – Rensselaer Polytechnic Institute (1993)

PROFESSIONAL REGISTRATIONS AND CERTIFICATIONS

- » Certified Lean Six Sigma Master Black Belt
- » BAMI-I (CTAM) Certification in Infrastructure Asset Management (Indiana University)
- » Class IV Water System Operator (lapsed)
- » Conflict Resolution Program – Harvard Business School

PROFESSIONAL MEMBERSHIPS

- » AWWA – Strategic Management Practices Committee & Benchmarking Committee
- » WEF – Utility Management Committee
- » NEWEA – Utility Management Committee
- » NEWWA
- » MWUA – Past Board of Directors Member

SETH GARRISON

GOVERNANCE ASSESSMENT LEAD

Senior Manager

PROFILE

Mr. Garrison has more than 20 years of senior executive-level experience leading, consulting with, and regulating water and wastewater utilities of all sizes, both public and private. He combines over 12 years of hands-on experience as former General Manager of a regional utility and as a board member of two water and wastewater utilities, with an additional 15 years of consulting experience advising several of the largest and best known utilities in the U.S., the U.S. Agency for International Development (USAID), and several foreign governments on utility management, governance, operations and maintenance practices, and organizational strategy.

Mr. Garrison has a history of seeking challenging assignments where he can apply his extensive utility experience and multi-disciplinary education in management, economics and engineering to complex problems. He has worked internationally, helping the governments of Afghanistan, Jordan, Guam, and Mozambique implement utility management practices at the national level. In addition, he has assisted well-known utility organizations in the U.S. like Boston Water and Sewer Commission, New York City DEP, Denver Water, Philadelphia Water, and PRASA (Puerto Rico) solve complex management and infrastructure strategic challenges.

Mr. Garrison is currently the Chair of the AWWA's Strategic Management Practices Committee, and he is working with a small team to re-write the AWWA M5 Utility Management Manual – the industry guide for utility management practices. Mr. Garrison's specialties include performance improvement (performance indicators, benchmarking, etc.), operations and maintenance practice enhancement, and implementing advanced Asset Management.

RELEVANT PROJECT EXPERIENCE

NORTH TEXAS MUNICIPAL WATER DISTRICT (TX)

NTMWD is one of the largest regional water, wastewater and solid waste utilities in the US. The District serves a rapidly growing population of approximately 2 million people in

14 communities in the North Dallas metro region. With over 650 employees and 15 separate treatment facilities spread over an area the size of Rhode Island, there are multiple organizational challenges. These challenges are aggravated by chronic water resource limitations and a series of recent senior staff retirements. Mr. Garrison and the team from Raftelis performed a detailed assessment of the District's organization, governance, and staffing, as well as key practices. The ongoing effort is benchmarking characteristic against best appropriate practices from world-class utilities and using industry-accepted metrics.

PUERTO RICO AQUEDUCT AND SEWER AUTHORITY (PUERTO RICO)

PRASA has made considerable progress becoming more efficient in the last 10 years; reducing its workforces from over 7,000 to now roughly 5,000 employees, eliminating over a dozen treatment facilities, and increasing productivity by over 10 percent. Despite these positive changes, PRASA still deals with a relatively poor service population, high energy costs, and restrictive Commonwealth rules and regulations. Mr. Garrison and the Raftelis team performed an assessment of PRASA's organization, operations, governance, and finances. The project provided an independent assessment of the organization for perspective buyers of PRASA bonds and commercial debt.

POLK COUNTY UTILITIES DEPARTMENT (FL)

Mr. Garrison served as Project Manager on an organizational and operations assessment of Polk County Utilities Department (PCUD) Water and Wastewater Utilities Division. He worked with JSK Consulting to assess Polk County's Operations & Maintenance Division's organizational structure, governance, maintenance practices, staffing and cost structures to determine where there are areas for efficiency improvement, cost savings and organizational enhancement. Where applicable, Operations & Maintenance Division information was benchmarked against operations and performance data from similar utilities. The assessment recommended implementable ways to save money, improve services

and maximize resources.

ORANGE COUNTY UTILITIES (FL)

Mr. Garrison and a team from ATKINS (formerly PBS&J) performed a comprehensive multi-year assessment for the Water Division, which serves the greater Orlando, Florida metropolitan area. The project established and evaluated key performance indicators (KPIs) to improve the efficiency of the utility. The program resulted in a plan for addressing performance gaps. The WCMOM program received considerable national recognition including full length articles in the January 2010 AWWA Journal and the June 2010 New England Water Works Association Journal.

LOWELL REGIONAL WATER UTILITY (MA)

Mr. Garrison led a team that evaluated operations and maintenance (O&M) practices, planning practices, and staff resource allocations to develop efficiency enhancement recommendations. Using business process mapping techniques and a combination of qualitative and quantitative performance improvement methods, some derived from Lean Six Sigma, the effort identified ways to cut costs through staff and process changes, while increasing productivity and increasing value to customers. The study is predicted to save 5-10% on staffing expenses per year if recommendations are fully implemented; equating to over \$1.25 million of savings over 10 years.

CITY OF CONCORD (NH)

Concord has had a number of staffing challenges in their DPW, including dealing with an aging workforce, staff terminations, and outdated staff skills. Mr. Garrison helped Concord get a handle on resolving these issues by providing a high-level assessment of select business units and operations. The study produced showed how they could realign the existing workforce, provide training, and enhance skills to save money and increase productivity. Concord has implemented several of the recommendations, including realigning staff within the water services area.

CITY OF WATERBURY (CT)

The City of Waterbury maintains a large municipal

workforce to provide an array of public works and utility services. Divided into several business units, these entities have central oversight at the mayoral level but are largely independent in their operations and finance activities. Mr. Garrison provided a detailed assessment of the staffing levels, practices, and organization that included benchmarking against other similar municipal government units. The study provided opportunities for greater collaboration between departments and made recommendations to enhance service delivery. Waterbury has successfully implemented several of the recommendations, including changing employee classifications for new hires resulting in better utilization of labor resources.

CITY OF HAVERHILL (MA)

Seeking to identify opportunities to improve efficiency and reduce operational costs, and confronted with a challenge from a contract operations firm promising millions in cost savings, Haverhill contacted Mr. Garrison and his team to evaluate chemical use, power utilization, residuals handling and disposal, utility staffing, and capital planning. The team compared metrics and the operation, maintenance, and management of the Division against “best-in-class” public water and wastewater utilities and contract-operated facilities. The evaluation identified actions that will save over \$1 million dollars in operating costs per year.

LOUISVILLE WATER COMPANY (KY)

Mr. Garrison was responsible for directing the operations and management, as well as the Asset Management and organizational review tasks of the Facilities Plan project. This included reviewing existing LWC business practices, suggesting changes that would increase organizational efficiency (productivity), and recommending new programs to address strategic plans. Mr. Garrison developed a comprehensive Asset Management strategy to bridge several of LWS’s existing activities including O&M activities, business case justifications, capital planning and annual budget development. The total value of services provided was in excess of \$2 million.

INTERNATIONAL WORK

US EPA TASK 4 CONTRACT TO GUAM WATERWORKS AUTHORITY (GUAM)

Mr. Garrison led a major initiative to transform the way GWA manages its operations, maintenance and capital planning functions. The project, paid for through a \$2 million EPA grant, reorganized how asset information is collected, stored and managed. This includes the business process to support asset management activities, software systems and operations and maintenance practices.

US AGENCY FOR INTERNATIONAL DEVELOPMENT (JORDAN)

Mr. Garrison was the leader of a team of international and Jordanian consultants that assessed the operations and maintenance (O&M), organizational and managerial capacity of three large cities in Jordan, Jerash, Tafilah and Ma’an, that serve a total of 500,000 people. The project involved reviewing staffing levels, training opportunities, and organizational structures as well as cultural and operations factors impacting sustainable performance. The result was a series of culturally-appropriate interventions to improve existing performance and enhance utility effectiveness.

US AGENCY FOR INTERNATIONAL DEVELOPMENT (AFGHANISTAN)

Mr. Garrison was Program Deputy Director and Institutional Advisor for the \$43 million Afghanistan Urban Water Supply and Sanitation Program (AUWSP) under USAID, the development arm of the US State Department; the comprehensive water sector initiative involved major construction, national level policy development and capacity building initiatives throughout Afghanistan. He managed an international staff of over 100 expatriate, local and third country national personnel of various educational backgrounds and disciplines that spoke 12 different native languages. He provided institutional capacity development services to the Afghanistan Ministry of Urban Development and Housing (MUDH), including the provision of

policy documents, advised MUDH on policy matters and provided a range of related advisory services. He was a senior advisor to the Minister of MUDH and the President of the Central Agency of Water Supply and Sanitation (CAWSS). Mr. Garrison was co-author of the Urban Water Supply and Sewage Sector Policy for Afghanistan and contributing editor to the Afghanistan National Policy on Urban Environmental Sanitation; these national-level policies guide the operation, administration and organization of water and wastewater regulatory agencies and utilities within Afghanistan. Finally, Mr. Garrison was the leader of a multi-national feasibility study team that assessed the physical and organizational conditions at seven provincial capitals for future infrastructure development. The population of these cities ranged from 10,000 to over 500,000.

US MILLENNIUM CHALLENGE CORPORATION (MOZAMBIQUE)

Mr. Garrison assessed the feasibility of major water infrastructure programs for MCC, a division of the US State Department, in the context of a \$500 million development aid package to the Government of Mozambique. He acted as the utility management and operations consultant for the project team. His project duties included analysis of the financial, managerial and operations capacity of large utilities in northern Mozambique to determine a sustainable level of infrastructure, the degree of technological sophistication that was manageable and the level of development that was appropriate for the economic conditions.

PROFESSIONAL EXPERIENCE

PORTLAND WATER DISTRICT AND SCARBOROUGH SANITARY DISTRICT: BOARD OF TRUSTEES (2013 – PRESENT)

Mr. Garrison is a member of the Board of Trustees of the Portland Water District (PWD) and the Scarborough Sanitary District (SSD). He directs the activities and policies of PWD, which serves a population of over 225,000 people in 13 southern Maine communities with water, wastewater, and environmental services, and SSD, which provides wastewater ser-

vices to the Town of Scarborough with a population of approximately 20,000.

WOODARD & CURRAN, INC.: VICE PRESIDENT – UTILITY MANAGEMENT PRACTICE LEADER (2012 – 2016)

Leader of the firm's efforts to help utilities and municipal entities improve performance through more effective management, operations practices, and asset management; encompasses capital planning and a range of management consulting services.

CDM SMITH: SENIOR MANAGEMENT CONSULTANT (2004 – 2011)

Senior management consultant with primary practice areas in utility management, operations & maintenance, performance assessment; and Asset Management, both domestically and internationally. Mr. Garrison lead the firm's Utility Management Discipline, which had approximately 35 members and was the eastern US group leader for CDM's Financial and Asset Management Practice.

BATH WATER DISTRICT, BATH, MAINE: GENERAL MANAGER (SUPERINTENDENT) (1995-2004)

Mr. Garrison was the senior executive accountable for a multi-million-dollar budget and \$25 million worth of water system assets, including a water treatment plant, multiple water storage facilities, an office building and a water distribution system. He was responsible for water supply to a residential and commercial population of over 20,000, including an industrial base that consisted of a nuclear power station, a fish-canning factory, Bath Iron Works (BIW) Naval Shipyard and several other large commercial users. Seth improved utility efficiency by reducing unaccounted for water from 48 percent to less than 10 percent and by trimming operations expenditures by 30 percent through operations and personnel optimization; improvements were realized over 5 years. He oversaw administration activities for all construction by BWD; projects completed included \$3 million dollar upgrade to chemical storage/feed systems at the water treatment plant, instrumentation (SCADA), disinfection systems, waste treatment and distribution storage. He enhanced public relations by creating a PR video, customer newsletters,

and several public awareness activities targeted at key groups. The effort was awarded an EPA Consumer Awareness Award. He also won several grants and loans including: five Federal Community Development Block Grants, a Maine State Housing Authority grant, and multiple Maine Drinking Water Program State Revolving Loan Fund (SRF) grants. The total value was in excess of \$10 million; and several awards including a MMA Leadership Award and acceptance into EPA's Regional Partners for Change Program.

MAINE DRINKING WATER PROGRAM, AUGUSTA, MAINE: SURFACE WATER TREATMENT COORDINATOR (1993-1995)

Mr. Garrison provided regulatory oversight for approximately 120 surface water systems ranging in size from .1 MGD to larger than 30 MGD and covering an array of technologies from slow sand and conventional filtration to ozone disinfection. He served as the state coordinator of the U.S. EPA Surface Water Treatment Rule, Information Collection Rule, Ground Water Disinfection Rule and Disinfectant/Disinfection Byproducts Rule.

HONORS AND AWARDS

- > New England Water Works Leadership Award
- > US EPA Consumer Awareness Award
- > Maine Water Utilities Association Leadership Award
- > Maine Water Utility Association President's Award
- > CDMU Contributor Award
- > Quick Hit Award for the OCU Water CMOM
- > Team Values in Action Award for the MCC Mozambique Due-Diligence Project
- > Team Values in Action Award for the Afghanistan Urban Water & Sanitation Program

RECENT PUBLICATIONS AND PRESENTATIONS

- > "Utilities Improve Performance Using Private Business Techniques" presented with Brian Pena, City of Lawrence Water and Sewer Commissioner, at the AWWA Annual Conference & Exhibition, June 2015 in Anaheim, CA, and at the NEWEA Annual Conference, January 28, 2015.

- > "Asset Management for Sanitary Sewer Systems - Beyond CMOM and Asset Management" presented at the 2014 APWA Congress, August 17, 2014 in Toronto, Ontario.
- > "Establishing Levels of Service for Your Utility" presented at the GAWP Conference, June 18, 2014.
- > "Creating Change Starts with an Organizational Assessment: A Field Tested Approach" presented at the 2014 NEWEA Annual Conference, February 27, 2014 in Boston, MA; and the AWWA ACE, June 11, 2014 in Boston, MA.
- > "Effective Asset Management Can Save You Money" presented at the Connecticut Operator Forum, February 20, 2013 in Waterbury, CT and July 16, 2014 in Manchester, CT; the 2012 Maine Municipal Association Annual Managers Retreat, October 4, 2012 in Augusta, ME; the Maine Town & County Manager's Association Annual Conference in Bangor, Maine; the Maine Wastewater Control Association Annual Meeting, April 26, 2013 in South Portland; and the NHPWA Annual Meeting, March 28, 2014.
- > "Paying for CSO Mitigation and Aging Infrastructure: Are Stormwater Fees the Answer?" presented at the AWWA/WEF UMC March 13, 2013 in Phoenix, AZ.
- > "Cobb County-Marietta Water Authority (CCMWA) Building on Past Successes to Streamline Operations and Optimize Asset Management" presented at the AWWA ACE, June 10, 2013 in Denver, CO; and the 2013 NEWEA Annual Conference, February 29, 2013 in Boston, MA.
- > "Are We Doing a Good Job? Assessing How Cobb County-Marietta Water Authority (CCMWA) Manages their Assets" presented at the NYWEA Annual Conference, February 5, 2013 in New York City, NY.
- > "Get the Most Value Out of Distribution and Collection Systems by Combining Tools" presented at the 2012 GAWP Annual Conference, July 7, 2012 in Savannah, GA.
- > "Benefits of an Organizational Approach to Asset Management Northeast Ohio Regional Sewer District" presented at the 2012 NEWEA Annual Conference, February 23, 2012 in Boston, MA.

TECHNICAL SPECIALTIES

- » Capital planning and budgeting
- » Competitive government
- » Operational efficiency
- » Public policy development
- » Strategic planning
- » Regionalism
- » Leadership development
- » Organizational structures and governance

PROFESSIONAL HISTORY

- » Raftelis Financial Consultants, Inc.: Director of Government Services (2010-present)
- » University of North Carolina at Chapel Hill - School of Government: Adjunct Instructor (2010-present)
- » University of North Carolina at Charlotte: Adjunct Instructor (2010-present)
- » Charlotte-Mecklenburg Utilities: Director (1994-2010)
- » City of Asheville, NC: City Manager (1986-1994)
- » City of Morganton, NC: City Manager (1978-1986); Acting City Manager (1978); Assistant City Manager (1976-1978)

EDUCATION

- » Master of Public Administration – University of North Carolina at Chapel Hill (1978)
- » Bachelor of Arts in History – Lenoir-Rhyne College (1973)

PROFESSIONAL MEMBERSHIPS

- » Former Water Research Foundation Board of Directors
- » Certified Local Government Manager by the International City-County Management Association
- » North Carolina City and County Management Association – Past President
- » American Society of Public Administration
- » American Water Works Association
- » Water Environment Federation
- » National Association of Clean Water Agencies
- » Association of Metropolitan Water Agencies
- » North Carolina League of Municipalities – Past Board of Directors
- » ElectriCities of North Carolina – Past Secretary and Board of Directors
- » American Public Power Association – Legislative and Resolutions Committee

DOUG BEAN

GOVERNANCE ASSESSMENT SUPPORT / LEAD FACILITATOR

Director of Government Services (Raftelis)

PROFILE

Mr. Bean joined Raftelis after more than 35 years of management experience with public utilities and local government. Prior to joining Raftelis, Mr. Bean served as Director of Charlotte-Mecklenburg Utilities for 16 years. His service in this position was marked by implementation of a major capital improvements program, financial modeling that led to AAA credit ratings from three rating agencies, technology advancements that improved efficiency, implementation of sustainable strategies in buildings and operations, and championing employee involvement and mentoring throughout the organization. He has also served as City Manager in two cities that provided a full range of public services including water, sewer, electricity, and stormwater. A frequent lecturer at professional associations and academic institutions, Mr. Bean has been an avid promoter of the value of public service and the ability of public organizations to operate using state of the art business practices. Since joining Raftelis, he has provided a variety of services for financial and management consulting engagements including facilitating stakeholder and public involvement, workshop facilitation, strategic plan development, organizational assessment (related to governance, finance, management, and operations). Mr. Bean also co-authored a chapter entitled, “The First Step: Establishing a Strong Utility Management Foundation,” for the Fourth Edition of the industry guidebook, *Water and Wastewater Finance and Pricing: The Changing Landscape*.

RELEVANT PROJECT EXPERIENCE

CITY OF ASHEVILLE (NC)

The North Carolina General Assembly introduced legislation in 2010 which proposed to require the City of Asheville to merge its water utility with the Metropolitan Sewer District of Buncombe County. This proposed legislation resulted in commissioning a legislative research study to evaluate the merits of such a legislatively forced consolidation. In 2012, the results of the legislative committee recommended the merger, further legislative action is pending. Mr. Bean is serving as the lead advisor to the City of Asheville in both a financial and governance impacts analysis.

METROPOLITAN WASTEWATER RECLAMATION DISTRICT (CO)

Raftelis was engaged by the Metropolitan Wastewater Reclamation District to update its existing strategic plan. The District's goals were to clarify its goals and priorities, achieve commitment to those priorities by the Board of Directors, management, employees, and other stakeholders, and effectively allocate the organization's resources. Raftelis designed a process that met the District's goals with significant stakeholder input included. After the Board of Directors formally adopted the strategic plan, the District elected to extend Raftelis' engagement to include implementation planning and support activities. Mr. Bean is the primary liaison to the District's Board of Directors, and currently serves as a facilitator for the strategic planning and implementation activities.

CAPITAL REGION WATER (PA)

Mr. Bean served as the Project Director for the development of Capital Region Water's 2016-21 Strategic Plan. This process was specifically designed to ensure that significant stakeholder engagement was utilized, as Capital Region Water had assumed operation of the City of Harrisburg's water systems in late 2013 and had just completed a significant rebranding campaign. The Raftelis Team conducted four employee focus groups, hosted a meeting of the Citizen's Advisory Board, and held interviews with outside stakeholders including environmental groups, regulatory groups, City representatives, and financial stakeholders.

CITY OF BALTIMORE BUREAU OF WATER AND WASTEWATER (MD)

Mr. Bean has been actively engaged in the City of Baltimore's Bureau of Water and Waste Water organizational assessment and optimization initiative. Acting in the capacity of senior advisor to the project team and the Bureau Chief, he provides key input on overall project focus and work planning. Mr. Bean regularly attends key project meeting and is an active participant in project progress reporting.

SANITATION DISTRICT #1 OF NORTHERN KENTUCKY (KY)

Mr. Bean is leading the Raftelis project team that is engaged in the development of a new SD1 strategic plan. Acting as the lead facilitator Mr. Bean coordinates directly with the Raftelis project team and the SD1 executive management team. His involvement included planning and conducting key workshops as well as content development for the Raftelis prepared final deliverables.

DC WATER (DC)

In 2011, Raftelis' management consulting division was retained to help develop and implement a "Board Driven Strategic Plan." Mr. Bean served as the project's lead consultant to the Board. In that capacity Mr. Bean attended Board meetings, led Board (and various Board Committees) discussions and was the primary presenter during a number of Board presentations. Mr. Bean remains involved attending Board work sessions and acting as a liaison between the General Manager's office, the Raftelis strategic plan implementation team and the Board and a number of Board Committees.

CITY OF WILMINGTON PUBLIC WORKS DEPARTMENT (DE)

The City of Wilmington's (City) water, sewer, and stormwater public utility services are provided through its water/sewer utility enterprise fund. Over the last several years the financial condition of the utility organization has required inter-governmental support to maintain financial viability. The City's utility organization, like many public utility organizations around the country, is challenged by increased regulatory requirements, aging infrastructure and more recently, reduced revenues caused by the economic environment. To assist the City's leadership in ensuring that the water and sewer enterprise fund regains its ability to be self-supporting, the City sought assistance from Raftelis to assess and evaluate key areas of its water, sewer, and stormwater utilities. The Raftelis Utility Assessment and Optimization Process were used. The process focused on evaluating the effectiveness of the organization around Governance, Finance, Management and Operations of the Utility. Mr.

Bean was the Governance Focus Area Leader. His involvement included working with the utility leadership, City Administration, Legal Staff and Elected Officials to evaluate various Governance Structures that would better support the ultimate objective of ensuring financial self-sufficiency of the City's utilities. Under Mr. Bean's direction, a Governance Focus Area Team was assembled from a variety of stakeholders to develop a series of governance changes that are currently being implemented.

Subsequent to the development of the utilities' strategic plan, Mr. Bean also assisted the City with the development of a city-wide strategic plan.

MOUNT PLEASANT WATERWORKS (SC)

Mr. Bean led the governance evaluation and training components of the comprehensive review and strategic business plan update for Mount Pleasant Waterworks (MPW). MPW had developed a strategic business plan several years previous to this current project and incorporated it into its annual business plan-ning process. Given changes in the economic environment, limited resources available to manage the business, an aging senior leadership and management team, and other issues, management determined that this plan should be up-dated to reflect the current situation. In addition, management became aware of the Effective Utility Management (EUM) framework and strongly believed that developing its strategic plan in accordance with EUM principles would help as-sure that all salient issues were considered and that the plan would be developed using industry best practices.

CITY OF LOWELL (NC)

The City of Lowell, NC (City) engaged Raftelis Financial Consultants to facilitate a City Council strategic planning retreat in February, 2017. The Lowell City Council does not currently have staggered terms, so all Council members and the Mayor face potential turnover every two years. The goal of the retreat was to establish the foundational strategic planning elements (e.g. Vision, Values, Mission) for the City, as well as to identify and develop long-term priorities, goals, and strategies to guide future elected officials

and City staff. Mr. Bean facilitated the retreat, which used a SOAR (Strengths, Opportunities, Aspirations, and Results) Analysis to frame the discussion, and served as a water/wastewater subject matter expert.

NORTH TEXAS MUNICIPAL WATER DISTRICT (TX)

Mr. Bean has assisted the North Texas Municipal Water District by facilitating a two-day retreat for the District's Board of Directors, and was the lead facilitator in the District's Member City negotiations to revise the wholesale water rate structure. While ultimately the Member Cities were unable to reach consensus on rate structure modifications, the process allowed all Member Cities to participate, offer possible solutions, and build awareness of conditions in the District's service area.

PUERTO RICO AQUEDUCT AND SEWER AUTHORITY (PRASA)

Mr. Bean served as Governance Lead and Co-Project Manager for the development of a Professional Opinion Report regarding the financial and operational capabilities of the extremely complex and large water and wastewater authority serving the island of Puerto Rico. This project was commissioned by the World Bank to confirm the viability of PRASA to secure additional financing to continue its capital development program. The evaluation focused on PRASA's activities with regard to operations and maintenance, infrastructure, customer service, non-revenue water, and finance.

CITY OF WILSON (NC)

Mr. Bean served as the Project Director for the development of a rate and financial planning model for the City of Wilson's City's water, wastewater, gas, electric, and broadband utilities. The model was specifically built to project revenue requirements for each utility over a five-year forecast as well as the projection of revenues generated from each utility and the necessary level of rate adjustments to meet the cash needs of each utility. The model also had several other features, including the ability to conduct sensitivity analysis and the ability to produce a financial forecast schedule that demonstrates revenue sufficiency based on various capital improvement funding scenarios.

CITY OF ROCKY MOUNT (NC)

Mr. Bean served as the Project Director for the development of a rate and financial planning model for the City of Rocky Mount's solid waste, water, wastewater, stormwater, gas, and electric utilities. The model was specifically built to project revenue requirements for each utility over a five-year forecast as well as the projection of revenues generated from each utility and the necessary level of rate adjustments to meet the cash needs of each utility. Finally, the model was a deliverable that City staff can use as a tool in the future to forecast rate adjustments for each utility.

CITY OF CLEARWATER (FL)

Mr. Bean is serving as a subject matter expert assisting the City of Clearwater project team assess the overall effectiveness of the existing customer service business processes in place at the City of Clearwater's customer service center. Mr. Bean provides input and advisory consultation helping direct the project team's evaluation and business process improvement efforts.

BIRMINGHAM WATER WORKS BOARD (AL)

Mr. Bean served as a Technical Advisor for the 2011 rate update for the Birmingham Water Works Board (Board). He participated in a meeting with the Board's executive staff to discuss the political and financial impacts of the proposed rate increases. Based on his experience as a utility director, he was able to provide insights into the presentation of the recommendation. Mr. Bean also helped frame the discussion and identified issues that had arisen when he was responsible for similar presentations. The presentation was revised based on this meeting and ultimately presented to the Board. As a result, the recommendations were approved by the Board.

PROVIDENCE WATER SUPPLY BOARD (RI)

The Providence Water Supply Board (Providence Water), like many progressive utilities, was seeking to review and enhance its ability to monitor, evaluate, and improve its operations by establishing a set of key performance measures that could eventually be housed in a "dashboard". Providence

Water engaged Raftelis to identify the key performance measures that would enable Providence Water to take action to improve its operations. Mr. Bean is serving on a team that is identifying the key performance measures utilizing the Effective Utility Management (EUM) framework. Mr. Bean has provided a critical link between establishing key operational performance measures to overall enterprise goals and objectives as established by Providence Water's senior leadership team. Leveraging his vast experience as a City Manager and his 16 years leading North Carolina's largest utility organization, Mr. Bean has guided the project team to develop a performance measurement and monitoring approach that balances operational staff business processes, administration objectives, and governance/policy requirements.

PREVIOUS PROFESSIONAL EXPERIENCE

CHARLOTTE-MECKLENBURG UTILITIES (NC): DIRECTOR (1994-2010)

Mr. Bean served as Director of the Charlotte-Mecklenburg Utilities Department, a consolidated county-wide provider of water and wastewater services to more than 700,000 customers in seven communities across Mecklenburg County. Responsibilities included an annual operating budget of \$260 million, a five-year capital budget of \$1 billion, and 800 employees.

Major Achievements

Infrastructure: Completed construction of a new water treatment plant; oversaw numerous multi-million dollar plant expansions and water/sewer pipe installation projects to ensure future supply and treatment capacity for a thriving county-wide service area.

Regional Initiatives: Established joint wastewater service agreements with other utilities. Led a phosphorus reduction project to improve water quality which fostered stronger relations with Catawba River partners in South Carolina.

Financial Management: Transitioned to Revenue Bond financing for capital improvements and obtained AAA credit rating. Implemented new conservation rate structure and updated industrial billing method to more accurately recover the cost of services. Maintained retail rates among the lowest in the state and region.

Competitive Operations: One of first water/sewer utilities in the U.S. to successfully compete against the private sector. Leader in development of citywide competition for services; active with the City of Charlotte Privatization, Competition & Advisory Committee.

Operational Efficiency: Converted to automated meter reading that improved accuracy and reduced costs. Participated in an EPA wastewater system Management Operation and Management Self-Audit. The results were integrated into the utility business plan and led to a successful negotiation of an Administrative Order with EPA. Expanded automation to include field work orders and GIS mapping systems.

Optimization: Initiated a change management process run by employees that assessed field operations, identified competitive gaps, and improved processes. Created a blueprint for cross-trained, self-directed work teams and identified \$1.7 million in operational savings.

Customer Partnerships: Established environmental excellence award program to recognize industries that demonstrate exemplary compliance with sewer permit requirements. Active with the Charlotte Chamber of Commerce. Cultivated relationships with key user groups.

Employee Recognition: Implemented recognition programs for Employee of the Year, customer service, safe drivers, and safe workers.

Public Outreach: Established a formal water conservation campaign to promote water efficiency. The program has developed to include annual consumption reduction goals and an enhanced water shortage management ordinance adopted by Charlotte City

Council. Formalized an award-winning media relations and public education program. Directed the creation of “Blue Planet” an award winning water environment education center, now a centerpiece of year-round activities for Charlotte-Mecklenburg school children.

Sustainability: Led the effort to design and construct a laboratory and office building that was the first City of Charlotte facility to earn LEED Certification.

CITY OF ASHEVILLE (NC): CITY MANAGER (1986-1994)

Responsible for an annual operating budget of \$60 million and 900 employees.

Major Achievements

Financial Management: Established a five-year forecasting model based on trend analysis; revised the operating budget to a program format; maintained reserves while maintaining the existing tax rate and raising the City’s bond rating from A+ to AA.

Cost Containment: Eliminated 10% of the nonpublic safety workforce; refinanced outstanding debt; established a comprehensive Risk Management program that reduced insurance costs while increasing coverage; and implemented extensive efficiency measures in several departments.

Infrastructure: Developed a six-year balanced Capital Improvements Program; completed a \$16 million upgrade to the regional Water Treatment Plant and pumping facilities; negotiated the consolidation of wastewater facilities under the Metropolitan Sewer Authority; and completed \$16 million of street construction.

Organizational Development: Implemented employee recognition, customer relations, and comprehensive training programs; installed a merit-based pay plan and instituted one of the few municipal Total Quality Management processes.

Economic Development: With the city’s emphasis on downtown revitalization, established the Down-

town Development office that assisted in attracting private investment of more than \$70 million.

Community Development: Completed the 2010 Asheville City Plan; presented the Unified Development Ordinance to city council; and established the one-stop Building Development Center.

Public Safety: Increased the number of on-the-street police officers; instituted community policing; initiated police accreditation and established a First Responder program in the Fire Department.

**CITY OF MORGANTON (NC):
CITY MANAGER (1978-1986);
ASSISTANT CITY MANAGER (1976-1978)**

Responsible for managing a full service city, including water, sewer, and electric utilities, with an annual operating budget of \$20 million and 260 employees.

Major Achievements

Financial Management: Placed all funds on a self-supporting basis; maintained the existing tax rate; automated the tax and financial functions; implemented a comprehensive fixed assets depreciation system and raised the city's bond rating from A to A+.

Economic Development: Negotiated a grant / loan agreement leveraging private investment; established with local banks a \$1.5 million downtown loan pool; and organized Morganton's local enterprise development team which was selected as one of four nationwide for an ICMA pilot program.

Downtown Revitalization: Obtained Main Street designation that resulted in major revitalization including extensive facade improvements; built a downtown park; restored the historic courthouse; and maintained 100% storefront occupancy.

Community Development: Completed a comprehensive Land Development Plan that was followed by the adoption of a new Planning and Zoning Ordinance.

Capital Improvements: Developed a comprehensive and continuing Capital Improvements Plan which

resulted in the construction of major renovations to various facilities including water and wastewater treatment plants and a state-of-the-art performing arts center.

OTHER PROFESSIONAL EXPERIENCE

- > Lecturer: Frequent Lecturer at the School of Government – University of North Carolina Chapel Hill on Competitive Government, Capital Budgeting, and Utility Management.
- > Part-Time Instructor: Lenoir-Rhyne College, Hickory, North Carolina (August 1983-December 1986). Courses taught included Budgeting and Financial Management, Public Policy Analysis, Introduction to Public Administration, and Public Personnel Administration.

PROFESSIONAL HONORS

- > Distinguished Practitioner Award – Southeastern Conference on Public Administration (2004)
- > Recipient of North Carolina City and County Management Association's John Gold Scholarship
- > National Achievement Award from the National Association of Counties for Catawba County's Solid Waste Management Program
- > International City Management Association – Host Committee Chair, 2003 International Conference. National Achievement Award from the American Water Works Association Management Division for the best paper published during the year 1996-1997 – "The Charlotte Model for Competition."
- > Commencement Speaker for the Masters of Public Administration Program at the University of North Carolina at Chapel Hill (2005)
- > Distinguished History Alumnus – Lenoir Rhyne College

TECHNICAL SPECIALTIES

- » Cost of Service and Rate Studies
- » Financial Planning Studies
- » Organizational Performance Management
- » Process Improvement
- » Change Management
- » Modelling, Forecasting, and Analytics
- » Capacity Fee Studies

PROFESSIONAL HISTORY

- » Raftelis Financial Consultants, Inc.: Consultant (2016 – Present); Associate Consultant (2015)
- » Mecklenburg County Land Use and Environmental Services Agency: Management Analyst (2012 – 2014)
- » Wyndham Capital Mortgage: Mortgage Banker (2011 – 2012)
- » Mecklenburg County Code Enforcement: Public Service Fellow and Business Analyst (2008 – 2010)

EDUCATION

- » Master of Public Administration, Urban Management and Policy concentration and Emergency Management concentration – University of North Carolina at Charlotte (2010); Burkhalter-Rassel Memorial Scholarship
- » Bachelor of Arts in Political Science – University of Tennessee (2008)

PROFESSIONAL CERTIFICATIONS

- » Certified Lean Six Sigma Black Belt (2016)
- » Prosci Change Management Certification (2014)
- » Certified Six Sigma Green Belt (2012)
- » Certified Lean Six Sigma Yellow Belt (2012)

TOWNSEND COLLINS

VALUATION / FINANCIAL ASSESSMENT SUPPORT

Consultant

PROFILE

Mr. Collins has a compelling background in organizational evaluation and improvement. Beginning with a formal education in public administration, he has worked for and with municipal entities for over 8 years.

Mr. Collins' expertise lies in performance management, process improvement, organizational evaluation, and financial analysis of municipal enterprise agencies. Prior to joining Raftelis Financial Consultants (Raftelis), he served as an internal consultant for Mecklenburg County Land Use and Environmental Services Agency (LUESA) leading and improving performance management initiatives, executing organizational strategies on the behalf of department leadership, and managing special projects for the Director and Assistant Director.

Since joining Raftelis, Mr. Collins has served as a consultant for many utility clients on projects ranging from water and sewer cost of service and financial planning studies, to bond feasibility studies, to key performance indicator (KPI) development, to strategic plan development, to capital project prioritization.

Through his public and private sector service, Mr. Collins brings a unique perspective to every project, which allows him to understand both the opportunities facing municipal agencies as well as the roadmap to successful change.

RELEVANT PROJECT EXPERIENCE

TOWN OF RIDGELAND (SC)

Mr. Collins serves as the lead consultant on an engagement to assist the Town of Ridgeland in developing a system valuation based on existing fixed assets. The Town currently does not have a reliable asset inventory, and Mr. Collins is working with multiple affiliated parties to ensure all aspects of the utility are appropriately valued. The study also includes a comprehensive rate and financial planning study that will develop a financial plan for the Town that appropriately recovers utility revenue requirements and places the utility on a sound financial course into the future. Rates for all customer classes are being evaluated, as well as capacity fees for water and

sewer. Special attention will also be paid to creating an updated rate structure that recognizes the large impact of non-residential customers to the utility.

MONTGOMERY COUNTY ENVIRONMENTAL SERVICES (OH)

Mr. Collins serves as a Consultant on a project to develop Key Performance Indicators for Montgomery County Environmental Services (MCES), develop a five-year strategic plan, and develop performance measures that measure operations within the department's work groups. Mr. Collins has assisted MCES in identifying strategic organizational goals, the initiatives in which MCES must be successful to achieve those goals, and the performance metrics MCES can use to evaluate progress towards successfully achieving its organizational goals. Working with MCES leadership, Mr. Collins and the project team have also identified a blueprint for performance management implementation within MCES, and are currently working with organizational leadership to institutionalize a culture of strategic planning and continuous improvement.

BIRMINGHAM WATER WORKS BOARD (AL)

Mr. Collins supports the Birmingham Water Works Board (the Board) as a Consultant with multiple financial consulting needs. These include: cost of service analysis, rate stabilization and equalization analysis, bond feasibility analysis, monthly bill frequency and consumption analyses, and additional projects as needed. In the fall of 2016 and 2015, Mr. Collins assisted the Board with its annual rate stabilization and equalization (RSE) process, analyzing multiple forecasted revenue requirement and consumption scenarios and collaborating with the board in the development of 2016 and 2017 rates and budget projections. In 2016, the Board engaged Raftelis to assist in issuing the 2016 refunding bonds. This aligned with similar work performed in 2015, when the Board engaged Raftelis to prepare a forecast of revenues, expenses, debt service and debt service coverage to support the Board's proposed 2015 Water Revenue Refunding Bonds and proposed 2015 Water Revenue Bonds. On an ongoing basis, Mr. Collins assists the Board with monthly billing analyses to compare projected consumption to

actual and historical consumption, and maintain a real time understanding of the Board's demand and consumption trends.

DARE COUNTY (NC)

Mr. Collins supports Dare County as a Consultant with annual cost of service and financial planning model updates catalyzed by the utility system's recent shift from a base charge rate structure to a minimum charge structure. This assistance includes analyzing, updating, and calculating recent billing data and revenue, updating budget figures, and expanding the model to forecast and evaluate system performance five years into the future for financial decision making purposes. In 2017, Dare County issued refunding bonds. Mr. Collins provided Dare County with an Agreed Upon Procedures Letter that forecast revenues, expenses, debt service and debt service coverage in support of the refunding bond issuance.

RENEWABLE WATER RESOURCES (SC)

In late 2016, Renewable Water Resources (ReWa) engaged Raftelis to evaluate its current capital project planning process, recommend a new capital project planning process, and develop a capital project prioritization tool based on criteria that are important to ReWa and ReWa's stakeholder. Mr. Collins facilitated an organizational assessment of ReWa current capital planning decision making process and recommended a new collaborative process that streamlined capital project planning. An integral part of the recommended process was a capital project prioritization tool that used a defined set of weighted stakeholder criteria to assign each project a score. Using the project scores, ReWa will annually develop a prioritized list of projects that is simultaneously defensible and representative of the organization's capital needs.

YORK COUNTY WATER AND SEWER (SC)

Mr. Collins currently supports the York County Water and Sewer Department (the County) as a Consultant on the County's Comprehensive Water and Sewer Rate Study. As the first rate study performed by the County since 2002, Mr. Collins developed a comprehensive rate model and financial forecast

that evaluates both the County's cost of service requirements and financial planning needs over the next five years. As part of the study, Mr. Collins assisted in the development of an alternative rate structure that would transition the County from a rate structure with both volumetric and base charges based on customer class to a structure with a volumetric charge based on customer class and a base charge based only on meter size and system. Along with evaluating water and sewer rates, Mr. Collins also performed an update to the County's water and sewer capacity fees.

HOPEWELL REGIONAL WASTEWATER TREATMENT PLANT (VA)

Mr. Collins currently supports the City of Hopewell's Regional Wastewater Treatment Plant (HRWTP) as a Consultant on its Wastewater Cost of Service Study. HRWTP has made recent improvements to its treatment plant to meet new nitrogen standards, and as a result, needed to develop a new cost of service methodology for allocating costs among its seven customers—six major industrial customers and the City of Hopewell's domestic wastewater system. Mr. Collins has developed a wastewater cost of service model that uses the HRWTP budget, treatment process cost allocations, and pollutant loading allocations to determine surcharge rates for each customer.

PHILADELPHIA WATER DEPARTMENT (PA)

Mr. Collins served as an Associate Consultant on an affordability study for the City of Philadelphia Water Department (PWD). Project work for this engagement has included: utilizing census data to project potential customer affordability program participants, analyzing rate setting process options based upon industry best practices and federal regulatory guidance, and forecasting both customer impacts and revenue impacts of varying affordability program options. Additionally, at the direction of PWD, Mr. Collins worked with a regional consumer advocate group to study multiple program qualification scenarios and the resulting impacts to the customer and PWD, in order to design a program that maximizes affordability to the customer and efficiency to PWD.

DAVIE COUNTY (NC)

Mr. Collins served as an Associate Consultant on a project with Davie County to provide water and wastewater rate financial planning. As part of the study, Mr. Collins developed a rate and financial planning model to calculate revenue requirements using the County's budget, capital improvement plan, and debt service schedules. The model was built to provide insight into the County's current cost of service by service area, and to assist in designing rates that adequately support the County's financial goals, while minimizing impacts to customers. As a follow up to the rate and financial planning study, Mr. Collins assisted Davie County in the development of a Line Extension, Oversizing and Reimbursement Policy. This was a collaborative process involving benchmarking of peer municipalities, policy development, and consensus building with Davie County to create a policy that aligned with County objectives.

CITY OF BALTIMORE (MD)

Mr. Collins served as an Associate Consultant on a project to create a strategic plan for the City of Baltimore Department of Public Works. Mr. Collins led a process mapping workshop to evaluate current state payroll processes and identify future state processes that will reduce risk and improve operational efficiency. Raftelis continues to assist the Department of Public Works with development of its strategic plan.

OTHER RELEVANT PROJECT EXPERIENCE

- > Johnson City (TN) – Financial Planning and Rate Model Update (2017)
- > Hallsdale-Powell Utility District (TN) – Financial Planning and Rate Model Update (2016)
- > Town of Sanford (NC) – Financial Planning and Rate Model Update (2016)
- > Town of Wake Forest (NC) – Fire Impact Fee Study (2016)
- > Town of Mt. Pleasant (SC) – Financial Planning and Rate Model Update (2016)
- > Town of Hillsborough (NC) – Capital Facility Fee Study (2016)
- > City of Greensboro (NC) – Pavement Degradation

- Cost Transfer Analysis (2015)
- > City of Manassas (VA) – Utility Valuation and Acquisition Feasibility Analysis (2015)
- > Jersey City Metropolitan Utilities Authority (NJ) – Financial Planning and Rate Study (2015)
- > City of Newport (RI) – 2017 Rate Filing and Rate Model Update (2015)
- > Sewerage and Water Board of New Orleans (LA) – Bond Feasibility Analysis (2015)
- > Grand Strand Water and Sewer Authority (SC) – Rate and Impact Fee Analysis (2015)
- > United States Navy – Privatization Procurement (2015)
- > DC Water (DC) – Performance Management Dashboard (2015)
- > Hallsdale-Powell Utility District (TN) - Financial Capability Assessment (2015)

RELEVANT PROFESSIONAL EXPERIENCE

MECKLENBURG COUNTY LAND USE AND ENVIRONMENTAL SERVICES AGENCY (LUESA) MANAGEMENT ANALYST

Led ongoing performance management initiatives for LUESA and collaborated with the Mecklenburg County Manager's Office to analyze results and implement changes. Coordinated department and division scorecard reporting. Created and revised performance measures and benchmarks to align with agency services. Developed and analyzed internal and external customer surveys. In FY14, facilitated LUESA's transition from a Balanced Scorecard performance management model to a new, customized approach for FY15.

Served as an internal consultant and department-wide improvement resource for LUESA, a fee-funded agency with a \$50 million budget that works in partnership with the community to enhance the quality of life through environmental stewardship and economic vitality. Facilitated and implemented special projects and data driven process improvement projects to meet strategic objectives and improve operational efficiency. Worked in conjunction with Mecklenburg County's Business Process Management division to improve service delivery for targeted work groups.

TECHNICAL SPECIALTIES

- » Financial planning and assessment of revenue needs
- » Utility cost of service
- » Evaluation of rate structure alternatives
- » Financial feasibility studies in support of planned bond issues
- » Bond indenture compliance support
- » Cost allocation studies
- » Impact fee development
- » Rate surveys

PROFESSIONAL HISTORY

- » Raftelis Financial Consultants, Inc.: Senior Consultant (2017-present)
- » Arcadis U.S., Inc: Senior Consultant (2015-2017); Management Consultant (2013-2015)

EDUCATION

- » Master of Business Administration – Union Graduate College (2009)
- » Bachelor of Business Administration in Accounting – Siena College (2004)

PHIL SAPONE

VALUATION / FINANCIAL ASSESSMENT SUPPORT Senior Consultant

PROFILE

Mr. Sapone serves as a Senior Consultant and provides financial services, including financial plan development, cost of service studies, rate design analyses, bond feasibility studies, bond indenture compliance support, and other types of financial related work, to numerous water and wastewater utility clients. Mr. Sapone's specific experience includes serving on consulting engagements with the following utilities: Citizens Energy Group, Prince William County Water Authority, City of Virginia Beach, Capital Region Water, Charlotte Water, Lehigh County Authority, Puerto Rico Aqueduct and Sewerage Authority, and the City of Columbus.

RELEVANT PROJECT EXPERIENCE

ISLE OF WIGHT COUNTY (VA)

Developed a financial plan to evaluate the rate revenue increases needed to cover the annual operating and maintenance costs, debt service, and future capital project expenditures of the water and sewer systems, while also meeting fiscal targets, such as those related to capital project financing, liquidity, and debt service coverage. Evaluated the effect of different rate increase scenarios to reduce support from the County's General Fund, while maintaining regionally competitive rates. Assisted management with prioritizing a series of pricing objectives. Recommended rate design alternatives in response to management's pricing objectives and prepared projected bill impacts across a range of consumption levels for residential and commercial customers to illustrate the effect of the recommended rate increases on the utility's customers.

In addition, a cost of service evaluation was completed to support the development of cost justified water and sewer rates and to inform the design of alternative rate structures. Costs were allocated to customer classes and the cost to serve each customer class within the water and sewer systems were compared to the estimated amount of revenue generated from each class to evaluate rate equity between classes.

CAPITAL REGION WATER (PA)

Assisted in the development of a cost of service model to determine the volumetric sewer rate to be charged to the utility's wholesale customers based on the terms of the existing intermunicipal agreement between the utility and its municipal wastewater customers. Ensured that operating, debt service, and cash funded capital costs were properly

allocated to the correct service component to be sure that the calculated wholesale rate fully recovered the cost to serve the utility's wholesale customers.

In addition, as part of a separate project for this utility, assisted with the negotiation of a discounted volumetric water rate to the system's largest customer. Prepared analysis showing the amount of lost revenue and the extent to which the utility's retail volumetric water rate would have to be adjusted to recover the lost revenue from this customer under various scenarios.

CHARLOTTE WATER (NC)

Worked with the utility during its annual budget process to determine the impact of different budget scenarios on the City's water and sewer rates. This involved determining the annual rate revenue need for the upcoming fiscal year for the City's water and sewer systems, preparing a cost of service analysis to derive specific rate structure components, and to provide a cost justification for the updated rates, and developing various pricing alternatives to recover the rate revenue need.

Reviewed and analyzed historical changes in accounts and water consumption by class and by residential rate tier to project customer accounts and water demand in the upcoming fiscal year to ensure more accurate rate recommendations and to fully recover the budgeted rate revenue need. To help evaluate the effect of the pricing scenarios prepared, estimated monthly bills were calculated across a range of consumptions levels for specific customer classes, and a bill frequency analysis was also prepared to further analyze the effect of each of the pricing scenarios.

In addition, calculated private fire line charges based on the allocation of indirect costs to fire protection service, customer data, and accepted industry practices. Calculated updated water and sewer capacity fees based on a review of system assets and according to accepted industry practices.

PUERTO RICO AQUEDUCT AND SEWER AUTHORITY

Prepared revenue neutral rate design alternatives to meet rate objectives related to revenue stability, rate equity, and administrative burden. Performed cost of service analysis for the water and sewer systems, respectively, to illustrate the degree to which sewer system revenues were subsidizing water system costs. Analyzed customer billing data to summarize how the proposed rate increase would affect customers within each major customer class under each rate alternative.

Prepared a bill impact analysis for each rate scenario showing the effect of the proposed rate increase on an assumed meter size within affected customer classes across a range of consumption levels. Analyzed all bills within each major customer class to summarize the effect of each rate structure alternative, i.e. 20 percent of residential customers would experience a 1.0 to 10 percent increase, 10 percent would experience a 11 to 20 percent increase, etc. Incorporated the effects of uncollectable charges, price elasticity, an annual decline in customer accounts into the rate design alternatives, and various implementation dates during the fiscal year.

TOWN OF GREENBURGH (NY)

Developed a pricing model to evaluate rate design alternatives for in-district customers based on the utility's pricing objectives. Designed pricing model to allow for the evaluation of fixed and minimum charges, as well as changes to the existing volumetric rates and tier thresholds. Evaluated utility's cost structure and recommended implementation of a fixed charge to better match fixed costs with fixed revenue and improve revenue stability.

Illustrated the effects of the pricing scenarios on the utility's customers by analyzing the increase or decrease in the monthly and quarterly bill amounts for specific customer types across a range of consumption levels.

Developed a financial plan to evaluate the utility's annual rate revenue needs over a five-year fore-

cast period. The annual revenue needs considered the utility's budgeted and projected operating and maintenance costs, debt service, and capital project expenditures, as well as fiscal policies related to liquidity, capital reserves, and debt service coverage. Developed a capital funding plan utilizing existing bond proceeds, capital reserves, cash on-hand, and proposed future debt issues to minimize annual rate increases over the forecast period, while meeting all fiscal policies.

Established fiscal policies for operating and capital reserves, as well as debt service coverage based on discussions with management, a review of the future annual spend toward repair and replacement projects, and a review of financial covenants associated with all outstanding debt.

Analyzed historical annual billed water consumption and performed a trend analysis to project annual billed consumption in future years. Incorporated the projected annual decline in billed consumption over the forecast period into the evaluation of the utility's annual rate revenue need.

ENGAGEMENT SCHEDULE

The following is our proposed schedule for the project. We fully committed to working with Davenport and the Authority in completing the work on a timeline that best meets the Authority’s needs.

TASKS	Weeks																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
Phase 1																		
1 Project Initiation and Information Gathering	[Web meeting] [Kick-off Meeting]																	
2 Preliminary Valuation Assessment					[Web meeting]		[Delivery of Draft/Final Reports, Technical Memoranda, Financial Models.]											
3 Preliminary Governance & Ownership Evaluation	[Optional Workshop]			[Web meeting]		[In-Person Meeting / Workshop]												
Phase 2																		
4 Refined Valuation Assessment											[Web meeting]		[Optional Workshop]		[In-Person Meeting / Workshop]		[Delivery of Draft/Final Reports, Technical Memoranda, Financial Models.]	
5 Refined Governance Assessment											[Web meeting]		[Web meeting]		[In-Person Meeting / Workshop]		[Delivery of Draft/Final Reports, Technical Memoranda, Financial Models.]	
6 Refined Ownership Assessment											[Web meeting]		[Web meeting]		[In-Person Meeting / Workshop]		[Delivery of Draft/Final Reports, Technical Memoranda, Financial Models.]	

-  Kick-off Meeting
-  In-Person Meeting / Workshop
-  Delivery of Draft/Final Reports, Technical Memoranda, Financial Models.
-  Web meeting
-  Optional Workshop

PRICING

Our proposed project pricing is provided below. We have focused the level of effort in Phase 1 on assessment of the value of the water system. We also provide flexibility in our pricing under Phase 2. Depending upon the results and findings from Phase 1, the Authority and Davenport can choose to proceed with any of the tasks listed. In addition, we have included an optional task (Task 7) to help facilitate consensus among the Authority Board members through a series of structural workshops. We are happy to tailor our project pricing to best meet the needs of the Authority.

Tasks	Principal	Senior	Admin	Total						
	Consultant	Manager			Consultant	Hours	Labor	T&C Charge	Travel	Total
	\$280	\$255	\$75							
Phase 1 - Preliminary Assessment										
1	Project Initiation and Information Gathering	8	8	12	28	\$ 6,380	\$ 280	\$ 1,600	\$ 8,260	
2	Preliminary Valuation Assessment	44		56	2	102	\$ 22,270	\$ 1,020	\$ 800	\$ 24,090
3	Preliminary Governance & Ownership Evaluation	8	24	32	2	66	\$ 14,110	\$ 660	\$ 800	\$ 15,570
Phase 2 - Refined Assessment										
4	Refined Valuation Assessment	20	32	80	2	134	\$ 27,910	\$ 1,340	\$ 2,800	\$ 32,050
5	Refined Governance Assessment	40	40	80	2	162	\$ 35,550	\$ 1,620	\$ 1,600	\$ 38,770
6	Refined Ownership Assessment	40		40	2	82	\$ 18,350	\$ 820	\$ 800	\$ 19,970
Total		160	104	300	10	574	\$124,570	\$ 5,740	\$ 8,400	\$138,710
7	Optional - Governance and Structure Workshops	24		6	2	32	\$ 7,920	\$ 320	\$ 1,600	\$ 9,840

EXISTING RELATIONSHIPS

Raftelis does not have any contractual relationships with the Authority or its Member Jurisdictions.

APPENDIX A: **SAMPLE VALUATION STUDY REPORT**



April 20, 2015

Mr. Mike Weber
Deputy Public Works – Utilities Director
City of Peoria
8401 West Monroe Street
Peoria, Arizona 85345

Dear Mr. Weber:

The purpose of this letter is to share with the City of Peoria (“City”) the results of the 2015 valuation analysis performed by Raftelis Financial Consultants, Inc. (“RFC”) regarding the value of the New River Utilities Company (“NRUC”).

This letter report is divided into the following sections:

- Section 1: Description of the Assignment
- Section 2: Income Approach Analysis – Fair Market Value
- Section 3: Acquisition Feasibility Analysis for Peoria
- Section 4: Summary and Conclusions
- Appendix A: Income Capitalization Approach Detail
- Appendix B: Acquisition Feasibility Analysis

SECTION 1: DESCRIPTION OF THE ASSIGNMENT

Use and Distribution of the Letter Report

RFC has been engaged by the City to estimate the fair market value of NRUC and assess the financial feasibility of the acquisition of NRUC by the City. These two, separate analyses can be used to determine (1) the fair market value of the NRUC and (2) the financial feasibility of the NRUC and the impact to the City’s water utility rates. It is RFC’s understanding that this letter report will be used by the City to determine whether or not to make an offer for the purchase of NRUC and as part of negotiations with NRUC if the City determines to proceed. The distribution of this letter report is assumed to include City staff, as well as the appropriate parties in the NRUC as determined by the City.

Description of the Subject

The subject of this appraisal is the New River Utilities Company, which includes the assets used by the utility to provide water service.¹ The headquarters for NRUC is located at 7839 West Deer Valley Road, Peoria AZ 85383. NRUC is a local water supplier and, as of the end of 2014, served approximately 2,881 customers in and near the City of Peoria. The company is a Subchapter "S" Corporation and is fully owned by Robert Fletcher. Since NRUC is a privately owned utility, it is regulated by the state's public service commission, the Arizona Corporation Commission ("ACC").

Standards of Value and Relevant Report Dates

The purpose of Sections 2 through 4 of this valuation is to estimate the fair market value of the NRUC and assess the financial feasibility of the acquisition of NRUC for the City.

The effective date and date of this report is April 3rd, 2015. The opinion of value represented in this valuation might change if the effective date were modified.

Special Factors to Consider

It should be noted that this valuation does not incorporate any outstanding obligations, such as property taxes and extension/developer agreements, into its analysis. If the purchaser were assumed to accept responsibility for outstanding obligations, the values determined in this report should be reduced by the amount of obligation assumed for the final consideration paid to be comparable to fair market value.

Additionally, it is important to note that due to the variability in costs, customer water usage, climate, etc., estimating free cash flows for both of these analyses is a challenging task, especially for future years. While RFC erred on the side of caution and tried to use conservative estimates and assumptions, changes in the key variables such as O&M and capital costs, revenues, discount rate, etc., can cause the valuation to fluctuate considerably.

The following sections walk through the steps taken by RFC to determine both the fair market value of the NRUC and the financial feasibility if Peoria were to acquire the NRUC.

¹ A more detailed description of the assets valued is provided in the 2012 NRUC Rate Case provided by the ACC.

SECTION 2: INCOME CAPITALIZATION APPROACH ANALYSIS

The income, or Discounted Cash Flow (“DCF”), approach is based on the premise that a utility, as is the case with any operating company, is worth the present value of its future earnings. To apply this method, the appropriate income or cash flow stream is used to estimate the distributable income of the company into perpetuity, discounted back to the valuation date using an appropriate discount rate. The income approach has both an intuitive and technical appeal in that the approach assumes that a company is worth what it will generate in income in the future. Appendix A walks through the steps taken to arrive at each part of the analysis.

To project the net operating income and free cash flow of NRUC for the fair market value, RFC projected revenues, expenses, and rate base for the utility. In estimating revenue levels, RFC assumed that system revenues would be set equal to revenue requirements to ensure that revenues were sufficient to cover projected costs plus an allowed return on rate base. Revenue requirements include Operation and Maintenance (“O&M”) expenses, depreciation, taxes, and the allowed return on rate base (7.8%). This is the methodology used by the ACC in determining rates for privately owned utilities². Detailed schedules of this analysis are provided in Appendix A.

RFC specifically incorporated the projected capital plan as determined by the City in the City’s Due Diligence Memo³. Based on input from City staff, it was determined that an outside investor would assume all “High Priority” and “Medium Priority” projects and they would be completed over one and 10 year periods, respectively. Additionally, it was assumed that an outside investor would adopt the meter replacement program recommended by the City. After the completion of the “Medium Priority” projects in year 10, it is assumed an outside investor would continue investing in the system at the rate of depreciation.

Schedule A-1 shows the projected free cash flow of the fair market value of the NRUC for an outside investor based on this analysis. The negative free cash flow in Year 1 is related to the additional capital expenditures that would need to be undertaken in the first year of operation as mentioned previously. The free cash flow is projected through 16 years and then calculates a terminal year to determine the value of the system into perpetuity. The total of these free cash flows and terminal value, discounted back using the 7.8% required return, is the fair market value estimate.

Based on the present value of the free cash flows of NRUC, the value determined under the outside investor income approach is **\$7,141,000**.

² NRUC 2012 Rate Case Application (Docket No. W-01737A-12-0478) and NRUC 2014 Rate Case Decision (Decision No. 74294).

³ New River Utility Company Due Diligence and Condition Assessment – February 10, 2015

SECTION 3: ACQUISITION FEASIBILITY ANALYSIS FOR PEORIA

The second analysis that RFC developed was related to the feasibility of the NRUC purchase by the City and the potential impact of the purchase on the City's utility rates. The feasibility analysis uses a specified purchase price to estimate future rate increases that may be required to ensure revenue sufficiency after FY 2025. The rate increases that City staff see as politically plausible are the limiting factor for this type of analysis.

To project the net operating income and free cash flow of the NRUC for the acquisition feasibility analysis, RFC projected revenues and expenses (operating and capital) based on a separate set of assumptions and additional input from the City. In estimating revenue levels, RFC adjusted the calculation to reflect the City's current water rates and current 10-year rate forecast⁴. Using the bill frequency analysis provided in the 2012 NRUC rate case application appendices, RFC was able to estimate the revenue the NRUC system would produce if it operated under the City's rates. RFC and City staff determined that if the City acquired the NRUC, the system would operate under NRUC's current rates in Year 1 and then would operate under the full Peoria rates from Year 2 onward.

In estimating and forecasting expenses, RFC used additional input from the City. On the operating side, RFC included meter change out and support staff costs as well as well production and CAP water costs. These costs replace the operating costs provided by NRUC in their annual report to the ACC starting in year 2. For capital, RFC specifically incorporated the projected capital plan as determined by the City in their Due Diligence Memo.⁵ Based on input from City staff, it was determined that all projects would be undertaken by the City. Detailed schedules and further assumptions of this analysis are provided in the Acquisition Feasibility Model provided to the City by RFC.

To determine the financial feasibility of the NRUC acquisition for Peoria, RFC included a projected purchase cost in the analysis. It is assumed that this cost is debt financed, likely through a loan from the Water Infrastructure Finance Authority of Arizona ("WIFA"), with equal annual debt service payments over a 20 year term beginning in year 2 after acquisition.

As mentioned previously, in order to evaluate the feasibility of the acquisition, the City must determine an appropriate level of utility rate increases after FY 2025 that the City could reasonably expect to implement in the future. For example, if the purchase price was \$10million, after year 10 the impact on utility rates from the NRUC purchase and operation would be 2.12% in each year of the forecast period. On the other side of the spectrum, if the purchase price were \$5 million, the future rate increases would be 1.12% annually. Perhaps most noteworthy, if the purchase price were the fair market value as determined by RFC (\$7.141million), the future increases would be 1.56% annually after 2025. The summary of these results are illustrated in Appendix B while, as mentioned previously, the detail can be found within the Acquisition Feasibility Model.

⁴ Provided in the City's current Water Utility Rate Model.

⁵ New River Utility Company Due Diligence and Condition Assessment – February 10, 2015

SECTION 6: SUMMARY AND CONCLUSIONS

Based on RFC's fair market value analysis, the fair market value, or value to an outside investor of NRUC, is **\$7,141,000**. This is the price that RFC would recommend using in the City's negotiations with NRUC while the acquisition feasibility analysis and corresponding model can be used to understand the impact of various purchase prices on the City's utility customers.

We hope that this analysis helps the City determine how to proceed with the potential acquisition of this utility. If you have any further questions regarding our analysis, please do not hesitate to contact us.

Exhibit 3 – Davenport Engagement Pricing

Davenport & Company LLC will provide services requested by the Authorities based on a schedule of hourly rates. Fees shall be subject to a cap or flat fee level if agreed upon in advance of each assignment. Davenport's hourly charges are as follows:

<u>Professional</u>	<u>Hourly Rate*</u>
Senior & First Vice President	\$275
Vice President	\$250
Associate Vice President	\$225
Associate & Analyst	\$200

*Subject to 4% escalating factor per year during the term of the engagement.

Davenport will be reimbursed, at cost, for its reasonable and necessary direct out-of-pocket expenses (travel, lodging, meals, etc.). Additionally, an amount equal to 4% of our fee for incidental administrative and indirect expenses such as telephone, fax, computer time and other administrative costs will be included in all billings.

- **Status Report: Ongoing Projects/Operational/Financial**

Following are status reports concerning the Ongoing Projects, Operations, and Financials for the ARWA.

MEMORANDUM

TO: APPOMATTOX RIVER WATER AUTHORITY BOARD OF DIRECTORS

FROM: ROBERT C. WICHSER, EXECUTIVE DIRECTOR
JAMES C. GORDON, ASSISTANT EXECUTIVE DIRECTOR

SUBJECT: STATUS REPORT – ON-GOING PROJECTS

DATE: JULY 20, 2017

The following projects are underway. This report includes sections on Capital projects and large replacement projects.

In-Plant Capital Projects:

- The kickoff meeting was held on June 19, 2017.
- Currently we are evaluating the cost associated with a Raw Water Electrical Building versus the additional cost associated with installing new raw water VFD's in the existing switchgear building.
- Once this decision is finalized, we will complete the Preliminary Engineering Report for submission to VDH.
- We are also working on selection of the Raw Water and Finished Water pumps, and generator, in preparation for the development of equipment bid specifications.

MEMORANDUM

TO: APPOMATTOX RIVER WATER AUTHORITY BOARD OF DIRECTORS

**FROM: ROBERT C. WICHSER, EXECUTIVE DIRECTOR
JAMES C. GORDON, ASST. EXECUTIVE DIRECTOR**

SUBJECT: OPERATING AND FINANCIAL STATUS REPORT

DATE: JULY 20, 2017

Operating Status Report

General:

- The next scheduled Board of Directors Meeting is **Thursday August 17, 2017** at the Appomattox River Water Authority at 2:00 pm.
- The ARWA's VPDES permit application and Data has been submitted. Staff has been informed we should receive a draft permit in late July or early August.
- Admin staff is preparing for the accountants scheduled to be onsite the first week of August. The Auditors will be onsite the week of August 14th.
- On July 11th ARWA staff and Hazen and Sawyer held the first of three stakeholder meetings as required in our VWP permit for the development of the Storage Management Plan. The next meeting will be held on August 8th with the final meeting at the August Board of Directors meeting.

Operations:

- Finished water met all permit requirements for the month of May and June. Copies of the VDH monitoring reports are available if anyone would like to see them.
- Staff is in the process of performing their July cleaning of the Sedimentation Basins.
- Platforms and ladders to safely enter the flocculation basins are being installed during the cleaning of Basin 7-12 so maintenance personnel can safely access.
- Rails have been installed so operations staff can safely access Clarivacs for priming. The walls are 18" wide and are the only access our staff has to the Clarivacs.
- AWWA partnership data has been submitted. We expect to receive the Directors award for the 18th straight year.
- The Fluoride tank has been flushed and maintenance will be repairing the feed lines from the tank.

Maintenance:

- Staff has contracted and is overseeing work to repair the 14' inlet gate valve stem at RWPS1. Repairs will also be performed on the sluice gate valve at the RWPS1 intake.
- Staff is repairing the Fluoride feed line.
- The open mechanic position has been filled internally. Staff are currently looking to hire to vacant carpenter/painter/laborer position.

Instrumentation/IT:

- Staff has contacted our system integrators to assist with correcting the program to blow off the screens at the RWPS2 Intake.
- Ordered a new motor to repair the Rapid mix valve actuator.
- Will be providing our operators with a local ultrasonic level display for the Fluoride and Phosphate tanks.

Laboratory:

- Staff is receiving and analyzing THM and HAA samples
- An ecd is being ordered to replace a detector that has gone bad on the GC
- A Lake study was performed on July 11, 2017

Financial Status Report:

Following is the Executive Summary of the Monthly Financial Statement that includes the YTD Budget Performance and the Financial Statement for June 2017.

Appomattox River Water Authority
Monthly Financial Statements-June 2017

Water Rate Center

Revenues and Expenses Summary

<i>Budget</i>	<i>Budget</i>	<i>Actual</i>	<i>Budget</i>	<i>Variance</i>
<i>FY 16/17</i>	<i>Year-to-Date</i>	<i>Year-to-Date</i>	<i>vs. Actual</i>	<i>Percentage</i>

Operating Budget vs. Actual

Revenues

Water Sales	\$ 10,178,754	\$ 10,178,754	\$ 10,060,388	\$ (118,366)	-1.16%
Rent Income	\$ 80,000	\$ 80,000	\$ 62,850	\$ (17,150)	-21.44%
Misc. Revenue	\$ -	\$ -	\$ 211,222	\$ 211,222	#DIV/0!
Total Operating Revenues	\$ 10,258,754	\$ 10,258,754	\$ 10,334,460	\$ 75,706	0.74%

Expenses

Personnel Cost	\$ 2,233,400	\$ 2,233,400	\$ 2,185,729	\$ (47,671)	-2.13%
Contractual/Professional Services	\$ 806,000	\$ 806,000	\$ 1,027,324	\$ 221,324	27.46%
Utilities	\$ 803,000	\$ 803,000	\$ 791,529	\$ (11,471)	-1.43%
Communication	\$ 29,500	\$ 29,500	\$ 44,260	\$ 14,760	50.03%
Office/Lab/Purification Supplies	\$ 94,500	\$ 94,500	\$ 90,396	\$ (4,104)	-4.34%
Insurance	\$ 90,000	\$ 90,000	\$ 94,321	\$ 4,321	4.80%
Lease/Rental Equipment	\$ 7,500	\$ 7,500	\$ 34,869	\$ 27,369	364.92%
Travel/Training/Dues	\$ 46,400	\$ 46,400	\$ 36,945	\$ (9,455)	-20.38%
Safety/Uniforms	\$ 22,000	\$ 22,000	\$ 23,631	\$ 1,631	7.42%
Chemicals	\$ 2,200,000	\$ 2,200,000	\$ 2,015,932	\$ (184,068)	-8.37%
Repair/Maintenance Parts & Supplies	\$ 230,000	\$ 230,000	\$ 179,865	\$ (50,135)	-21.80%
Total Operating Expenses	\$ 6,562,300	\$ 6,562,300	\$ 6,524,801	\$ (37,499)	-0.57%
Operating Suplus/(Deficit)	\$ 3,696,454	\$ 3,696,454	\$ 3,809,659	\$ 113,206	3.06%

Replacement Outlay Budget vs. Actual

Machinery & Motors	\$ 285,000	\$ 285,000	\$ 218,137	\$ (66,863)	-23.46%
Instrumentation	\$ -	\$ -	\$ 22,492	\$ 22,492	#DIV/0!
SCADA	\$ 175,000	\$ 175,000	\$ 148,994	\$ (26,006)	-14.86%
Computer Equipment	\$ 20,000	\$ 20,000	\$ 23,499	\$ 3,499	17.49%
Furniture/Fixtures	\$ -	\$ -	\$ 15,196	\$ 15,196	#DIV/0!
Motor Vehicles	\$ 25,000	\$ 25,000	\$ 5,957	\$ (19,043)	-76.17%
Flocculation Basins	\$ 50,000	\$ 50,000	\$ 58,725	\$ 8,725	17.45%
Valve Replacement	\$ 100,000	\$ 100,000	\$ 91,958	\$ (8,042)	-8.04%
Warehouse Racks & Shelving	\$ 50,000	\$ 50,000	\$ 31,443	\$ (18,557)	-37.11%
Concrete	\$ 50,000	\$ 50,000	\$ -	\$ (50,000)	-100.00%
Pre-Chem Boiler	\$ 40,000	\$ 40,000	\$ 27,500	\$ (12,500)	-31.25%
Off-Site Reservoir	\$ 300,000	\$ 300,000	\$ 21,812	\$ (278,188)	-92.73%
Reservoir Storage	\$ 200,000	\$ 200,000	\$ 24,707	\$ (175,293)	-87.65%
Lime Feed Improvements	\$ 457,415	\$ 457,415	\$ 466,991	\$ 9,576	2.09%
Phone System	\$ -	\$ -	\$ 12,533	\$ 12,533	#DIV/0!
Replacement-Other	\$ -	\$ -	\$ 33,319	\$ 33,319	#DIV/0!
Total Capital Outlay	\$ 1,752,415	\$ 1,752,415	\$ 1,203,262	\$ (549,153)	-31.34%

Debt Service Budget vs. Actual

Interest Income	\$ -	\$ -	\$ 57,404	\$ 57,404	#DIV/0!
Interest Jurisdictions (Income)	\$ -	\$ -	\$ -	\$ -	#DIV/0!
Interest Expense	\$ -	\$ -	\$ -	\$ -	#DIV/0!
Principal Payments	\$ 2,037,240	\$ 2,037,240	\$ 501,364	\$ (1,535,876)	-75.39%

Appomattox River Water Authority-Balance Sheet

For Month Ending June 30, 2017

Assets

Current Assets

Petty Cash	\$	400
SunTrust Operating Fund	\$	1,095,611
SunTrust Replacement Fund	\$	-
Total Unrestricted Cash	\$	1,096,011

Water Revenue	\$	3,213,275
Reserve Account	\$	1,851,141
Replacement Account	\$	400,460
Debt Service Reserve	\$	1,533,444
Bond Principal/Interest	\$	575,855
Total Restricted Cash	\$	7,574,175

Total Checking/Savings \$ **8,670,186**

Accounts Receivable	\$	2,828,978
Other Current Assets	\$	94,790
Inventory	\$	358,541

Total Current Assets \$ **11,952,496**

Fixed Assets

Land and Land Rights	\$	1,044,167
Water System	\$	84,179,582
Equipment	\$	1,055,242
Hydro	\$	34,873
Construction in Progress	\$	64,940
Accumulated Amortization	\$	(31,386)
Accumulated Depreciation	\$	(41,906,838)
Total Fixed Assets	\$	44,440,579

Other Assets

Pension	\$	295,870
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Total Assets \$ **56,688,945**

Liabilities & Equity

Current Liabilities

Accounts Payable	\$	35,169
Retainage Payable	\$	1,721
Accrued Interest Payable	\$	130,308
Total Current Liabilities	\$	167,198

Long Term Liabilities

Pension	\$	238,787
Bonds Payable-2010	\$	8,209,985
Bonds Payable-2012	\$	2,815,000
Accrued Leave Payable	\$	156,919
Post Employment Benefit	\$	65,000
Total Long-Term Liabilities	\$	11,485,690

Total Liabilities \$ **11,652,889**

Equity

Retained Earnings	\$	(3,968,954)
Reserve for Operations	\$	3,273,180
Reserve for Water Revenue	\$	6,780,931
Reserve for Replacements	\$	500,000
Reserve for Bond Interest	\$	130,308
Reserve for Debt Service	\$	1,532,664
Reserve for Bond Principal	\$	1,031,300
Reserve for Reserve	\$	1,209,895
Fixed Assets, Net of Debt	\$	32,384,295

Net Income	\$	2,162,437
Total Equity	\$	45,036,056

Total Liabilities & Equity \$ **56,688,945**

5. Items from Counsel

- **Amendment to 1964 Water Service Agreements**

6. Closed Session

7. Executive Director's Annual Review

Following is an updated 6 month Executive Level Strategic Work Plan Summary.

Appomattox River Water Authority

Executive Level Strategic Work Plan Summary

UPDATE

January 1, 2017 to June 30, 2017
July 1, 2017 to December 31, 2017

Purpose: Provide the Appomattox River Water Authority with a plan to ensure ongoing reliable service to Authority members.

This information is provided at the request of the Board and is intended to highlight critical activities that are planned and expected to be accomplished during the next twelve months. We realize that unplanned circumstances could occur that impact the Authority's financial capability to complete the tasks and projects, and are totally out of the control of Authority management. Projects are dependent on funding, engineering consultants and contractors.

Overarching Goal: The Authority will continue to expand as needed, operating and maintaining the water system in an efficient and economical manner consistent with good business and operating practices.

The Authority will provide safe, reliable drinking water meeting or exceeding the Safe Drinking Water Act regulation standards.

Capital Projects:

1. Complete the mediation services related to Branders Pump Station & Ground Tank: **Completed**
2. **Off-site Alternative Raw Water Supply Source ON-HOLD based on Board request**

In-Plant Capital Projects:

1. February 2017: Issue RFP for Engineering Services towards four in-plant upgrade projects: **Completed and Engineer of Record selected, presently in preliminary design on In-Plant Project upgrade. This project held a kick-off meeting on June 19th. Expect to advertise for project equipment procurement by September 2017 with design finished by mid-November 2017.**
2. February 2017: Issue IFB (by Davenport) for Bond funding towards the four in-plant upgrade projects: **Davenport is handling this issue with the Authority and will make recommendation to the Board by mid-January 2018 to fund the In-Plant project.**
3. March 2017: Interviews for Engineering Services: **Completed**
4. April/May: Seek Member local approval towards bond funding: **On hold as per Board until January 2018**
5. June 15 Board Meeting: Award Bond Financing and Engineering Services Contract: **Bond financing on hold. In-plant engineering service contract awarded.**
6. June-October: Preliminary to final design to bid stage: **Presently on schedule with final 100% design schedule to be complete by mid-November 2017.**
7. November/December: Hire Contractor: **Most likely this time line will be February/March 2018.**
8. December/January 2018: Contractor mobilizes: **Most likely this time line will be March/April 2018.**

Administration:

**** Extensive analysis and legal review over five months in notifying the Board related to the City of Petersburg's financial situation and potential upcoming financial impacts on the Authority.**

****Managed an extremely difficult EEOC case stemming from the 2003-2011 era with ARWA legal and federal EEOC to settlement.**

1. January-May 2017: Develop, present, defend and public notice on proposed 2017/18 Operations & Maintenance Budget including Capital Projects: **Completed**
2. July 1, 2017-December 31, 2017: **Working with department managers and Assistant Director to develop 2018/2019 operating and replacement budgets and present to member engineers in November 2017 for review and comments.**
3. Pursue resolution on Commonwealth of Virginia matching \$5M grant: **Phase 1, Step 1 of Dam Raise Project underway and Phase 1, Step 2 of project to be discussed with ARWA Board on July 20, 2017.**
4. Continue to pursue adoption of Amended and Restated Unified Water Service Agreement: **Amendment Four to the Water Service Agreement was developed and presented to the ARWA Board on May 18, 2017 and adopted for their respective Supervisors/Council members for approval.**
5. By June 2017 conduct training level water-related emergency event table-top exercise: **This full day full member attended Drinking Water related Emergency Preparation Review was held on June 27, 2017 and was recognized as time well spent with excellent discussions along with specific water-related scenarios and regulatory reporting information provided.**

Safety Related Projects: **Upgrade to flocculation basins for Operator and Maintenance personnel access. This project will be complete in August 2017.**

Virginia Water Protection Permit:

January 2017-June 2017: Development of permit-required Chesdin Reservoir Storage Management Plan to be submitted to VA-DEQ for review and approval:

****Pre-planning sessions completed in June with public meeting to be held on evening of July 11, 2017.**

Facility Instrumentation/SCADA Upgrades:

- January – June: Migration of old 25+ year old communication equipment at the operations blue panel (SCP-A) to a new upgrade PLC: **This upgrade project has been completed.**

Financial Auditing: March 2017- Issue RFP for annual financial auditing services for both ARWA & SCWWA and recommend three year contract by June 2017: **Completed**

Facility Process Chemicals: January 2017-Issue new purchasing contracts based on annual IFB on all process chemicals: Complete award of annual chemical supplier contracts by February 1, 2017: **Completed**

Additional Process Chemical Item: **Completed a four month review and discussion with chlorine dioxide supplier by developing a three year contract with an annual three year price drop.**

Maintenance Warehouse/Computerized Purchasing: Complete start-up and transition over to normal daily efficient operation of the warehouse: **85% complete**

On-Going Department Goals

Administration/Warehouse:

- Develop digital archiving system for all documents that fall under record retention requirements: **See SCWWA narrative related to this item.**
- Implement inventory control processes and procedures so that "Cycle Counts" of inventories can be performed throughout the year: **Presently underway**

- Develop and implement a compensation plan that will allow the Authority to pay employees “In Arrears” while providing minimal financial impact during such implementation: ***Presently In review and under consideration.***

Maintenance Department:

- Complete mechanical/electrical training for employees as needed
- Maintain schedule on preventive maintenance activities
- Effective and rapid response on corrective actions towards equipment failures
- Maintain parts and equipment inventory in a cost effective manner

Laboratory Department:

- Maintain Member’s Safe Drinking Water Act/VDH analytical (THM/HAA) testing requirements
- Maintain Member’s Safe Drinking Water Act/VDH bacterial testing requirements
- Maintain ARWA VDH process analytical testing requirements
- July 1, 2017-December 31, 2017: Spec and order replacement laboratory analytical equipment: TOC unit & AA unit.

Operations Department:

- Maintain water plant production at all times to meet member demands
- Maintain finished water quality to meet all Safe Drinking Water Act/VDH regulatory requirements
- Ensure all Operators maintain DPOR required annual training requirements
- Ensure all Operators continue to strive for Class 1 Waterworks Operator license
- Maintain Water Product Facility in a clean and orderly manner

IT/Instrumentation Office:

- Ensure all process instrumentation is functional and accurate
- Ensure the Supervisory Control and Data Acquisition System is functioning to enable Operations Department to operate the process control equipment
- July 1, 2017 to December 31, 2017: Under ***Design replacement of 1960’s instrument equipment with 2017/18 HMI screens and connection into SCADA. Project expected to be complete by June 2018.***

8. Other Items from Board Members/Staff Not on Agenda

9. Adjourn

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