PHILADELPHIA WATER DEPARTMENT
STATEMENT 2B

BEFORE THE
PHILADELPHIA WATER, SEWER AND STORM WATER RATE BOARD

In the Matter of the Philadelphia Water Department's Proposed Change in Water, Wastewater and Stormwater Rates and Related Charges	Fiscal Years 2024 - 2025

Direct Testimony

of

Peter Nissen and Charles Matthews

on behalf of

The Philadelphia Water Department

Dated: January 2023

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I. INTRODUCTION AND PURPOSE OF TESTIMONY

Q1. PLEASE STATE YOUR NAME AND TITLE.

A1. My name is Peter Nissen. I am a Managing Director of Acacia Financial Group, Inc. ("Acacia").

Testifying with me is Charles Matthews, a Director of Public Financial Management ("PFM").

Q2. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?

A2. Together, we are financial advisors for the Philadelphia Water Department ("PWD" or the "Department"). We are submitting this testimony on behalf of the Department.

Q3. WOULD EACH OF YOU PLEASE DESCRIBE YOUR RESPECTIVE EDUCATIONAL BACKGROUND AND RELEVANT WORK EXPERIENCE

A3. Our respective backgrounds and experience are summarized below:

<u>Mr. Nissen</u>

I am a 27-year veteran of the public finance industry, having worked with other financial advisory firms before founding Acacia in 2006. Prior to founding Acacia, I gained four years of engineering experience with an internationally renowned engineering corporation. I serve as day-to-day advisor to many of Acacia's clients.

I oversee the firm's quantitative services including the evaluation of derivative products. I have extensive experience in the preparation and review of financing documentation and in the marketing and pricing negotiation of both taxable and tax-exempt debt on both a competitive and negotiated basis.

My resume is attached to our Memorandum (Schedule FA-1).

Mr. Matthews

I am a Managing Director in PFM's financial advisory practice. I am based in PFM's Philadelphia office. I rejoined PFM in March 2021 after spending the last decade as an investment banker with RBC Capital Markets and most recently Janney Montgomery Scott. I began my public finance career at PFM in 1996 and prior to that in municipal bond sales, trading and underwriting with First Albany Corporation.

My resume is attached to our Memorandum (Schedule FA-1).

Q4. PLEASE DESCRIBE THE PURPOSE OF THIS DIRECT TESTIMONY.

A4. The purpose of our testimony is to highlight our findings and recommendations set forth in the attached Financial Memorandum (Schedule FA-1) as additional support for the Department's Financial Plan, related policies and financial metrics in the context of the instant rate proceeding.

II. DISCUSSION OF THE DEPARTMENT'S FINANCIAL POLICIES AND METRICS

Q5. PLEASE SUMMARIZE THE FINDINGS AND RECOMMENDATIONS OF YOUR MEMORANDUM.

A5. As described more fully in our Memorandum (Schedule FA-1), we advance the following findings and recommendations:

- The Department's current credit ratings are by Moody's Investor's Service, Inc. ("Moody's"), A1, "stable outlook;" S&P Global Ratings ("S&P") A+, "stable outlook;" and Fitch Ratings, Inc. ("Fitch"), A+, "stable outlook."
- These favorable credit ratings allow PWD to access the bond markets on reasonable terms to support its sizable capital program.
- The current credit ratings are tied to PWD either achieving or making incremental progress toward achieving reasonable financial goals or targets (financial metrics) as set forth in the Department's Financial Plan, Schedule FP-1.
- PWD's current financial metrics (cash reserves, debt service coverage, pay-go financing), as incorporated in its Financial Plan and acknowledged in the 2018 Rate Determination, are reasonable targets.[1]
- A key financial metric to maintain is the $135 million balance for the Rate Stabilization Fund ("RSF") which is an appropriate balance for financial planning.

[1] Please note that financial metrics should not be static. In a future proceeding, the Department should consider if the metrics first acknowledged in the 2018 Rate Determination should be changed to stay in alignment with the expectations of the rating agencies, industry norms, best practices, and market conditions.

- PWD's financial metrics are, in general, significantly below peer median metrics for water/sewer utilities in similar rating categories and size.
- The statements of the rating agencies in July 2022 and earlier foretelling possible rating downgrade action clearly indicate their concern that rates must be sufficient to sustain PWD operations and maintain financial reserves.

Q6. YOU MENTIONED VARIOUS RATING AGENCY STATEMENTS AND CONCERNS. PLEASE PROVIDE A SUMMARY OF RATING AGENCY REPORTS RELATED TO PWD RECENT BOND ISSUES.

A6. The most recent (July 2022) rating agency reports can be found at Schedule FP-3. We would also direct your attention to the prior September 2021 rating agency reports which articulated similar rating concerns:

- S&P indicated that it would likely lower the Department's rating – if the balance of the RSF falls below $120 million.
- Based on a survey by Fitch, PWD is below peer and median metrics for water/sewer utilities in similar rating categories and size.
- Fitch and Moody's expressed concern over the Department's ongoing ability to increase rates commensurate with coverage requirements and in line with the Department's internal standards.
- S&P and Moody's raised concerns regarding extending shut-off limitations and higher than average delinquencies.

The September 2021 rating reports were attached as Schedule ML-3 in the 2022 Special Rate Proceeding, https://www.phila.gov/media/20220124131428/PWD-Statement-No.-1-

Direct-Testimony-and-Schedules-of-Melissa-La-Buda.pdf. The September 2021 rating reports were summarized by Department in Appendix A to the Monthly Report by the Department to the Rate Board (dated November 16, 2021), https://www.phila.gov/media/20211117155430/Rate-Case-Settlement-Progress-Report-October-2021.pdf.

III. CONCLUSION

Q7. PLEASE STATE YOUR KEY RECOMMENDATIONS WITH REGARD TO THE DEPARTMENT'S REQUESTED INCREASE IN RATES.

A7. Our key recommendations are that the Rate Board should (i) be guided by the PWD Financial Plan and policies and financial metrics identified therein; (ii) reaffirm the use of PWD financial metrics as reasonable targets in the current rate case; and (iii) approve the proposed rate relief to ensure that the Department can reach its financial objectives and better serve ratepayers.

As noted in our attached Memorandum (Schedule FA-1):

> Failing to provide rate increases necessary to manage to PWD financial metrics places the Department at risk of higher borrowing costs as a result of credit rating downgrade(s) and departs from financial "best practices" as well as the Rate Board's 2018 Rate Determination (approving PWD metrics).

The effect of delayed rate increases is cumulative. The deferral of a marginal rate increase in a particular year necessitates marginally higher rate increases in future years to recover the lost revenue in the first year as well as the lost revenue from the deferred rate increase in each subsequent year.

Consistent with the foregoing, we strongly recommend that the Rate Board adopt the Department's proposed rate increase in this proceeding. Rates and charges must be set at levels to sufficiently support the financial metrics and policies identified in the Department's Financial Plan and current financial profile.

Q8. DOES THIS CONCLUDE YOUR TESTIMONY?

A8. Yes, it does.

Memorandum

January 6, 2023

TO: City of Philadelphia Water Department
FROM: Charles Matthews, Director, PFM Financial Advisors, LLC
Peter Nissen, Managing Director, Acacia Financial Group, Inc.
RE: Discussion of Water Department Financial Policies and Metrics

Introduction

The purpose of this memorandum ("Memorandum") is to support our expert testimony regarding the importance of financial policies and related metrics utilized in financial planning by the Philadelphia Water Department ("PWD" or "Department"), as approved by the Philadelphia Water Sewer and Storm Water Rate Board ("Rate Board").[1] To be sure, these policies and targeted financial metrics should be strongly considered in the 2023 rate proceeding.

These metrics (including targeted debt service coverage, pay-go financing and Rate Stabilization Fund balances) are, over time, critical to a strong credit profile and to the sustainability of the system by maintaining robust liquidity levels which will provide protection from unforeseen financial events or economic downturns. Consistent use of these targeted metrics in financial planning also allows the Department to maintain the necessary credit rating to efficiently enter the capital (bond) market and achieve a favorable cost of capital that inures to the benefit of ratepayers. In opining as to these policies, we are relying on PFM's and Acacia's national water and sewer experience[2], credit agencies published metrics and methodology, and industry best practices. In preparing this memorandum, we have also reviewed and examined materials provided by the Department, reports and publications from the rating agencies, and comparative information on peer water and sewer systems.

The projected revenue and revenue requirements presented by the Department's Consulting Engineer, Black & Veatch, assume, among other

[1] See, 2018 Rate Determination approving targeted financial metrics.

[2] PFM and Acacia are registered municipal advisors with the Municipal Securities Rulemaking Board (MSRB) and the U.S. Securities and Exchange Commission (SEC). Acacia and PFM currently serve as financial advisors to the Water Department. Firm resumes are attached.

factors, rate increases that will allow the PWD to comply with its rate covenants to investors and to manage to the financial metrics discussed in this Memorandum. These policies were developed (i) to position PWD with the necessary debt service coverage and cash reserves; (ii) to address capital needs aimed at maintaining assets; and (iii) to increase pay-go funding to lower the overall debt burden.

In order to mitigate increasing rate pressures on certain low-income customers, PWD implemented affordability programs to assist and in some instances shield low-income households from rate increases. Affordability is becoming an increased focal point in the credit profile of utilities across the sector, and we believe the Department has been pro-active in addressing this issue. Fitch noted the approval of the specific Tiered Assistance Program ("TAP") surcharge in the most recent credit report (July 28, 2022) and S&P Global Ratings ("S&P") noted that the Department's industry-recognized customer assistance program would be considered "credit supportive" (July 28, 2022).

Importance of Financial Metrics

The critical financial metrics discussed in our testimony include debt service coverage, level of system liquidity (measured by days cash on hand), level of pay-go financing of capital (i.e., funding of capital from current revenues) and system leverage, including measuring life of the assets to debt. We will continue to emphasize the importance of these metrics on the Department's financial trends and the resulting impact on its credit profile. These agreed upon metrics are within industry norms and would be considered best practices. It is our position that the requested revenue requirements are well within industry standards and that it is critical for the Department to maintain and continue to manage to its targeted financial metrics over a reasonable period, which will be possible with the requested revenue increases.

Public Utilities Versus Private Utilities

Publicly owned utilities have two major sources of funds to address capital needs: (i) revenues generated from rates (pay-go) and fees and (ii) proceeds from debt issuance (bonds or government loan programs). This differs from private (or investor) owned utilities, who can also rely on investor equity to fund projects in exchange for a return on equity.

In each year, the PWD incurs both operating and capital expenses to operate, maintain, and improve the Water and Wastewater Systems. Utilities incur capital costs to make long-term infrastructure improvements (e.g., water main replacements, sewer replacements, pumping stations, water and wastewater plant improvements) to maintain and improve the level of service provided to customers and ensure compliance with environmental regulations. As a municipally-owned utility, the PWD establishes rates and charges that are designed to generate revenues that exceed operating costs and debt service in order (i) to provide funds for reserves to provide for unforeseen circumstances, if necessary, and (ii) to provide a contribution from rates to capital costs to avoid relying exclusively on debt financing.

The aforesaid revenues above current costs are referred to as “coverage.” For an investor-owned utility, these excess funds are partially paid out as dividends to shareholders. For publicly owned utilities, there are no external dividend payments and the margin above current costs stays within the system for the benefit of ratepayers over time. This common use of coverage with public owned utilities is illustrated by in the fact that the median debt service coverage for US publicly owned, combined retail systems is 2.1 times and the median days cash on hand is 571 days. (Fitch US Water and Sewer: Peer Review 2022). Please note that PFM and Acacia are not aware of any major water and wastewater system that relies exclusively on debt as the sole source of funding for its capital improvements over time.

Financial Metrics

The PWD has incorporated key financial policies which impact rate increase requests. Pursuant to the Rate Ordinance, the Rate Board has and must “recognize the importance of financial stability to customers and fully consider the Water Department’s Financial Stability Plan” (Philadelphia Code 13-101 (4)(b)(i)) in addition to considering “peer utility practices, best management practices and projected impacts on customer rates” (Philadelphia Code 13-101 (4)(b)(ii)). The Department developed key financial policies as a part of their annual Financial Stability Plan and have incorporated these metrics in the rate increase request. Such metrics include (i) managing to a debt service coverage ("DSC") of 1.3 times which is slightly higher than the legal requirement, but still under peer medians, (ii) maintaining minimum combined balances in the Rate Stabilization Fund ("RSF") and Residual Fund ("RF") of $150 million and (iii) targeting 20% "pay-go" revenues to support the Department's capital needs and to lower future reliance on debt and an increasing debt burden. While acknowledging that some of these targets have been purposely softened during the Rate Period (FY 2024-2025), it is critical to return to these targets as quickly as possible not only for the purposes of adequately funding the capital improvement plan and providing sufficient reserves, but also to avoid any rating downgrades and the additional cost burden arising therefrom. In addition, it is imperative to recognize that any diminution of targeted rate increases has a cumulative effect. Not only are the financial metrics affected in the fiscal year that the rate increase is diminished, but the same effect carries forward to subsequent years. That is, even more substantial increases would be necessary in subsequent years to recover the lost revenue in the first reduced year as well as all of the following affected years.

Bond Credit Rating Agencies

While Moody's Investors Service, Inc. ("Moody's), S&P and Fitch Ratings, Inc. ("Fitch") analyze credits with slightly different methodologies and criteria, the PWD's respective ratings of A1/A+/A+ (each with a stable outlook) show a consistency of rating views by all three rating agencies. This consistency benefits PWD as investors price to the lowest rating, if there are significant discrepancies. A downgrade by any single rating agency yields a negative financial impact on the Department in connection with future debt offerings.

PWD was able to access the market in the summer of 2022 for a $294.8 million new money issue and is currently finalizing a $351.5 million Water Infrastructure Finance and Innovation Act of 2014 ("WIFIA") loan agreement, which will be drawn down over the next five years. Both transactions are favorably impacted by the continued positive credit profile of the Department and its ability to continue to raise rates to support the required debt service needs. Even with the revenue shortfalls in 2020 and 2021 due to the Pandemic, the Department was able to maintain its current ratings, largely on the belief that future regulatory actions will bring the Department back to the financial metrics previously articulated.

It bears emphasis that the most recent review by each of the rating agencies was not a perfunctory exercise with rating affirmation a foregone conclusion. Each of the rating agencies emphasized the need for significant rate increases to support the capital plan and reserve balances and the importance of these increases in the maintenance of the current ratings.

Moody's states:

" The A1 rating incorporates our expectation of substantial future rate increases and debt issuance in the coming years to support the CIP[3]."

"While the rate board approved a sizable rate increase for the current FY, further rate increases will be required to rebuild the department's reserves and the rate board has historically not approved rate increases at the level requested."

"Reserve draws beyond current expectations, due to prolonged or worsening customer delinquencies or an inability of the department to raise rates as needed to support its rate covenant without further reserve draws, will pressure the department's current credit profile."

"CREDIT CHALLENGES

- *Continued rate limitations through rate board approval structure; continued rate increases are required to support debt and capital plan"*

"FACTORS THAT COULD LEAD TO A DOWNGRADE OF THE RATING

- *Failure to meet bond coverage covenants*
- *Inability to increase rates commensurate with coverage requirements and in line with the department's internal standards*
- *Appropriation of reserves beyond current expectations"*

The second of these factors is prima facie in its impact and the first and third of these above factors are a manifestation of failing the second factor.

[3] The rating agency reports use acronyms to refer to PWD's Capital Improvement Plan ("CIP ") and the Consent Order and Agreement ("COA") entered into between the Pennsylvania Department of Environmental Protection and the Department (June 2011).

S&P states:

"While the City's Rate Board has historically supported rate increases to maintain ample capacity for PWD's operations an capital needs, we foresee future challenges that could place downward pressure on PWD's financial position, most notably funding of a large capital improvement program (CIP) while concentrating on rate affordability"

"PWD has historically met its 1.2x and 1.0x coverage tests without reliance on the 90% test, but if it needed to rely on it to maintain covenant compliance, then the rating would likely be lowered."

"Setting rates to the legal minimum leaves very little cushion for future revenue deviations, which could threaten compliance in any given year without additional unplanned use of the RSF."

"Governance risks are currently a neutral factor in the rating, but could become elevated if future rate increases start to generate lower revenue than management's current projections indicate they will."

"OUTLOOK – DOWNSIDE SCENARIO

- *If PWD's appetite for rate adjustments wanes and current projections for DSC and liquidity are not met, then we (S&P) could lower the rating. We could also do so if there is a willingness to permanently reduce liquidity because of unforeseen capital costs or in lieu of rate increases."*

S&P stated in September 17, 2021 regarding additional unplanned use of the RSF that:

"If we (S&P) believe that future rate covenant compliance is likely to rely on unplanned additional rate increases to achieve revenue requirements, deplete the RSF below the targeted $120 million indicated in its current projections, or require significant or COA project delays, we would likely lower the rating."

It bears emphasis that the above statement provided a direct assessment of PWD. In this context, it is important to note that credit profiles are a reflection of the financial health of a system, considering both current financial position and trajectory. S&P retains the authority (like all rating agencies) to modify the rating at their discretion and timing. The Department should be aware that S&P could take rating action based upon the totality of the financial position, rate actions and stated goals, irrespective of the balance of the RSF breaching a $120 million threshold. Actions that could even potentially cause a breach of this balance could yield a rating action. S&P is communicating its concern that the financial health of PWD is challenged, particularly given the large CIP of $4.6 billion through 2029. The downside scenario stated above signals the possibility of rating declines that would cause increased cost burdens for future rate payers. Our recommendation is that this downside scenario be avoided by maintaining the RSF so that any additional unplanned use of the RSF will not breach the $120 million threshold.

Fitch states:

"The (A+) Stable Outlook incorporates Fitch's expectations that PWD will secure rate adjustments sufficient to maintain leverage consistent with the current financial profile assessment and rate, while continuing to implement its substantial capital improvement plan."

"This will require robust rate adjustments for the next several years in light of foregoing a rate adjustment for fiscal 2021 and lower than initially anticipated rate adjustments for fiscal years 2022 and 2023."

"The rate approval process has proven arduous and rate affordability and cost recovery remain a concern, currently limiting overall revenue defensibility."

"Over time, leverage is expected to rise but financial metrics are anticipated to remain consistent with the current assessment and rating, should revenue expectations hold."

"Factors that could, individually or collectively, lead to negative rating action/downgrade"

- *Leverage sustained above 10.0x through Fitch's base and stress case*
- *Failure to secure rate increases in a timely manner to sufficiently support the current financial profile*
- *Deterioration in the revenue defensibility assessment, raising the hurdle for leverage at the current rating."*

Fitch, like Moody's and S&P, is calling out in explicit terms that the failure to raise rates in an amount sufficient to support debt coverage and reserve balances to targeted levels, established by the Department prior to the Pandemic, will result in a downgrade.

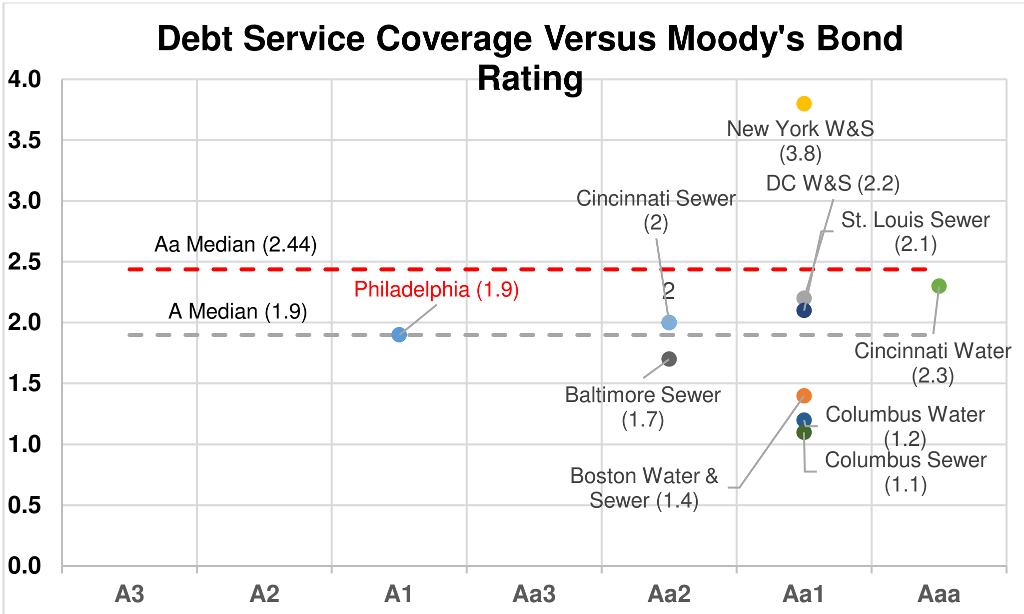
Peer Utilities

PWD has selected certain peer systems to provide important benchmarking critical to organizational best practices. While systems each have their own characteristics based on regions, size, and service area, the selected peers are of similar size, service areas of industrial urban centers and are located largely in the mid-Atlantic and Midwestern regions of the country. Peer comparisons and benchmarking performance indicators are a component of best practices and are specifically mentioned as a factor the Board must consider in the rate making decision.

Below are charts which indicate that PWD, as compared to its peers, remains on the weaker side of these key financial ratios. Given that PWD already bears weaker metrics than its peers and that simply achieving the targeted goals articulated by the Rate Board (1.30x DSC, 20% pay-go, $150 million RSF and RF balances) will only maintain PWD in this weaker position, the need to achieve these targeted metrics could not be more clear, as the consequences of failing to do so increases costs to the Department.

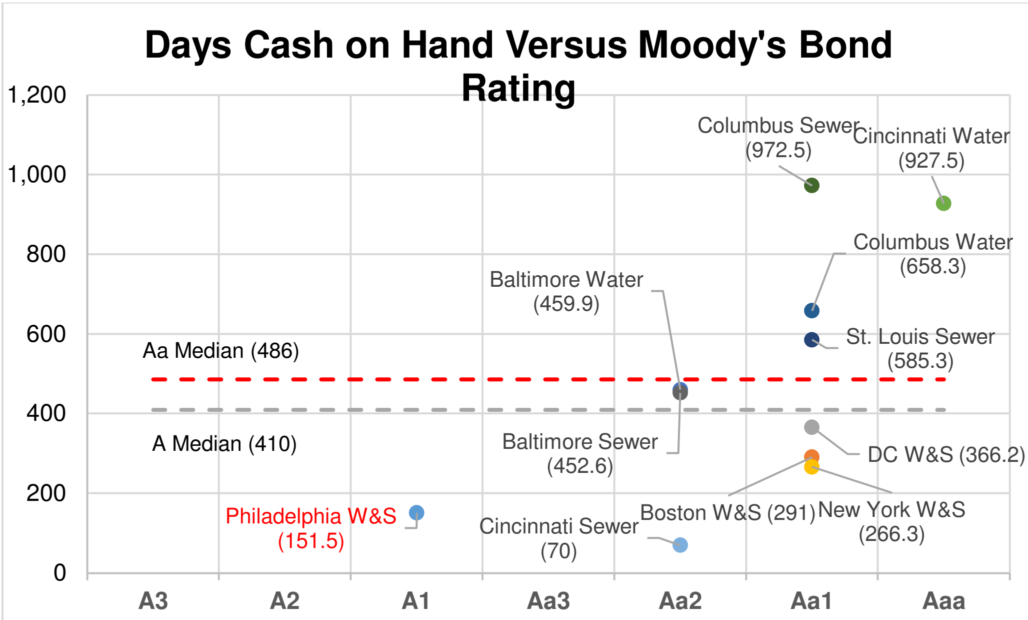
The first table (Debt Service Coverage versus Moody's Bond Rating) illustrates that higher debt service coverage correlates to higher credit ratings. The red and grey horizontal dashed lines indicate respectively Moody's median debt service coverage for Aa rated and A rated water and sewer utilities. The Department's weaker credit rating (A1) relative to these peers of similar or weaker coverage but better rating, shows the importance of targeting and "re-attaining" the 1.3x coverage[4].

[4] For purposes of comparison within these peer charts, Moody's utilizes a different calculation for debt service coverage, resulting in the 1.9x coverage shown, than the methodology applied for purposes of the legal Bond Ordinance.



(Moody s MFR, 2021)

The second table (Days Cash on Hand versus Moody's Bond Rating) illustrates that higher liquidity correlates to higher credit ratings. The red and grey horizontal dashed lines indicate respectively Moody's median days cash on hand (measure of liquidity) for Aa rated and A rated water and sewer utilities. The Department's weaker credit rating (A1) relative to these peers of similar or weaker liquidity but better rating, shows the importance of targeting and "re-attaining" the $150 million RSF and RF balances.

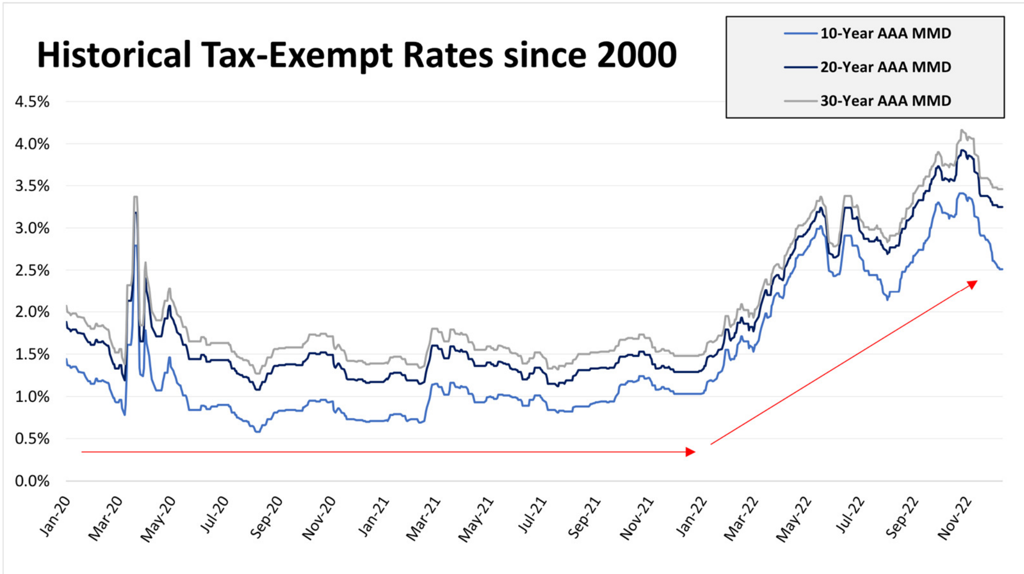


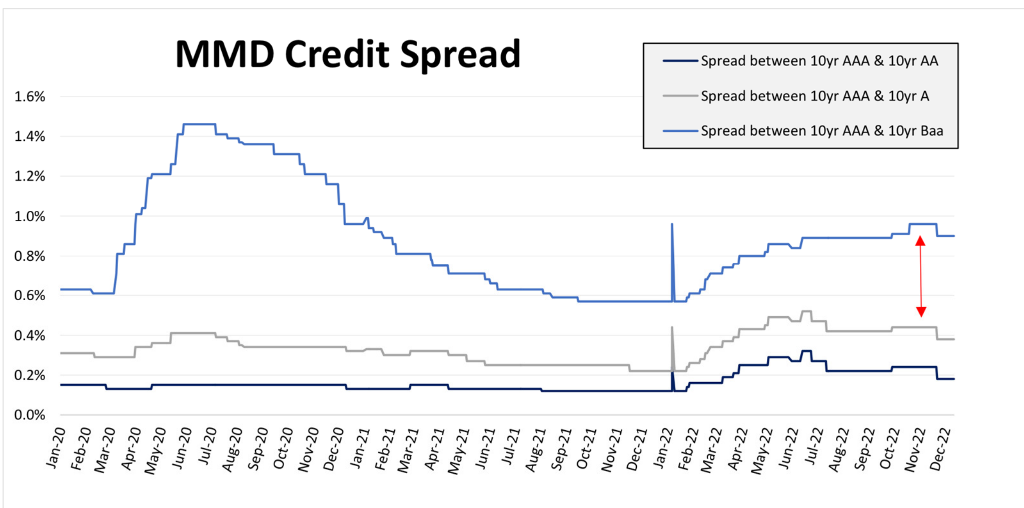
(Moody s MFR, 2021)

Cost of Capital

The Department's credit rating directly affects the interest rates on its future revenue bond issuances. This directly affects the annual revenue bond debt service that the Department must pay. It also ultimately affects the cost of alternative financing options such as letter of credits, bank loans, and implementing its commercial paper program. Higher rated credits have greater access to and lower cost for these short term, variable rate options which can be even more advantageous in a rising rate environment, such as the present period. The following graphs illustrate both the rising nature of tax-exempt interest rates (MMD yields)[5] and the rising nature of credit spreads between various credit ratings (relative spreads between MMD yields).

[5] Municipal Market Data ("MMD") is the generally accepted market index for tax-exempt short and long term fixed interest rates in the municipal bond market.





Source: Municipal Market Data (MMD)

Over the next five years, the Department expects to issue approximately $2.58 billion in additional revenue bond debt. On this anticipated debt, every 50 basis point increase (or ½ of a percentage point) in borrowing rates adds an additional $8.8 million per year in debt service costs to the Department. This increase is cumulative, placing additional stress on debt service coverage requirements.

The Department, and by extension rate payers, benefit from the Department's aggressive and strategic use of PennVest loans and the forthcoming WIFIA loan closing. The lower interest rates on these loans offset some of the cost that the

Department would have had or will have to bear with only publicly offered Revenue Bonds. For example, the most recent funding offer from PennVest (scheduled for closing in early 2024) provides for $125 million of capital funding at an interest rate of 1.0% for a 20 year term plus 3 years of interest only at the outset. This permits the avoidance of a like amount of capital funding through public capital borrowings. At current public tax-exempt interest rates (MMD as of 12/28/2022) adjusted for the Department's credit spread to MMD and applying the same repayment term and amortization structure, a public issuance of Revenue Bonds to generate $125 million for capital projects would generate approximately $197.6 million in debt service whereas this Pennvest loan is projected to generate total debt service of $141.6 million (if for theoretical purposes the full amount were drawn at closing). As summarized in the table below, this equates to approximately $55.9 million in savings to the Department or $42.6 million on a present value basis.

Summary of Comparison of PWD Public Revenue Bonds to PennVest Loan

	Theoretical Public Revenue Bonds	PennVest Loan	Difference
Project Fund Deposit	$ 125,000,000	$ 125,000,000	
Settlement Date	12/28/2022	12/28/2022	
Interest Only Period (months)	36	36	
Amortization Period (months)	240	240	
Interest Rate/TIC (%)	4.00%	1.00%	
Annual Debt Service (during amortization)	$ 8,911,481	$ 6,898,415	$ 2,013,067
Total Debt Service	$ 197,525,219	$ 141,624,542	$ 55,900,677
Present Value Debt Service @ 2.50%	$ 147,077,687	$ 104,524,200	$ 42,553,487

When considering this magnitude of savings across (a) the existing PennVest loans outstanding in the approximate amount of $125.5 million, (b) future PennVest loans to be secured and (c) the future WIFIA loans in the aggregate amount of $341.6 million (recognizing that the WIFIA loan is not as subsidized as the PennVest loans as far as interest rate), the magnitude of savings is substantial.

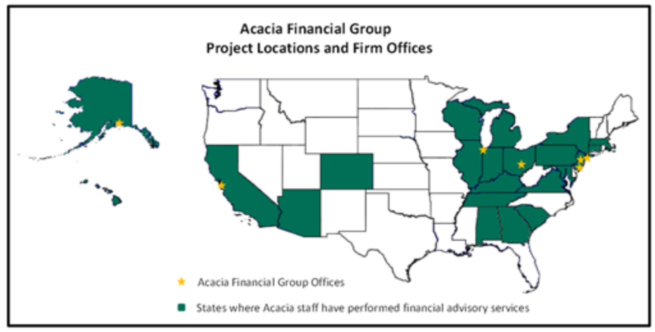
ACACIA
FINANCIAL GROUP, INC.

Conclusion

It is our position that the requested revenue requirements are well within industry standards and should be approved. As noted above, it is critical for the Department to maintain and continue to manage to its targeted financial metrics during FY 2024, FY 2025 and during the financial planning period.

Failing to provide rate increases necessary to manage to PWD financial metrics places the Department at risk of higher borrowing costs as a result of credit rating downgrade(s) and departs from financial "best practices" as well as the Rate Board's 2018 Rate Determination (approving PWD metrics).

Acacia Firm Overview



Acacia is an independent, women-owned firm providing comprehensive financial advisory services to governmental entities. The firm has been in business under its current name and management since 2006. Our professionals have the experience and expertise to assist with all of our client's financial advisory needs, including plan of finance development and execution, financial modelling, strategic planning, credit review and rating agency strategy, review of financial documents and the analysis of the long-term implications of various financing options.

Over the past 5 years, Acacia advised on over $66 billion of tax-exempt and taxable financings. The firm's team of professionals has a proven track record of success managing engagements for governmental entities ranging from small local governments to the largest state authorities. Over the past several years, Acacia has priced bonds and notes an average of two to three times a week, keeping the entire team current as to market conditions and innovative financing structures. Acacia is consistently ranked as a top financial advisory firm on a national level, ranking 5th or higher in 2018, 2019, 2020 and through the 3rd quarter of 2021 based on par amount issued.

Acacia's definition of quality financial advisory services extends beyond knowledge of the public finance industry. It encompasses commitment to the client's mission, creativity in developing financial solutions and a demonstrated determination to solve problems and overcome obstacles on an issuer's behalf. In total, the firm has 17 public finance professionals and 3 support staff.

General and Water/Wastewater Experience

Acacia advises a wide variety of governmental clients, ranging from large, complex state agencies to local level issuers. We have provided services in connection with the development and implementation of detailed plans of finance including the execution of traditional financings for new money and refunding transactions, complicated multi-series refunding and restructuring transactions and short and long-term products. Acacia is an expert in the various complexities of negotiated and competitive financings and has tailored our services to best serve our clients. Acacia professionals have developed comprehensive cash-flow, tax impact and user rate models, assisted with the development and compilation of rating agency and investor presentations and provided advice relating to the structuring and financing of long-term debt management plans.

Acacia professionals currently advise on over 25 sewer and water utility clients throughout the country. We have advised these clients on plan of finance development, capital planning, cash flow and rate models, debt capacity, option analysis, rating agency strategies, investment advisory, and the use of federal programs. Among our recent national clients are the City of Chicago, City of Philadelphia Water Department, San Diego County Water Authority, South Central Connecticut Regional Water Authority, Bergen County Utilities Authority (NJ), and Wayne County (MI). Acacia also has extensive experience with State Revolving Fund Loan Programs.

Below is a sampling of the water and wastewater issuers that Acacia has represented in recent years:

- Atlantic County Utilities Authority (NJ)
- Bayshore Sewerage Authority (NJ)
- Bergen County Utilities Authority (NJ)
- Bordentown Sewerage Authority (NJ)
- Brick Township Municipal Utilities Authority (NJ)
- Cape May County Municipal Utilities Authority (NJ)
- Chicago, City of (Water Department) (IL)
- Chester Water Authority (PA)
- DuPage Water Commission (IL)
- Essex County Utilities Authority (NJ)
- Illinois Finance Authority SRF (IL)
- Lacey Township Municipal Utilities Authority (NJ)
- Lambertville Municipal Utilities Authority (NJ)
- Metropolitan Water Reclamation District of Greater Chicago (IL)
- Moorestown Township (NJ)
- New Jersey Water Supply Authority (NJ)
- New York State Environmental Facilities Corporation (NY)
- North Jersey District Water Supply Commission (NJ)
- Old Bridge Municipal Utilities Authority (NJ)
- Philadelphia Water Department, City of (PA)
- San Diego County Water Authority (CA)
- South Central Connecticut Regional Water Authority (CT)
- Toms River Municipal Utilities Authority (NJ)
- Washington Township Municipal Utilities Authority (NJ)
- Wisconsin State (WI)

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Mr. Nissen is a Managing Director and shareholder with Acacia Financial Group, Inc. Mr. Nissen serves as head of quantitative matters for the firm.

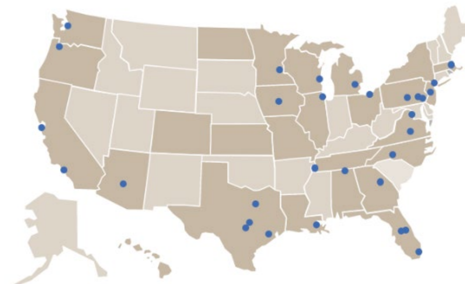
Mr. Nissen has 27 years of experience working for both large and small municipal advisory firms. His experience includes general obligation, lease revenue/subject to appropriation, toll roads, airports, solid waste, water and wastewater, higher education, health care, major economic development, not-for-profit (501(c)(3)), MSA tobacco secured, gaming industry, tax lien sales, PILOT bonds and multiple complex refundings. Major clients represented include: States of New Jersey, Ohio, New York, Massachusetts, Alaska, Cities of Philadelphia (City, PAID, PRA, PMA), New York, Los Angeles, Chicago, Philadelphia Water Department, Chester Water Authority (PA), New Jersey EDA, NJ Sports and Exposition Authority, NJ Building Authority, NJ Health Care Facilities Financing Authority, Casino Reinvestment Development Authority, South Jersey Transportation Authority, Delaware River Port Authority, Philadelphia School District, SEPTA, Alaska International Airport Systems and others.

Mr. Nissen has developed complex rate setting, life-cycle and debt capacity analysis for many reveunue secured utilities. Debt structures completed have included fixed rate, synthetic fixed rate, variable rate demand bonds, auction rate securities, private placement and LOC structures. Refunding structures completed have included current and advance fixed rate refundings, synthetic fixed rate refundings (with and without integration), forward refundings (with and without optionality), cross-over refundings, “cinderella” structures. He has made presentations to ratings agencies & bond insurers; negotiated with insurers, LOC banks; provided testimony before local and State level boards and committees. Mr. Nissen has provided reasonableness opinions and valuation opinions on debt issuances and asset transfers.

Mr. Nissen has a BA in Civil Engineering from Drexel University. Mr. Nissen has passed the MSRB Series 50 and 54 Examinations.

PFM Financial Advisors LLC

The original practice of PFM was founded over 45 years ago with the mission of providing independent financial advice to state and local governments, governmental agencies, and authorities when bringing their debt to the market, investing funds, or undertaking capital planning and budgeting. PFM Financial Advisors LLC ("PFM" or "PFMFA") has one of the largest financial advisory teams in the public finance industry, maintaining an expansive national presence. PFM Financial Advisors LLC is a registered municipal advisor with the Securities and Exchange Commission ("SEC") and the Municipal Securities Rulemaking Board ("MSRB"). Our SEC Number is 867-02030 and our MSRB ID is K1162. PFM and its affiliates currently have more than 300 personnel, located in 31 offices and locations across the United States (as of 12/7/21).

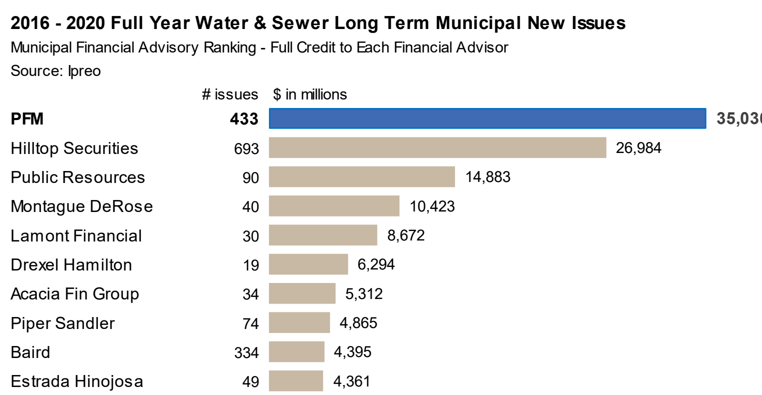


PFM and its affiliates (described below) are wholly owned by its 42 Managing Directors, who set the firm's strategic direction. It is comprised of four affiliates that are indirect, wholly owned subsidiaries of a holding company known as PFM II, LLC. Employees of our affiliates are co-located in PFM's offices across the country.

- ✓ **PFM Financial Advisors LLC:** advises on debt management and portfolio optimization, transaction structuring and execution, capital and financial planning, credit analysis, and policy development, among other services.
- ✓ **PFM Swap Advisors LLC ("PFMSA"):** PFMSA includes professionals dedicated to advising clients on obtaining interest rate swaps, caps, and collars in order to help manage exposure to interest rates.
- ✓ **PFM Group Consulting LLC:** PFM Group Consulting LLC ("MBC") provides a broad range of services, including multi-year financial planning, consolidating and shared-services analysis, operational and program analysis, revenue maximization, fleet management, workforce analysis, and pension and other post-employment benefits (OPEB) review and strategies.
- ✓ **PFM Solutions LLC:** PFM Solutions LLC is our affiliate through which innovative services are developed, such as Synairo, a flexible financial modeling platform designed to produce dynamic, multi-year financial projections to facilitate strategic planning for various industry sector**.**

Water Utility Clients:

PFM is consistently ranked as the top financial advisor in the water and wastewater sector, with Ipreo having ranked PFM's financial advisory business as the top financial advisory firm for water and sewer issues, in terms of overall issues and/or principal amount for 17 of the past 20 years, having advised on 60% more in principal amount than our nearest competitor over that time period. As illustrated in the chart to the right, during the last five years (2016-2020), PFM advised on 433 water and sewer transactions with a total par amount of approximately $35.0 billion.[1] Communities across the country face ever-increasing pressure to meet new and existing environmental quality standards, improve customer service and



[1] *Source: Ipreo, as of December 31, 2021.*

become more efficient, all while maintaining competitive rates. We believe our experience and leadership provides us unique insight into this rapidly evolving sector.

In addition to the bond transactions on which we have advised clients, we regularly assist water and wastewater clients with non-bond financial advisory projects. We routinely advise on strategic matters such as resource acquisitions, rate structures that allow for system growth without penalizing the existing customer base, financial reserve policies and credit matters. Our current advisory relationships with water and wastewater utilities across the country provide us with a comprehensive understanding of the unique financial and environmental considerations facing the region, while the breadth and depth of our national water and wastewater practice give us the national experience to apply it. A list of several of these clients is included below.[2]

- Austin Water and Wastewater Utility (TX)
- Baltimore Water and Wastewater (MD)
- Central Marin Sanitation Agency (CA)
- City of New Orleans, Water & Sewerage Board (LA)
- City of Toledo, Department of Public Utilities (OH)
- Clark County Water Reclamation District (NV)
- Contra Costa Water District (CA)
- DC Water and Sewer Authority (DC)
- Erie County Water Authority (NY)
- Fairfax County Integrated Sewer System (VA)
- Fairfax County Water Authority (VA)
- Great Lakes Water Authority (MI)
- Hampton Roads Sanitation District (VA)
- Kansas City Water Department (MO)
- Las Vegas Valley Water District (NV)
- Los Angeles Department of Water & Power (CA)
- Maryland Water Quality Administration (MD)
- Massachusetts Water Resources Authority (MA)
- Metropolitan Sewer District of Greater Cincinnati (OH)
- Metropolitan St. Louis Sewer District (MO)
- Nassau Sewer and Storm Water Finance Authority (NY)
- New Jersey Environmental Facilities Trust (NJ)
- New Jersey Water Supply Authority (NJ)
- NY State Environmental Facilities Corporation
- Oklahoma City Water Utility Trust (OK)
- Passaic Valley Sewerage Commission (NJ)
- Philadelphia Water Department (PA)
- Portland, Bureau Environment Services (OR)
- Rhode Island Clean Water Finance Agency
- San Antonio Water System (TX)
- San Diego County Water Authority (CA)
- Southern Nevada Water Authority (NV

[2] *Client list is as of June 30, 2021 and is provided for informational purposes only. Client list does not constitute an endorsement or testimonial of services provided by PFM's financial advisory business.*

pfm

Charles “Chuck” Matthews

Director

PFM Financial Advisors LLC

CM

Charles “Chuck” Matthews is a Director in PFM’s financial advisory practice and is based in the Philadelphia office. He rejoined the firm in March 2021 after spending the last decade as an investment banker with RBC Capital Markets and most recently Janney Montgomery Scott. He began his public finance career at PFM in 1996 and prior to that in municipal bond sales, trading and underwriting with First Albany Corporation.

Charles advises clients throughout PFM’s Mid-Atlantic and South footprint. He has worked on financings for various credit structures throughout his career including, General Municipal, Water and Sewer, Transportation, K-12, Higher Education and Health Care. Some of his clients include the City of Philadelphia (PA), the City of Norfolk (VA), the City of Wilmington (DE), Pennsylvania Turnpike Commission, SEPTA (PA) and MARTA (GA), The School District of Philadelphia and Temple University Health System to name a few.

Charles resides in Philadelphia and is active in his community having served on several boards in his neighborhood of Northwest Philadelphia and volunteering his time with youth sports organizations. Most recently he co-founded a grass roots non-partisan campaign called Cycle To Vote to increase voter turnout and promote voter education and awareness in the Philadelphia area during the 2020 election.

Charles holds a Bachelor of Arts in Economics from Princeton University and a Master of Science in Finance from The George Washington University as well as his Series 50 (Municipal Advisor Representative) license.

Contact

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Specialties
Financial Advisory

State & Local Governments, Transportation, Higher Education

Education
B.A. in Economics
Princeton University

M.S. in Finance
The George Washington University

Professional Designations or Licenses
Municipal Advisor Representative (Series 50)

Started with PFM: 2021

Started in the Field: 1996