

ALTERNATIVE RATE STRUCTURE ANALYSIS

BLACK & VEATCH PROJECT NO. 401641

PREPARED FOR

The Philadelphia Water Department

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1 EXECUTIVE SUMMARY

The City of Philadelphia Water Department (PWD or the Department) is engaging in a facilitated process to consider changes to its rate structure in three areas: water quantity charges, stormwater credits and incentives, and recovery of pension-related expenses. The Department recognizes that a comprehensive review of the current rate structure and analysis of alternative ratemaking methodologies is a lengthy and ongoing process, and the information presented herein is the first step.

This report provides detailed information about the three areas under consideration and summarizes the comments received from invited stakeholders. These stakeholders, referred to as the Alternative Rate Structure Group (ARSG) include participants from the fiscal year (FY) 2019 to FY 2020 General Rate Proceeding, key City of Philadelphia (City) partners, and City departments. This Executive Summary is a high-level summary of key observations from the meetings.

As of the writing of this report, the Department has not made any formal decision(s) to move forward with any potential rate structure adjustments. The Department will take feedback provided by attendees and commenters under advisement before the next rate proceeding. While the Department may consider some adjustments as part of future rate proceedings, others will require further evaluation and deliberation, while others may not move forward.

1.1 WATER QUANTITY CHARGES

The Department's existing Declining Block Rate Structure has been in place for over 40 years and was originally intended to reflect the way costs are incurred by the Department, the influence of peak demand on system design and capacity, as well as economies of scale. The Department is reviewing the water quantity charge structure to assess whether the existing structure still supports PWD's mission and goals.

For the ARGS meetings, Black & Veatch Management Consulting, LLC. (Black & Veatch) presented information on various rate structure alternatives but identified the uniform block for discussion purposes and further evaluation.

1.1.1 STAKEHOLDER FEEDBACK

- There was neither broad agreement nor opposition to the potential uniform block rate structure. Most stakeholders raised concerns with respect to customer impacts for various customer groups and encouraged additional dialogue and outreach. A consistent suggestion is that PWD should further evaluate these impacts before transitioning to a uniform block rate.
- A uniform block rate would be easier to understand. Messaging around and impacts resulting from a shift in water quantity structure were cited as important considerations if the Department chooses to explore the concept further.
- Some stakeholders pointed to the cost of service principles, noting that a uniform block rate would not capture the differences between various customer types and users. They suggested that the Department explore class-based rates further.

1.2 STORMWATER CREDITS AND INCENTIVES

To support the implementation of the Combined Sewer Overflow (CSO) Program referred to as the “Green City, Clean Waters Program,” as well as encourage compliance under the City’s Municipal Separate Storm Sewer (MS4) permit, PWD implemented a stormwater credit program in conjunction with the Department’s stormwater management service (SWMS) charge. The Department recently obtained updated stormwater billing information for the entire City, not reflected in the last rate proceeding, which will influence the allocation of costs to stormwater customers. Further, there are an estimated 40 million square feet in “eligible credit” associated with 500 known projects, which have not applied for or received credit and could further influence stormwater cost allocations and the Department’s ability to recover stormwater-related costs.

1.2.1 POTENTIAL ADJUSTMENTS

Black & Veatch presented the following three short-term incremental changes to stakeholders: 1) Align the credit criteria with stormwater regulations; 2) Specify an enrollment window for applying for credit following the development (or redevelopment) of a property; and 3) Adjust the program budgets for Stormwater Management Incentive Program (SMIP) and Greened Acre Retrofit Program (GARP).

1.2.2 STAKEHOLDER FEEDBACK

- Attendees generally agreed with the suggestion to align credit program requirements with current stormwater management regulations. One stakeholder speculated that aligning stormwater credit criteria with current regulation may make stormwater retrofits cost-prohibitive.
- Some participants acknowledged that specifying an enrollment window would help to encourage customers to enroll, noting that short application timeframes (e.g., less than 60 days) would be unreasonable, while longer enrollment windows (e.g., over 2-years) may not spur customer action. Others thought changes in the overall credit program would be more beneficial.
- Participants expressed concerns regarding PWD’s ability to achieve the requirements of the Long Term Control Plan (LTCP) if SMIP/GARP funding is reduced.
- Some suggested that other program adjustments should be evaluated, such as adjusting the credits provided to grant recipients or reducing the grant amount; offering low-interest loans; and reducing the SMIP/GARP budget over time.
- A suggestion was made that perhaps SMIP/GARP costs should only be recovered from non-residential stormwater customers, like the Stormwater Customer Assistance Program (CAP) since they are the only customers eligible for the program. This ties to the concern expressed by some that steps should be taken “to ensure that residential customers are not required to absorb further stormwater costs as a result of non-residential grant programs they have helped fund.”
- A participant suggested exploring a new credit program, utilizing a tiered system accounting for “location within a target community, a prioritization of nature-based solutions, managing street runoff, or exceeding the required amount of stormwater managed.”
- Other suggested revisions included:
 - Requiring customers to go above and beyond stormwater management requirements (i.e., what is required “by law”) to be eligible for credit; and

- Making a distinction between customers who: voluntarily retrofit their properties (and invest their own money); utilize SMIP/GARP grants; and implementing stormwater management to meet re/development regulations.

1.3 PENSION RIDER

The City faces significant ongoing financial challenges in meeting its pension obligations, including an unfunded actuarial liability (UAL) of approximately \$6.1 billion as of July 1, 2018. The City's contribution to the Municipal Pension Fund was approximately \$782 million in FY 2018, of which the Water Fund's share was \$62 million. Pension costs, one of the single largest operating expenses for the Department, have nearly doubled since FY 2011 and account for nearly 10 percent of the Department's total annual obligations.

The primary reason to consider using a rider as a cost recovery mechanism is the ability of a utility to control the expense and whether the cost is easily identifiable. Using a rider allows the utility to reconcile costs and revenues with actual experience closer to the period in which they occur. The difficulty in historically projecting pension expenses as well as the influence of decisions, outside of the Department's purview are similar to the challenges associated with projecting discounts provided via the Tiered Assistance Program (TAP). As such, the Department is interested in exploring a rate rider to aid in the recovery of pension-related costs, similar to the recently adopted TAP rider.

1.3.1 POTENTIAL ALTERNATIVES

Several conceptual level alternatives were discussed with the ARSG, including: a water and sewer quantity surcharge; a percent cost adjustment on all rates and charges; and a per bill surcharge. Options included recovering all expenses or just the amount of over/under-performance.

Black & Veatch suggested a per bill surcharge or credit for only the under or over-performance of the expense as the most feasible approach at this time.

1.3.2 STAKEHOLDER FEEDBACK

- Participants inquired as to whether PWD has explored other ways to help control costs and if sufficient information was available to determine if PWD's pension expenses are appropriate, requesting additional background information on the current pension system.
- One participant did not view pension expenses as sufficiently volatile to justify a rider, pointing to "adequate reserves" in the rate stabilization fund that could address pension obligations.
- Another participant cited "multi-phased" rate increases as a way to address rising costs between rate cases. They suggested the impacts of the TAP rider surcharges should be further studied before pursuing a rider for pension expenses.
- Participants concurred that a per-bill basis surcharge for under/over-collection of pension expense would be the "least detrimental approach." If pursued, one attendee suggested, further customer protections, such as a cap on revenue recovered via the surcharge, should be included along with a detailed analysis of the anticipated impacts on each customer class.

2 INTRODUCTION

Per their 2018 Rate Determination dated July 12, 2018 (the 2018 Determination), the Philadelphia Water, Sewer and Storm Water Rate Board (the Rate Board) directed the City of Philadelphia Water Department (PWD or the Department) to begin the process of reviewing Department's rate structure on a comprehensive basis. As noted in the 2018 Determination, the Rate Board agreed with the Department's observation that the analysis should include "thorough planning and interaction with customer groups." To accommodate the available time between rate proceedings, PWD identified three focus areas for evaluation as the first step in a comprehensive alternative rate structure review before the next General Rate Proceeding. As presented to the Rate Board, at their April 10, 2019, the focus areas identified are as follows:

- Water quantity charges
- Stormwater credits and incentives
- A rider for pension-related expenses

The Department acknowledges that while the initial alternative rate structure analysis focuses on these three specific areas, this is the beginning of a longer-term process which will take between 2 to 3 years to complete. As such, the changes evaluated during this phase of the Alternative Rate Structure Analysis are incremental and represent some options for the upcoming General Rate Case Proceeding. Moreover, the Department anticipates further dialogue and engagement with stakeholders, coupled with additional investigation and analysis as part of the more comprehensive rate structure review.

To aid in the evaluation of potential adjustments to the Department's current rate structure, PWD and its Cost of Service (COS) Consultant, Black & Veatch Management Consulting, LLC (Black & Veatch) scheduled a series of stakeholder meetings to gather feedback and input on: perceived impacts of potential rate structure changes; general feedback and opinions (both pros and cons) on any potential changes and associated transition; and potential impediments to implementation.

On June 18, 2019, the Department invited select stakeholder groups, including the majority of participants from the fiscal year (FY) 2019 to FY 2020 General Rate Proceeding, as well as several other participants from prior proceedings, key City of Philadelphia (City) partners and departments. The meeting invitation detailed the topics and overall schedule for the process. The final meeting timeline was as follows:

1. **Tuesday, July 30th** from 2:30 - 4:30 PM: Water Quantity Charges
2. **Tuesday, August 13th** from 2:30 - 4:30 PM: Stormwater Credits and Incentives
3. **Tuesday, September 10th** from 2:30 - 4:30 PM: Rider for Pension-Related Expenses

The Black & Veatch team (Team) gathered informal feedback from attendees (herein referred to as the Alternative Rate Structure Group or ARSG) during each stakeholder meeting. Following each meeting, Black & Veatch provided summary notes (which are also available on the Rate Board's website) and distributed the notes to invitees upon completion.

In addition to the above meetings, the Department also scheduled a meeting with the Department's Development Service Committee (DSC) on Thursday, August 15, 2019, from 9:00 – 10:30 AM to obtain feedback on potential changes to stormwater credits and incentives. The DSC consists of developers, engineers, designers, lawyers, advocacy groups as well as City of Philadelphia partners and has provided feedback and input on stormwater-related topics in the past. Black & Veatch provided the DSC with a presentation similar to the one given to the ARSG. Separate summary notes were issued for the DSC meeting and are also available via the Rate Board's website.

Finally, all ARSG invitees, as well as the DSC, were asked to submit written comments to PWD by September 20, 2019.

This report is intended to serve as a summary of the Alternative Rate Structure Analysis process and all comments, feedback, and suggestions received from all parties as of September 26, 2019. In addition, all meeting materials, including presentations and summary notes, are provided as appendices to this report.

Note: *The rate structure alternatives and associated program and policy adjustments contemplated during this phase of the Alternative Rate Structure Analysis were developed for preliminary evaluation and discussion purposes only. This report is intended to serve a summary of the Alternative Rate Structure Analysis to date, alternatives discussed, and stakeholder feedback (both informal feedback provided during the meetings and written comments).*

As of the writing of this report, the Department has not made any formal decision(s) to move forward with any potential adjustments. The Department will take feedback provided by attendees and commenters under advisement prior to the next rate proceeding. No recommendations or determinations are being made at this time. While some adjustments may be considered as part of future rate proceedings, others will require further evaluation and deliberation, while others may not move forward.

3 LIST OF COMMENTERS

The following section summarizes the invitees, meeting participants and parties that provided written feedback as of the issuance of this report.

3.1 INVITEES

Prior to initiating the Alternative Rate Structure Analysis, invitations were extended to the following organizations to participate/attend a series of stakeholder meetings, to discuss potential adjustments to the Department's rates and charges, as well as several supporting programs and policies:

- Amawalk Consulting¹;
- Building Industry Association of Philadelphia (BIA);
- City of Philadelphia Department of Commerce;
- Community Legal Services of Philadelphia (CLS)²;
- Friends of the Wissahickon;
- Natural Resources Defense Council;
- City of Philadelphia Department of Commerce;
- City of Philadelphia Managing Directors Office;
- PECO Energy Company;
- PennFuture;
- Pennsylvania Horticultural Society;
- Philadelphia Land Bank;
- Philadelphia Large Users Group (PLUG);
- PIDC (formerly Philadelphia Industrial Development Corporation); and
- Sustainable Business Network (SBN).

3.2 WRITTEN COMMENTERS

As of September 26, 2019, the Department has received written comments concerning the Alternative Rate Structure Analysis from the following organizations:

- BIA;
- CLS;

¹ Amawalk Consulting is the consultant to the Philadelphia Water, Sewer and Storm Water Rate Board during prior rate proceedings.

² CLS serves as the Public Advocate during prior proceedings before the Philadelphia Water, Sewer and Storm Water Rate Board.

- PLUG;
- SBN; and
- Callowhill Neighborhood Association, Conservation Voters of Pennsylvania, East Falls, Tree Tenders, The Enterprise Center, Friends of the Wissahickon, Green Building United, Manayunk Neighborhood Council, Northern Liberties Neighbors Association, PennFuture, Port Richmond on Patrol and Civic (PROPAC), Southwest Community Development Corporation, and UC Green.

3.3 MEETING ATTENDEES

The following is a list of organizations that had representatives at the respective ARSG and DSC meetings as noted below.

3.3.1 Alternative Rate Structure Group Meeting No. 1 Attendees

The following organizations attended the Department's ARSG stakeholder meeting, regarding water quantity charges, in person on July 30, 2019:

- BIA;
- City of Philadelphia Department of Commerce;
- CLS;
- PLUG; and
- SBN.

3.3.2 Alternative Rate Structure Group Meeting No. 2 Attendees

The following organizations attended the Department's ARSG stakeholder meeting, regarding stormwater credits and incentives, in person on August 13, 2019:

- BIA;
- City of Philadelphia Department of Commerce;
- CLS;
- Infrastructure Solution Services (ISS);
- Peer Environmental;
- PennFuture;
- PLUG; and
- SBN.

3.3.3 Development Service Committee Meeting Attendees

The following organizations attended the Department's DSC meeting, regarding stormwater credits and incentives, in person on August 15, 2019:

- Ballard Spahr LLP;
- BIA;
- City of Philadelphia Department of Commerce;
- City of Philadelphia Department of Development and Planning;
- City of Philadelphia Department of Public Property;
- Claflen Associates;
- Drexel University;
- The HOW Group;
- Meloria Design;
- PennFuture;
- Pennoni;
- Ruggiero Plante Land Design;
- Stantec; and
- SBN.

3.3.4 Alternative Rate Structure Group Meeting No. 3 Attendees

The following organizations attended the Department's ARSG stakeholder meeting, regarding a potential rider for pension costs, in person on September 10, 2019:

- BIA;
- CLS; and
- PLUG.

4 WATER QUANTITY CHARGES

The following section provides a summary of the alternatives discussed concerning the Department's water quantity charges, background on the reasons for focusing on this component of the Department's rate structure, along with submitted written comments submitted by stakeholders as well as verbal feedback received during the ARSG meeting. *The corresponding meeting overview is provided in Appendix A, the presentation is provided in Appendix B, and the associated meeting summary notes are provided in Appendix C.*

4.1 BACKGROUND

Water utilities set their rate structures based on goals and objectives driven by internal and external factors facing the utility. As identified in the American Water Works Association (AWWA) Principles of Water Rates, Fees and Charges (M1) Manual, these objectives include, but are not limited to:

- Revenue stability for the utility;
- Predictable bills for the customer;
- Affordability;
- Promotion of water conservation or efficient water use;
- Fair and equitable among customer classes; and
- Compliance with applicable laws.

4.1.1 Water Rate Structures

The most common water rate structures used in the U.S. are composed of two components:

1. Service Charge: This represents a fixed fee per billing period regardless of consumption. The fee can be the same regardless of meter size or can increase based on the meter size connection.
2. Consumption (or Commodity/Volumetric/Quantity) Charge: This represents a variable fee per billing period based on water consumption. The fee is based on the price per unit of water.

With respect to consumption charges, declining block rates (the Department's current rate structure), uniform rates, inclining block rates, as well as seasonal rates are used throughout the country based upon the specific needs and goals of the respective water utilities and their customers.

4.1.2 Industry Trends

While still in use, water industry surveys generally show a move away from declining block rate structures. Based on Black & Veatch's 2019 50 Largest Cities Water and Wastewater Rate Survey, the use of declining block has decreased significantly between 2001 and 2018. While declining block structures are still in use, primarily in areas with abundant water supply, inclining block and uniform rates have become more prevalent. Uniform rates are widely used throughout the U.S. as they are the simplest and easiest to understand quantity charge structure. Inclining block rates are widely used

throughout the U.S., and the water industry generally regards them to be a water conservation structure.

With respect to PWD's peer utilities, Baltimore, Columbus, Indianapolis, and Detroit have shifted away from declining block rate structures; reasons cited for the shift include water conservation, increased efficiency within customer classes and affordability concerns.

4.1.3 PWD's Existing Rate Structure

PWD's existing declining block water quantity charge was originally intended to reflect the way costs are incurred by the Department, the influence of peak demand on system design and capacity as well as economies scale. The declining block rate structure was first adopted nearly 40 years ago. In addition to periodic re-evaluation of rate structures (a recognized best practice), PWD is reviewing the water quantity charge structure to assess whether the existing structure still supports PWD's mission and goals, and if it will continue to do so, as the Department attempts to address:

- An increased focus on water resources and sustainability;
- Declining consumption (which continues to impact all utilities across the nation);
- Advancements in the management of the total water cycle are changing how utilities view water supply management and how those costs are best recovered from their customers; and
- Adjustments to further address affordability.

While the declining block rate structure, generally reflects system use and economies of scale, it may be hard for some customers to understand why rates decrease with consumption. Further, a declining block rate structure does not typically encourage water sustainability (conservation) and may create a challenge for some customers with respect to affordability.

4.2 ALTERNATIVES

Black & Veatch evaluated three primary alternatives to the current rate structure at a conceptual level: a uniform rate (i.e., constant fee per unit), an inclining block rate (rates increasing with higher usage) and seasonal rates (which vary to reflect increased costs that are incurred during peak-demand season).

Of the alternatives:

- Moving to an inclining block rate structure would represent a significant shift from the Department's current rate structure and didn't meet the criteria of an incremental change; and
- Philadelphia doesn't experience a seasonal variation in water usage that would necessitate the use of seasonal rates.

Based on the above, Black & Veatch suggested a uniform rate as the most likely alternative for consideration at this point for PWD.

4.2.1 Uniform Block Alternative

To facilitate discussion, Black & Veatch developed a potential uniform block alternative based upon the FY 2019 Cost of Service reflected in the 2018 Determination.

Pros and cons associated with uniform block rate structures were discussed with the ARSG:

- A uniform rate is a simpler rate both to design and for the customer to understand.
- The uniform rate structure also provides some conservation price signaling compared to the current declining block rate structure and may help to address some affordability concerns.
- However, a uniform block rate does not reflect unique customer characteristics nor the incremental cost of additional consumption.

Based upon the shift from a declining to uniform block rate, potential customer impacts include:

- Typical residential, senior citizens and small commercial customers (as identified under the 2018 Determination) would see a decrease in their total monthly bills.
- Customers with large water usage would see an increase with respect to their quantity charges.
- Overall, with respect to the quantity charge portion of customer bills: 85 percent of bills would experience a decrease; 14 percent of bills would experience no change, and 1 percent of bills would experience an increase.
- Of this 1 percent of bills that would experience an increase:
 - Any customer using more than 6.5 thousand cubic feet (MCF) in a given month would see a bill increase;
 - This represents roughly 69,000 of the over 6 million bills issued annually;
 - Targeted outreach to these customers would be necessary if such a change were to be adopted; and
 - Increases may range from 0.01 percent to nearly 39 percent, depending on the customer's usage.
- Further, with this change in the rate structure, over 50 percent of PWD's quantity charge billings would be associated with just 1 percent of customer bills.

Black & Veatch and the ARSG also discussed the applicability of a uniform block rate to PWD. Black & Veatch noted a uniform block rate would provide some price signaling to customers (compared to the declining block rate structure) as well as reasonable revenue stability. In addition, a uniform block rate would be relatively simple to implement, and residential and small business customers may experience some affordability benefits. Finally, a uniform block rate may serve as a transition mechanism (i.e., interim incremental rate structure) should the Department ultimately desire to move toward another rate structure such as inclining block or a hybrid approach.

4.3 WRITTEN COMMENTS

The following is a summary of written comments received by September 26, 2019, with respect to water quantity charges.

1. BIA suggested that PWD assess the impact on property owners and tenants of multifamily and multi-tenant buildings, as well as small businesses with larger usage (such as restaurants) before transitioning to a uniform block rate. SBN also pointed to potentially significant impacts for certain types of local business owners (especially food service industry businesses) as an area of concern. They cited that these types of businesses often operate with slim margins, and many do not own their facilities. SBN noted that higher consumption rates for these types of [potentially] high-usage businesses could potentially have a negative impact. SBN also encouraged PWD to explore further how these and other types of businesses would be impacted by the switch to a uniform block rate. SBN also suggested PWD explore as programs that could ease the burden for the businesses that may struggle.
2. SBN requested that PWD create more opportunities for engagement with stakeholders, especially for those who could potentially be negatively impacted by the change prior to adopting a shift to a uniform block rate.
3. SBN applauded PWD for seeking to strike the appropriate balance between economics, equity, and the environment.
4. CLS agreed with the underlying premise for considering alternative rate structures such as uniform rates, inclining block rates, and seasonal rates; namely, that reevaluation of rate structure should be undertaken periodically. CLS stated that while a single, uniform rate may serve PWD's mission and goals, it might not capture class-based, cost-of-service differentials. CLS raised concerns about whether such a rate is justified based on customer demand patterns. They further suggested that that uniform rates by customer class should be considered to respond to differences in class-based cost of service including varying demand patterns and cost of service differentials if such rates would also address PWD's mission and goals.
5. PLUG raised significant concerns regarding uniform rates. PLUG states that a uniform rate conflicts with the cost of service principles. PLUG also noted that a uniform water rate would generate a dramatic rate increase for large users, resulting in potential rate shock to existing customers. PLUG stated that the claimed advantages of transitioning to a uniform water rate are specious and likely outweighed by the severe and unreasonable impacts on large users.

4.4 MEETING FEEDBACK

The following is additional informal feedback collected during the corresponding ARSG Meeting, not reflected in the written comments:

PROS

- The uniform block rate structure is simple, easy to understand; it would be easy to explain to customers.
- [A uniform block rate structure] would create the potential to encourage some level of conservation (if desired).

- A uniform block rate would be simple to administer (with respect to operations such as billing).
- The majority of residential customers would see a decrease in the water quantity charges on their bills.
- It also offers a potential decrease in the water quantity charge portion of the bills for some businesses.
- [A uniform block rate structure] would be revenue-neutral for the entire system.
- A uniform block rate structure for quantity charges is more in line with national trends/other cities.

CONS

- Messaging is tough for businesses. There is tremendous diversity in [water] consumption.
 - If this is simply a change in allocation rather than behavior, this approach may seem arbitrary.
 - In other words, this may appear that costs are merely being shifted between different customer types, even though customers may not be doing anything differently.
- With the shift to a uniform block rate structure:
 - There are likely to be winners and losers within each customer type (i.e., non-residential).
 - There may be a negative impact on business development within the City.

5 STORMWATER CREDITS AND INCENTIVES

The topic of the second ARSG meeting, as well as the DSC meeting, was stormwater credits and incentives. The following section provides a summary of the alternatives discussed with respect to the Department's stormwater credits and incentives, background on the reasons for focusing on this component of the Department's rate structure, along with written comments submitted by stakeholders as well as verbal feedback received during the ARSG and DSC meetings. *The corresponding meeting overview is provided in Appendix A, the presentations are provided in Appendix B, and the associated meeting summary notes are provided in Appendix C.*

5.1 BACKGROUND

PWD's integrated water and wastewater service includes the management of stormwater. A large portion of the City's stormwater system consists of a combined sewer network, which conveys both stormwater and sewage flows; a separate storm sewer system serves the remainder of the City. Unmanaged and untreated stormwater runoff can carry pollutants to local streams and rivers throughout the City.

The Department and the Pennsylvania Department of Environmental Protection signed the Consent Order & Agreement (COA) on June 1, 2011, that requires the Department to implement its Combined Sewer Overflow Program known as the "Green City, Clean Waters Program." The program is also known as the Long-Term Control Plan (LTCP). Under the program, the City has been investing in green and traditional infrastructure, including wastewater treatment facility enhancements, interceptor pipe lining, and collection system improvements, to mitigate combined sewer overflows and enhance the quality of local waterways.

Similar approaches are being applied in separate sewer areas to address stormwater pollution further and to improve the water quality of impaired streams and water bodies per the City's Municipal Separate Storm Sewer System (MS4) permit requirements.

5.1.1 Stormwater Rate Structure

PWD recovers stormwater-related costs from its customers via a stormwater management service (SWMS) charge. Customers' SWMS charges are determined based upon their parcel's gross area (GA) and impervious area (IA), as follows:

- The Department charges residential properties a uniform fee based upon the average GA and average IA associated with residential properties throughout the City; and
- Non-residential properties are individually calculated based upon their parcel's property-specific GA and IA.

5.1.2 Current Credit Program

PWD's credit program was originally intended to:

1. Incentivize property owners to implement and maintain functional stormwater management practices to help the City meet its stormwater goals; and

2. Provide the opportunity for property owners to reduce their monthly SWMS Charge.

Only non-residential customers (including condominiums) are eligible to participate in the Department's credit program which offers three primary types of credit:

1. Impervious Area Credit (IA Credit)
2. Gross Area Credit (GA Credit)
3. National Pollution Discharge Elimination System (NPDES) Credit – which is only offered to customers with a valid NPDES Permit for Industrial Stormwater Discharge Activities

Credits are applied to the IA and GA charge components; the maximum allowable credit³ can range from 80 to 100 percent depending on the type of management approach employed, and whether the property drains to the PWD system or a local surface water body. Allowable maximums are defined in the Department's Rates and Charges Section 4.5. The credit program policies are further explained and detailed in the Stormwater Management Service Charge Credits and Appeals Manual. Both documents are available via PWD's website.

The following key details regarding the current credit program were noted during the ARSG and DSC meetings:

- The current credit program criteria only require management of the first 1" of runoff to qualify for IA managed credit. However, current stormwater management regulations require management of the first 1½" of runoff. Therefore, customers that do not meet current stormwater code requirements are eligible for the same amount of credit as those that manage to current standards.
- The original intent to incent property owners to implement stormwater management led to setting the original allowable credit percentage at 100 percent of the IA charge and was also cited as part of the rationale for the current credit program percentages.
- Properties that discharge to a surface water body can qualify for credit without managing stormwater volume and quality.

Black & Veatch informed attendees that PWD was interested in exploring whether the current credit program would help support the Department's long-term mission and goals, helping to manage natural resources and meet regulatory requirements while balancing customer impacts. The current credit program and associated private stormwater management practices, do not necessarily reduce or avoid costs for the Department.

5.1.3 Stormwater Incentives and Customer Assistance

To further encourage private stormwater management, PWD offers grants which can cover up to 100 percent of the cost to design and construct stormwater retrofits on non-residential properties. In FY 2019, PWD budgeted \$25 million to fund the Stormwater Management Incentive Program (SMIP) and Greened Acre Retrofit Program (GARP) grants. Customers participating in the SMIP/GARP are also eligible for credit following the completion of their retrofit project.

³ Allowable maximums are defined in the Department's Rates and Charges Section 4.5.

The Department also offers a Stormwater Customer Assistance Program (Stormwater CAP) for non-residential customers that were highly impacted by the transition from their meter-based stormwater fee. The program provides customers with a gradual transition to the full parcel-area based SWMS Charge.

5.1.4 Long-Term Impact Analysis

The credit program and SMIP/GARP have been key components in meeting the metrics of the LTCP and COA during the first 5-years of the 25-year plan. However, both programs influence the overall costs of the stormwater program and the Department's ability to recover costs from its customer base. Additionally, the credit program and stormwater rates rely upon parcel data originally obtained in 2005. The Department recently received updated IA and GA parcel data, which will have an impact on the allocation of stormwater costs to customers.

To better understand both the long-term impacts of the current credits and incentives programs as well as the updated billing data, a projection of long-term impacts of these factors on stormwater revenues and customer rates was developed. Below is a brief description of the anticipated impacts for both areas. Details of the Long-Term Impact Analysis are provided in the corresponding presentation and summary notes. Black & Veatch noted during the ARSG and DSC Meetings, that long-term impacts are based on FY 2018 data and would be updated to reflect more recent program performance.

Preliminary Results

Annual Revenue Impacts

The following estimates provide the projected annual revenue impacts of the programs by FY 2021:

- **Annual Stormwater CAP:** Expected to decrease from \$2.3 million in FY 2019 to \$2.1 million in FY 2021 as customers continue to roll-off the program.
- **Annual SMIP/GARP Grant Amount:** The annual SMIP/GARP budget was assumed to remain at \$25 million per year.
- **Annual Contra Revenue⁴ from Credits:** Projected to increase from an estimated \$19.6 million in FY 2019 to \$24.3 Million by FY 2021. This increase reflects an estimated 6 percent annual increase in stormwater costs as well as the impact associated with additional credits.

Units of Service – Impact of 2015 Data Set

The new data set reflects the following changes:

⁴ Contra Revenue is another metric being used to help quantify and evaluate credit related impacts. For rate setting purposes, credits are reflected as a loss in billing units.

- Impervious Area has increased a total of 84 million square feet or 6.9 percent when compared to the current billing data set. Of the IA impacts:
 - Residential IA increased by 72 million square feet (14.9 percent). The average residential impervious area per parcel also increased from 1,050 square feet to 1,200 square feet.
 - Non-residential and condominium IA increased by 12 million square feet (1.6 percent).
- There is no significant change in GA square footage when compared to the current billing data set.

The updated data set was not included in the last rate proceeding and the Department will incorporate the updated data set into the next rate filing with the Rate Board. With the increase in impervious area, residential properties will now represent a larger portion of the total impervious area in the City. As a consequence, and outside of any other updates or changes to stormwater costs and associated programs, residential customer rates would increase.

Long-Term Credit Projections – IA Units of Service

The long-term impact of credits on the IA billable units of service (through FY 2036) indicates the following:

- IA Credit is projected to increase by 77 million square feet by FY 2027;
- As a result, there will be more residential billing units than non-residential putting further pressure on residential customers as well as those that cannot achieve credit.
- This potential “Tipping Point” raises concerns about equity with respect to stormwater customer classes.

In addition, with rate proceedings occurring approximately once every two years, there are only two to three more proceedings in which to consider credit program and rate structure changes before the “Tipping Point” is reached. It may be more difficult to make changes in the future if the “Tipping Point” occurs. As such, PWD is interested in re-examining whether the current credits and incentives programs are appropriate. Further, the level of credits offered should be reviewed to determine whether they are appropriate as they do not necessarily reflect reductions in cost or cost avoidance as it relates to the stormwater program.

Long-Term Credit Projections – GA Units of Service

The long-term impact of credits on the GA billable units of service indicates the following:

- GA Credit is projected to increase by 153 million square feet by FY 2025;
- As a result, there will be more residential billing units than non-residential.
- Like the impacts of the IA “Tipping Point,” this will further put pressure on residential customers as well as those that cannot achieve credit.

With respect to the GA impacts, PWD and the Rate Board have potentially **only two more rate proceedings** in which to consider credit program and rate structure changes before the GA “Tipping Point” occurs. As PWD experienced during its last major update of the stormwater program, any changes require extensive outreach with stakeholders. As such, PWD is beginning the initial outreach now. PWD will undertake a broader review and evaluation of additional changes following the upcoming rate proceeding.

5.1.5 Accelerated Eligible Credits Analysis

The long-term impacts are based upon projected growth in the credit program. However, another area that has the potential to influence customer rates and credits relates to “Credit Eligible Parcels.”

Stormwater credits are voluntary, and customers need to apply to receive credit. Right now, there are over 500 “known” projects that have been through PWD’s plan review process that have either been completed or are in construction that could potentially apply for credit. There are an estimated 40 million square feet of “eligible credits,” the majority of which were developed under the old regulations. These “Credit Eligible Parcels” are from projects which date back as far as 2005.

The fact that these projects haven’t applied for the credit program creates uncertainty with respect to stormwater revenues and customer rates. “Credit Eligible Parcels” present a potential financial risk to both PWD and customers.

As noted previously, the stormwater credit program only requires management of the first inch of runoff to qualify for credit. Whereas, the stormwater management regulations require management of the first inch and a half of runoff. So, anything approved prior to 2015, when the current regulations were adopted, potentially does not meet current stormwater management requirements, yet they are technically eligible to receive credit.

Given the potential uncertainty, a series of “what if” scenarios were analyzed, looking at varying levels of enrollment assuming customers would apply and receive credit during the current fiscal year. This is referred to as the Accelerated Eligible Credits Analysis. While several permutations were evaluated, the attendees were presented the “book ends” of the analysis⁵, showing the impacts of 100 percent of “Credit Eligible” projects applying and receiving credit.

With respect to projected “Tipping Points:”

- Under the current programs and policies, the “Tipping Points” are projected to occur in FY 2025 for GA and FY 2027 for IA.
- If all properties with “Credit Eligible” projects applied and received credits, the tipping point would accelerate and occur in FY 2023 for both GA and IA.

With respect to customer rates:

⁵ It was noted that while it is not likely that all “Eligible Parcels” would ultimately achieve credit, the analysis does provide a sense of the overall potential impacts of these customers being granted stormwater credit.

- Residential customers would increase roughly \$0.53 per month.
- The non-residential IA rate would increase \$0.20 per 500 square feet per month, and the GA rate would increase a little over a cent per 500 square feet per month.

5.1.6 Key Take-Aways

The following are key take-aways from the Long-Term Credit Impact Analysis. The continued escalation of stormwater costs and reductions in billable units of service will put pressure on rates with compounding effect. Contra revenues from credits will continue to increase.

- Within the next 6-9 years, residential customers will bear the majority of the burden of stormwater-related costs – with no ability to reduce their fees under the current program.
- “Credit Eligible” parcels have the potential to accelerate the tipping points and put further pressure on stormwater rates.

5.2 ALTERNATIVES

The following section summarizes the short-term incremental changes and potential long-term mitigation strategies discussed with both the ARSG and DSC during their respective meetings.

5.2.1 Short-Term Mitigation Approaches

The following three short-term adjustments were discussed. These changes will begin to help contain some of the potential long-term ramifications of the current credit and incentives programs and policies.

No.	Adjustment	Discussion Points
1	Align credit criteria with stormwater regulations	• This adjustment would help reduce potential credit from properties that have not yet applied for credit nor meet the <u>current</u> regulations. • A sunset period or time horizon would likely be established to allow “credit eligible” properties an opportunity to enroll.
2	Specify a credit application enrollment window following development (or redevelopment).	• This potential policy would apply to projects built under the current stormwater regulations. This would be an administrative policy to help manage potential contra revenues and rate pressure and contain the associated risks, aimed at avoiding another build-up in “credit liability” similar to the current “credit eligible” properties. • While a specific duration has not been identified, a 12-24-month period (following construction) was discussed. • Additional policies would likely be needed, such as a policy that addressed property ownership changes.

No.	Adjustment	Discussion Points
3	Adjust the SMIP/GARP program budget.	- This adjustment could help to mitigate some of the short-term credit impacts and provide all customers with some rate relief. - An <u>example</u> was provided to illustrate the influence of the SMIP/GARP budget on stormwater rates. Based upon estimated FY 2021 stormwater rates reducing the SMIP/GARP budget by 50% to \$12.5 Million would: - Decrease Residential rates by \$0.74 per month. - Decrease Non-residential IA and GA by approximately \$0.25 and \$0.04, respectively, per 500 square feet per month. Attendees were alerted to the fact that reductions in the SMIP/GARP budget were meant to illustrate the influences of the program costs and only for discussion purposes. Black & Veatch noted to attendees that greened acres resulting from SMIP/GARP grants may no longer represent the most cost-effective approach, once long-term credits are taken into account with respect to the full project costs.

5.2.2 Long-Term Mitigation Approaches

While short-term adjustments would help to contain potential issues and potentially delay the tipping points, longer-term adjustments are likely needed to mitigate concerns more fully. Two areas for long-term evaluation include:

- Holistic credit program updates.
- Revisiting stormwater rate structure.

It was noted that longer-term adjustments would require further evaluation and deliberation with stakeholders. The Department anticipates that this effort will take place over the next several years following the next rate proceeding.

5.3 WRITTEN COMMENTS

The following is a summary of written comments received by September 26, 2019, with respect to stormwater credits and incentives. *A complete copy of the written comments submitted by stakeholders is provided in Appendix D.*

5.3.1 Short-Term Mitigation Approaches

Align Credit Criteria with Stormwater Regulations

1. BIA raised concerns that aligning stormwater credit criteria with current regulation may make stormwater retrofits cost-prohibitive.
2. SBN noted their support “to upgrade the credit requirement from 1 inch of stormwater managed to 1.5 inches” to align the credit program with current stormwater management

regulations for development. They cited concerns related to increased severity of weather events in Philadelphia due to climate change, and that increases performance standards will be important in “ensuring their effectiveness at managing overflows and keeping our waterways clean.” However, they stated that projects already receiving credit, which are designed to the 1-inch criteria, should be grandfathered for the “foreseeable future.”

3. CLS noted the credit program and stormwater management requirements could be aligned, which would affect the eligibility for some non-residential customers. CLS believes that it would be appropriate to consider “eliminating or reducing” credits for customers that manage less than 1.5 inches of runoff, citing that it would not make sense to offer the same level of credits for customers whose stormwater management practices (SMPs) meet different standards.

Specify a Credit Application Enrollment Window Following Development/Redevelopment

4. SBN recognized the concern of the “credit liability,” and suggested it could be addressed by directly enrolling projects into the credit program upon completion, with regular inspections thereafter.
5. While an enrollment window seemed sensible, SBN cited breakdowns in communication after construction when the property is turned over to a property manager. They suggested there may be better ways to address this, such as earlier contact with property managers or working more closely with business, so that designers and builders can maintain stormwater systems to “ensure there is effective communication.” BIA offered similar commentary and recommended that the Department work with builders to 1) determine how and when to promote credit program enrollment, and 2) to ensure maintenance and inspection requirements are communicated to owners and/or property managers.
6. CLS stated that an enrollment window appeared to be “unfair” and that it would be further complicated by other policies, which might be needed to address changes in ownership. CLS noted changes to the overall non-residential credit program could provide for greater certainty.
7. PLUG cited concerns with adopting a “maximum enrollment period for stormwater credits” and that such an approach might exclude viable projects from the program. PLUG recommends that any enrollment window not be “punitive” and should “preserve a generous timeframe” for enrollment.

Adjust the SMIP/GARP Program Budget

8. BIA and SBN raised concerns that reducing the SMIP/GARP budget would impact local businesses involved with designing, building, and maintaining green stormwater infrastructure (GSI). SBN also pointed to other ancillary benefits that grant recipients, such as non-profits, realize from reductions in their stormwater fees, such as lower overhead costs, allowing budgets to be directed to other employee programs that provide further benefit to the community.

9. PLUG cited the emphasis placed on the SMIP/GARP programs' role in meeting "environmental commitments" during prior proceedings and recommended that reductions in the SMIP/GARP budget be "rejected" citing that the program remains "fully subscribed."
10. The joint comments submitted by Callowhill Neighborhood Association, Conservation Voters of Pennsylvania, East Falls, Tree Tenders, The Enterprise Center, Friends of the Wissahickon, Green Building United, Manayunk Neighborhood Council, Northern Liberties Neighbors Association, PennFuture, Port Richmond on Patrol and Civic (PROPAC), Southwest Community Development Corporation, and UC Green (referred to as the "Joint Commenters" further herein) also cited concerns with meeting the obligations of the COA LTCP. They felt that a reduction in SMIP/GARP projects would only lead to more expensive public GSI projects, which in their view would cost the rate payer more. The Joint Commenters requested PWD to continue to fund SMIP/GARP at the current rate (i.e., \$25 million annually).
11. SBN also questioned whether a reduction in budget would impact the Department's compliance requirements as well and also cited potential higher costs per greened acre associated with public greened acres and the potential burden on ratepayers as a reason not to adjust the budget.
12. CLS reiterated concerns they previously expressed with respect to the equity of providing SMIP/GARP grants to non-residential customers, noting that grant recipients actually contribute less to managing stormwater runoff in that they have not invested in the improvements themselves, while they derive reductions in their long-term stormwater fees, in turn increasing costs for smaller users who cannot benefit from either the credit or the SMIP/GARP program. CLS also suggested evaluating the rationale and manner of charging residential customers for these programs.
13. SBN, CLS and the Joint Commenters, suggested that other SMIP/GARP program adjustments should be evaluated such as:
 - Adjusting the level of credit awarded to SMIP/GARP grant recipients to help offset the cost of the programs or recovering a portion of the costs from those customers' overtime, rather than deriving all program funding via rates;
 - Evaluating the grants and credits programs to determine how PWD can most effectively incentivize private greened acres;
 - Offering low-interest loans, similar to an Energy Services Company (ESCO) model, to provide for more sustainable funding; and
 - Reducing the SMIP/GARP budget more modestly and staging reductions overtime.
14. SBN noted that if the SMIP/GARP grant program is no longer the most cost-effective incentive, funding should remain in place until alternatives are in place.

5.3.2 Long Term Mitigation Approaches

15. CLS agreed with the potential concerns expressed during the discussion with respect to customer equity emphasizing that steps should be taken "to ensure that residential

customers are not required to absorb further stormwater costs as a result of non-residential construction grant programs they have helped fund.” CLS suggested that a long-term analysis should be undertaken to determine whether current credits were too high and if they do to properly account for stormwater treatment costs generated by non-residential parcels and the rights of way serving them. They further noted that PWD should consider phasing in changes to the credit program if adjustments are warranted.

16. Similarly, SBN suggested that PWD undertake an evaluation of “the stormwater fee to ensure the fees being assessed and the credits offered are in line with PWD’s cost of service. They further suggested exploring a new credit program, utilizing a tiered system where credits would be earned based upon specified criteria such as “location within a target community, a prioritization of nature-based solutions, managing street runoff, or exceeding the required amount of stormwater managed.”

5.3.3 Other Feedback

17. SBN and the Joint Commenters felt that the Department should provide information on how changes to the stormwater credits program as well as the SMIP/GARP grant budget would impact PWD’s ability to achieve compliance targets including the timing and associated costs. They expressed a desire to understand holistically how the Department would meet the goals of the Green City, Clean Waters program and felt consideration should be given to other impacts, such as local economic, and how those changes in compliance would impact the affordability of the COA LTCP.
18. SBN also cited concerns with respect to the impact of surface discharge credit holders, the burden they create on the rate payers, as well as the potential environmental impacts that may result from unmanaged stormwater draining to surface water bodies from these properties.

5.4 MEETING FEEDBACK

The following is additional informal feedback collected during the corresponding ARSG and DSC Meetings, not reflected in the written comments:

5.4.1 Short-Term Mitigation Approaches

Align Credit Criteria with Stormwater Regulations

■ Participants at the DSC Meeting commented:

- It only seemed to make sense to align the credit program requirements with current stormwater management requirements as those facilities (designed to manage the first inch of runoff) no longer meet the code requirements.
- “Taking away credit for people who have already invested sounds like a non-starter.”

Specify a Credit Application Enrollment Window Following Development/Redevelopment

- A member of the DSC noted that a short application timeframe (say less than 60 days) seems unreasonable, but the timeframe also shouldn't be too long.
 - A six to twelve months makes sense as it will draw attention to enrolling in the program sooner rather than later. A six to twelve months window might encourage/incentivize customers to act.
 - One participant recommended six months, stating that twelve months is too long a window.
 - Another participant noted that traditional ownership transactions associated development are typically completed within twelve months of construction close-out.
- DSC participants suggested the following as ways to create more certainty with respect to program enrollment:
 - Providing automatic credits could help alleviate some level of uncertainty but may create more administrative work for the Department.
 - Increased and earlier communication regarding maintenance responsibilities as well as the credit program.
 - Requesting property owners/managers to be present during final inspection.
 - Providing a list of consultants that have helped property owners apply for credit.

Adjust the SMIP/GARP Program Budget

- At the ARSG meeting, an attendee suggested that perhaps SMIP/GARP costs should only be recovered from non-residential stormwater customers, similar to the Stormwater CAP program since they are the only ones that are eligible for the program.
- DSC members asked if the goal of reducing the SMIP/GARP budget was to reduce the number of people coming in for credits or provide relief to rate payers. A reduction in budget would provide immediate rate relief to customers and reduce the amount of credit under the current credit program design. Further, rate-payer money is helping fund the implementation of projects and private property owners are receiving both a grant and long-term credit.
- With a reduction in budget, PWD could consider reducing the cost per greened acre paid to property owners as well.
- An updated comparison of SMIP/GARP cost per greened acre versus PWD's cost per greened acre would help in evaluating the true cost of the program.

5.4.2 Long Term Mitigation Approaches

- A DSC member questioned why credit was offered for only meeting the 1½" management requirement. They further suggested that perhaps requiring customers to go above and beyond what is required "by law" (to be eligible for credit) might truly encourage increased stormwater management on private property and provide a benefit to the system.
- Another member of the DSC further suggested that there should be a distinction made between those who voluntarily retrofit their properties and invest their own money, those taking advantage

of SMIP/GARP grants, and those who are implementing SMPs to meet the regulations due to re/development activity.

- The DSC inquired as to how many people had retrofitted their property to date. The Team explained that very few property owners had voluntarily retrofitted their properties. Most of the retrofits that have been installed are a result of SMIP/GARP.
- Other attendees suggested a tiered program. The Team agreed and noted that this is a potential option that can be investigated with a redesign of the credit program.

6 PENSION RIDER

The topic of the third ARSG meeting was a potential rider for pension-related expenses. The following section provides a brief summary of the alternatives discussed with respect to a potential pension rider, background on the reasons for focusing on this component of the Department's rate structure, along with submitted written comments submitted by stakeholders as well as verbal feedback received during the ARSG meeting. *The corresponding meeting overview is provided in Appendix A, the presentation is provided in Appendix B, and the associated meeting summary notes are provided in Appendix C.*

6.1 BACKGROUND

The primary reason to consider using a rider as a cost recovery mechanism is the ability of a utility to control the expense and whether the cost is easily identifiable. Expenses with these general characteristics may be candidates for recovery via a rider mechanism. Using a rider allows the utility to better reconcile costs and revenues with actual experience and closer to the period in which they occur. Moreover, a rider framework does not require a full rate proceeding.

As a result of the 2018 Determination, a rider designed to recover the costs of lost revenue associated with the Tiered Assistance Program (TAP) was adopted. The resulting TAP Rate Rider (TAP-R), recovers lost revenue as a surcharge via the water and sewer quantity charges (which is included in the overall quantity charge rates). The TAP-R allows the Department to reconcile both the actual lost revenue experienced in a given year with the surcharges that are collected from non-TAP customers. The rider was developed to address: difficulty in predicting overall levels of enrollment in the TAP program; uncertainty with the respect to the revenue loss due to discounts; and any potential under or over-recovery from PWD's non-TAP customers.

Pensions is another expense category with characteristics like those outlined above, which may benefit from the use of rate rider. Pensions have historically been one of the more difficult areas of operating expenses to project in the context of the Department's 5-Year plan as well as during prior rate proceedings. Beyond that, actual expenses have often exceeded budgetary numbers. The Department's difficulty with accurately projecting pension costs is due to several factors, including, but not limited to, the following:

1. The varying overall performance of the City's pension plans;
2. The complex calculations involved in determining the pension liabilities, which are handled by an outside firm; and
3. The increasing proportion of the Department's staffing levels in comparison to the rest of the City influences the Department's portion of pension costs as well as associated normal and early retirements which help in determining overall annual payouts to beneficiaries.

6.1.1 Pension Liability Trends

National Industry Trends

Unlike other "hot button" issues such as aging infrastructure, lead service lines, and climate change, the nation's pension crisis has not gained much media attention, even though 48 out of 50 states have

underfunded pension plans and five states have funded less than 50 percent.⁶ According to Moody's Investor Services (Moody's), as of the end of FY 2017, the nation's adjusted net pension liabilities (ANPL) is about \$1.6 trillion. Moody's estimates that the nation's unfunded public pension liabilities (the amount by which the present value of the liabilities exceeds the current assets) is about \$4.4 trillion. To put this into perspective, the American Society of Civil Engineers estimates that America needs to spend approximately \$4.5 trillion through 2025 to fix our failing infrastructure systems.

Pensions do present a risk when it comes to credit ratings, and the size of the obligation, as well as the planned course of action have impacted credit ratings for cities and states throughout the country.

- In 2013, Chicago's credit rating was downgraded to junk status. To address this and their unfunded pension liability, Chicago is increasing annual contributions from \$1 billion in 2018 to \$2.1 billion in 2023. This will result in both higher property taxes and utility bills for residents and customers alike.
- Detroit, Michigan and Stockton, California still have pension obligations despite having gone through bankruptcy.
- New Jersey and Illinois rank number one and number two when it comes to the cost of unfunded pension state liabilities when measured on a per state resident basis.

State Trends

For the past several years, Pennsylvania has ranked in the top five states with the largest unfunded pension liabilities with an estimated shortfall of \$68.8 billion, which represents a funding level of approximately 64 percent.

The Commonwealth of Pennsylvania has more than 3,200 public pension plans, the largest number of all 50 states. The state plays an active role in local pensions by mandating minimum funding requirements and providing contribution assistance. Factors that make solving the pension funding gap difficult include:

- Three of the four largest plans in Pennsylvania have fewer active members than retirees and other inactive members.
- State and local governments are increasingly susceptible to contribution volatility and funding challenges stemming from negative plan cash flows as the growing portion of retirees increases.
- Some plans are having trouble making "tread water" contributions, the funding level that Moody's refers to as needed to prevent the ANPL from growing.

City of Philadelphia Pension Liabilities

The City's Pension Plan⁷ includes all departments, including Water, Fire, Police as well as several other quasi-City agencies such as the parking authority. The Pension Fund is managed by the Pension Board, who make decisions with respect to funding, supporting policies and investment decisions.

⁶ Wisconsin and South Dakota are fully funded.

⁷ Philadelphia Gas Works maintains a separate pension fund.

The City faces significant ongoing financial challenges in meeting its pension obligations, including an unfunded actuarial liability (UAL) of approximately \$6.1 billion as of July 1, 2018. The City's contribution to the Municipal Pension Fund was approximately \$782 million in FY 2018, of which the Water Fund's share was \$62 million. The City has committed to making higher contributions to the Pension Fund. The higher contributions are just one step the City has undertaken to address its unfunded pension liabilities, others include:

- Reducing the assumed rate of return on a gradual and consistent basis;
- Adopting more conservative mortality rates;
- Changing from a level percent of pay amortization schedule to a level dollar amount schedule;
- Negotiating collective bargaining agreements with larger employee contributions and capped benefits;
- Securing additional funding, including funds required to be deposited by the City to the Municipal Pension Fund from its share of sales tax revenue;
- Adopting a Revenue Recognition Policy, which dedicates additional revenues to paying down the unfunded pension liability; and
- Changing the investment strategy to increase the use of passive investment vehicles.

6.1.2 PWD Pension Expenses

Pension costs are one of the single largest operating expenses for the Department. Pension costs have nearly doubled since FY 2011 and now account for nearly 10 percent of the Department's total annual obligations. This increase in cost is due in part to:

- Required increases in pension plan contributions;
- Changes in City policy requiring funding of pension costs as an operating expense;
- General increases in staffing levels for the Department; and
- Increased allocation of the total pension costs based upon the Department's proportion of the number of overall staff employed by the City.

The Department's pension costs are projected to further increase from approximately \$79 million in FY 2019 to \$88 million by FY 2024. The projected increases in the 5-Year Plan assume the same level of anticipated pension plan performance currently being realized⁸.

With pension expenses comprising nearly 10 percent of the Department's annual obligations, under/over-performance of pension-related expenses versus projections can have a material impact on fund balances and the Department's requirement to fund 90 percent of its senior debt service requirement from the net revenue provided via current rates.

⁸ If pension plan assets decrease as a result of an investment market downturn, increased contributions may be required resulting in further increases to pension expenses in future years.

Prior projections, used in establishing rates and charges, have both under and over-estimated pension-related expenses. Variances have ranged from over-estimating expenses by \$9.5 million dollars and more recently under-estimating costs by nearly \$15 million. These more recent variances (particularly in FY 2017 and FY 2018) are a result of the change in funding policy. This difficulty in historically projecting pension expenses as well as the influence of decisions, outside of the Department's purview, is one reason to consider a rider mechanism. Further, depending on how other cost categories perform, the variance associated with pension projections can contribute to how much is either deposited or drawn from the Department's Rate Stabilization Fund⁹ each year.

6.1.3 Pension Riders - Examples

Pension and Other Post-Employment Benefits (OPEB) related riders are more common in the electric and natural gas industries. While there are a few examples in the water industry, this is an area where water utilities generally lag electric and gas utilities, which have had these types of mechanisms in place for years.

This is similar to the TAP Rider, where PWD was one of the first water utilities in the country to adopt such an approach for recovering lost revenue associated with their low-income assistance program. Whereas many electric and gas utilities have had surcharge mechanisms in place to aid in the cost recovery of their universal service programs for well over a decade.

With respect to pension costs, electric and gas utilities face many of the same challenges as water utilities, in that they need to continue to recover costs via annual operating revenues without eroding their reserves, they need to be able to address and respond to market fluctuations to continually meet their long-term pension liabilities, as well meet any applicable indenture requirements.

In the northeast, the Massachusetts Department of Public Utilities (MDPU) and in the west, the California Public Utilities Commission (CPUC) have allowed a rate mechanism to deal with pension and OPEB expenses.

6.1.4 Applicability to PWD

Looking at the applicability of a rider to PWD's pension expenses, as the Team noted previously:

- Pension costs make-up nearly 10% of the Department's annual obligations and are expected to rise from \$79 million in FY 2019 to \$88 million in FY 2024;
- Further, the Department does not directly control its pension expenses. The calculations to determine pension liabilities are performed by an outside actuarial firm; and
- In addition, the Department's proportion of staffing levels in comparison to the rest of the City influences the Department's portion of pension costs.

⁹ The Rate Stabilization Fund is the Department's primary source of reserve funding and is also intended to provide the Department with the ability to manage revenue adjustments and customer rates. The Department does not have the ability to adjust rates, with respect to pension expenses, between rate proceedings to better reflect actual experience.

Given the variability and overall level of pension expenses, any under or over performance can have a material impact on fund balances and may affect the Department's ability to meet bond ordinance and Rate Board covenants. Similar to the TAP Rider, recovering pension expenses via a rider mechanism would provide agility in reflecting actual experience in rates and in addressing the cost recovered via rates in a more timely and transparent fashion.

6.1.5 Factors for Consideration

There are several factors that need to be considered when evaluating a potential rider for the Department's pension-related expenses. When reviewing other utilities' examples of pension and OPEB related riders, all utilized the consumption-based charges (of their respective utility) as part of their respective recovery mechanisms. These utilities are primarily single service utilities (i.e. electric, gas or water) whereas PWD provides water, sewer and stormwater services.

Further, since pension costs are a personnel-related operation and maintenance expense, all cost components and customers receive an allocation of those costs under the cost of service principles. As a result, under the current approach, pension costs are recovered via all rates and charges. Adjusting how pension costs are recovered from customers may have an impact on overall rates and charges and how costs are recovered by PWD's various customer types.

6.2 ALTERNATIVES

6.2.1 Pension Riders – Alternative Approaches

Several alternatives were discussed with the ARSG at the conceptual level; detailed approaches and example calculations had not been developed. The discussion was aimed at identifying which option would be most feasible and should be developed further. Approaches included: a water and sewer quantity surcharge; a percent cost adjustment on all rates and charges; and a per bill surcharge. Options within included recovering all expenses or just the over or underperformance via the respective surcharges. The advantages and disadvantages of each approach were discussed and are detailed in the *ARSG Meeting 3 Summary Notes* provided in Appendix C.

All mechanisms would serve as a way to recover increased costs from rate payers, while also offering rate payers lower rates, effectively crediting them for situations where actual costs are lower than those used in setting rates and charges.

6.2.2 Recommended Alternative

Of the alternatives, a per bill surcharge or credit) for only the under or overperformance of the expense was identified as the most feasible at this time. This approach:

1. Keeps a portion of pension expenses within the base rates;
2. Retains a nexus by being distributed to all utility service types;
3. Could be reset with a base rate proceeding; and
4. It allows for simplified reconciliation compared to the other alternatives.

Note – the Recommended Alternative was identified by Black & Veatch for further evaluation. The Department did not make a determination on which, if any approach, should be pursued.

6.3 WRITTEN COMMENTS

The following is a summary of written comments received by September 26, 2019, with respect to a potential rider for pension-related expenses. *A complete copy of the written comments submitted by stakeholders is provided in Appendix D.*

1. CLS raised concerns that the use of a rate rider would “accelerate the shift of expense differentials” from the Department to its customers, believing that customers would bear all of the risk associated with cost “overruns” without the benefit of fully examining revenues and revenue requirements. CLS felt single-issue ratemaking should be used sparingly.
2. While CLS recognized that PWD did not have complete control over pension expenses and while those costs were easily identifiable, they did not think expenses exhibited sufficient volatility (in their view) to justify a rider. CLS further pointed to “adequate reserves” in the Rate Stabilization Fund that could be used to address pension obligations.
3. PLUG cited PWD’s ability to receive “multi-phased” rate increases as a way to address rising costs between rate cases. PLUG dissuaded PWD from adopting another rate rider, until the TAP rider surcharges and its impacts are further studied and reviewed; further noting that implementation of a pension surcharge would be premature in their view.
4. PLUG concurred that a per-bill basis surcharge for under/overcollection of pension expense would be the “least detrimental approach.” If pursued, PLUG suggested, further customer protections, such as a cap on revenue recovered via the surcharge should be included, to motivate PWD to continue to monitor and review its allocation of pension costs. They requested that PWD detail the anticipated surcharge revenues from each customer class as well as the associated impacts.

6.4 MEETING FEEDBACK

The following is additional informal feedback collected during the Meeting, not reflected in the written comments:

Attendees inquired as to whether PWD has explored other ways to help control costs and if the Department has sufficient information to determine if PWD’s pension expenses are appropriate (i.e., if PWD’s allocation of pension expenses is fair). They requested additional background information on the current pension system.

Another attendee thought this isn’t necessarily something you want to plan into a complicated recurring issue, especially with rate cases every two years. They wondered if it was worth pulling out pension costs as an issue at this time noting it may not be worth the level of effort for small variances.

7 CONCLUSION

This phase of the Alternative Rate Structure Analysis provided stakeholders with the ability to provide both informal feedback at meetings as well as written commentary, on three focus areas, including:

- Water quantity charges
- Stormwater credits and incentives
- A rider for pension-related expenses

The process commenced with the issuance of invitations to select stakeholder groups on June 18, 2019, followed by a series of four stakeholder meetings conducted in July, August and September. While the initial alternative rate structure analysis focuses on these three specific areas, this is the beginning of a longer-term process which will take several years to complete.

This report provides a summary of all comments received by September 26, 2019, as well as a synopsis of the incremental changes explored during each meeting. Meeting materials, summary notes, and submitted comments are provided in the appendices of this report. This phase of this analysis concludes with the issuance of this report.

As of the writing of this report, the Department has made no formal decisions with respect to the potential rate structure changes explored during this process. The Department will take into consideration all verbal and written feedback received to date as it determines, which if any adjustments to carry forward into the next rate proceeding, anticipated in early 2020, and which to further explore over the long-term and/or revisit in the future.

8 DISCLAIMER

Neither Black & Veatch nor the Department are offering further commentary or feedback on the stakeholder comments at this time. Inclusion of stakeholder feedback in both summary format as presented in this report and in the appendices of this report does not constitute agreement or disagreement with any viewpoint, opinion or statements made by the parties.

APPENDIX A – MEETING OVERVIEWS

ALTERNATIVE RATE STRUCTURE EVALUATION: WATER QUANTITY CHARGES MEETING OVERVIEW

INTRODUCTION

The Philadelphia Water Department (PWD or the Department) provides retail water to over 500,000 customers and wholesale water service to Aqua PA. To provide water services and fulfill all its regulatory obligations, PWD fully funds its water operations through its rates and charges imposed on both its retail and wholesale customer base. As part of PWD's alternative rate structure evaluation, the Department is revisiting its declining block water quantity rate structure, which was initially adopted nearly 40 years ago.

The following are reasons to consider re-evaluating the current water quantity rate structure:

- Periodic re-evaluation is a recognized best practice for water/wastewater utilities.
- The increased attention on resource sustainability is resulting in the decreasing use of declining block rate structures industry-wide across the country in recent years.

The following industry-wide issues further support the need to evaluate the current rate structure:

- Declining consumption continues to impact all utilities across the nation;
- Advancements in the management of the total water cycle are changing how utilities view water supply management and how those costs are best recovered from their customers; and
- Adjustments to further address affordability.

BACKGROUND

Water utilities set their rate structures based on different goals and objectives. The goals and objectives are based on internal and external factors facing the utility. As identified in American Water Works Association (AWWA) Principles of Water Rates, Fees and Charges (M1) Manual, these objectives include, but not limited to:

- Revenue stability for the utility;
- Predictable bills for the customer;
- Affordability;
- Promotion of water conservation or efficient water use;
- Fair and equitable among customer classes; and
- Compliance with applicable laws.

WATER RATE STRUCTURES

The most common water rate structures used in the U.S. are composed of two components:

1. **Service Charge:** This represents a fixed fee per billing period regardless of consumption. The fee can be the same regardless of meter size or can increase based on the meter size connection.
2. **Consumption (or Commodity/Volumetric/Quantity) Charge:** This represents a variable fee per billing period based on water consumption. The fee is based on price per unit of water.

With respect to consumption charges, in addition to declining block rates, uniform rates, inclining block rates, as well as seasonal rates are used throughout the country based upon the specific needs and goals of the respective water utilities and their customers.

INDUSTRY TRENDS

While still in use, water industry surveys show a move away from declining block rate structures. Uniform rates are widely used throughout the U.S. as they are the simplest and easiest to understand quantity charge structure. Inclining block rates are widely used throughout the U.S. as they are generally seen as a water conservation structure.

ALTERNATIVE RATE STRUCTURE MEETING NO. 1 – WATER QUANTITY CHARGES

PWD's overall mission to provide safe and reliable drinking water to the City of Philadelphia and its customers has not changed; however, the Department continues to evolve to improve service, meet current customer needs, address aging infrastructure, compliance requirements as well as facing different challenges. As such, PWD is interested in assessing whether its current rate design is still appropriate for the Department's goals and also whether the current design will meet future objectives.

During the first alternative rate structure meeting, the Department and its consultants will present the following to participating stakeholders:

1. Background information on the rationale behind the current declining block rate structures;
2. A summary of alternative consumption (i.e. quantity) charge rate structures;
3. Advantages and disadvantages associated with the current and alternative rate structures;
4. Industry Trends and Peer Comparisons; as well as,
5. Suggestions for implementing a uniform block rate along with estimated customer impacts.

Alternative Rate Structure Evaluation: Stormwater Credits & Incentives Meeting Overview

INTRODUCTION

The Philadelphia Water Department (PWD or the Department) serves the City of Philadelphia providing integrated water and wastewater service inclusive of stormwater. With respect to stormwater, the Department maintains stormwater management and conveyance systems throughout the City. A large portion of the City's stormwater system consists of a combined sewer, which conveys both stormwater and sewage flows; a separate storm sewer system serves the remainder of the City. Unmanaged and untreated stormwater runoff can carry pollutants to local streams and rivers throughout the City.

The Department and the Pennsylvania Department of Environmental Protection signed the Consent Order & Agreement (COA) on June 1, 2011 that requires the Department to implement its Combined Sewer Overflow Program known as the "Green City, Clean Waters Program." The program is also known as the Long-Term Control Plan (LTCP). Under the program, the City has been investing in green and traditional infrastructure, including wastewater treatment facility enhancements, interceptor pipe lining and collection system improvements, to mitigate combined sewer overflows and enhance the quality of local waterways.

Similar approaches are being applied in separate sewer areas to address stormwater pollution further and to improve the water quality of impaired streams and water bodies per the City's Municipal Separate Storm Sewer System (MS4) permit requirements.

BACKGROUND

Stormwater Rate Structure

PWD recovers stormwater-related costs from its customers via a stormwater management service (SWMS) charge. Customers' SWMS charges are determined based upon their parcel's gross area (GA) and impervious area (IA), as follows:

- The Department charges residential properties a uniform fee based upon the average GA and average IA associated with residential properties throughout the City; and
- Non-residential properties are individually calculated based upon their parcel's property-specific GA and IA.

Stormwater Credit Program

Non-residential properties have the opportunity to reduce their stormwater fees via the Department's Stormwater Credit Program. PWD's credit program was originally intended to:

1. *Incentivize property owners to implement and maintain functional stormwater management practices to help the City meet its stormwater goals; and*
2. *Provide the opportunity for property owners to reduce their monthly SWMS Charge.*

The current credit program offers the following types of credits:

- Impervious Area Reduction (IAR) Credit
- Impervious Area Stormwater Credit (IA Credit)
- Gross Area Stormwater Credit (GA Credit)
- National Pollutant Discharge Elimination System – Industrial Stormwater Discharge Permit (NPDES Credit)

Stormwater Incentives

To further encourage private stormwater management, PWD offers grants which can cover up to 100 percent of the cost to design and construct stormwater retrofits on non-residential properties. In FY 2019, PWD budgeted \$25 million to fund the Stormwater Management Incentive Program (SMIP) and Greened Acre Retrofit Program (GARP) grants. Customers participating in the SMIP/GARP are also eligible for credit following the completion of their retrofit project.

LONG-TERM IMPACTS

The credit program and the SMIP/GARP have been key components in meeting the metrics of the LTCP and COA during the first 5-years of the 25-year plan. However, both programs influence the overall costs of the stormwater program and the Department's ability to recover costs from its customer base. Additionally, the credit program and stormwater rates rely upon parcel data originally obtained in 2005. The Department recently received updated IA and GA parcel data, which will have an impact on the allocation of stormwater costs to customers.

To better understand both the long-term impacts of the current credits and incentives programs as well as the updated billing data, the Department and its consulting team developed a projection of long-term impacts of these factors on stormwater revenues and customer rates. Below is a brief description of the anticipated impacts for both areas.

Updated Customer Billing Data

Recently, the Department received updated planimetric data for all stormwater customers. With the implementation of the new data, the Department anticipates residential customers will bear a larger portion of stormwater costs because of their increased share of overall billing units.

Credit and Incentives Programs

With the update in billing data and under the current stormwater credit and incentives programs, estimates indicate that there will be more residential than non-residential billable units of services (after accounting for credits) within the next 6-9 years. This shift puts further pressure on residential customers and customers unable to achieve stormwater credits.

ALTERNATIVE RATE STRUCTURE MEETING NO. 2 – STORMWATER CREDITS AND INCENTIVES

Based on the projected impacts of the updated billing data and the potential long-term implications of the credit and incentives programs, PWD is interested in:

- Exploring what potential short-term adjustments can be made to help delay some of the unintended consequences of the current programs and manage stormwater costs and rates; and
- Identifying what areas should be further evaluated over the long-term to help the Department continue to meet its LCTP and COA requirements, further manage costs, and equitably recover costs from customers.

During the second Alternative Rate Structure meeting, the Department's consultants will present the following to participating stakeholders:

1. Background information on the Department's existing stormwater rate structure as well as the current credit and incentives programs;
2. A summary of the projected long-term impacts of credits and updated stormwater billing data on stormwater revenues and associated rates;
3. Potential adjustments to the current credit and incentives programs; and
4. Areas for future evaluation.

Participants will have the opportunity to give feedback about the potential short-term adjustments as well as explore larger questions related to long-term issues for future evaluation.

Alternative Rate Structure Evaluation: Pension Rider Meeting Overview

INTRODUCTION

As part of the Alternative Rate Structure Analysis, the Philadelphia Water Department (PWD or the Department) is evaluating potential changes to the Department's current rate structures. The Department is exploring the potential recovery of other costs (or portions thereof) via a reconcilable rider mechanism like the Tiered Assistance Program (TAP) Rider which the Rate Board adopted as part of the 2018 Rate Proceeding.

The primary reasons to consider using a rider as a cost recovery mechanism is the ability of a utility to control the expense and whether the cost is easily identifiable. Expenses with these general characteristics may be candidates for recovery via a rider mechanism. Using a rider allows the utility to better reconcile costs and revenues with actual experience and closer to the period in which they occur. Moreover, a rider framework does not require a full rate proceeding.

Pensions is an expense category with characteristics like those outlined above. Pensions have historically been one of the more difficult areas of operating expenses to project in the context of the Department's 5-Year plan as well as during prior rate proceedings. Beyond that, actual expenses have often exceeded budgetary numbers. The Department's difficulty with accurately projecting pension costs is due to several factors, including, but not limited to, the following:

1. The varying overall performance of the City's pension plans;
2. The complex calculations involved in determining the pension liabilities, which are handled by an outside firm; and
3. The increasing proportion of the Department's staffing levels in comparison to the rest of the City which influences the Department's portion of pension costs as well as associated normal and early retirements which help in determining overall annual payouts to beneficiaries.

BACKGROUND

Pension costs are one of the single largest operating expenses for the Department. Pension costs have nearly doubled since FY 2011 and now account for nearly 10 percent of the Department's total annual obligations. This increase in cost is due in part to:

- Required increases in pension plan contributions;
- Changes in City policy requiring funding of pension costs as an operating expense;
- General increases in staffing levels for the Department; and
- Increased allocation of the total pension based upon the Department's proportion of the number of overall staff employed by the City.

The Department's pension costs are projected to further increase from approximately \$75 million in FY 2019 to \$88 million by FY 2024, according to the most recent 5-Year Plan. The projected increases in the 5-Year Plan assume the same level of anticipated pension plan performance currently being realized¹.

¹ If pension plan assets decrease as a result of an investment market downturn, increased contributions may be required resulting in further increases to pension expenses in future years.

With pension expenses comprising nearly 10 percent of the Department’s annual obligations, under/over-performance of pension-related expenses versus projections can have a material impact on fund balances and the Department’s requirement to fund 90 percent of its senior debt service requirement from the net revenue provided via current rates.

OVERVIEW OF RATE RIDER MECHANISMS

In ratemaking, many public utility commissions throughout the U.S. have allowed the use of rate mechanisms to help reduce regulatory lag, encourage investment in facilities, and mitigate large increases to customers. These rate mechanisms provide an avenue for the utilities to recover costs outside of a general rate increase, thus allowing for more immediate and efficient cost recovery. The rate mechanisms vary by utility and governing commission. The following are a few types used by utilities:

- Infrastructure Replacement
- Weather Normalization
- Energy Efficiency
- Lifeline (low income, elderly programs)

Other costs utilities have been dealing with are Pension and Other Post-Employment Benefits (OPEB). Pension and OPEB costs continue to fluctuate annually, making it hard for utilities to forecast these costs accurately. Many utilities and cities have a large unfunded pension liability, and this liability is a growing concern amongst municipalities. Some areas of the country are taking proactive steps to deal with the matter of pension costs. In the Northeast, the Massachusetts Department of Public Utilities (MDPU) and in the West, the California Public Utilities Commission (CPUC) have allowed a rate mechanism to deal with Pension and OPEB expenses.

PENSION LIABILITY TRENDS

Unlike other “hot button” issues such as aging infrastructure, lead service lines, and climate change, the nation’s pension crisis has not gained much media attention, even though 48 out of 50 states have underfunded pension plans and five states have funded less than 50 percent.² According to Moody’s Investor Services (Moody’s), as of the end of FY 2017, the nation’s adjusted net pension liabilities (ANPL) is about \$1.6 trillion. Moody’s estimates that the nation’s unfunded public pension liabilities (the amount by which the present value of the liabilities exceeds the current assets) is about \$4.4 trillion. To put this into perspective, the American Society of Civil Engineers estimates that America needs to spend approximately \$4.5 trillion thru 2025 to fix our failing infrastructure systems.

For the past several years, Pennsylvania has ranked in the top five states with the largest unfunded pension liabilities with an estimated shortfall of \$68.8 billion, which represents a funding level of approximately 64 percent.

The Commonwealth of Pennsylvania has more than 3,200 public pension plans, the largest number of all 50 states. The state plays an active role in local pensions by mandating minimum funding requirements and providing contribution assistance. Factors that make solving the pension funding gap difficult include:

² Wisconsin and South Dakota are fully funded.

- Three of the four largest plans in Pennsylvania have fewer active members than retirees and other inactive members.
- State and local governments are increasingly susceptible to contribution volatility and funding challenges stemming from negative plan cash flows as the growing portion of retirees increases.
- Some plans are having trouble making “tread water” contributions, the funding level that Moody’s refers to as needed to prevent the ANPL from growing.

As noted in the Department’s recent Official Statement dated August 6, 2019, in Philadelphia, the City’s pension system provides service to approximately 66,000 of which approximately 28,800 make contributions to the plan. The City faces significant ongoing financial challenges in meeting its pension obligations, including an unfunded actuarial liability (UAL) of approximately \$6.1 billion as of July 1, 2018. In Fiscal Year 2018, the City’s contribution to the Municipal Pension Fund was approximately \$782 million of which the Water Fund’s share was \$62 million. The Water Fund’s aggregate pension costs, consisting of payments to the Municipal Pension Fund totaled \$62.7 million in FY2018. These costs have increased roughly 72 percent from Fiscal Year 2009.

The Water Fund’s contribution is not only influenced by overall number employees’ but also the performance of the pension plan itself. The annual rate of return experienced by the pension fund has varied from a 19.9 percent loss in FY 2009 to a 19.4 percent gain in FY 2011. The 5-year and 10-year annual average returns as of June 30, 2018, were 6.73 percent and 5.30 percent, respectively, on a market value basis.

The City has taken a number of steps to address the funding of Municipal Pension Plan including:

- Reducing the assumed rate of return on a gradual and consistent basis, which results in the City making larger annual contributions.
- Adopting more conservative mortality rates in response to experience studies performed by the Municipal Pension Plan actuary.
- Changing from a level percent of pay amortization schedule to a level dollar amount schedule (in conjunction with the revisions to the amortization periods that occurred in Fiscal Year 2009). This results in producing payments that ensure that a portion of principal on the UAL is paid each year.
- Funding consistently an amount greater than the MMO (subject to the authorized deferrals for Fiscal Years 2010 and 2011).
- Negotiating collective bargaining agreements by which additional contributions are being made (and will be made) by certain current (and future) members and by which benefits will be capped for certain future members of the Municipal Pension Plan.
- Securing additional funding, including funds required to be deposited by the City to the Municipal Pension Fund from its share of sales tax revenue.
- Adopting a Revenue Recognition Policy, by which sources of anticipated additional revenue that will be received by the System are specifically dedicated toward paying down the unfunded pension liability and not to reducing future costs of the City.
- Changing the investment strategy to increase the use of passive investment vehicles, which has resulted in increased returns and decreased fees.

Even with the above steps, 100 percent funding levels are not anticipated to reach 100 percent until the 2030s (based upon the actuarial projections referenced in the above noted official statement).

ALTERNATIVE RATE STRUCTURE MEETING NO. 3 – POTENTIAL PENSION RIDER

Based upon the above-cited reasons, the Department is interested in assessing whether recovering pensions costs (or a portion thereof) via a reconcilable rate rider would enable the Department to more accurately reflect actual experience in establishing rates and charges as well as address under/over-performance in a more timely and transparent fashion between full rate proceedings.

During the third Alternative Rate Structure meeting, the Department's consultants will present the following to participating stakeholders:

1. Background information on the Department's current pension-related expenses and challenges associated with projections;
2. An overview of Pension and OPEB cost recovery mechanisms currently in use by other utilities;
3. Associated industry trends;
4. The overall applicability of a pension rider approach to the Department; and
5. Alternative pension rider approaches along with factors for consideration.

APPENDIX B – PRESENTATIONS



Alternative Rate Structure Analysis

Philadelphia Water Department

STAKEHOLDER MEETING 1 – JULY 30, 2019



Agenda

- Welcome & Meeting Overview
- Focus Topic No. 1 – Water Quantity Rate Structure
- Analyzing Proposals & Discussion
- Up Next

Welcome & Meeting Overview



3



What is the purpose of the Alternative Rate Structure Analysis?

PWD's overall mission is to provide safe and reliable drinking water to the City of Philadelphia and its customers as well as protecting the region's water resources.

While the mission has not changed, the Department continues to evolve in order to:

- Improve service;
- Meet current customer needs;
- Address aging infrastructure;
- Comply with regulatory requirements; and
- Face new and future challenges.

As such, PWD is interested in assessing whether its existing rate structure still supports its current mission and goals and helps to meet future objectives.

4



Why are we having these meetings?

The objective of the proposed Alternative Rate Structure Analysis is to evaluate potential incremental rate structure updates in critical areas which present both near term and long-term challenges for the Water Department and its customers.

Focus on Three Key Areas:

- Water quantity charges
- Stormwater credits and incentives
- Rider for pension-related expenses

While the above are the immediate areas of focus, this is the beginning of a process that will take several years to complete.



Intended Meeting Outcomes

The purpose of the Alternative Rate Structure Stakeholder meetings is to gather input and feedback on:

1. Perceived impacts of potential rate structure changes
2. General feedback and opinions (both pros and cons) on any potential changes and associated transition
3. Potential impediments to implementation

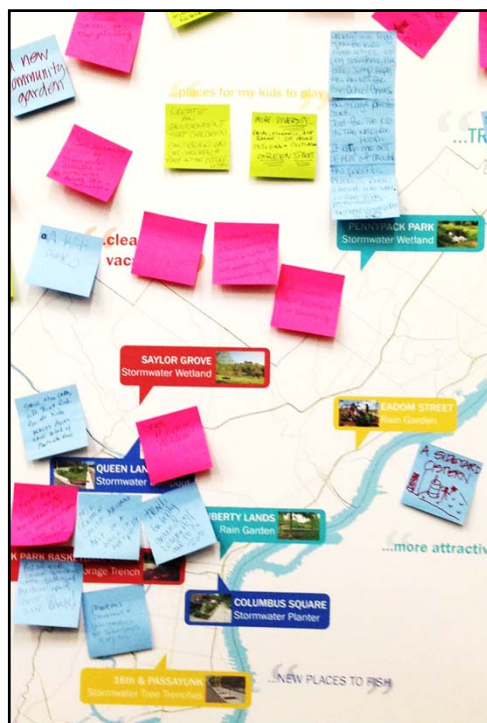


Meeting Schedule

A series of **3 meetings** will be held on the following dates:

1. **Tuesday, July 30th** from 2:30 - 4:30 PM: Water quantity charges
2. **Tuesday, August 13th** from 2:30 - 4:30 PM: Stormwater credits and incentives
3. **Thursday, September 5th** from 2:30 - 4:30 PM: Rider for pension-related expenses

Request written comments be submitted by September 16th



What will we do with your feedback?

1. The Consulting Team will develop a summary report detailing the process and feedback received.
2. The draft report will be provided for stakeholder participants' review and feedback.
3. The final report will be issued to the Rate Board and posted to their website.
4. Written comments will be posted to the Rate Board website.

Note – Comments may be provided on a rolling basis (i.e. after each meeting) or all at once. Additional commentary on areas not discussed during this meeting series is also welcomed.

All meeting materials and written comments will be treated as public information.



Meeting Overview

- Focus Topic – Water Quantity Charges
- Role of Facilitators
- Meeting Objectives
- Meeting Agenda
- Meeting Ground Rules

30 July 2019



Meeting Objectives

- Understand what different stakeholders see as the pros and cons of the alternative rate structure proposals
- Develop a statement of areas of stakeholder agreement and disagreement
- Respect participants' time: Collect feedback in an efficient way
- Value participants' perspectives: Collect feedback in a way that we hear all of the different points of view

30 July 2019



Meeting Agenda Water Quantity Charges

- Presentation
 - Existing Rate Structure Review – Pros and Cons
 - Benchmarking
 - Potential Alternatives
 - Impact Analysis
- Analyzing Proposals: Small Group Notes
- Large Group Discussion

30 July 2019



Meeting Ground Rules

- Start and end on time.
- Stay on topic.
- It's ok to disagree . . . Respectfully (focus on issues not personalities).
- Listen for understanding . . . Don't interrupt.
- Speak up . . . Everyone contributes.
- Be present . . . Cell phones off or on vibrate.

30 July 2019



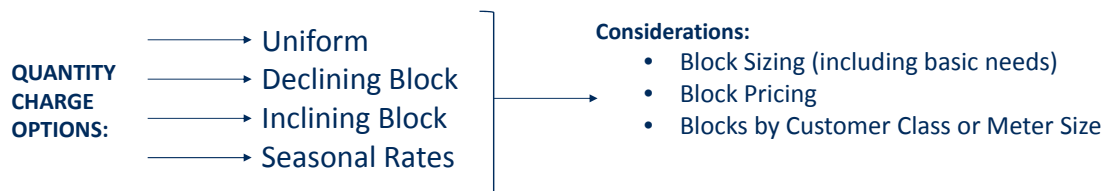
Focus Topic No. 1: Water Quantity Charges

13

Water Rate Structures

Most Common Rate Structures consist of two components:

- Service Charge
- **Consumption Charge (i.e. Commodity/Quantity/Volumetric)**



30 July 2019

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Existing Rate Structure - Review

- Declining Block Quantity Charge
- Intended to reflect:
 - The way costs are incurred
 - Lower extra-capacity costs or peak demand costs associated with the larger volume customers vs. smaller volume customers
- Economies of scale in providing water

TIER	DESCRIPTION	RATE (\$/MCF)
1	First 2 MCF	\$44.85
2	Next 98 MCF	\$38.54
3	Next 1,900 MCF	\$29.87
4	Over 2,000 MCF	\$29.05

Based on the FY 2018 billing data, 98% of residential bills (including senior citizens) fall within the first block

A typical residential customer uses 500 cubic feet (or 0.5 MCF) of water per month.

CCF = hundred cubic feet ~ 748 gallons
MCF = thousand cubic feet ~ 7,480 gallons

30 July 2019



Existing Rate Structure Reasons for Re-evaluation

- Periodic re-evaluation is a recognized best practice
- Increased focus on water resources and sustainability
- Declining consumption
- Advancements in and changes to water supply management approaches
- Affordability

PWD's current water quantity rate structure was initially adopted 40+ years ago



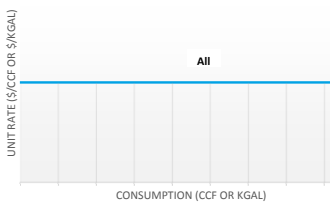
Pros and Cons of Declining Block Rate Structures

ADVANTAGES	DISADVANTAGES
Easy to implement and maintain within a billing system	More complex to design - requires an analysis of water consumption patterns May be harder for customers to understand why the rate per unit decreases with consumption
Designed to provide equitable cost recovery by customer type	May be perceived by customers as providing a volume discount
Generally provide greater revenue stability for rate structures that have variable component	May create an affordability issue amongst low-volume users
Reflects the economies of scale of the water system	Does not provide water conservation signaling

30 July 2019

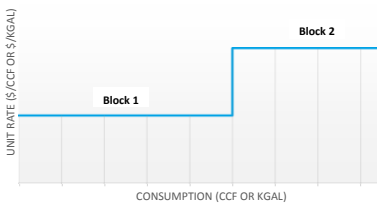


Potential Alternatives



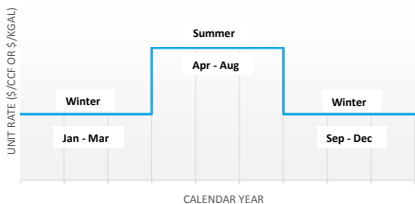
UNIFORM

- Simplest rate design
- Constant per unit fee (\$/Mcf)



INCLINING BLOCK

- Considered a water conservation rate structure
- Blocks increase with usage



SEASONAL RATES

- Increased charges during a set time(s) of year
- Intended to recover incremental variable costs incurred during high-water demand periods

30 July 2019



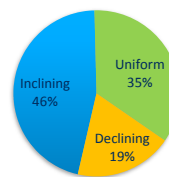
Benchmarking

Industry Perspective

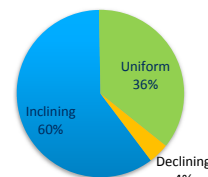
- Declining blocks more frequently used in areas with abundant water supply
- Uniform rates are widely used
- Inclining blocks widely used in areas of water scarcity
- Seasonal rates are not commonly used

RESIDENTIAL WATER RATES

2001

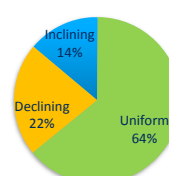


2018

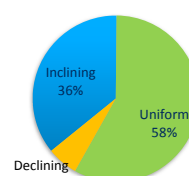


NON-RESIDENTIAL WATER RATES

2001



2018



Source: Black & Veatch 50 Largest Cities Rate Survey

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Comparable Utilities

UTILITY	2001		2018	
	RESIDENTIAL	COMMERCIAL	RESIDENTIAL	COMMERCIAL
Baltimore	<i>Declining</i>		<i>Uniform</i>	
Boston	Inclining		Inclining	
Cincinnati	Declining		Declining	
Columbus	<i>Declining</i>		<i>Inclining</i>	<i>Declining</i>
Indianapolis	<i>Declining</i>		<i>Uniform</i>	<i>Declining</i>
New York City	Uniform		Uniform	
Washington DC	Uniform		Inclining	Uniform
Detroit	<i>Declining</i>		<i>Uniform</i>	

Typical Reasons for shift away from declining block rate structure:

- Water Conservation
- Increased efficiency within customer classes
- Affordability concerns

Note: ***Bold italics*** font identifies utilities that have shifted from declining block

30 July 2019

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Uniform Block Alternative

- Constant per unit fee regardless of amount of water consumed

DESCRIPTION	RATE (\$/MCF)
All Usage	\$40.50

Estimated Uniform Rate based on the FY 2019 Cost of Service per the 2018 Rate Determination

Note: Estimated Uniform Rates are provided for discussion purposes only at this time

30 July 2019



Pros and Cons of Uniform Block Rate Structures

ADVANTAGES	DISADVANTAGES
Simple to design, implement and maintain in billing system, and easy to understand for customers	Treats all customers in the same fashion and does not reflect the unique characteristics of different customer types
Considered equitable among all customers as the rate per unit doesn't change with consumption	Might be considered inequitable when there is a significant variation in costs associated with serving different customer types
Provides reasonable revenue stability for rate structures that have variable component	Dependent on consumption and therefore a significant decrease in water demand can result in a decrease in revenue
May send water conservation signaling, specifically to customers transitioning from a flat fee or declining block rate structure	Provides less water conservation signaling relative to inclining block rate structure Customer's incremental cost of consuming more water isn't as significant

30 July 2019



Impact Analysis

FY 2019 TYPICAL BILLS (ALL CHARGES)

CUSTOMER TYPE	TYPICAL BILL		% CHANGE
	DECLINING	UNIFORM	
Residential ^[1]	\$66.33	\$64.16	-3.3%
Senior Citizen ^[2]	\$38.16	\$37.18	-2.6%
Small Business ^[3]	\$111.01	\$108.40	-2.4%

[1] 5/8" meter with 500 cubic feet water usage.

[2] 5/8" meter with 300 cubic feet water usage.

[3] 5/8" meter with 600 cubic feet water usage. A parcel with gross area of 5,500 square feet and impervious area of 4,000 square feet.

Note: Estimated impacts are provided for discussion purposes only at this time

30 July 2019



Impact Analysis

FY 2019 – EXAMPLE LARGE USER QUANTITY CHARGES

BILLED VOLUME	QUANTITY CHARGE		% CHANGE
	DECLINING	UNIFORM	
50 Mcf	\$1,940	\$2,025	4.4%
150 Mcf	\$5,360	\$6,075	13.3%
5,300 Mcf	\$156,487	\$214,640	37.2%

Note: Estimated impacts are provided for discussion purposes only at this time

30 July 2019



Impact Analysis

QUANTITY CHARGE IMPACT - DISTRIBUTION OF BILLS

IMPACT	RESIDENTIAL	NON-RESIDENTIAL	TOTAL
	86%	72%	85%
NO CHANGE	13%	19%	14%
	<1%	9%	1%

Note: Estimated impacts are provided for discussion purposes only at this time

30 July 2019



Impact Analysis – Increased Bills

QUANTITY CHARGE IMPACT – BREAKDOWN OF BILL INCREASES

QUANTITY CHARGE IMPACT	BILLED VOLUME (MCF)	% OF TOTAL BILLS	% OF QUANTITY CHARGES
0.01% - 2.5%	6.5 - 13.0	0.5%	4.0%
2.51% - 5%	13.1 - 101.1	0.5%	16.6%
5.01% - 10%	101.2 - 126.6	< 0.1%	3.5%
10.01% - 20%	126.7 - 226.7	0.1%	12.9%
20.01% - 30%	226.8 - 685.7	< 0.1%	6.2%
30.01% - 38.7%	687.8 - 16,768.2	< 0.1%	7.0%
TOTAL		1.1%	50.2%


Roughly
69,000 of the
over 6 million
bills would
see an
increase

Note: Estimated impacts are provided for discussion purposes only at this time

30 July 2019



Uniform Block Applicability to PWD

- Provides some price signaling to customers compared to the declining block rate structure
- Reasonable revenue stability
- Relatively simple to implement
- Some affordability benefits for residential and small business customers
- May serve as a transition mechanism to incrementally move toward another rate structure

30 July 2019



Analyzing Proposals





Small Group Notes Activity

- Purpose: capture all points of views about the pros, cons and questions related to Uniform Block Rate
- Split into 3 groups
- Three rounds of discussion
 - Pros
 - Cons
 - Questions
- Discuss topic as page comes to your group – make notes capturing all points of view



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5 Minute Break



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Large Group Discussion

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Large Group Discussion

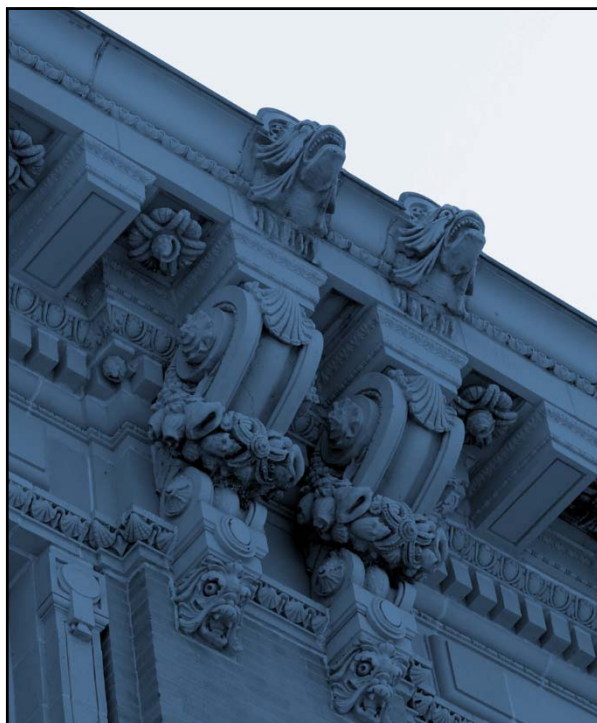
1. Questions
2. Areas of Agreement
3. Areas of Disagreement

30 July 2019

//////////////////// 32 

Up Next

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What's Next?

- **Today:** Complete evaluation form
- **Meeting No. 2:**
 - Topic: Stormwater Credits & Incentives
 - Time/Date: 2:30 - 4:30 PM on August 13th
- **Meeting No. 3:**
 - Topic: Pension Rider
 - Time/Date: 2:30 – 4:30 PM on September 5th
- Comments Due on September 16th

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Alternative Rate Structure Analysis

Stormwater Credits

STAKEHOLDER MEETING 2 – AUGUST 13, 2019



What is the purpose of the Alternative Rate Structure Analysis?

PWD's overall mission is to provide safe and reliable drinking water to the City of Philadelphia and its customers as well as protecting the region's water resources.

While the mission has not changed, the Department continues to evolve in order to:

- Improve service;
- Meet current customer needs;
- Address aging infrastructure;
- Comply with regulatory requirements; and
- Face new and future challenges.

As such, PWD is interested in assessing whether its existing rate structure is still supports its current mission and goals and helps meet its future objectives.



Why are we having these meetings?

The objective of the proposed Alternative Rate Structure Analysis is to evaluate potential incremental rate structure updates in critical areas which present both near term and long-term challenges for the Water Department and its customers.

Focus on Three Key Areas:

- Water quantity charges
- Stormwater credits and incentives programs
- Rider for pension-related expenses

While the above are the immediate areas of focus, this is the beginning of a process that will take several years to complete.





Intended Meeting Outcomes

The purpose of the Alternative Rate Structure Stakeholder meetings is to gather input and feedback on:

1. Perceived impacts of potential rate structure changes
2. General feedback and opinions (both pros and cons) on any potential changes and associated transition
3. Potential impediments to implementation



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Meeting Schedule

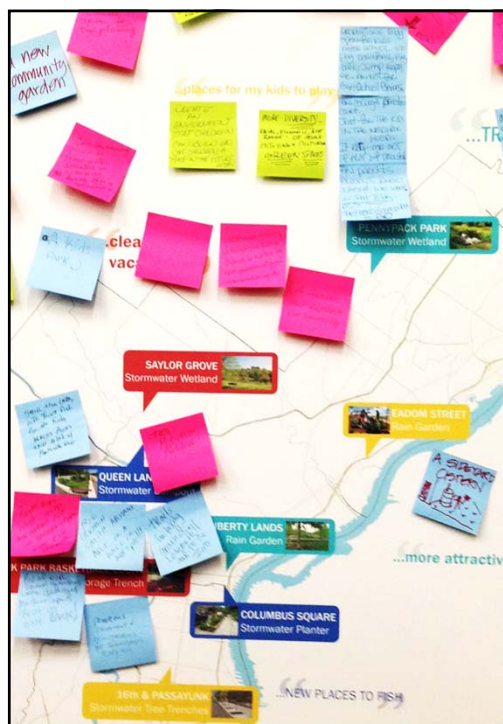
A series of **3 meetings** will be held on the following dates:

1. **Tuesday, July 30th** from 2:30 - 4:30 PM: Water quantity charges
2. **Tuesday, August 13th** from 2:30 - 4:30 PM: Stormwater credits & incentives
3. **Thursday, September 5th** from 2:30 - 4:30 PM: Rider for pension-related expenses

Request written comments be submitted by September 16th

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What will we do with your feedback?

1. The Consulting Team will develop a summary report detailing the process and feedback received.
2. The draft report will be provided for stakeholder participants' review and feedback.
3. The final report will be issued to the Rate Board and posted to their website.
4. Written comments will be posted to the Rate Board website.

Note – Comments may be provided on a rolling basis (i.e. after each meeting) or all at once. Additional commentary on areas not discussed during this meeting series is also welcomed.

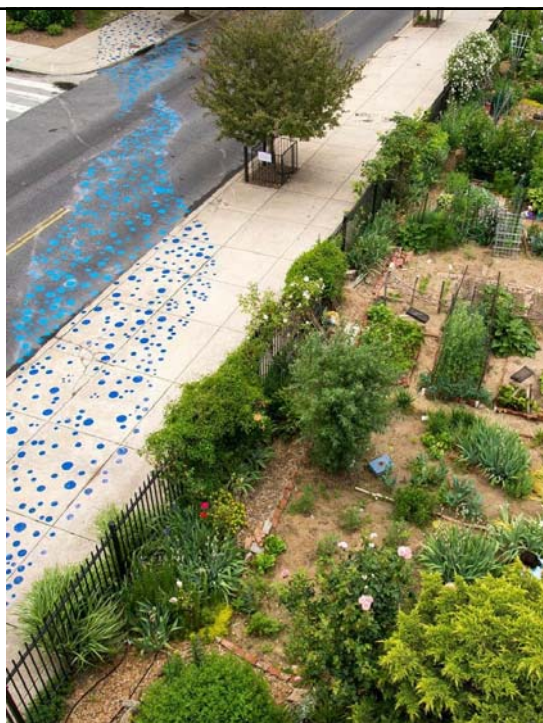
All meeting materials and written comments will be treated as public information.



Meeting Overview

- Focus Topic – Stormwater Credits and Incentives
- Role of Facilitators
- Meeting Objectives
- Meeting Agenda
- Meeting Ground Rules

13 August 2019



Meeting Objectives

- Understand what different stakeholders see as the pros and cons of the alternative rate structure proposals
- Develop a statement of areas of stakeholder agreement and disagreement
- Respect participants' time: Collect feedback in an efficient way
- Value participants' perspectives: Collect feedback in a way that we hear all of the different points of view

13 August 2019



Meeting Agenda Stormwater Credits and Incentives

- Presentation
 - Background
 - Long-Term Credit Analysis
 - Potential Credit Program Adjustments
 - Summary
- Analyzing Proposals: Small Group Notes
- Large Group Discussion

13 August 2019



Meeting Ground Rules

- Start and end on time.
- Stay on topic.
- It's ok to disagree . . . Respectfully (focus on issues not personalities).
- Listen for understanding . . . Don't interrupt.
- Speak up . . . Everyone contributes.
- Be present . . . Cell phones off or on vibrate.

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Focus Topic No. 2: Stormwater Credits and Incentives



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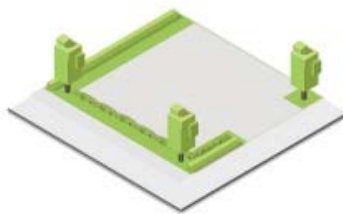
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- Definitions
- Stormwater Rate Structure Overview
- Credit Program Overview
- Programs Impacting Stormwater Rates
- Recovery of Stormwater Customer Program Costs

13 



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Overview of PWD's Current Stormwater Rate Structure



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- Uniform Stormwater Charge (per parcel) based on the average residential GA and IA
- Billing and Collection Charge (per account)



- Includes all properties which cannot be classified as residential
- GA Charge (\$ per 500 square feet) based on parcel's actual GA
- IA Charge (\$ per 500 square feet) based on parcel's actual IA
- Billing and Collection Charge (per account)

Note – condominium properties are included with non-residential for the purposes of this presentation

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Example Property – Parcel Area Based Fee



Source: PWD's Parcel Viewer

Note: Gross Area and Impervious Area are rounded to the nearest 500 square feet for billing purposes.

sf = square feet

Gross Area Charge

Gross Area	39,790 sf
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Gross Area Unit Charge	\$0.70 / 500 sf
Monthly Gross Area Charge	\$56.08

Impervious Area Charge

Impervious Area	39,790 sf
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Monthly Impervious Area Charge	\$424.32

Total Monthly Parcel Area Based Fee: \$480.40

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Current Credit Program

Type	Options	Credit Maximums ³	
		Non-Surface	Surface
IA Credit	IAR	100%	100%
	IA Managed	80%	90%
GA Credit	GA Credit for IA Managed	80%	90%
	NRCS ¹ Curve Number Open Space	80%	90%
NPDES² Credit	IA Managed	7%	7%
	Open Space GA	7%	7%

Only Non-Residential and Condominium properties are eligible for SW Credit

Current credit technical criteria requires management of the first inch of runoff whereas current regulations require management of 1.5-inches of runoff.

¹ NRCS - National Resources Conservation Service

² NPDES - National Pollutant Discharge Elimination System

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Programs Impacting Stormwater Rates

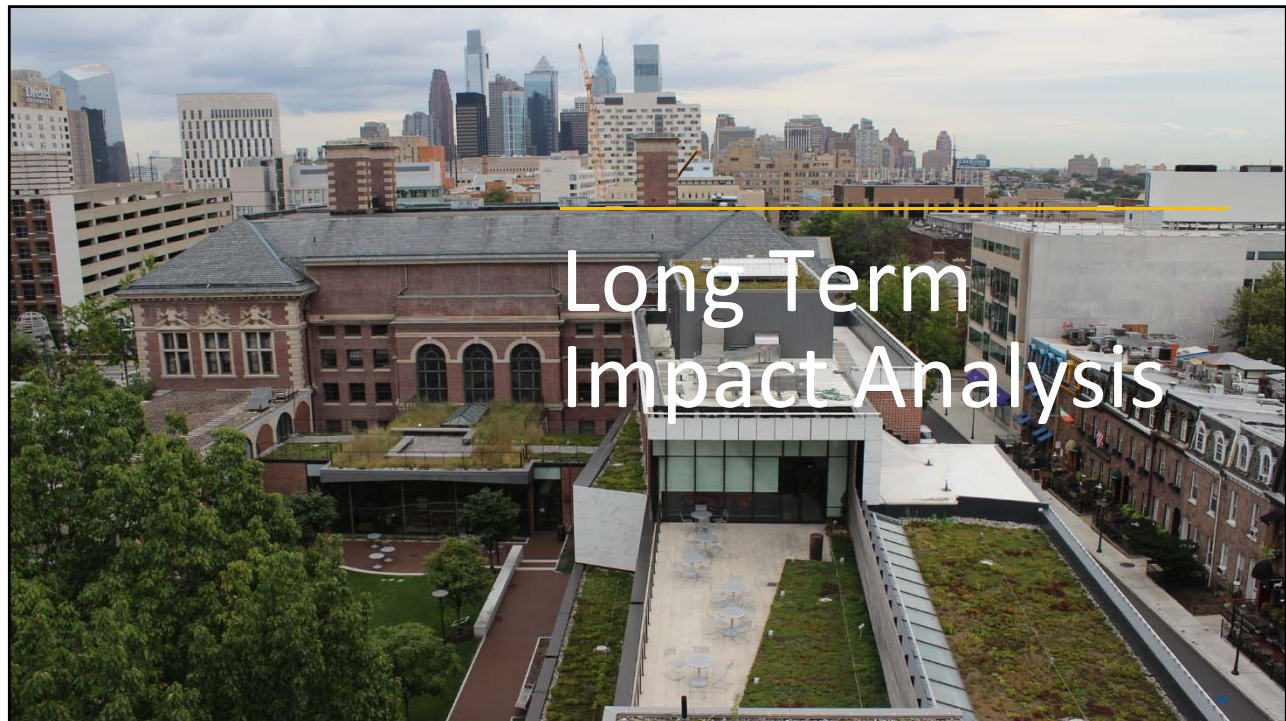
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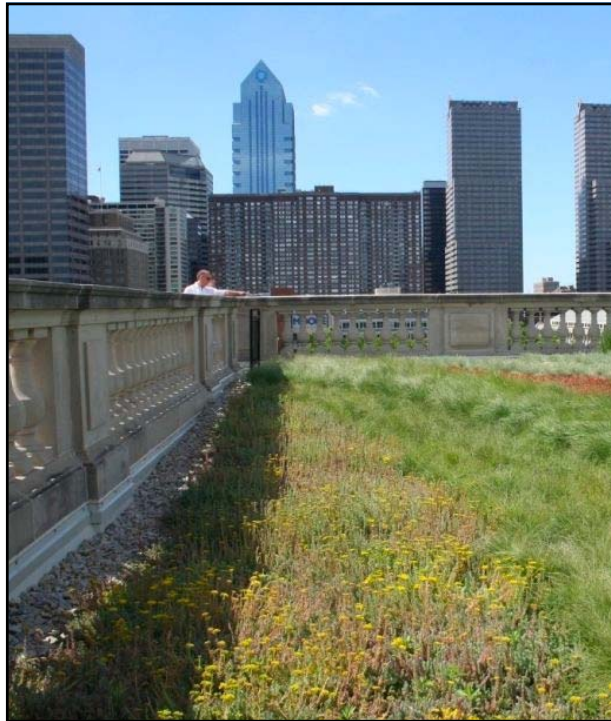
18 

Stormwater Customer Program Cost Recovery

Program	Cost Recovery Approach
SMIP/GARP (Grant Costs)	- Recovered by wastewater (<i>sanitary & storm</i>) revenues¹. 40% recovered via sanitary rates and 60% from stormwater rates.
Stormwater Credits	- Recovered by stormwater revenues. - Proportionate recovery from all stormwater customer types (via a reduction in billable units).
Stormwater CAP	Recovered from non-residential stormwater customers only.

¹Net of wholesale allocation in accordance with applicable contract terms.





Long-Term Impact Analysis Objectives

1. Project long-term impact of the credit program on:
 - Billable units of service
 - Stormwater revenues and rates
2. Assess impacts from new 2015 Stormwater Billing Data [e.g. impervious area (IA) and gross area (GA) data]
3. Identify potential imbalances with respect to Stormwater Customers

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Credit Projections Approach

For projection purposes, credits were categorized as follows:

Category	Description	Credit Types
SMIP/GARP	Credits from SMIP/GARP funded projects	• IA Managed • GA Managed
Surface Discharge	Credits related to surface discharge properties	• IA Managed • GA Managed • Open Space GA • NPDES
All Others	Credits related to Impervious Area Reductions and Non-Surface discharge properties, typically resulting from development/redevelopment activity	Impervious Area Reductions Non-Surface Discharge: • IA Managed • GA Managed • Open Space GA • NPDES

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Estimated Average Annual Loss in Billable Units of Service

Category	Gross Area (square feet)	Impervious Area (square feet)
SMIP/GARP	2.4 Million	2.4 Million
Surface Discharge	13.7 Million	3.8 Million
All Others	6.5 Million	2.3 Million
TOTAL	22.6 Million	8.5 Million

Above figures assume no change in current programs or policies.
Projections are based upon stormwater billing and SMIP/GARP program data as of the end of FY 2018.



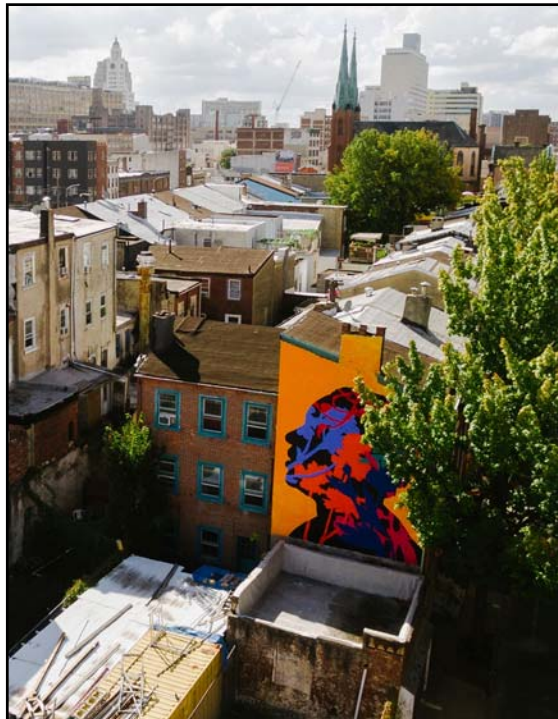
Long-Term Credit Projections - Annual Revenue Impact

- Annual CAP: Decreases from \$2.3 million in FY 2019 to \$2.1 million in FY 2021
- Annual SMIP/GARP Grant Amount: **\$25 million**
- Annual Contra Revenue from Credits increases:

	FY 2019	FY 2021
Existing Credits	\$19.6 million	\$20.5 million
Future Credits	-	\$3.8 million
Total Credits	\$19.6 million	\$24.3 million

- Contra revenue estimates are based on adjusted rates which reflect estimated 6% annual increases in stormwater cost of service and changes in billable units of service
- Contra revenues for future credits represents additional potential revenue loss without changes in current stormwater credit programs or policies

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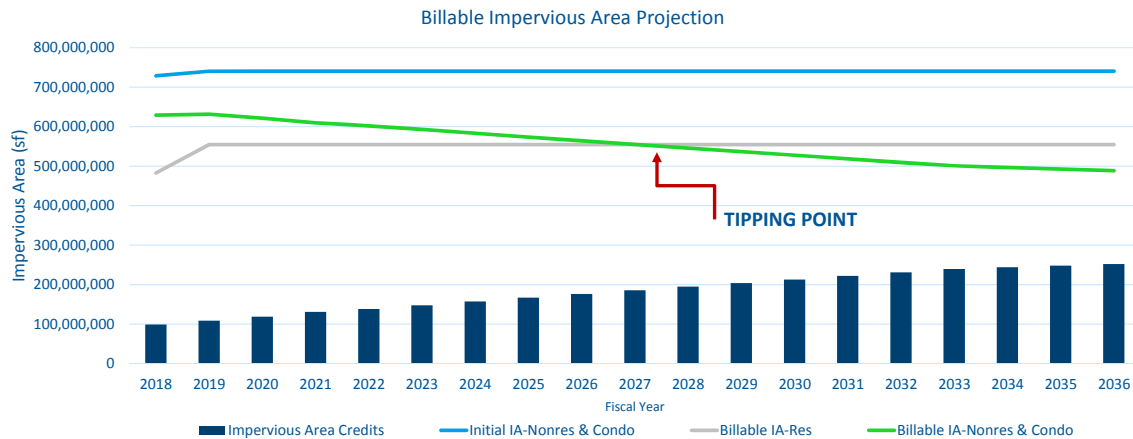
Units of Service- Impact of 2015 Data

- Impervious Area (IA) Impacts
 - Residential IA: Increased by 72 million square feet (sf) or 14.9%
 - Non Residential and Condo IA: Increased by 12 million sf or 1.6%
 - Total IA: Increased by 84 million sf or 6.9%
 - Residential average IA per parcel changed from 1,050 sf to 1,200 sf
- No significant change in Gross Area (GA) square footage

New data set and associated impacts were not reflected in the most recent rate proceeding and will be incorporated in the next filing.

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Long-Term Credit Projections – IA Units of Service

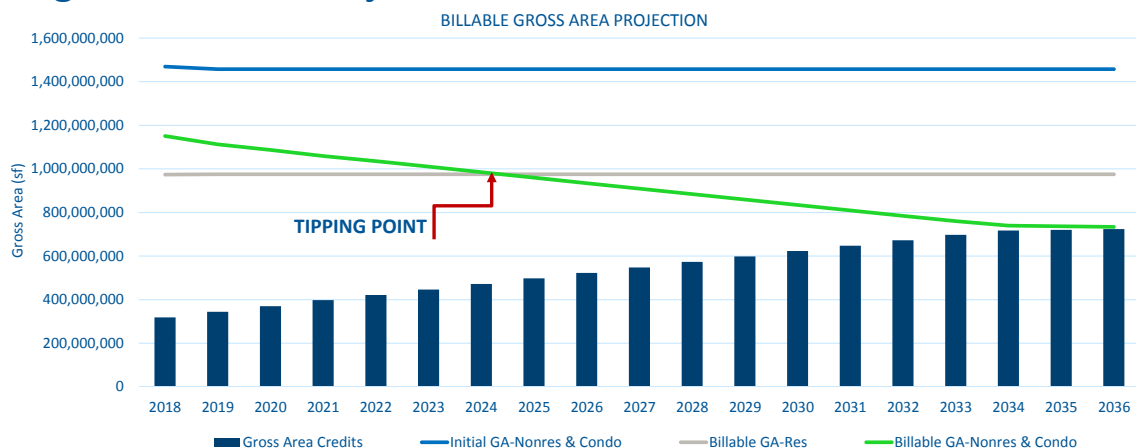


By FY 2027:

- IA Credit: ↑ 77 million sf (reduces billable IA)
- More Residential billable IA than Non-Residential

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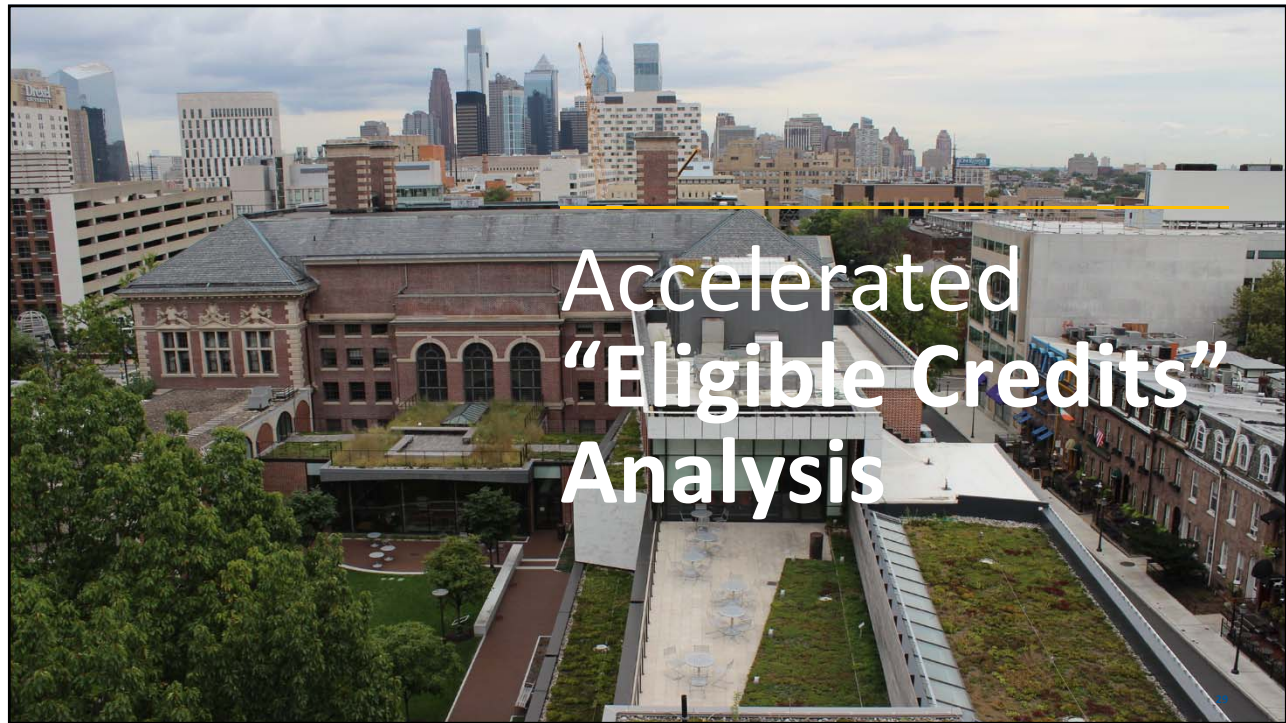
Long-Term Credit Projections – GA Units of Service



By FY 2025:

- GA Credit: ↑ 153 million sf (reduces billable GA)
- More Residential billable GA than Non-Residential

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Accelerated "Eligible Credits" Analysis

Credit Eligible Parcels – create uncertainty with respect to stormwater revenues and customer rates

- Current SW Credit Program criteria requires 1-inch of runoff
- Current SW Management Requirement is 1.5-inches
- Credit Eligible Parcels - Currently Not Receiving Credits:
 - Est. Potential Non Surface Discharge Credit = 32.25M sf
 - Est. Potential Surface Discharge Credit = 8.65M sf
- "What If?" Scenario Analysis
 - Assume levels of enrollment under current credit program
 - "Eligible Credits" will apply and receive credit in FY 2020
 - Estimate tipping points and stormwater rates

Summary - “Eligible Credits” Analysis

Impact to Billable Units Tipping Point

	Status Quo	100% Apply
Residential GA > Non Res GA in	FY 2025	FY 2023
Residential IA > Non Res IA in	FY 2027	FY 2023

The results presented above assume no change / adjustments to the current credit program.

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Summary - “Eligible Credits” Analysis

Impact to Stormwater Rates

	Status Quo	100% Apply
FY 2021 Residential Rates		
IA/GA	\$15.853	\$16.381
FY 2021 Non-Residential Rates		
IA (per 500 sf)	\$5.403	\$5.604
GA (per 500 sf)	\$0.773	\$0.789

Note: Estimated Rates are provided for discussion purposes only at this time and assume there is no change to the current credit program.

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Key Take-Aways

- Continued escalation of stormwater costs and reductions in billable units of service:
 - Puts pressure on rates with compounding effects
 - Increases Contra Revenue impacts
- Within the next 6-9 years, residential customers may bear more of the burden of stormwater related costs with no ability to reduce their fees *under current programs*
- Credit Eligible Parcels have the potential to accelerate the “tipping point” and put further pressure on revenues and rates

Both short-term and long-term adjustments may be needed to mitigate these impacts.



Potential Mitigation Approaches

Short Term

- Align credit criteria with stormwater regulations
 - Regulations require management of 1.5-inch of runoff
 - Credit Program criteria requires management of 1-inch of runoff
 - Aligning policies would reduce potential credit from properties with SMPs which do not meet current regulations
- Specify an enrollment window for applying for credit following development / redevelopment
 - Allow property owners a period of time after construction to apply for credit
 - Discuss the need for a policy to address ownership changes
 - Aim to avoid build-up of "credit liability," help to manage contra revenue and customer impacts
- Adjust SMIP/GARP program budget

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Example - SMIP/GARP Program Budget Adjustment

	Current Program (No Change)	Reduced SMIP/GARP Budget (\$12,500,000)	Delta
Residential Rates: FY 2021			
IA/GA	\$15.853	\$15.111	(\$0.742)
Non Residential Rates: FY 2021			
IA (per 500 sf)	\$5.403	\$5.157	(\$0.246)
GA (per 500 sf)	\$0.773	\$0.738	(\$0.035)

Note: Estimated Rates are provided for discussion purposes only at this time

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Potential Mitigation Approaches

Long Term

- Holistic credit program updates
- Revisit stormwater rate structure

Longer term adjustments will require further evaluation and deliberation with stakeholders. Effort will take place over the next several years following the next rate proceeding.

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Summary

- Aligning stormwater credit criteria with current regulations helps manage “build-up” of potential credit
- Specifying an enrollment period helps manage longer term impacts / reduces uncertainty
- Reducing SMIP/GARP Budget provides immediate relief to rate payers
- Broader changes need to be considered in the future to address potential future equity issues

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Reflection & Check-In

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Reflection

- Purpose: capture all points of views about the questions, concerns, and suggestions related to each alternative
 1. Give everyone a chance to participate
 2. Efficiently collect feedback
- Use the note-taking handout to capture initial thoughts

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Check-In

- Purpose: quickly see level of support or concern for each idea
 1. Align credit criteria with stormwater regulations
 2. Specify enrollment window for applying for credit following construction
 3. Adjust SMIP/GARP budget



Great idea! – I support it.



Good idea, but needs work – I could support it with changes.



Bad idea, but it might work – I might support it with changes.



Bad idea! – I don't support it.

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Large Group Discussion



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Large Group Discussion

Questions, Concerns, Suggestions

1. Align credit criteria with stormwater regulations
2. Specify enrollment window for applying for credit following construction
3. Adjust SMIP/GARP budget
4. Longer-term changes?

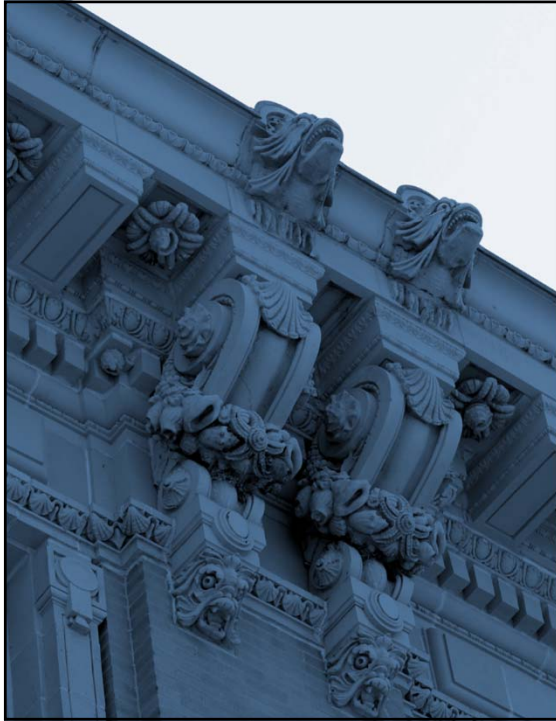
13 August 2019

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Up Next





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**PHILADELPHIA
WATER**
— DEPARTMENT —

Introduction

- 1. Recap Items**
 - Developer ROW Incentive
 - Maintenance Guide
- 2. Today's Discussion**
- 3. Next Steps**

Meeting Agenda Stormwater Credits and Incentives

- Presentation
 - Background
 - Long-Term Impact Analysis
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 - Summary
- Discussion

13 August 2019



Focus Topic : Stormwater Credits and Incentives



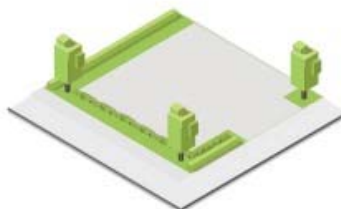


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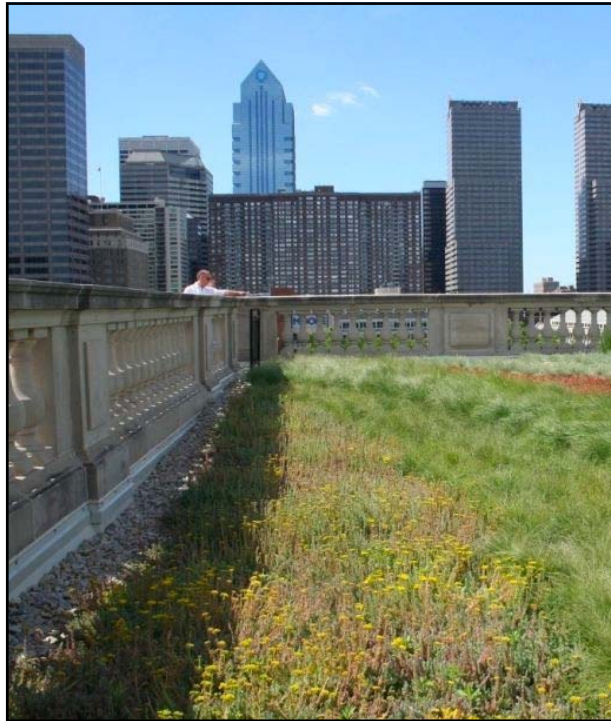


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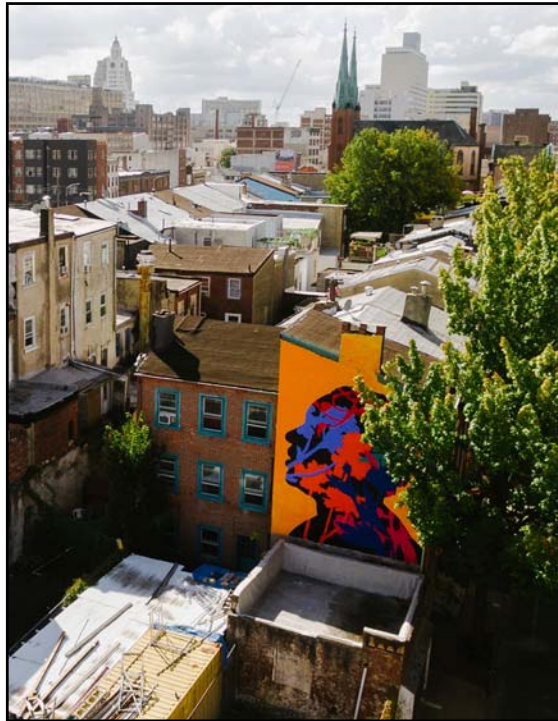


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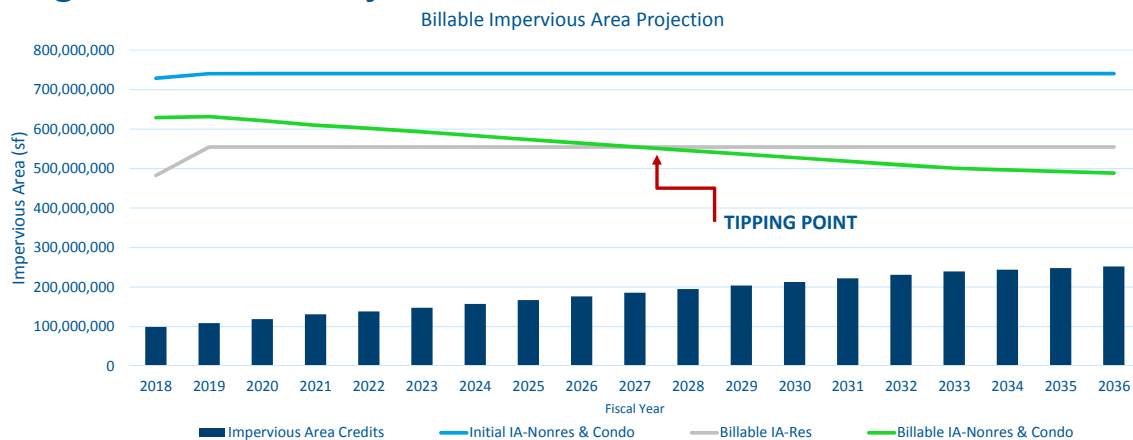
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17

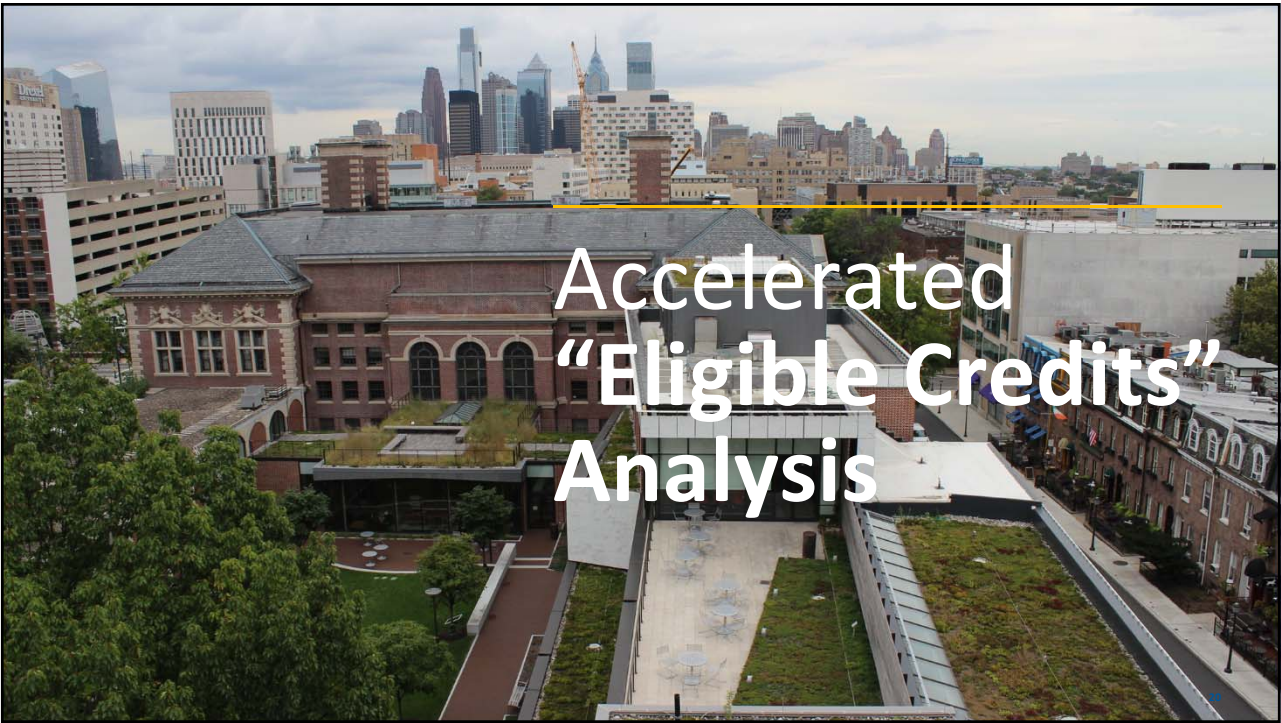
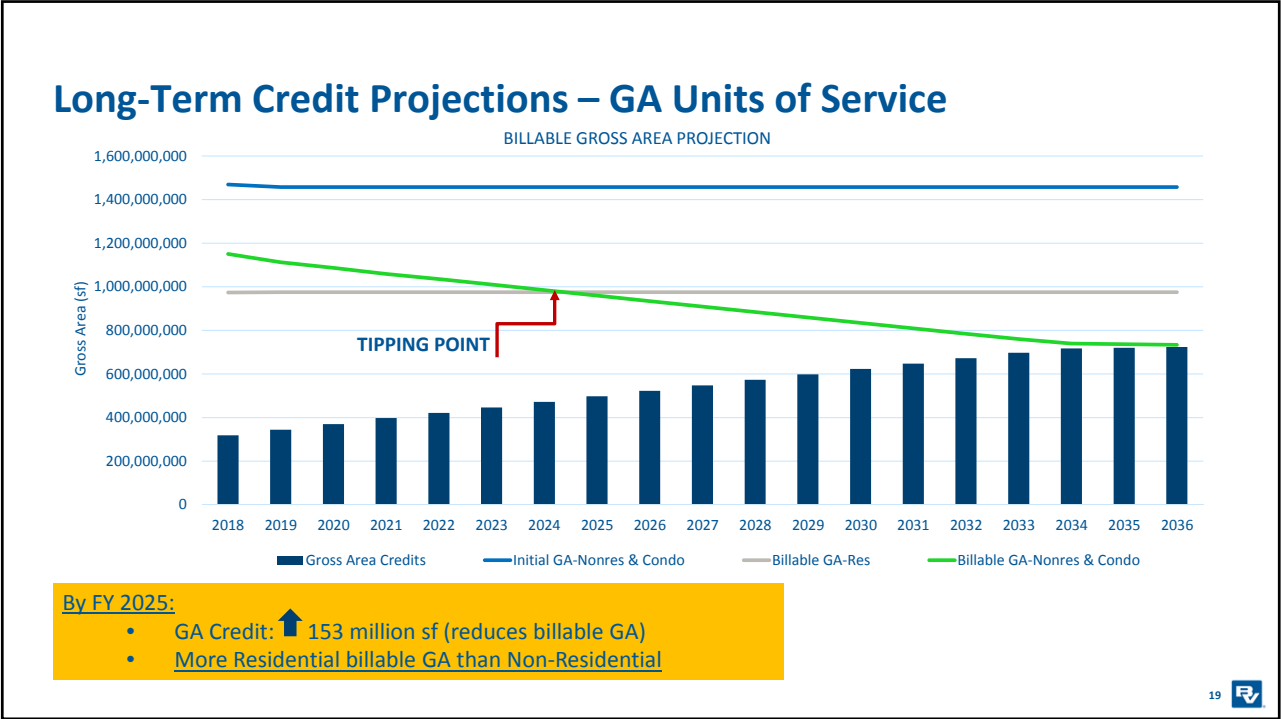
Long-Term Credit Projections – IA Units of Service



By FY 2027:

- IA Credit: 77 million sf (reduces billable IA)
- More Residential billable IA than Non-Residential

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Accelerated “Eligible Credits” Analysis

Credit Eligible Parcels – create uncertainty with respect to stormwater revenues and customer rates

- Current SW Credit Program criteria requires 1-inch of runoff
- Current SW Management Requirement is 1.5-inches
- Credit Eligible Parcels - Currently Not Receiving Credits:
 - Est. Potential Non Surface Discharge Credit = 32.25M sf
 - Est. Potential Surface Discharge Credit = 8.65M sf
- “What If?” Scenario Analysis
 - Assume levels of enrollment under current credit program
 - “Eligible Credits” will apply and receive credit in FY 2020
 - Estimate tipping points and stormwater rates

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Summary - “Eligible Credits” Analysis

Impact to Billable Units Tipping Point

	Status Quo	100% Apply
Residential GA > Non Res GA in	FY 2025	FY 2023
Residential IA > Non Res IA in	FY 2027	FY 2023

The results presented above assume no change / adjustments to the current credit program.

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Summary - “Eligible Credits” Analysis

Impact to Stormwater Rates

	Status Quo	100% Apply
FY 2021 Residential Rates		
IA/GA	\$15.853	\$16.381
FY 2021 Non-Residential Rates		
IA (per 500 sf)	\$5.403	\$5.604
GA (per 500 sf)	\$0.773	\$0.789

Note: Estimated Rates are provided for discussion purposes only at this time and assume there is no change to the current credit program.

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Key Take-Aways

- Continued escalation of stormwater costs and reductions in billable units of service:
 - Puts pressure on rates with compounding effects
 - Increases Contra Revenue impacts
- Within the next 6-9 years, residential customers may bear more of the burden of stormwater related costs with no ability to reduce their fees *under current programs*
- Credit Eligible Parcels have the potential to accelerate the “tipping point” and put further pressure on revenues and rates

Both short-term and long-term adjustments may be needed to mitigate these impacts.

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Potential Mitigation Approaches

Short Term

- Align credit criteria with stormwater regulations
 - Regulations require management of 1.5-inch of runoff / Credit Program 1-inch of runoff
 - Aligning policies would reduce potential credit for SMPs which do not meet current regulations
- Specify an enrollment window for applying for credit following development / redevelopment
 - Allow property owners a period of time after construction to apply for credit
 - Discuss the need for a policy to address ownership changes
 - Aim to avoid build-up of "credit liability," help to manage contra revenue and customer impacts
- Adjust SMIP/GARP program budget
 - Provides immediate rate relief to all customers
 - Reduces some of the shorter impacts resulting from credits

Potential Mitigation Approaches

Long Term

- Holistic credit program updates
- Revisit stormwater rate structure

Longer term adjustments will require further evaluation and deliberation with stakeholders. Effort will take place over the next several years following the next rate proceeding.

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Summary

- Aligning stormwater credit criteria with current regulations helps manage “build-up” of potential credit
- Specifying an enrollment period helps manage longer term impacts / reduces uncertainty
- Reducing SMIP/GARP Budget provides immediate relief to rate payers
- Broader changes need to be considered in the future to address potential future equity issues

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Next Steps

Today's Discussion:

- Submit written comments by September 16th (optional) to Vicki

Upcoming Items:

- Developer ROW Incentive
- Maintenance Guide
- Online Technical Submission
- Website Homepage Revamp

Subscribe for email updates at <https://phillyh2o.info/plan-review-email>



Alternative Rate Structure Analysis

Philadelphia Water Department

STAKEHOLDER MEETING 3 – September 10, 2019



Agenda

- Welcome & Meeting No. 2 Recap
- Meeting Overview
- Focus Topic No. 3 – Rider for Pension Expenses
- Reflection & Discussion
- Wrap-up



Welcome

- Alternative Rate Structure Analysis Background
- Meeting No. 2 Recap
- Development Service Committee Feedback
- Today's Topic: Rider for pension-related expenses

Written comment deadline extended to September 20th.



Meeting Agenda Potential Pension Rider

- Technical Presentation
 - Rate Rider Background
 - Pensions Trends
 - PWD Pension Expenses
 - Example Pension / OPEB Riders
 - Applicability to PWD & Factors for Consideration
 - Alternative Approaches & Recommended Alternative
- Reflection & Discussion

10 Sept. 2019



Focus Topic No. 3: Potential Pension Rider

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Tiered Assistance Program (TAP) Rate Rider

- Adopted with FY 2019 – FY 2020 Rate Determination
- Recovers revenue loss associated with the TAP discounts
- Applied as a water and sewer quantity surcharge (\$ per Mcf)
- Allows for:
 - Annual reconciliation and surcharge rate updates
 - More accurate and timely cost recovery
- Addresses concerns:
 - Difficult to predict enrollment levels
 - Uncertain revenue loss
 - Potential under/over-recovery of costs

What other expenses would benefit from a similar recovery approach?

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Reason to Consider a Rider Approach

	PENSIONS
• Ability (of the utility) to control the expense	✓
• Volatility of the expense	✓
• Difficulty in accurately predicting the expense	✓
• Contribution to overall variance (projected versus actual)	✓

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National Industry Trends

According to Moody's Investor Services, **the nation's unfunded public pension liabilities tops \$4.4 trillion.**

This is comparable to ASCE's \$4.5 trillion estimate of what the nation needs to fix it's failing infrastructure by 2025.



ASCE = American Society of Civil Engineers

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National Industry Trends

Pension issues can affect credit ratings

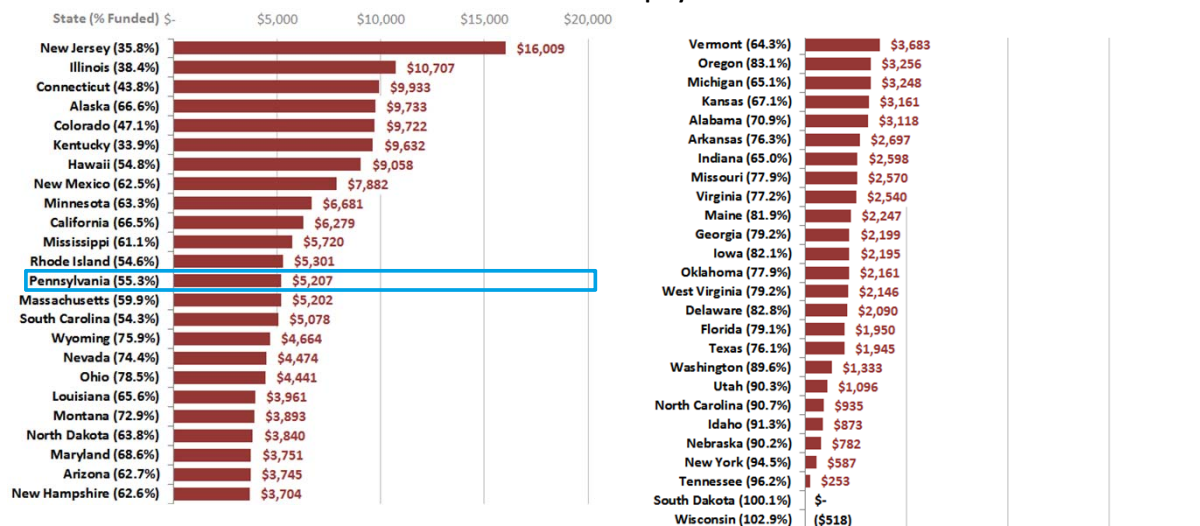
- Chicago
 - Dropped to Junk Bond status in 2015
 - Annual contributions will increase from \$1 billion in 2018 to \$2.1 billion in 2023
 - Raising property taxes and utility bills
- Detroit and Stockton bankruptcies
 - Pension obligations still exist
- Illinois and New Jersey

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National Industry Trends

2018 Cost of Unfunded State Government Employee Pension Liabilities Per State Resident



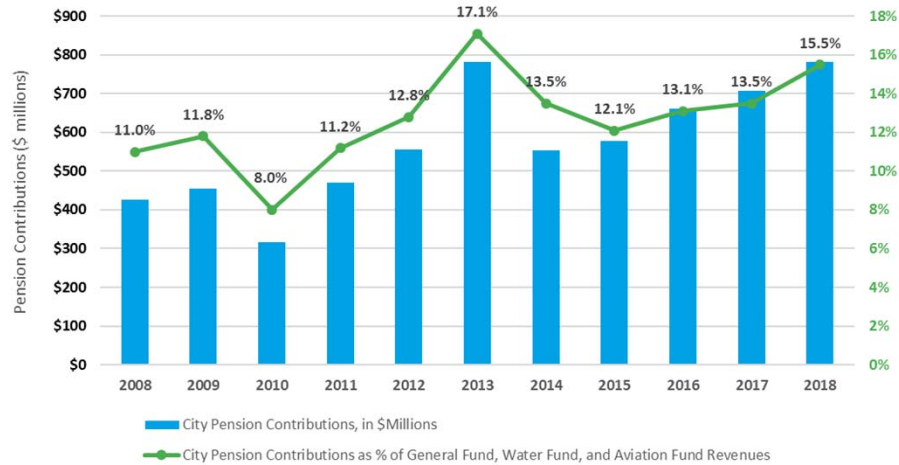
Source: Bloomberg (October 12, 2018, 2017 Data), 2017 U.S. Census Bureau Population Estimates

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City Contributions to the Philadelphia Pension Fund, FY 08 - 18

City has committed to making higher contributions to the pension fund



Source: 2019 The Pew Charitable Trust

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Annual Employee Contributions to Pension Fund, FY 08-18

Active employee contributions are increasing as well



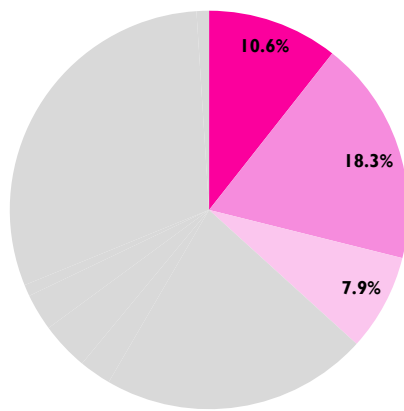
Source: 2019 The Pew Charitable Trust

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PWD Pension Costs – FY 2018 Expense Summary



EXPENSE CATEGORY	FY18 FINAL (\$000s)
10.6% - Pension Costs	76,957
18.3% - Personal Services	132,309
7.9% - Other Employee Benefits	56,889
Workforce Costs	266,154
21.7% Services	156,997
2.6% Electricity and Gas	18,858
3.9% Materials , Equipment & Supplies	28,306
3.0% Chemicals	21,771
0.9% Indemnities	6,779
30.1% Capital Program - Debt Service Payments	218,483
1.0% General Fund Reimbursement	7,319
TOTAL	724,667

Pensions costs make up roughly 10% of annual obligations

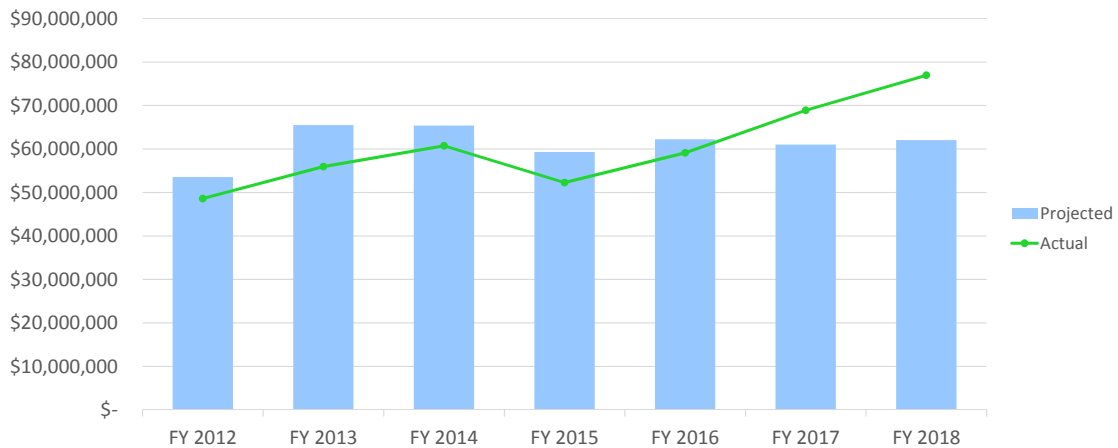


PWD Pension Costs – Background

- Pension expenses have nearly doubled over the last 7-8 years
- Increases in pensions costs are generally due to:
 - Required increase in contributions
 - Funding must be from operating revenues (per City policy change)
 - Increased staffing levels
- Other factors influencing pension costs:
 - Overall performance of the City's pension plan
 - Actuarial calculations determine pension liabilities and are conducted by an outside firm
 - Increasing staffing levels compared to the rest of the City influence PWD's proportion of pension contributions

Water Fund Contribution as a percentage of MMO has increased from 5.6% in FY 2010 to 10% in FY 2018

Prior Projections vs. Actual Pension Expenses



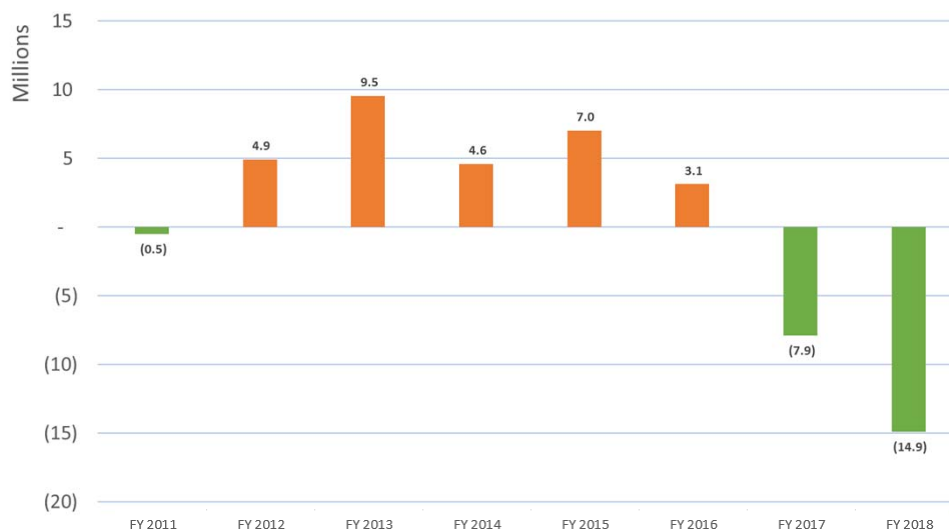
Note: Prior projections are based on prior rate determinations

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Variance – Projected versus Actual Pension Expenses



FY 2017 and FY 2018 variances reflect the change in funding policy, which occurred following the Rate Board determination.

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Projected PWD Pension Expenses and Personnel Count

Projections	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24
Pension Expenses (\$ millions)	\$ 79.0	\$ 81.6	\$ 83.2	\$ 84.6	\$ 86.1	\$ 87.8
Personnel Count	2,508	2,559	2,571	2,582	2,582	2,582

The above figures are estimates and intended for discussion purposes only.

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What are others doing?

- Pension and Other Post-Employment Benefits (OPEB) related rider mechanism are more common in the electric and natural gas industry / some water industry examples
- Electric and gas utilities face similar challenges related to pensions:
 - Continue to recovery costs via annual operating revenue needs without eroding reserves
 - Address market fluctuations / volatility in pension plan performance
 - Meet applicable indenture requirements

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Pension and OPEB Related Riders - Examples

Utility	Type	Rider Mechanism(s)	Expenses Recovered	Reconciliation Frequency	Charge Component
National Grid	Electric	Pension Adjustment Factor (PAF)	Uncapitalized Pension and OPEB expenses	Annual	\$ Per kWh
Eversource Energy	Electric	PAF	Uncapitalized Pension and PBOP expenses	Annual	\$ per kWh
PGW	Gas	OPEB Surcharge	OPEB Expenses	Annual	\$ per Mcf
Cal Water	Water	Pension Surcharge Healthcare Surcharge	1) Uncapitalized pension expenses 2) Healthcare expenses	Annual	\$ per CCF

OPEB = Other Post Employment Benefits
PBOP = Post-Retirement Benefits Other than Pensions

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Applicability to PWD

- Pension costs are expected to increase from \$79 million in FY 2019 to \$88 million in FY 2024
- Under/over-performance of pension related expenses:
 - Have a material impact on fund balances
 - May effect PWD's ability to meet Bond Ordinance and Rate Board covenants

Recovery via a rider mechanism:

- Provides agility to more accurately reflect actual experience
- Addresses costs recovered via rates in a more timely and transparent fashion

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Factors for Consideration

- Example riders all utilize consumption-based charges (i.e., \$/kWh, \$/Mcf, etc.) as part of their respective recovery mechanisms
- For the Department, Pension costs are a personnel-related O&M expense:
 - Under cost-of-service principles all cost components and customers receive an allocation of pension related costs
 - Pension costs are currently recovered via all rates and charges

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Pension Rider – Alternative Approaches

Approach	Option	Advantages	Disadvantages
Water / Sewer Quantity Surcharge	<u>All</u> pension expenses	• Simple surcharge / reconciliation calculations • Similar to TAP Rider • Allows for annual reconciliation of revenues and expenses	• Less than ideal cost recovery as costs only recovered from water and sewer • Overburdens water and sewer quantity charges • Stormwater customers would not contribute
	<u>Only under/over-performance of</u> pension expenses	• “Base level” pension costs remain in each rate • Limits the number of rates and charges impacted • Simple surcharge / reconciliation calculations • Similar to TAP Rider • Allows for annual reconciliation of expenses	• Less than ideal cost recovery as costs only recovered from water and sewer • Overburdens water and sewer quantity charges • Stormwater customers would not contribute to surcharge or benefit from credit

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Pension Rider – Alternative Approaches

Approach	Option	Advantages	Disadvantages
Percentage Cost Adjustment	Cost-based adjustment for each rate (percent basis)	Allows for adjustment to all rates to be adjusted to better align with actual experience	Requires adjustment to all rates and may require more complex calculations and documentation
Per Bill Surcharge	<u>All</u> pension expenses	- Retains a nexus in that each type of utility service contributes to recovery of pension costs - Reconciliation more feasible compared to a surcharge on all fees	- Not directly tied to <u>current</u> base rate recovery approach - Might result in a significant cost per bill (i.e., \$/bill or \$/meter size)
	<u>Only under/over-performance of</u> pension expenses	“Base level” pension costs remain in each rate - Retains a nexus in that each type of utility service contributes to recovery of pension costs - Lower surcharge compared to recovering all costs per bill - Could be reset with a base rate proceeding	- Not directly tied to base rate recovery - Might result in a significant cost per bill (i.e., \$/bill or \$/meter size)

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Pension Rider Recommended Alternative

- A per bill surcharge/surcredit for under/over performance only
- Keeps a portion of pension expenses within the base rates
- Surcharge/surcredit retains a nexus by being distributed to all utility service types
- Reset with a base rate proceeding
- Allows for simplified reconciliation

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Summary

- Pension make up nearly 10% of Department operating expenses
- The Department does not have direct control over this expense
- The Department's contributions are expected to further increase and will be influenced by market fluctuations / pension plan performance
- A rider mechanism would:
 - Aid in managing costs recovered by rates
 - Allow for more timely adjustments

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Reflection & Discussion

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Reflection

- Purpose: capture all points of views about the questions, concerns, and suggestions related to each alternative
 1. Give everyone a chance to participate
 2. Efficiently collect feedback
- Use the note-taking handout to capture initial thoughts

11 July 2019



Large Group Discussion

1. Question
2. Concerns
3. Suggestions

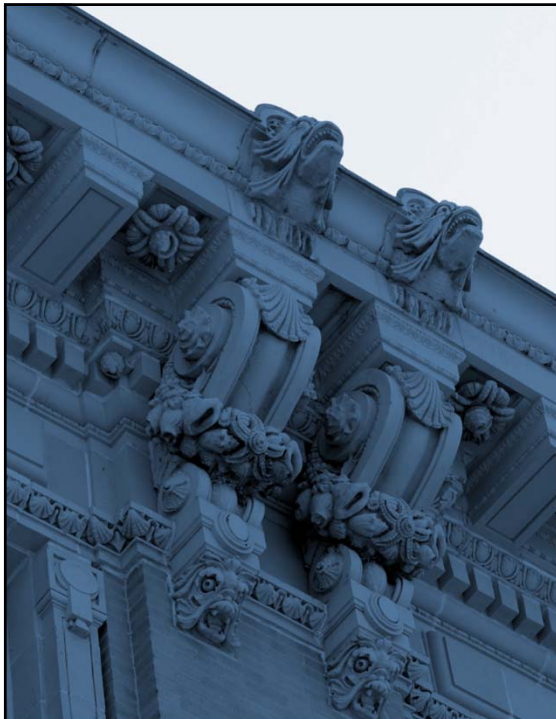
11 July 2019



Wrap Up



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What's Next?

- **Today:** Complete evaluation form
- **By September 20th:** Please submit comments to:
Danae Mobley: danae.mobley@phila.gov

Reminder: All meeting materials and written comments will be treated as public information and posted to the Rate Board website.

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APPENDIX C – MEETING SUMMARY NOTES

Alternative Rate Structure Analysis

STAKEHOLDER MEETING NO. 1 – WATER QUANTITY CHARGES

Summary Meeting Notes

Date: July 30, 2019

Time: 2:45 PM – 4:45 PM

Location: Philadelphia Water Department Offices, 1101 Market Street, McCarty Conference Room

Agenda

- ✓ Welcome and Overview
 - ✓ Focus Topic No. 1 – Water Quantity Charges
 - ✓ Analyzing Alternatives & Discussion
 - ✓ Next Steps
-

Attendees

Participants: Adeolu Bakare, Philadelphia Large Users Group
 Robert Ballenger, Community Legal Services
 Fran Lawn, Sustainable Business Network
 Eliza Alford, Sustainable Business Network
 Cornelius Brown, Philadelphia Building Industry Association / Bohler Engineering
 Libby Peters, City of Philadelphia Department of Commerce

PWD Staff: Randy Hayman, Melissa La Buda, Sarah Stevenson, Scott Schwarz, Ji Jun, Jaclyn Rogers, Joanne Dahme

Consultant Team: Ann Bui, David Jagt, Brian Merritt, Danae Mobley, Kash Srinivasan, Jennifer Hurley

The following is a summary of the first Alternative Rate Structure Stakeholder Group meeting. The presentation utilized during the meeting is available on the Philadelphia Water, Sewer and Stormwater Rate Board website: <https://www.phila.gov/departments/water-sewer-storm-water-rate-board/>

Attendees are listed above, and Appendix A includes a list of all invitees. Appendix B provides supplemental responses to questions raised during the meeting.

Welcome and Overview

The Black & Veatch Team (Team) welcomed the Alternative Rate Structure Stakeholder Group (ARSG) on behalf of the Philadelphia Water Department (PWD or the Department) and emphasized the importance of the groups feedback and input as PWD considers potential incremental rate structure adjustments prior to the next rate filing with the Philadelphia Water, Sewer and Stormwater Rate Board (the Rate Board). The Team noted that the Rate Board, as part of their decision from the prior rate determination, requested that PWD begin a process of reviewing their rate structure.

Purpose of the Alternative Rate Structure Analysis

The Team reviewed that the purpose of the Alternative Rate Structure is to assess whether or not the current rate structure still supports the Department's current mission and goals and whether or not it will continue to help meet future objectives.

Alternative Rate Structure Analysis

Stakeholder Meeting No.1

The Objective of Alternative Rate Structure Meetings

The Team then explained that the objective of the proposed Alternative Rate Structure Analysis is to evaluate potential incremental rate structure updates in critical areas which present both near-term and long-term challenges for the Department and its customers. The meetings will focus on the following key areas:

- Water quantity charges
- Stormwater credits and incentives
- A rider for pension-related expenses

The Team further noted that while these meetings will focus on these three specific areas, this is the beginning of a longer-term process which will take 24-36 months to complete.

Intended Meeting Outcomes

The meetings are intended to gather input and feedback on:

1. Perceived impacts of potential rate structure changes
2. General feedback and opinions (both pros and cons) on any potential changes and associated transition
3. Potential impediments to implementation

The feedback from Stakeholders will help inform the Department's decision to include any of the potential rate structure changes with their next filing to the Rate Board, currently anticipated in early 2020. The Team noted that not all of the potential alternatives discussed with the ARSG may be carried forward to the filing and that the Rate Board would have final approval of any proposed changes.

Meeting Schedule

The Team advised the participants that meetings are on the following dates/times:

1. **Tuesday, July 30th** from 2:30 - 4:30 PM: Water quantity charges
2. **Tuesday, August 13th** from 2:30 - 4:30 PM: Stormwater credits and incentives
3. **Thursday, September 5th** from 2:30 - 4:30 PM: Rider for pension-related expenses

Stakeholder Feedback

The Team explained that Stakeholders are requested to provide written feedback by September 16th and that Stakeholders may submit comments on a rolling basis or all at once. Stakeholders are welcome to submit additional comments on areas not discussed during the meetings.

Based upon both the formal written feedback and the informal discussions during the Stakeholder Meetings, the Team will develop a summary report for submittal to the Rate Board. The Department will provide all Stakeholders with an opportunity to review the draft report and provide comments before finalization. The Department will post all meeting materials, including meeting overview, presentation, and stakeholder comments, to the Rate Board website.

Alternative Rate Structure Analysis

Stakeholder Meeting No.1

Role of the Facilitators

Kash Srinivasan and Jen Hurley explained their roles as facilitators during these series of meetings and reviewed the meeting objectives, namely:

- Understand what different stakeholders see as the pros and cons of the alternative rate structure proposals
- Develop a statement of areas of stakeholder agreement and disagreement
- Respect participants' time: Collect feedback in an efficient way
- Value participants' perspectives: Collect feedback in a way that we hear all of the different points of view

The facilitators established a series of ground rules and requested that all attendees adhere to them.

Focus Topic No. 1 – Water Quantity Charges

The Black & Veatch Team then provided a presentation explaining the Department's current water quantity charge, reasons for re-evaluation, alternative rate structures, industry trends, a potential uniform block rate structure and associated customers impacts as well as its applicability to Philadelphia.

The following section summarizes key points for the presentation. For a copy of the complete presentation, please refer to the Rate Board website.

Water Rate Structures

The Team reviewed that most water rate structures are composed of two components:

1. Service Charge: This represents a fixed fee per billing period regardless of consumption. The fee can be the same regardless of meter size or can increase based on the meter connection size.
2. Consumption (or Commodity/Volumetric/Quantity) Charge: This represents a variable fee per billing period based on water consumption, i.e., a price per unit of water.

In accordance with the Department's Rates and Charges, the Department refers to the consumption charge as the Water Quantity Charge and expresses the charge as dollars per thousand cubic feet of water usage (\$/MCF).

Potential quantity charge options include uniform, declining block, inclining block, and seasonal rates. When designing quantity charges, additional considerations such as the sizing and pricing of blocks, as well as specifying blocks by customer class or meter size, may be included.

Alternative Rate Structure Analysis

Stakeholder Meeting No.1

PWD's Existing Rate Structure

The existing water quantity charge is a declining block rate structure. This type of structure was originally intended to reflect the way the Department incurs costs, the influence of peak demand on system design and capacity as well as economies scale. For the majority of residential customers, the existing rate structure is essentially uniform as 98% of residential bills fall within the first of the four blocks (see Figure 1).

PWD first adopted a declining block rate structure nearly 40 years ago. While periodic re-evaluation of rate structures is a recognized best practice, beyond that the Department is reviewing whether the declining block rate structure still supports PWD's mission and goals and if it will continue to do so, as the Department attempts to address:

- An increased focus on water resources and sustainability;
- Declining consumption;
- Advancements in and changes to water supply management approaches; as well as
- Affordability.

The Team then provided an overview of the pros and cons associated with declining block rate structures, noting that while reflecting system use and economies of scale, it may be hard for some customers to understand why rates decrease with consumption. Further, a declining block rate structure does not necessarily encourage conservation and may create a challenge for some customers with respect to affordability.

Potential Alternatives

The Team explained the three primary alternatives to the current rate structure were a uniform rate (i.e., constant fee per unit), an inclining block rate (often considered a conservation rate structure with rates increasing with higher usage) and seasonal rates (which vary to reflect increased costs incurred during peak-demand season).

The Team noted that:

- Moving to an inclining block rate structure would represent a significant shift from the Department's current declining block rate structure and didn't meet the criteria of an incremental change;
- Philadelphia doesn't experience a seasonal variation in water usage that would necessitate the use of seasonal rates; and
- Based on the above, a uniform rate was the most likely alternative for PWD.

Figure 1 – Current Water Quantity Charges

TIER	DESCRIPTION	RATE (\$/MCF)
1	First 2 MCF	\$44.85
2	Next 98 MCF	\$38.54
3	Next 1,900 MCF	\$29.87
4	Over 2,000 MCF	\$29.05

Note: Rates exclude TAP-R surcharges.

Industry Trends and Benchmarking

Based on Black & Veatch’s 2019 50 Largest Cities Water and Wastewater Rate Survey, the use of declining block has decreased between 2001 and 2018. While declining block structures are still in use in areas with abundant water supply, inclining block and uniform rates have become more prevalent. With respect to PWD’s peer utilities, Baltimore, Columbus, Indianapolis, and Detroit have shifted away from declining block rate structures; reasons cited for the shift include water conservation, increased efficiency within customer classes and affordability concerns.

Uniform Block Alternative

The Black & Veatch Team presented a potential uniform block alternative based upon the FY 2019 Cost of Service reflected in the 2018 Rate Determination (see Figure No. 2). *The Team noted that all discussions about potential bill impacts resulting from a Uniform Block alternative are illustrative and provided for discussion purposes only.*

Figure 2 – Uniform Block Alternative

DESCRIPTION	RATE (\$/MCF)
All Usage	\$40.50

Note: Rates exclude TAP-R surcharges.

The Team provided an overview of the pros and cons associated with uniform block rate structures, noting that overall, it is a simpler rate both to design and for the customer to understand. The uniform rate structure also provides some conservation signaling compared to the current inclining block rate structure and may help to address some affordability concerns. However, a uniform block rate doesn’t reflect unique customer characteristics nor the incremental cost of additional consumption.

The Team then reviewed the potential customer impacts of the shift from the current declining block rate structure to a uniform block:

- Typical residential, senior citizens and small commercial customers (as identified under the 2018 Rate Determination) would see a 3.3 to 2.4 percent decrease in their total monthly bills.
 - This reflects a 9.7 percent decrease in the quantity charges associated with these customers.
- Customers with large water usage would see an increase with respect to their quantity charges.
 - For example, quantity charges would increase by 4.4 percent for a customer using 50 MCF of water; and 37.2% for a customer using 5,300 MCF of water.
 - The total bill impacts would depend on the customer’s specific attributes, including meter size and parcel characteristics.
- Overall, with respect to the quantity charge portion of customer bills:
 - 85 percent of bills would experience a decrease;
 - 14 percent of bills would experience no change; and
 - 1 percent of bills would experience an increase.
- Of the 1 percent of bills that would experience an increase:
 - This represents roughly 69,000 of the over 6 million bills issued annually and is still a significant number of bills;
 - Targeted outreach to these customers would be necessary if such a change were to be adopted.

Alternative Rate Structure Analysis

Stakeholder Meeting No.1

- Any customer using more than 6.5 MCF in a given month would see a bill increase;
- Increases may range from 0.01 percent to 38.7 percent, depending on the customer's usage;

Further, with this change in the rate structure, over 50 percent of PWD's quantity charge billings would be associated with just 1 percent of customer bills. *In other words, these bills represent over half of the Department's anticipated revenue from water quantity charges annually.*

Uniform Block Applicability to PWD

The Team summarized the applicability of a uniform block rate to PWD and noted that it would provide: some price signaling to customers (compared to the declining block rate structure) as well as reasonable revenue stability. In addition, a uniform block rate would be relatively simple to implement, and residential and small business customers may experience some affordability benefits. Finally, a uniform block rate may serve as a transition mechanism (i.e., interim incremental rate structure) should the Department ultimately desire to move toward another rate structure such as inclining block or a hybrid approach.

Questions Posed During the Presentation

The following is a summary of questions posed during the presentation

Question: Is the evaluation of this alternative limited to water quantity charges, or does it include water and sewer?

Response: Yes – this alternative is only with respect to water quantity charges. The existing sewer rates are based upon a uniform block structure.

Question: How do customers respond in cases where there are different rate structures for commercial and residential? (With respect to the change in rate structures between 2001 and 2018 as noted on Slide 19 entitled "Benchmarking - Industry Perspective").

Response: Customer response can vary significantly. Outreach and education are always key in communicating changes in rate structure – especially when the rate structure recognizes different types of customers.

Question: With respect to Slide 20 entitled "Comparable Utilities" and the noted rate structures - does commercial represent all non-residential?

Response: Yes – commercial represents non-residential quantity charge structures for these utilities.

Question: Is there any research done on the impacts on small vs. large businesses [as a result of implementing a change from a declining block rate structure to a uniform or inclining block rate structure]?

Response: Education is always done during the implementation of a rate structure change, but there is no clear trend across cities. The initial benchmarking effort was performed to identify utilities that have implemented a rate structure change and noted those utilities which have moved away from a declining block rate structure. Additional investigation would be necessary to determine the customer impacts experienced by these utilities.

Alternative Rate Structure Analysis

Stakeholder Meeting No.1

Question: Could we make an apples-to-apples comparison of quantity charges for residential to large customers (i.e., similar to Slide 24, which shows the change in quantity charges)?

Response: Yes – a similar figure could be provided. For the typical residential customer, the decrease in quantity charges is approximately 9.7 percent. This is because their consumption falls within the first rate block under the current structure. Under the example analysis, their rate decreases from \$44.85/MCF to \$40.50/MCF (or 9.7 percent). **See supplemental response in Appendix B: Figure B-3.**

Question: Is it correct to say that 50 percent of the quantity charges are impacted in this analysis?

Response: Yes. Under the example uniform rate structure, bills with water usage of 6.5 Mcf or more will experience an increase in the quantity charge. Based upon the water bills issued during FY 2018, 1 percent of the Department's bills are within this level of usage. Under the current rate structure, these same bills account for approximately 45 percent of quantity charges. If a uniform block structure were adopted, these bills would represent 50 percent of PWD's quantity charges annually. **See supplemental response in Appendix B: Figure B-7.**

Analyzing Alternatives

The facilitators led the meeting attendees through a series of activities to identify pros, cons, and questions regarding the potential Uniform Block Rate structure alternative. The following is a summary of the activity and the subsequent discussion. Appendix B includes supplemental information in response to questions.

Group Questions

- With the uniform block rate approach, is PWD hoping to increase revenue, maintain revenue, or decrease consumption?
 - A shift to a uniform block rate would be revenue-neutral. PWD is not looking to increase revenue nor decrease consumption. Declining consumption is an issue that most utilities are facing, including PWD. At the moment, there is no outside need to encourage further decreases in consumption. Water supply is not an issue at this time; however, resource management and protection are part of PWD's mission.
- If rates increase for multi-family properties, how might this impact rent?
 - If bills for multi-family properties increase, it is hard to say how this would impact rents. It will depend on whether or not the tenant's rent includes the water bill or if it is the responsibility of the tenant.
 - It is possible for a property to have multiple or individual meters and for a tenant to receive a bill.
 - If the lease agreement includes water bills as part of the overall rent, the landlord may decide to adjust rent at the time of renewal. However, these are individual business decisions, and it is difficult to speculate on what might happen. It's reasonable to expect that any business would make efforts to cover their costs where and when they can do so.
- Which type of businesses would be most impacted (by the transition to a uniform block rate structure from the current declining block rate structure)?

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- Generally, any customer that uses more than 6.5 MCF per month would see an increase in their quantity charges. The most impacted customers would be large commercial, industrial, and institutional water users. The Department's Official Statement related to bond offerings also provides a listing of the City's Top 10 Customers. **See supplemental response in Appendix B: Figure B-8.**
- There was some discussion on impacts to other types of businesses. Members of the ARSG acknowledged that some businesses such as restaurants, dry cleaners, and convenience stores might have difficulty absorbing significant increases in their costs as they typically operate on tight margins.
 - There are no "typical" characteristics for these types of customers, and PWD does not have specific customer types for restaurants, dry cleaners, etc. in the billing system currently.
- Will questions be posted on the website?
 - Yes – in summary form.
- Are there any thoughts about mitigating costs to customers facing the highest increases?
 - The uniform block rate alternative was only a preliminary analysis. The Department has not discussed any mitigation approaches yet, but will certainly consider options to manage customer impacts as part of any change in rate structures.
- Would there be a fair plan for phasing-in (the change in quantity charge rate structure)? Are there examples? Any industry standard?
 - Phasing-In could be an option.
 - There is a precedent for phasing in rate structure changes. For example, PWD phased-in the switch from meter-based to parcel area-based stormwater fees over 4 years for non-residential customers.
 - Any proposal would be subject to the Rate Board's approval.
 - At the Water Industry level, phasing-in approaches are a common method of introducing rate structure changes. The period is usually over 3-5 years and typically aligns with the rate study and approval process schedule for the individual utility.
- Can the Department provide the history of block rates over time?
 - The Department has updated the block rate structure periodically over the past 40 years. While rates have changed, block sizing has changed as well.
 - **See supplemental response in Appendix B: Figure B-9.**
- What's the rationale to apply the inclining block rate structure for large users with little ability to conserve?
 - PWD is not considering an inclining block rate at this time. Generally, the transition to an inclining block rate doesn't align with PWD's desire to make incremental changes.
 - In areas of water scarcity, an inclining block structure might help incent conservation and process improvements for large users.
- Would the Department consider all options, such as a split structure?
 - First, the City's existing billing system has many limitations and in particular, concerning customer types. Prior to implementing any rates by customer type, the Department would need to address these limitations and verify all customer types.

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- With respect to block rate structures, there are hybrid variations that might work, such as an inclining and declining hybrid rate structure.
- Does the billing system does not allow for customer classifications?
 - The billing system does contain some information regarding customer types such as residential and non-residential customer (based upon premise types and/or meter size) as well as designations for discount types including senior, Philadelphia Housing Authority (PHA), educational, medical and charities.
 - The level of granularity may need to be expanded, and customer designations would need to be both refined and affirmed to establish rates by customer class. This would take a tremendous effort and time to complete. While it is something the Department is looking into, it may not be available for several years and certainly not in time for the next filing with the Rate Board.

Pros and Cons Discussion

The ARSG identified the following pros and cons associated with a potential shift to a uniform block rate structure.

PROS	CONS
● The uniform block rate structure is simple, easy to understand; it would be easy to explain to customers. ● It would create the potential to encourage some level of conservation (if desired). ● A uniform block rate would be simple to administer (with respect to operations such as billing). ● The majority of residential customers would see a decrease in the water quantity charges on their bills. ● It also offers a potential decrease in the water quantity charge portion of the bills for some businesses. ● Revenue neutral for the entire system. ● A uniform block rate structure for quantity charges is more in line with national trends/other cities.	● The shift to a uniform block rate structure has the potential to increase bills for certain customers, such as restaurants, dry cleaners, and small manufacturing. These customers operate on thin margins, may not be able to control usage and may have trouble absorbing the potential bill increase. ● Messaging is tough for businesses. There is tremendous diversity in consumption. If this is simply a change in allocation rather than behavior, this approach may seem arbitrary. In other words, this may appear that costs are merely being shifted between different customer types, even though customers may not be doing anything differently. ● There are likely to be winners and losers within each customer type (i.e., non-residential) ● May have a negative impact on business development within the City.

Concluding Questions

The following questions were posed following the discussion:

- Are there some residential users that use more than 2 MCF?

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- Yes, there are some residential customers that use more than 2 MCF monthly.
- Is the uniform fee intended to increase revenues?
 - The uniform fee is intended to be revenue-neutral on a system-wide basis.
- Will there be individual attribution on the meeting notes?
 - No – summary meeting notes will not be attributed to individuals. However, written comments submitted by participants will be.

Next Steps

The Team noted that summary meetings notes, along with responses to questions posed during the meetings would be provided. The notes, along with meeting materials, will be posted to the Rate Board website.

The meeting concluded with a thank you to the group for attending and participating in the dialogue. The ARSG was reminded of the next two meetings scheduled for August 13th and September 5th and the written comment deadline of September 16th.

In addition, participants were asked to complete an evaluation form to help aid in improving the facilitated portion of future meetings.

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Stakeholder Meeting No.1

Appendix A – Meeting Invitees

Organization	Contact Name
Department of Commerce	Libby Peters
Friends of Wissahickon	Maura McCarthy
Managing Directors Office	Liz Lankenau
National Resources Defense Council	Larry Levine
PECO/Exelon	Anthony Holtzman Alfred Ryan Daniel P. Delaney (K&L Gates)
PennEnvironment	Stephanie Wein, Clean Water Advocate David Masur, Executive Director
PennFuture	Alice Baker, Staff Attorney
Pennsylvania Horticultural Society	Glen Abrams
Philadelphia Building Industry Association	Cornelius Brown
Philadelphia Land Bank	Steve Cusano (Senior Counsel, City of Philadelphia)
Philadelphia Large Users Group (PLUG)	Alessandra Hylander
PIDC	Tom Dalfo
Public Advocate	Robert Ballenger / Community Legal Services
Rate Board Consultant (Amawalk)	Ed Markus
Sustainable Business Network	Anna Shipp

Appendix B – Supplemental Information

Alternative Rate Structure Analysis

Stakeholder Meeting No.1

Impact Analysis – Estimated Customer Impacts

The following tables were presented during the Alternative Rate Structure Meeting on Slides 23 and 24, respectively.

Figure B-1 (Slide 23): Impact Analysis - FY 2019 Typical Bills (All Charges)

CUSTOMER TYPE	TYPICAL BILL		% CHANGE
	DECLINING	UNIFORM	
Residential ^[1]	\$66.33	\$64.16	-3.3%
Senior Citizen ^[2]	\$38.16	\$37.18	-2.6%
Small Business ^[3]	\$111.01	\$108.40	-2.4%

^[1] 5/8" meter with 500 cubic feet water usage.

^[2] 5/8" meter with 300 cubic feet water usage.

^[3] 5/8" meter with 600 cubic feet water usage. A parcel with gross area of 5,500 square feet and impervious area of 4,000 square feet.

Figure B-2 (Slide 24): Impact Analysis FY 2019 – Example Large Quantity User Charges

BILLED VOLUME	QUANTITY CHARGES		% CHANGE
	DECLINING	UNIFORM	
50 MCF	\$1,940	\$2,025	4.4%
150 MCF	\$5,360	\$6,074	13.3%
5,300 MCF	\$156,487	\$214,640	37.2%

Attendees requested a similar figure be provided to illustrate the impact on quantity charges for the typical customers. The requested figure is provided below.

Figure B-3: FY 2019 – Example Large Quantity User Charges

CUSTOMER TYPE	AVERAGE BILLED VOLUME	QUANTITY CHARGES		% CHANGE
		DECLINING	UNIFORM	
Residential	0.5 MCF	\$22.43	\$20.25	(9.7%)
Senior Citizen	0.3 MCF	\$10.09	\$9.11	(9.7%)
Small Business	0.6 MCF	\$26.91	\$24.30	(9.7%)

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Impact Analysis – Quantity Charges

During the meeting, the group discussed the implications of shifting to a uniform block rate structure. The following table was presented on Slide 25 with respect to the distribution of bill impacts.

Figure B-5 (Slide 25): Impact Analysis – Quantity Charge Impact – Distribution of Bills

IMPACT	RESIDENTIAL	NON-RESIDENTIAL	TOTAL
	86%	72%	85%
NO CHANGE	13%	19%	14%
	<1%	9%	1%

Of the bills that would experience an increase (as present in the figure from Slide 26 provided below), the impact to the quantity charges could range from 0.01 to 38.7 percent depending on the total billed volume (see Column 1). The associated billed volume is presented in Column 2 with the associated percent of total bills these bills represent are presented in Column 3. Finally, the percent of annual quantity charges these bills represent is provided in Column 4.

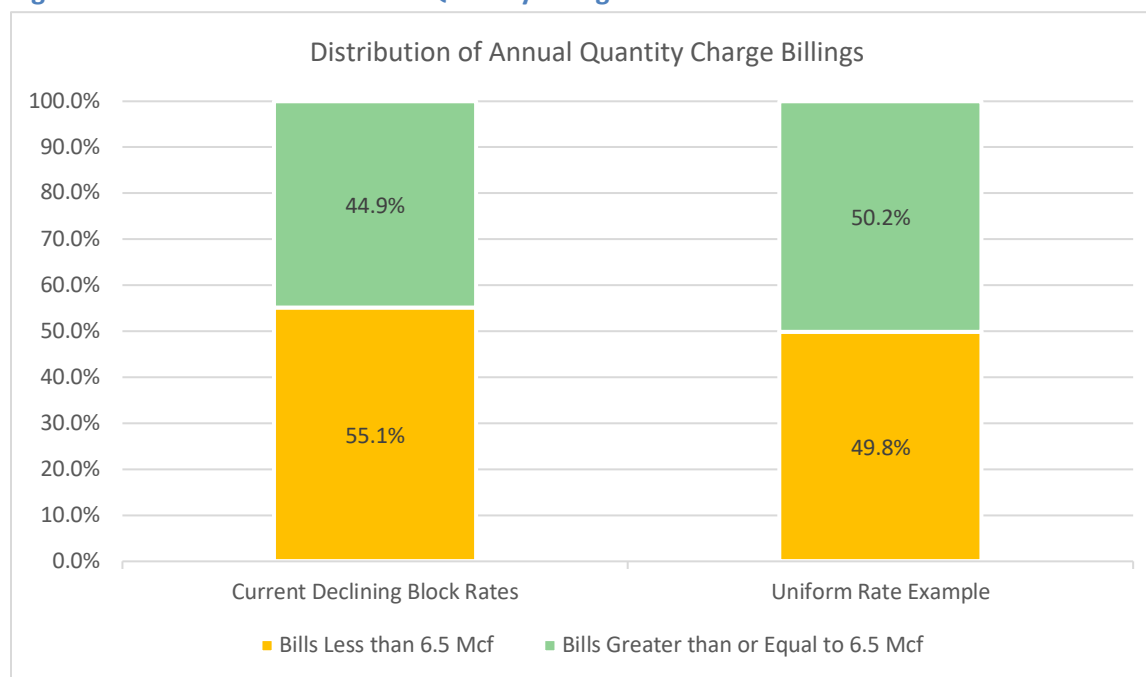
Figure B-6 (Slide 26): Impact Analysis –Quantity Charge Impact - Breakdown of Bill Increase

Quantity Charge Impact (1)	Billed Volume (Mcf) (2)	Percent of Total Bills (%) (3)	Percent of Quantity Charges (%) (4)
0.01% - 2.50%	6.5 - 13.0	0.5%	4.0%
2.51% - 5.00%	13.1 – 101.1	0.5%	16.6%
5.01% - 10.00%	101.2 – 126.6	< 0.1%	3.5%
10.01% - 20.00%	126.7 - 226.7	0.1%	12.9%
20.01% - 30.00%	226.8 – 685.7	< 0.1%	6.2%
30.01% - 38.70%	687.8 – 16,768.2	< 0.1%	7.0%
TOTAL		1.1%	50.2%

During the meeting, the Team highlighted that with the shift in rate structure, while 1-percent of bills would see an increase, these bills would represent 50 percent of PWD's quantity charges annually as compared to the 45 percent of annual charges they represent under the current declining block rate structure. Figure B-7 provides an alternative presentation of those potential impacts that would results from a shift in water quantity rate structure.

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Figure B-7: Distribution of Annual Quantity Charge Bills**Impacted Customers - PWD Top 10 Customers**

During the meeting, several participants inquired as to which businesses would be most impacted by the transition from the current declining block rate structure to a uniform rate structure. The Team noted that larger users including commercial, institutional (including educational and medical), and industrial would likely be those most impacted by the change.

The following list of customers is an excerpt from the Department's latest Preliminary Official Statement issued in conjunction with the proposed Series 2019B Water and Wastewater Revenue Bonds. The majority of these customers would likely see an increase in the quantity charge portion of their bills.

Note – the list is based upon total customer revenues including water, sewer and stormwater services.

Figure B-8: Top 10 Customers Fiscal Year Ending June 30, 2018

- | | |
|------------------------------------|---|
| 1. City of Philadelphia | 6. SEPTA |
| 2. Philadelphia Housing Authority | 7. AdvanSix Inc. |
| 3. School District of Philadelphia | 8. Temple University |
| 4. Veolia Energy of Philadelphia | 9. University of Pennsylvania Health System |
| 5. University of Pennsylvania | 10. Federal Government |

Source: Preliminary Official Statement - Series 2019B Water and Wastewater Revenue Bonds dated July 29, 2019.

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History of Block Rates

During the meeting, the participants requested that the Department provide the history of block rates over time. Based on readily available data, we note the following:

- The Department has had a declining block rate structure with four rate blocks dating back to at least 1979.
- While there have been adjustments to the rate blocks to reflect the change to billing frequency, as demonstrated by the following table the ranges of the rate blocks have reasonably maintained a similar structure throughout this period.

Figure B-9: History of Block Rates

	1979	1979	Current
Billing Frequency	Quarterly	Equivalent Monthly	Monthly
1 st Rate Block Usage Range	0 – 3 Mcf	0 – 1 Mcf	0 – 2 Mcf
2 nd Rate Block Usage Range	3 – 250 Mcf	1 – 83.3 Mcf	2 – 100 Mcf
3 rd Rate Block Usage Range	250 – 6,000	83.3 – 2,000	100 – 2,000
4 th Rate Block Usage Range	Over 6,000 Mcf	Over 2,000 Mcf	Over 2,000 Mcf

Alternative Rate Structure Analysis

STAKEHOLDER MEETING NO. 2 – STORMWATER CREDITS & INCENTIVES

Summary Meeting Notes

Date: August 13, 2019

Time: 2:30 PM – 4:30 PM

Location: Philadelphia Water Department Offices, 1101 Market Street, McCarty Conference Room

Agenda

- ✓ Welcome and Overview
 - ✓ Focus Topic No. 2 – Stormwater Credits and Incentives
 - ✓ Reflection & Check-In
 - ✓ Next Steps
-

Attendees

Participants:

Adeolu Bakare, Philadelphia Large Users Group
 Robert Ballenger, Community Legal Services
 Fran Lawn, Sustainable Business Network
 Eliza Alford, Sustainable Business Network
 Cornelius Brown, Philadelphia Building Industry Association / Bohler Engineering
 Libby Peters, City of Philadelphia Department of Commerce
 Joseph Neukrug, ISS
 Miles Johnston, ISS
 Lena Smith, PennFuture
 Alanna Wittle, Sustainable Business Network
 Micah Shapiro, Peer Environmental
 Altoro Hall, Commerce Department

PWD Staff:

Randy Hayman, Melissa La Buda, Sarah Stevenson, Scott Schwarz, Ji Jun, Vicki Lenoci

Consultant Team:

Ann Bui, David Jagt, Brian Merritt, Danae Mobley, Kash Srinivasan, Jennifer Hurley

The following is a summary of the second Alternative Rate Structure Stakeholder Group meeting. The presentation utilized during the meeting is available on the Philadelphia Water, Sewer and Storm Water Rate Board website: <https://www.phila.gov/departments/water-sewer-storm-water-rate-board/>

Attendees are listed above, and Appendix A includes a list of all invitees. Appendix B provides supplemental responses to questions raised during the meeting.

Welcome and Overview

The Black & Veatch Team (Team) welcomed the Alternative Rate Structure Stakeholder Group (ARSG) on behalf of the Philadelphia Water Department (PWD or the Department) and emphasized the importance of the group's feedback and input as PWD considers potential incremental rate structure adjustments prior to the next rate filing with the Philadelphia Water, Sewer and Storm Water Rate Board (the Rate Board). The Team noted that the Rate Board, as part of their decision from the prior rate determination, requested that PWD begin a process of reviewing their rate structure.

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Purpose of the Alternative Rate Structure Analysis

The Team reviewed that the purpose of the Alternative Rate Structure is to assess whether or not the current rate structure still supports the Department's current mission and goals and whether or not it will continue to help meet future objectives.

The Objective of Alternative Rate Structure Meetings

The Team then explained that the objective of the proposed Alternative Rate Structure Analysis is to evaluate potential incremental rate structure updates in critical areas which present both near-term and long-term challenges for the Department and its customers. The meetings will focus on the following key areas:

- Water quantity charges
- Stormwater credits and incentives
- A rider for pension-related expenses

The Team further noted that while these meetings will focus on these three specific areas, this is the beginning of a longer-term process which will take 24-36 months to complete.

Intended Meeting Outcomes

The meetings are intended to gather input and feedback on:

1. Perceived impacts of potential rate structure changes
2. General feedback and opinions (both pros and cons) on any potential changes and associated transition
3. Potential impediments to implementation

The feedback from Stakeholders will help inform the Department's decision to include any of the potential rate structure changes with their next filing to the Rate Board, currently anticipated in early 2020. The Team noted that not all of the potential alternatives discussed with the ARSG may be carried forward to the filing and that the Rate Board would have final approval of any proposed changes.

Meeting Schedule

The Team advised the participants that the meetings are (or were) on the following dates/times:

1. **Tuesday, July 30th** from 2:30 - 4:30 PM: Water quantity charges
2. **Tuesday, August 13th** from 2:30 - 4:30 PM: Stormwater credits and incentives
3. **Thursday, September 5th** from 2:30 - 4:30 PM: Rider for pension-related expenses

Stakeholder Feedback

The Team explained that Stakeholders are requested to provide written feedback by September 16th and that Stakeholders may submit comments on a rolling basis or all at once. Stakeholders are welcome to submit additional comments on areas not discussed during the meetings.

Based upon both the formal written feedback and the informal discussions during the Stakeholder Meetings, the Team will develop a summary report for submittal to the Rate Board. The Department will

Alternative Rate Structure Analysis

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provide all Stakeholders with an opportunity to review the draft report and provide comments before finalization. The Department will post all meeting materials, including meeting overview, presentation, and stakeholder comments, to the Rate Board website.

Role of the Facilitators

Kash Srinivasan and Jen Hurley explained their roles as facilitators during these series of meetings and reviewed the meeting objectives, namely:

- Understand what different stakeholders see as the pros and cons of the alternative rate structure proposals
- Develop a statement of areas of stakeholder agreement and disagreement
- Respect participants' time: Collect feedback in an efficient way
- Value participants' perspectives: Collect feedback in a way that we hear all of the different points of view

The facilitators established a series of ground rules and requested that all attendees adhere to them.

Focus Topic No. 2 – Stormwater Credits and Incentives

The Black & Veatch Team then provided a presentation explaining the Department's current stormwater credit and incentive programs, a long-term credit analysis overview, preliminary results of the credit analysis, an accelerated "eligible credits" analysis and potential credit program adjustments. The following section summarizes key points for the presentation. For a copy of the complete presentation, please refer to the Rate Board website.

Introduction and Key Concepts

Prior to delving into the long-term analysis and its potential implications, the Black & Veatch Team provided the attendees with background of both the current stormwater rate structure, the current credits and incentives programs, programs impacting stormwater rates, and how the costs of those programs are recovered.

Key Terms

First Black & Veatch defined several key terms related to the stormwater fee and associated credit program that were used throughout the presentation and subsequent discussion. Key terms included:

- **Gross Area (GA):** A property's entire parcel area.
- **Impervious Area (IA):** A surface which restricts the infiltration of water. Examples: roofs, driveways, sidewalks, parking lots, etc.
- **Surface Discharge:** The discharge of stormwater runoff from a property to an adjacent surface water body without use of PWD infrastructure.
- **Impervious Area Managed:** Impervious area that directs runoff to surface water bodies or to approved Stormwater Management Practices (SMPs).
- **Impervious Area Reduction (IAR):** IA directed to pervious area or which has characteristics similar to pervious area.

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Attendees were provided with a handout for their reference which included the key terms noted above, as well as other terms and acronyms used throughout the presentation. The definitions are also provided as an attachment to these notes in [Appendix B](#).

Current Stormwater Rate Structure

Black & Veatch then explained the current stormwater rate structure which recognizes two primary customers classes, residential and non-residential properties. The Team noted that condominium customers are included in the non-residential customer category for presentation purposes. Condominium customers are similar to non-residential customers in that their stormwater charges are determined in the same manner as non-residential customers. Condominiums are also eligible for stormwater credit.

The current stormwater rate structure is presented in Figure 1 below.

Figure 1 – Current Stormwater Rate Structure

Residential	Non-Residential
- Includes residential properties up to 4 dwelling units (excluding condominiums) - Residential customers are billed: - Uniform stormwater charge per parcel, based upon on the overall average GA and IA (associated with the residential customer class) - Billing and collection charge per account	- Includes all properties which cannot be classified as residential - Non-Residential customers are billed: - GA charge (\$ per 500 square feet) based on the parcel's actual GA - IA charge (\$ per 500 square feet) based on the parcel's actual IA - Billing and collection charge per account

Attendees were then provided with an example of how non-residential stormwater charges are applied.

Current Credit Program

The Team then presented a summary of the current stormwater credit program, which is only available to non-residential customers (including condominiums). The Department offers three primary types of credit:

1. Impervious Area Credit (IA Credit)
2. Gross Area Credit (GA Credit)
3. National Pollution Discharge Elimination System (NPDES) Credit – which is only offered to customers with a valid NPDES Permit for Industrial Stormwater Discharge Activities

As summarized in Figure 2, the attendees were provided with an overview of the options under each credit type, applicable management approaches as well as the maximum allowable credit percentages by credit type and discharge location.

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Figure 2 – Current Stormwater Credit Program

Credit Type	Options	Management Approach	Credit Maximums	
			Non-Surface	Surface
IA	IAR	1. Tree Canopy Cover 2. Roof leader/Downspout Disconnection 3. Pavement Disconnection	100%	100%
	IA Managed	1. Infiltration 2. Detention and slow release 3. Pollutant reduction and filtration 4. Surface Discharge	80%	90%
GA	Open Space NRCS ¹ -Curve Number	Applicable to open space only	80%	90%
	GA Credit for IA Managed	Equivalent GA Credit for IA Managed	80%	90%
NPDES	IA Managed	Compliant / Active NPDES Permit	7%	7%
	Open Space GA	Compliant / Active NPDES Permit	7%	7%

Notes: ¹ NRCS - National Resources Conservation Service

It was noted that the current credit program and currently allowable maximums are defined in the Departments Rates and Charges Section 4.5. The credit program policies are further explained and detailed in the Stormwater Management Service Charge Credits and Appeals Manual. Both documents are available via PWD's website.

At this point, the Team mentioned the following important details regarding the current credit program:

- The current credit program criteria only requires management of the first 1" of runoff in order to qualify for IA managed credit.
 - However, current stormwater management regulations require management of the first 1½" of runoff.
 - Therefore, customers that do not meet current stormwater code requirements are eligible for the same amount of credit as those that manage to current standards.
- The original intent of the credit program was to 1) incentivize property owners to implement and maintain functional stormwater management practices to help the City meets its stormwater goals; and 2) provide the opportunity for property owners to reduce their monthly Stormwater Management Service (SWMS) Charge.
 - The desire to incent property owners to implement stormwater management was part of the rationale for setting that original allowable credit percentage at 100 percent of the IA charge and also cited as part of the rationale for the current percentages.
- Properties which discharge to a surface water body can technically qualify for credit without managing stormwater volume and quality.

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The Team explained that PWD was interested in exploring whether current credit program would help support the Department's long-term mission and goals, helping to manage natural resources and meet regulatory requirements while balancing customer impacts. The current credit program and associated private stormwater management practices, do not necessarily reduce or avoid costs for the Department.

In addition, the Long-Term Impact Analysis, which would be presented in a few moments, indicates the credit program should be re-evaluated in light of some potential customer related impacts.

Programs Impacting Stormwater Rates

Beyond the core cost of providing stormwater service the programs listed in Figure 3 also influence overall stormwater rates and charges.

Figure 3 – Other Stormwater Programs

Program	Description
SMIP/GARP Grants	- Currently, PWD offers \$25 million in Stormwater Management Incentive Program (SMIP) / Greened Acre Retrofit Project (GARP) Grants annually. - Customers receive both grant assistance <u>and</u> stormwater credit once the stormwater management practice is constructed and certified.
Stormwater CAP	- The Stormwater Customer Assistance Program (Stormwater CAP) is offered to non-residential customers that were highly impacted by the transition from their meter-based stormwater fee. - The program provides customers with a gradual transition to the full parcel-area based SWMS Charge.

Stormwater Customer Program Cost Recovery

The way in which program costs are recovered also influences rates and charges and which customers bare those costs.

1. **SMIP/GARP Grants Costs** - are recovered by wastewater revenues. 40-percent of the SMIP/GARP grant costs are recovered via sanitary rates and the remaining 60-percent from stormwater rates.
2. **Stormwater Credits** – are recovered by stormwater revenues via a reduction in overall billing units. The impact of credits is proportionately recovered from all customers, in that the system-wide IA and GA unit rates are set, accounting for credit impacts. Essentially, the fewer billing units results in higher rates for all stormwater customers.
3. **Stormwater CAP Costs** – are recovered from non-residential stormwater customers only. The costs are added to the overall revenue requirements for the non-residential stormwater customer class and ultimately reflected in the non-residential IA and GA rates.

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Long Term Impact Analysis

The Team then presented the long-term impact analysis of the current credit and incentive programs.

Objectives of the Long-Term Impact Analysis

The Team first explained that the objectives of the long-term impact analysis were to:

1. Develop a long-term projection of the impacts of the stormwater credits and incentives programs on billable units of services as well as stormwater revenues and rates.
2. Understand the impacts of updated billing data on customer billings and rates. *Note - The Department recently obtained new billing data based upon 2015 aerial and infrared imagery. The updated data set provides new impervious area and gross area data for billing purposes.*
3. Identify any potential imbalances that might occur with respect to customer classes over the long-term.

Credit Projection Approach

For credit projections purposes, the following three primary categories were utilized: SMIP/GARP, Surface Discharge and All Others. Projections were developed through fiscal year (FY) 2036 based upon current programs, policies and budgets.

- SMIP/GARP projections are intended to reflect credit resulting from SMIP/GARP funded projects.
 - These properties will receive IA managed and the associated GA credit once the projects are completed and verified.
 - SMIP/GARP credit projections are directly tied to the annual SMIP/GARP budget which fuels the number of resulting greened acres and the associated credit.
 - An average cost per greened acre was applied and used to develop the projections along with an estimated average project duration to reflect the time between the award of a SMIP/GARP grant and the completion of the project.
- Credit projections for both the Surface Discharge and All Others credit categories were based upon the current credit program performance data as of the end of FY 2018.
 - Surface Discharge credits were projected based upon program growth with respect to the number of parcels receiving credit and the average credit awarded per parcel by type including:

• IA Managed	• Open Space GA
• GA Managed	• NPDES
 - “All Others” projections includes impervious area reductions and non-surface discharge properties which typically achieve credit as a result of development or redevelopment activity. Like the Surface Discharge category, these projections were based upon credit program growth and the average credit awarded per parcel by type including:

• IAR	• Open Space GA
• IA Managed	• NPDES
• GA Managed	

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Estimated Average Annual Loss of Billing Units

The table in Figure 4 was presented to the attendees to provide a sense of the annual impact of the various credit categories on the billable units of service.

Figure 4 – Estimated Annual Loss in Billable Units of Service

Category	Gross Area (square feet)	Impervious Area (square feet)
SMIP/GARP	2.4 Million	2.4 Million
Surface Discharge	13.7 Million	3.8 Million
All Others	6.5 Million	2.3 Million
TOTAL	22.6 Million	8.5 Million

Notes: Above figures assume no change in current programs or policies.
Projections are based upon stormwater billing and SMIP/GARP program data as of the end of FY 2018.

Preliminary Results

The Team presented the preliminary results of the long-term impact analysis, noting the projections were based upon program performance as of the end of FY 2018 as well as the updated billing data. It was noted that the analysis would eventually be updated based upon the end of FY 2019 data once available. The projections provide an indicator of what would reasonably be expected to occur over the long-term.

Annual Revenue Impacts

For the next rate proceeding, the Department anticipates filing a request for FY 2021 and FY 2022 rates. The following estimates provide the projected annual revenue impacts of each program by FY 2021:

- **Annual Stormwater CAP:** Is expected to decrease from \$2.3 million in FY 2019 to \$2.1 million in FY 2021 as customers continue to roll-off the program.
- **Annual SMIP/GARP Grant Amount:** The annual SMIP/GARP budget was assumed to remain at \$25 million per year.
- **Annual Contra Revenue from Credits increases:** The contra revenue from credits is projected to increase from an estimated \$19.6 million in FY 2019 to \$24.3 Million by FY 2021. This increase reflects an estimated 6 percent annual increase in stormwater costs as well as the impact associated with additional credits.
 - It was noted that Contra-Revenue was another metric being used to help quantify and evaluate credit related impacts.
 - As discussed previously, for rate setting purposes, credits are reflected as a loss in billing units.

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Units of Service – Impact of 2015 Data Set

The updated billing data will further influence stormwater rates and charges. The new data reflects the following changes:

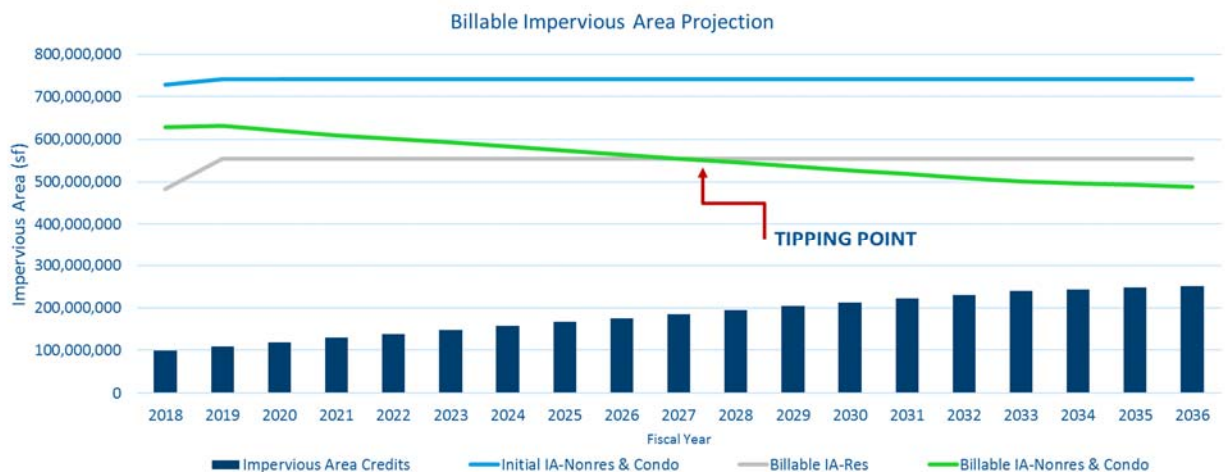
- Impervious Area has increased a total of 84 million square feet or 6.9 percent when compared to the current billing data set, which has approximately 1.2 billion square feet of IA (prior to accounting for credit impacts). Of the IA impacts:
 - Residential IA increased by 72 million square feet (14.9 percent). The average residential impervious area per parcel also increased from 1,050 square feet to 1,200 square feet.
 - Non-residential and condominium IA increased by 12 million square feet (1.6 percent).
- There is no significant change in GA square footage when compared to the current billing data set.

The Team noted that the updated data set wasn't included in the last rate proceeding and will be incorporated into the next rate filing with the Rate Board. With the increase in impervious area, residential properties will now represent a larger portion of the total impervious area in the City. As a consequence, and outside of any other updates or changes to stormwater costs and associated programs, residential customer rates would increase.

Long-Term Credit Projections – IA Units of Service

The Team presented a projection of the long-term impact of credits on the IA billable units of service as summarized in Figure 5.

Figure 5 – IA Units of Service Impacts



The figure shows the projection for the impervious area units of service through FY 2036.

- The light blue line at the top represents the Non-Residential IA billing units prior to reduction due to credits.
- The dark blue bars at the bottom represent the projection of IA Credits.

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- The green line shows the resulting “Billable” IA Units associated with non-residential customers after accounting for credits.
- The grey-line represents the Residential IA units. The influence of the updated billing data set on the IA billing units can be seen in the increase during the initial years.

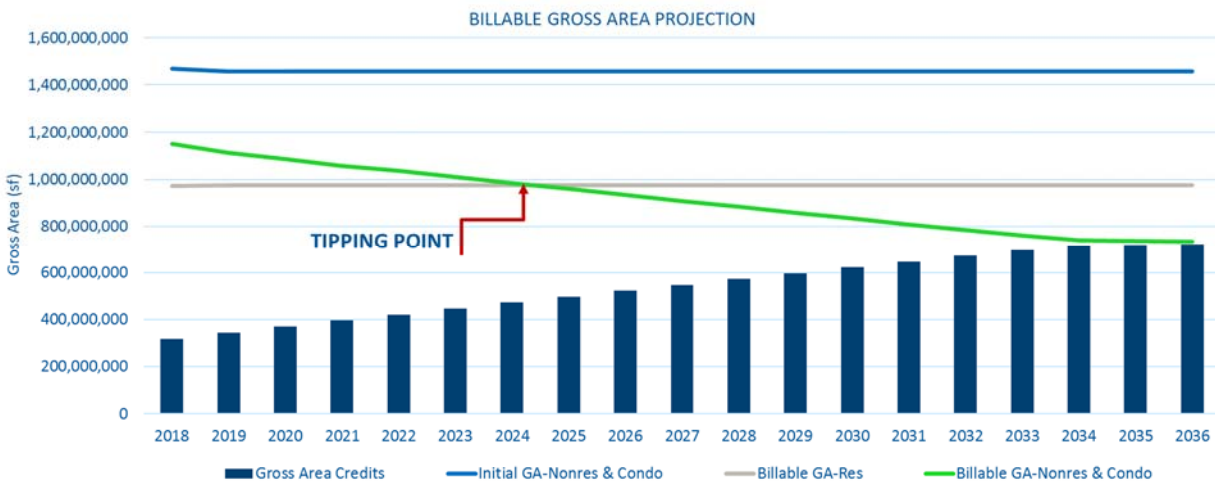
As indicated by the figure, by FY 2027 IA Credit is projected to increase by 77 million square feet; as a result, there will be more residential billing units than non-residential. This will further put pressure on residential customers as well as those that cannot achieve credit. This potential “Tipping Point” raises concerns about equity with respect to stormwater customer classes.

In addition, with rate proceedings occurring approximately once every two years, there are only three more proceedings in which to consider credit program and rate structure changes before the “Tipping Point” is reached. It may be more difficult to make changes in the future if the “Tipping Point” occurs. As such, PWD is interesting in re-examining whether the current credits and incentives programs are appropriate. Further, the level of credits offered should be reviewed to determine whether they are appropriate as they do not necessarily reflect reductions in cost or cost avoidance as it relates to the stormwater program.

Long-Term Credit Projections – GA Units of Service

The Team then presented a projection of the long-term impact of credits on the GA billable units of service as summarized in Figure 6. Similar to the corresponding figure for IA, the figure shows the projection for the gross area units of service through FY 2036.

Figure 6 – GA Units of Service Impacts



As indicated by the figure, by FY 2025 GA Credit is projected to increase by 153 million square feet; as a result, there will be more residential billing units than non-residential. Like the impacts of the IA “Tipping Point,” this will further a put pressure on residential customers as well as those that cannot achieve credit.

With respect to GA, there are only two more proceedings in which to consider credit program and rate structure changes before the GA “Tipping Point” occurs. This is part of the reason that PWD is beginning

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to look at these issues now and discuss them with stakeholders. A broader review and evaluation of additional changes will be undertaken following the next rate proceeding.

Accelerated Eligible Credits Analysis

The long-term impacts are based upon projected growth in the credit program. However, another area that has the potential to influence customers rates and credits, relates to “Credit Eligible Parcels,” which have the potential to create uncertainty with respect to stormwater revenues and customer rates. In other words, “Credit Eligible Parcels” present a potential financial risk to both PWD and customers.

Stormwater credits are voluntary, and customers need to apply in order to receive credit. Right now, there are over 500 “known” projects that have been through PWD’s plan review process that have either been completed or are in construction that could potential apply for credit. These “Credit Eligible Parcels” are from projects which date back as far as 2005. The fact that these projects haven’t applied for the credit program, creates uncertainty with respect to stormwater revenues and customer rates.

As mentioned earlier, the stormwater credit program only requires management of the first inch of runoff to qualify for credit. Whereas, the stormwater management regulations require management of the first inch and a half of runoff. So, anything approved prior to 2015, when the current regulations were adopted, potentially does not meet current stormwater management requirements yet they are technically eligible to receive credit.

As indicated in Figure 7, there is an estimated 40 million square feet of “eligible credits,” the majority of which were developed under the old regulations.

Figure 7 – Estimated Potential Credit

Non-Surface Discharge Credit = 32.25M sf

Surface Discharge Credit = 8.65M sf

M = million

Given the potential uncertainty, the Black & Veatch Team ran a “what if” scenario analysis and looked at varying levels of enrollment assuming customers would apply and receive credit during the current fiscal year. This is referred to as the Accelerated Eligible Credits Analysis.

Summary – “Eligible Credits” Analysis

While several permutations were evaluated, the Team presented the “book ends” of the analysis, showing the impacts of 100 percent of “Credit Eligible” projects applying and receiving credit.

With respect to projected “Tipping Points:”

- Under the current programs and policies, the “Tipping Points” are projected to occur in FY 2025 for GA and FY 2027 for IA.
- If all properties with “Credit Eligible” projects applied and received credits, the tipping point would accelerate and occur in FY 2023 for both GA and IA.

With respect to customer rates, Figure 8 summarizes the potential impacts to both residential and non-residential rates.

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Figure 8 – “Eligible Credits” Analysis – Impact to Stormwater Rates

	Status Quo	100% Apply
FY 2021 Residential Rates		
IA/GA	\$15.853	\$16.381
FY 2021 Non-Residential Rates		
IA (per 500 sf)	\$5.403	\$5.604
GA (per 500 sf)	\$0.773	\$0.789

In summary, Residential customers would increase roughly \$0.53/month. The non-residential IA rate would increase \$0.20 and the GA rate would increase a little over a cent.

It was noted that while it is not likely that all “Eligible Parcels” would ultimately achieve credit, the analysis does provide a sense of the overall potential impacts of these customers being granted stormwater credit.

Key Take-Aways

The key take-aways from the analysis were summarized as follows:

- Continued escalation of stormwater costs and reductions in billable units of service will put pressure on rates with compounding effect. Contra revenues will continue to increase.
- Within the next 6-9 years, residential customers will bear the majority of the burden of stormwater related costs – with no ability to reduce their fees under the current program.
- “Credit Eligible” parcels have the potential to accelerate the tipping points and put further pressure on stormwater rates.

Potential Credit Program Adjustments**Short-Term Mitigation Approaches**

The Team introduced three short term incremental changes that will begin to help contain some of the potential long-term ramifications of the current programs and policies.

1. Align the credit criteria with stormwater regulations.
2. Specify an enrollment window for applying for credit following the development (or redevelopment) of a property.
3. Adjust the program budgets for SMIP and GARP.

Aligning the credit criteria with the current stormwater regulations would help reduce potential credit from properties that have not applied for credit yet and which don’t meet the current regulations. A sunset period or time horizon would likely be established to allow those potential “credit eligible” properties an opportunity to enroll.

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Specifying an enrollment window for properties to apply for credit following the completion of construction. This potential policy would apply to projects built under the current stormwater regulations.

- The aim would be to avoid another build up in “credit liability” similar to what “credit eligible” properties currently represent.
- This would be an administrative policy to help manage potential contra revenues and rate pressure, and contain the associated risks.
- While a specific proposal has not been identified, a 12-24-month period following the completion of construction has been discussed internally.
- With this approach, additional policies would likely be needed, such as a policy that addressed property ownership changes.

Finally, an adjustment to the SMIP/GARP program budget could help to mitigate some of the short-term credit impacts and provide all customers with some rate relief. To illustrate the influence of the SMIP/GARP budget on stormwater rates, the Team presented an example comparing estimated FY 2021 stormwater rates based on the current annual budget of \$25 Million versus reducing the SMIP/GARP budget by 50% to \$12.5 Million:

- Residential rates would decrease by \$0.74 per month.
- Non-residential IA rates would decrease just under \$0.25 and GA rates just under \$0.04.

It was noted that these are estimates meant to illustrate the influences of the program costs and only for discussion purposes.

Long-Term Mitigation Approaches

The Team explained that while the short-term adjustments would buy some time to contain the potential issues, longer term adjustments are likely needed to more fully mitigate concerns. Two areas for long-term evaluation would include:

- Holistic credit program updates
- Revisiting stormwater rate structure

It was noted that longer term adjustments will require further evaluation and deliberation with stakeholders. This effort will take place over the next several years following the next rate proceeding.

Summary

The potential incremental changes and associated benefits were summarized as follows:

- Aligning stormwater credit criteria with current stormwater regulations helps manage “build-up” of potential credit;
- Specifying an enrollment period helps manage longer term impacts / reduces uncertainty; and
- Reducing SMIP/GARP Budget provides immediate relief to rate payers.

Again, it was reiterated that broader changes need to be considered in the future to address potential future equity issues.

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Questions Posed During the Presentation

The following is a summary of questions posed during the presentation

<u>Question:</u> <i>What's the total amount of impervious area and gross area? How are they impacted by the new data set?</i>
<u>Response:</u> Based upon the current billing data set, there is roughly 1.2 billion square feet of IA prior to accounting for credits. With the updated data set, there will be approximately 1.3 billion square feet of IA (again prior to accounting for credits). There was not a significant change in GA square footage, it's roughly 2.4 billion square feet prior to credits. See supplemental response in Appendix C: Figure C-1.
<u>Question:</u> <i>You talked about the loss of billing units in terms of gross and impervious area. Could you put that into context as a percentage of total impervious area and gross area in the City?</i>
<u>Response:</u> Based upon the end of FY 2018 data, there are roughly 98.8 million square feet of IA Credit and 318.4 million square feet of GA credit. See supplemental response in Appendix C: Figure C-2.
<u>Question:</u> <i>If you put in a [stormwater management practice], aren't there savings for the Department?</i>
<u>Response:</u> When an entity constructs a SMP on their property, it does not translate as a 1:1 (or equal) savings for the Department. The credit program percentages are not tied to costs savings or avoided costs. The original intent of the credit program was not centered on cost savings, but instead to incentivize owners to install stormwater management on private property. Based upon the LTCP, the Department's stormwater program and associated costs already assumes a certain level of private stormwater management will occur because of development and redevelopment.
<u>Question:</u> <i>Could there be a matching program [with respect to the SMIP/GARP grants]?</i>
<u>Response:</u> A match on the customer side could be considered. As of right now, the grant funds nearly 100% of the design and the construction costs associated with the project.
<u>Question:</u> <i>Is the change to billable impervious area driven by better data or redevelopment?</i>
<u>Response:</u> Both. Better imagery has allowed for a more accurate capture of impervious area. Additionally, development patterns in recent years have trended towards maximizing the impervious area within a parcel.
<u>Question:</u> <i>What are the Department's current stormwater costs? Does this include credits?</i>
<u>Response:</u> Based upon FY 2019 cost of service, total stormwater costs are approximately \$175 million, excluding the contra revenue associated with credits. Credits are reflected as a reduction in billing units.
<u>Question:</u> <i>Why would billing units be the barometer instead of revenue?</i>
<u>Response:</u> It could be evaluated both ways but would yield a similar result. For rate making purposes, credits are accounted for by reducing the billing units, which is essentially the

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denominator in the equation. Credits are being presented in terms of contra revenue to provide context in comparison to total stormwater costs as well as providing another metric for evaluation and discussion purposes. It may be easier to understand the credit program impact in terms of dollars rather than billing units.

Question: Is the concern that as future shifts in costs would be unfair to residents?

Response: Not necessarily. Yes, there is a concern that with increasing credits, future costs will continue to shift to residential customers as well as customers that cannot achieve credit. However, the primary purpose is to evaluate the appropriateness of the current credit program and whether it achieves its goals. The question becomes is the current credit program appropriate? Is it fair to all customers? Should the program be adjusted to more closely relate to costs and cost avoidance? Does the program need to recognize other activities?

Question: Did you look at how well the stormwater credit program is incentivizing participation? Did you look at how changing the credit program would change Greened Acre requirements for COA?

Response: The stormwater credit program on its own doesn't incentivize property owners to install private SMPs. The potential return on investment from the customer's perspective was evaluated previously. For some property owners it would take 25-30 years to see a return. Essentially, even with the allowable credit percentages as high as they are currently, the fee is too low for the investment to make sense for a property owner. There was also a low interest loan program that only one property owner participated in. So even with reduced financing costs, there wasn't enough of a catalyst to get property owners to retrofit.

This is part of the reason that the SMIP/GARP grants were put into place – to reduce the timeframe for customers to see a return and to get property owners to implement SMPs.

Question: Do the short-term mitigation approaches include people who have already retrofitted their property based on the 1-inch requirement?

Response: No, this would only apply to future program participants. Customers who are already receiving credit would not be impacted.

In the future, this may be an area to re-examine as there are customers who only manage the first inch of runoff who are receiving the same amount of credit as those managing the first inch and a half. In addition, the question arises as to whether a customer who receives a SMIP/GARP grant should receive the same amount of credit when compared to a customer who invested their own money into their site.

Question: Could the Department increase SMIP/GARP funding and offer it over the longer term by included the grant in the Department's capital budget and amortizing the costs?

Response: No. The Department cannot include SMIP/GARP grants in the capital budget. The Department can't capitalize assets that it does not own. SMPs resulting from SMIP/GARP grants are not the Department's asset, the private property owner retains ownership. This is part of the reason why the grants are funded as an O&M expense.

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Analyzing Alternatives

The facilitators led the meeting attendees through an individual exercise where participants expressed their opinions on the advantages and disadvantages of the short-term mitigation approaches presented. The following is a summary of the activity and the subsequent discussion.

Group Questions for the Short-Term Mitigation Approaches**Align credit criteria with stormwater regulations:**

- Would extensions be available for owners who miss the credit application cutoff date?
 - It would be possible, especially if an owner can provide a valid explanation for why they were unable to apply during that timeframe. Or if they communicate their desire to apply for credit prior to the sunset date.
- What's the reason for the 1½" stormwater management requirement, instead of the original 1" requirement?
 - In 2015, PWD updated its standards to meet the water quality requirements related to the NPDES MS4 permit as well as the LTCP. The 1" requirement was increased to 1½" to reflect changes in weather and storm patterns. 1½" is also the requirement stipulated in the Department's Consent Order and Agreement (COA).
 - Note - The credit program only recognizes management for smaller storms generally associated with the water quality event.
 - The Department does require management for channel protection and peak flows per the current stormwater regulations, but these practices are not recognized as part of the credit program.
 - Other jurisdictions require customers to manage different components of stormwater as well as large events to achieve the maximum amount of allowable credit.

Specify an enrollment window for applying for credit following development / redevelopment:

- Has there been any thought about tying a credit to project approval or inspection, rather than a separate application?
 - The credit program is introduced and encouraged many times throughout the current development process.
 - For example, the Stormwater Plan review team makes developers/contractors aware of the credit program at the beginning of the permitting process, provide reminders throughout and at permit close-out.
 - There is no application fee to apply credit initially; only a review fee.
 - Property owner's receiving a SMIP/GARP grant are walked through the entire process and shepherded through the credit application by PWD Stormwater Billing staff.
- Is there data to determine how people applied after a period of not applying? Can it be used to predict enrollment in future years?
 - Generally, there is a sense that more recent credit applications are from projects which have occurred in the past 1-2 years.

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- Past Plan Review records would have to be analyzed to see how quickly a project moves through permitting to credit approval.

Adjust SMIP/GARP program budget:

- If the budget gets cut in half, do the number of grants get cut in half or is the grant amount get reduced by half?
 - Not necessarily. That a program design decision. It's possible that a reduced grant amount could be offered but the same level of greened acres could still be targeted.
 - That's something the Department is evaluating but we don't have any concrete figures at this time.
- Is the SMIP/GARP budget being fully utilized currently?
 - Yes, the full budget has been utilized over the past several years.
 - Note – the cost per greened acre has been increasing over time.
 - There is a sense that the Department may have already captured the lowest hanging fruit (i.e. most cost-effective greened acres) at the beginning of the program.
 - The projects applying now cost more per greened acre and may be more reflective of typical costs.
 - If credits are considering in context of the project costs, SMIP/GARP may not always offer a lower cost alternative to achieving greened acres.
- Have you looked at an Energy Service Company (ESCO) type of arrangement as being an option for some customers? Maybe a differentiated approach for could be utilized for non-profits and for-profits.
 - A pay for performance program hasn't been looked at explicitly from the Department's perspective.
 - One option might be to reduce the amount of credited awarded until such time that the cost of the grants is "paid back".

General Questions:

- Has there been thought about equating the value of the credit to the burden on the system? Is there a way to identify the cost?
 - The Department has begun to investigate this.
 - There is no standard for establishing a credit program and no industry recognized method for monetizing stormwater credits as it relates to private stormwater management in context of a public stormwater program.
 - Each jurisdiction which implements a credit program can adopt policies suited to meet their specific goals and needs. In addition, program costs and what services are covered can vary greatly.
 - Some jurisdictions recognize that some costs cannot be avoided, not matter what people construct on their individual properties. One such example would be debt service related to capital improvements. Private stormwater management is unlikely to

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reduce or impact debt service which supported the financing of required system investments.

- PWD's current stormwater related debt service costs are roughly \$65 million (based on the FY 2019 cost of service analysis).
- o Others break costs out to reflect what it costs to collect and treat stormwater from individual properties versus those related to shared or common costs of the system.

Feedback on Short-Term Mitigation Approaches

The following are comments, provided by attendees during the facilitated feedback portion of the meeting.

- Some attendees cited a set application timeframe as a point of contention.
 - o While an open timeframe is preferable, a longer timeframe for enrollment say 12-24 months as opposed to 30-60 days may be more palatable.
 - o Others noted that it could be perceived as a punitive action to prevent a customer applying for credit after it has been extended in the past.
 - Especially considering potentially large financial investments the property owner has made into their SMP and the long-term benefit provided by it.
It was noted that most credit programs are tied to ongoing SMP maintenance, rather than simply the initial investment.
- It was suggested that additional research could be conducted to understand why customers are not taking advantage of the credit program, and that further information is needed to understand the best approach for offering an incentive program.
- Several participants cited a disconnect between the property owners and individuals who interact with the Department during the redevelopment process as a reason for an eligible project not ultimately applying for credit.
- Longer-term more discussion is required to determine what would happen to credit program participant that do not meet the current regulations / updated credit program requirements.
 - Potential options for grandfathering properties, partial credit and other interventions are all solutions that might be considered.
 - The Department may look to other program models for guidance on this issue.
- It was expressed that SMIP was one of the few programs that provided relief to non-residential ratepayers with significant stormwater bills.
 - o For some, it seemed counterintuitive to reduce the budget of a fully utilized, seemingly successful program.
 - o Others noted the need to assist properties (such as churches and other non-profit organizations) that might not be able to afford their stormwater fee, yet alone pay for a retrofit.
- Similarly, some felt that a reduction in the SMIP/GARP budget would not allow for growth in a program that has lots of interest.

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- o Others agreed with that sentiment and advocated for an increase in the SMIP/GARP program budget.
 - o Some cited concerns that a reduction in SMIP/GARP would have on their business
 - o Others raised concerns about the potential impact to greened acres and regulatory compliance goals.
- Participants acknowledged the success of the SMIP/GARP program and inquired whether the program had to be borne by both residential and non-residential customers alike, noting that residential customers are not eligible for grants nor credits.
- Economic competitiveness was also brought up as consideration when thinking about resizing the program. Changes to business costs (including water bills) can be a factor in whether a business decides how “business-friendly” Philadelphia is.
- Some participants discussed the option of providing up-front cash incentives to business owners.
 - o It was noted that it likely that some smaller non-residential customers may be incentivized with a lower, up-front payment, while other larger customers may be more incentivized by a larger, long-term credit.
- Participants agreed that a long-term view of the program (that includes resiliency planning) would help alleviate concerns from customers.
 - o Some participants felt that variability in funding and costs from year-to-year is problematic.

Concluding Questions & Feedback

The following questions and feedback were posed following the discussion:

- Are there missing property classifications in the analysis? Is there difficulty in collecting payment for properties owned by the State and Federal Government?
 - o There are no missing classifications in the analysis. There is an executive order that the Federal Government must pay stormwater fees. Collection issues could be an issue depending on where the bill is sent and the specific entity’s level of awareness.
- A participant requested that there should be a survey of property owners to help determine their preferences for financial incentives (upfront vs. long-term) and their breaking points for monthly costs.

Next Steps

The Team noted that summary meetings notes, along with responses to questions posed during the meetings would be provided. The notes, along with meeting materials, will be posted to the Rate Board website.

The meeting concluded with a thank you to the group for attending and participating in the dialogue. The ARSG was reminded of the next meeting was scheduled for September 5th and the written comment deadline of September 16th.

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In addition, participants were asked to complete an evaluation form to help aid in improving the facilitated portion of the future meeting.

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Appendix A – Meeting Invitees

Organization	Contact Name
Department of Commerce	Libby Peters
Friends of Wissahickon	Maura McCarthy
Managing Directors Office	Liz Lankenau
National Resources Defense Council	Larry Levine
PECO/Exelon	Anthony Holtzman Alfred Ryan Daniel P. Delaney (K&L Gates)
PennEnvironment	Stephanie Wein, Clean Water Advocate David Masur, Executive Director
PennFuture	Alice Baker, Staff Attorney
Pennsylvania Horticultural Society	Glen Abrams
Philadelphia Building Industry Association	Cornelius Brown
Philadelphia Land Bank	Steve Cusano (Senior Counsel, City of Philadelphia)
Philadelphia Large Users Group (PLUG)	Alessandra Hylander
PIDC	Tom Dalfo
Public Advocate	Robert Ballenger / Community Legal Services
Rate Board Consultant (Amawalk)	Ed Markus
Sustainable Business Network	Anna Shipp

Appendix B – Stormwater Credits and Incentives – Definitions List

Alternative Rate Structure: Stormwater Credits & Incentives

Definition List

Greened Acre Retrofit Program (GARP)	GARP is a PWD program that provides stormwater grants to contractors or project aggregators who can build large-scale stormwater retrofit projects across multiple properties.
Gross Area (GA)	A property's entire parcel area.
Impervious Area (IA)	A surface which restricts the infiltration of water. Examples: roofs, driveways, sidewalks, parking lots, etc.
Impervious Area Managed	Impervious area that directs runoff to surface water bodies or to approved Stormwater Management Practices (SMPs).
Impervious Area Reduction (IAR)	Impervious area directed to pervious area or which has characteristics similar to pervious area.
National Pollutant Discharge Elimination System Industrial Permit Stormwater Credit (NPDES Credit)	National Pollutant Discharge Elimination System Industrial Permit Stormwater Credit (NPDES Credit) To receive a NPDES Credit, the customer must demonstrate that the parcel is subject to an active NPDES Permit for Industrial Stormwater Discharge Activities and that the operator has been in compliance with the permit requirements during the preceding twelve months.
NRCS-CN Open Space Credit	Credit option applicable only to the Open Space, calculated as Gross Area subtracted by Impervious Area (GA-IA), of a parcel. Under this option, the customer must demonstrate an average Natural Resource Conservation Service Curve Number (NRCS-CN) meets one of the values as specified in the Credits and Appeals Manual Appendix A. The NRCS-CN represents the runoff potential for a particular soil and ground cover.
Open Space	The pervious area of a parcel (equal to GA minus IA).
Square feet (sf)	A measurement of area.
Stormwater Customer Assistance Program (CAP)	The purpose of the Stormwater Customer Assistance Program (CAP) is to mitigate the annual fiscal year increase due to the transition from a meter-based charge to a parcel-area based

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	stormwater charge. The CAP affords non-residential customers the ability to gradually transition to a parcel-area based SWMS Charge over a longer period of time than the established 4-year phase-in.
Stormwater Management Improvement Program (SMIP)	SMIP is a PWD program that offers grant funding to non-residential customers for the design and construction of stormwater projects.
Stormwater Management Practice (SMP)	Structural or engineered control devices and systems (e.g. retention ponds, rain gardens) that help reduce the quantity and improve the quality of stormwater runoff.
Stormwater Management Services (SWMS) Charges	Charges for Stormwater Management Services (SWMS) supplied by PWD
Surface Discharge	The discharge of stormwater runoff from a property to an adjacent surface water body without use of PWD infrastructure.

Appendix C – Supplemental Information

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Units of Service – Impact of 2015 Data Set

Attendees inquired about the total number of IA and GA billing units associated with the current billing data. A verbal response was provided during the meeting. Further, a comparison of the current data set, and the updated billing data set is provided in Figure C-1.

Figure C-1 – Comparison of Billing Data Sets

Component	Stormwater Customer Class	Current Dataset (square footage)	Updated Dataset (square footage)	Change (%)
IA	Residential	482,687,000	554,578,000	14.9%
	Non-Residential	728,668,000	740,412,000	1.6%
	Total	1,211,354,000	1,294,989,000	6.9%
GA	Residential	974,110,000	975,132,000	0.1%
	Non-Residential	1,468,980,000	1,457,316,000	-0.8%
	Total	2,443,090,000	2,432,448,000	-0.4%

Note – the above figures are rounded and reflect initial data prior to accounting for loss of billing units due to credits.

Long-Term Credits Analysis

Attendees inquired about existing credits as percentage of billing units. A verbal response was provided during the meeting, indicated the total amount of credit in terms of square footage. The corresponding percentages are provided in Figure C-2.

Figure C-2 – Credits as a Percentage of Billing Units

Component	Current Dataset - Initial Billing Units (square footage)	Credits (square footage)	Percent of Billing Units (%)
IA	1,211,354,000	98,864,000	8%
GA	2,443,090,000	318,358,000	13%

Note – the above figures are rounded for presentation purposes.

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DEVELOPMENT SERVICES COMMITTEE – STORMWATER CREDITS & INCENTIVES

Summary Meeting Notes

Date: August 15, 2019

Time: 9:00 AM – 10:30 AM

Location: Philadelphia Water Department Offices, 1101 Market Street, McCarty Conference Room

Agenda

- ✓ Introduction
 - ✓ Recap Items
 - ✓ Today's Discussion - Stormwater Credits and Incentives
 - ✓ Next Steps
-

Attendees

Participants:

Alice Baker, PennFuture
 Deborah Cahill, Department of Public Property
 George Claflen, Claflen Associates
 Altje Hoekstra, Meliora Design
 Fran Lawn, Sustainable Business Network – GSI Partners
 Tom McHale, The HOW Group
 Libby Peters, Department of Commerce
 David Plante, Ruggiero Plante Land Design
 Marianne Scott, Building Industry Association
 Kevin Smith, Stantec
 Harry Weiss, Ballard Spahr
 Lena Smith, PennFuture
 Eliza Kelsten Alfred, Sustainable Business Network – GSI Partners
 Christopher Plummer, Drexel University
 Harry Laspee, Pennoni
 Meredith Trego, Department of Development and Planning
 Altoro Hall, Department of Commerce

PWD Staff: Randy Hayman, Vicki Lenoci, Erin Williams, Jessica Brooks, Alan Fody, Sara Anderson

Consultant Team: Jed Campbell (Jacobs), Brian Merritt (Black & Veatch), Danae Mobley (Retra Studio)

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Development Services Committee Meeting

The following is a summary of the August 15, 2019 Development Service Committee meeting. The presentation utilized during the meeting is available on the Philadelphia Water, Sewer and Stormwater Rate Board website: <https://www.phila.gov/departments/water-sewer-storm-water-rate-board/>

Attendees are listed above, and Appendix A includes a list of all invitees. Appendix B provides definitions for key terms and acronyms used throughout the presentation and subsequent discussion.

Background

The Development Services Committee (DSC) was formed in 2012 to create a space for development community members to provide targeted feedback on the stormwater regulations and review procedures and identify ways for the Philadelphia Water Department (PWD or the Department) to become more business-friendly. The current DSC consists of developers, engineers, designers, lawyers, advocacy groups as well as City of Philadelphia (City) Partners. Dialogue with the DSC has aided PWD in several areas, offering input and feedback on updated 2015 stormwater regulatory requirements, along with permitting process improvements, technical criteria and guidance documents. More recent work has focused on additional guidance on maintenance of stormwater management practices (SMP) as well as incentive programs intended to increase private stormwater management.

As the DSC has provided valuable input on stormwater-related topics in the past, the Department and Black & Veatch Management Consulting, LLC (Black & Veatch) felt their feedback on the potential changes to the stormwater credits and incentives programs, being contemplated as part of the Alternative Rate Structure Analysis, would be helpful. The DSC provides another group of stakeholders and additional voices beyond those participating in the Alternative Rate Structure Group (ARSG).

The DSC was provided with essentially the same presentation utilized at ARSG Meeting No. 2, which was held a few days earlier on August 13, 2019. The DSC version of the presentation was adjusted to meeting the allotted time frame.

The following is a summary of the meeting, presentation, and resulting discussion.

Introduction

Jed Campbell welcomed the DSC and introduced Water Commissioner Randy Hayman. Commissioner Hayman provided a few opening remarks and thanked the DSC for their prior work on the Department's stormwater regulations and permitting process. Mr. Campbell then recapped the prior DSC meetings and noted that the committee's input helped inform the SMP Maintenance Guide and the Developer Right-of-Way Incentive Program, both of which would be launched this Fall.

Mr. Campbell then introduced Brian Merritt of Black & Veatch and explained that the topic for this DSC meeting was related to potential changes to the Department's stormwater credits and incentives program that were being evaluated ahead on the next rate proceeding. The Department and its consulting team were seeking additional feedback from the DSC.

Alternative Rate Structure Analysis

Mr. Merritt provided some additional background on the Alternative Rate Structure. The Black & Veatch Team (Team) works with the Department as part of its Cost of Service Consulting Team, which among

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other services, helps PWD in evaluating and updating their rates and charges. The purpose of the Alternative Rate Structure Analysis is to assess whether the current rate structure still supports the Department's current mission and goals and whether it will continue to help meet future objectives.

As part of this work, the Team was evaluating potential incremental rate structure updates in the following key areas, which present both near-term and long-term challenges for the Department and its customers:

- Water quantity charges
- Stormwater credits and incentives
- A rider for pension-related expenses

The Department and its Consulting Team are looking to gather feedback and input on these key areas from various stakeholders to aid in preparing the next rate filing with the Philadelphia Water, Sewer and Stormwater Rate Board (the Rate Board). A separate group, the Alternative Rate Structure Group (ARSG), was convened to discuss all three topics. Further input on potential changes to the stormwater credits and incentives programs is being sought from the DSC.

Focus Topic - Stormwater Credits and Incentives

The Black & Veatch Team then provided a presentation explaining the Department's current stormwater credit and incentive programs, a long-term credit analysis overview, preliminary results of the credit analysis, an accelerated "eligible credits" analysis, and potential credit program adjustments. The following section summarizes key points for the presentation. For a copy of the complete presentation, please refer to the Rate Board website.

Introduction and Key Concepts

Before delving into the long-term analysis and its potential implications, the Black & Veatch Team provided the attendees with background information on the current stormwater rate structure, the current credits and incentives programs, programs impacting stormwater rates, and how the costs of those programs are recovered.

Key Terms

First Black & Veatch defined several key terms related to the stormwater fee and associated credit program that were used throughout the presentation and subsequent discussion. Key terms included:

- **Gross Area (GA):** A property's entire parcel area.
- **Impervious Area (IA):** A surface which restricts the infiltration of water. Examples: roofs, driveways, sidewalks, parking lots, etc.
- **Surface Discharge:** The discharge of stormwater runoff from a property to an adjacent surface water body without use of PWD infrastructure.
- **Impervious Area Managed:** Impervious area that directs runoff to surface water bodies or to approved Stormwater Management Practices (SMPs).
- **Impervious Area Reduction (IAR):** IA directed to pervious area or which has characteristics similar to pervious area.

Attendees were provided with a handout which included the key terms noted above, as well as other terms and acronyms used throughout the presentation. The handout is provided in [Appendix B](#).

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Current Stormwater Rate Structure

Black & Veatch then explained the current stormwater rate structure which recognizes two primary customers classes, residential and non-residential properties. The Team noted that condominium customers are included in the non-residential customer category for presentation purposes. Condominium customers are similar to non-residential customers in that their stormwater charges are determined in the same manner as non-residential customers. Condominiums are also eligible for stormwater credit. The current stormwater rate structure is presented in Figure 1.

Figure 1 – Current Stormwater Rate Structure

Residential	Non-Residential
- Includes residential properties up to 4 dwelling units (excluding condominiums) - Residential customers are billed: - Uniform stormwater charge per parcel, based upon on the overall average GA and IA (associated with the residential customer class) - Billing and collection charge per account	- Includes all properties which cannot be classified as residential - Non-Residential customers are billed: - GA charge (\$ per 500 square feet) based on the parcel's actual GA - IA charge (\$ per 500 square feet) based on the parcel's actual IA - Billing and collection charge per account

Attendees were then provided with an example of how non-residential stormwater charges are applied.

Current Credit Program

The team then presented a summary of the current stormwater credit program, which is only available to non-residential customers (including condominiums). The Department offers three primary types of credit:

1. Impervious Area Credit (IA Credit)
2. Gross Area Credit (GA Credit)
3. National Pollution Discharge Elimination System (NPDES) Credit – which is only offered to customers with a valid NPDES Permit for Industrial Stormwater Discharge Activities

As summarized in Figure 2, the attendees were provided with an overview of the options under each credit type, applicable management approaches as well as the maximum allowable credit percentages by credit type and discharge location.

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Figure 2 – Current Stormwater Credit Program

Credit Type	Options	Management Approach	Credit Maximums ²	
			Non-Surface	Surface
IA	IAR	1. Tree Canopy Cover 2. Roof leader/Downspout Disconnection 3. Pavement Disconnection	100%	100%
	IA Managed	1. Infiltration 2. Detention and slow release 3. Pollutant reduction and filtration 4. Surface Discharge	80%	90%
GA	Open Space NRCS ¹ -Curve Number	Applicable to open space only	80%	90%
	GA Credit for IA Managed	Equivalent GA Credit for IA Managed	80%	90%
NPDES	IA Managed	Compliant / Active NPDES Permit	7%	7%
	Open Space GA	Compliant / Active NPDES Permit	7%	7%

Notes: ¹ NRCS - National Resources Conservation Service

It was noted that the current credit program and currently allowable maximums are defined in the Departments Rates and Charges Section 4.5. The credit program policies are further explained and detailed in the Stormwater Management Service Charge Credits and Appeals Manual. Both documents are available via PWD's website.

At this point, the Team mentioned the following important details regarding the current credit program:

- The current credit program criteria only require management of the first 1" of runoff to qualify for IA managed credit.
 - However, current stormwater management regulations require management of the first 1½" of runoff.
 - Therefore, customers that do not meet current stormwater code requirements are eligible for the same amount of credit as those that manage to current standards.
- The original intent of the credit program was to 1) incentivize property owners to implement and maintain functional stormwater management practices to help the City meets its stormwater goals, and 2) provide the opportunity for property owners to reduce their monthly SWMS Charge.
 - The desire to incent property owners to implement stormwater management was part of the rationale for setting that original allowable credit percentage at 100% of the IA charge and also cited as part of the rationale for the current percentages.
- Properties which discharge to a surface water body can technically qualify for credit without managing stormwater volume and quality.

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The team explained that PWD was interested in exploring whether the current credit program would help support the Department's long-term mission and goals, helping to manage natural resources and meet regulatory requirements while balancing customer impacts. In addition, the Long-Term Impact Analysis, which would be presented in a few moments, indicates the credit program should be re-evaluated considering some potential customer related impacts.

Programs Impacting Stormwater Rates

Beyond the core cost of providing stormwater service, the programs listed in Figure 3 also influence overall stormwater rates and charges.

Figure 3 – Other Stormwater Programs

Program	Description
SMIP/GARP Grants	- Currently, PWD offers \$25 million in Stormwater Management Incentive Program (SMIP) / Greened Acre Retrofit Project (GARP) Grants annually. - Customers receive both grant assistance <u>and</u> stormwater credit once the stormwater management practice is constructed and certified.
Stormwater CAP	- The Stormwater Customer Assistance Program (Stormwater CAP) is offered to non-residential customers that were highly impacted by the transition from their meter-based stormwater fee. - The program provides customers with a gradual transition to the full parcel-area based SWMS Charge.

Stormwater Customer Program Cost Recovery

How program costs are recovered also influences rates and charges and which customers bare those costs.

1. **SMIP/GARP Grants Costs** - are recovered by wastewater revenues. 40-percent of the SMIP/GARP grant costs are recovered via sanitary rates and the remaining 60-percent from stormwater rates.
2. **Stormwater Credits** – are recovered by stormwater revenues via a reduction in overall billing units. The impact of credits is proportionately recovered from all customers, in that the system-wide IA and GA unit rates are set, accounting for credit impacts. Essentially, the fewer billing units results in higher rates for all stormwater customers.
3. **Stormwater CAP Costs** – are recovered from non-residential stormwater customers only. The costs are added to the overall revenue requirements for the non-residential stormwater customer class and ultimately reflected in the non-residential IA and GA rates.

Long Term Impact Analysis

The team then presented on the long-term impact analysis.

Objectives of the Long-Term Impact Analysis

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The Team first explained that the objectives of the long-term impact analysis were to:

1. Develop a long-term projection of the impacts of the stormwater credits and incentives programs on billable units of services as well as stormwater revenues and rates.
2. Understand the impacts of updated billing data on customer billings and rates. *Note - The Department recently obtained new billing data based upon 2015 aerial and infrared imagery. The updated data set provides new impervious area and gross area data for billing purposes.*
3. Identify any potential imbalances that might occur with respect to customer classes over the long-term.

Credit Projection Approach

For credit projections purposes, the following three primary categories were utilized: SMIP/GARP, Surface Discharge, and All Others. Projections were developed through fiscal year (FY) 2036 based upon current programs, policies, and budgets.

- SMIP/GARP projections are intended to reflect credit resulting from SMIP/GARP funded projects.
 - These properties will receive IA managed, and the associated GA managed credit once the projects are completed and verified.
 - SMIP/GARP credit projections are directly tied to the annual SMIP/GARP budget, which fuels the number of resulting greened acres and the associated credit.
 - An average cost per greened acre was applied and used to develop the projections along with an estimated average project duration to reflect the time between the award of a SMIP/GARP grant and the completion of the project.
- Credit projections for both the Surface Discharge and All Others credit categories were based upon program performance data as of the end of FY 2018.
 - Surface Discharge credits were projected based upon program growth with respect to the number of parcels receiving credit and the average credit awarded per parcel by type including:

• IA Managed	• Open Space GA
• GA Managed	• NPDES
 - “All Others” projections include impervious area reductions and non-surface discharge properties which typically achieve credit as a result of development or redevelopment activity. Like the surface discharge category, these projections were based upon credit program growth and the average credit awarded per parcel by type including:

• IAR	• Open Space GA
• IA Managed	• NPDES
• GA Managed	

Preliminary Results

Next, the Team presented the preliminary results of the long-term impact analysis, noting the projections were based upon program performance as of the end of FY 2018 as well as the updated billing data. It was noted that the analysis would eventually be updated based upon the end of FY 2019 data once available. The projections provide an indicator of what would reasonably be expected to occur over the long-term.

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Annual Revenue Impacts

For the next rate proceeding, the Department anticipates filing for rates for FY 2021 and FY 2022. The following estimates provide the projected annual revenue impacts of each program by FY 2021:

- **Annual Stormwater CAP:** Is expected to decrease from \$2.3 million in FY 2019 to \$2.1 million in FY 2021 as customers continue to roll-off the program.
- **Annual SMIP/GARP Grant Amount:** The annual SMIP/GARP budget was assumed to remain at \$25 million per year.
- **Annual Contra Revenue from Credits increases:** The contra-revenue from credits is projected to increase from an estimated \$19.6 million in FY 2019 to \$24.3 Million by FY 2021. This increase reflects an estimated 6% annual increase in stormwater costs as well as the impact associated with additional credits.
 - It was noted that Contra-Revenue was another metric being used to help quantify and evaluate credit-related impacts.
 - As discussed previously, for rate-setting purposes, credits are reflected as a loss in billing units.

Units of Service – Impact of 2015 Data Set

The updated billing data will further influence rates and charges. The new data reflects the following changes:

- Impervious Area has increased a total of 84 million square feet or 6.9 percent when compared to the current billing data set, which has approximately 1.2 billion square feet of IA (before accounting for credit impacts). Of the IA impacts:
 - Residential IA increased by 72 million square feet (14.9 percent). The average residential impervious area per parcel also increased from 1,050 sf to 1,200 square feet.
 - Non-residential and condominium IA increased by 12 million square feet (1.6%).
- There is no significant change in GA square footage when compared to the prior data set.

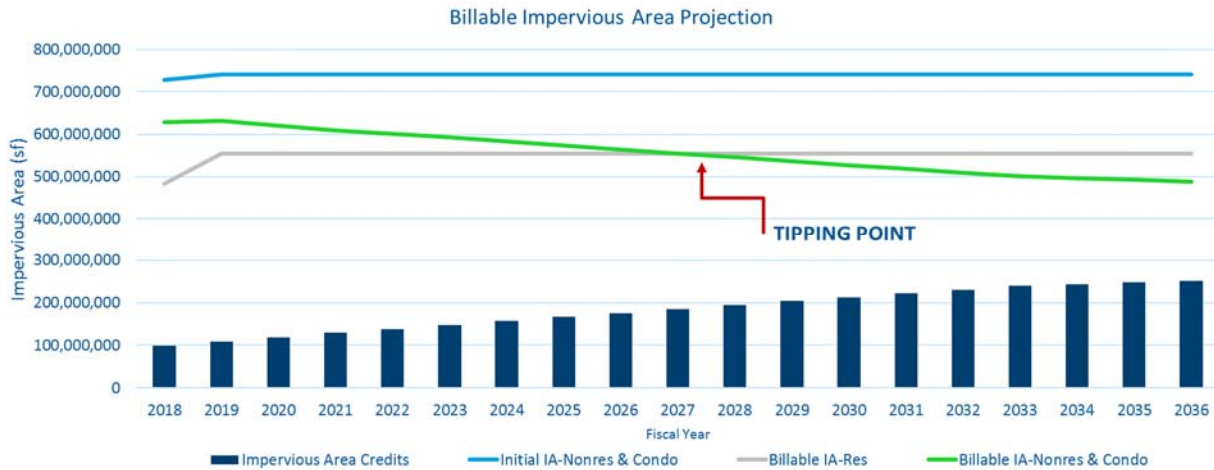
The Team noted that the updated data set wasn't included in the last rate proceeding and will be incorporated into the next rate filing with the Rate Board. With the increase in impervious area, residential properties will now represent a larger portion of the total impervious area in the City. As a consequence, and outside of any other updates or changes to stormwater costs and associated programs, residential customer rates would increase.

Long-Term Credit Projections – IA Units of Service

The Team presented a projection of the long-term impact of credits on the IA billable units of service, as summarized in Figure 5.

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Figure 5 – IA Units of Service Impacts

The figure shows the projection for the impervious area units of service through FY 2036.

- The light blue line at the top represents the Non-Residential IA billing units prior to reduction due to credits.
- The dark blue bars at the bottom represent IA Credits.
- The green line shows the resulting “Billable” IA Units associated with non-residential customers after accounting for credits.
- The grey-line represents the Residential IA units. The influence of the new data set on the IA billing units can be seen in the increase of the initial years.

As indicated by the figure, by FY 2027, IA Credit is projected to increase by 77 million square feet; as a result, there will be more residential billing units than non-residential. This will put further pressure on residential customers as well as those that cannot achieve credits. This potential “Tipping Point” raises concerns about equity with respect to stormwater customer classes.

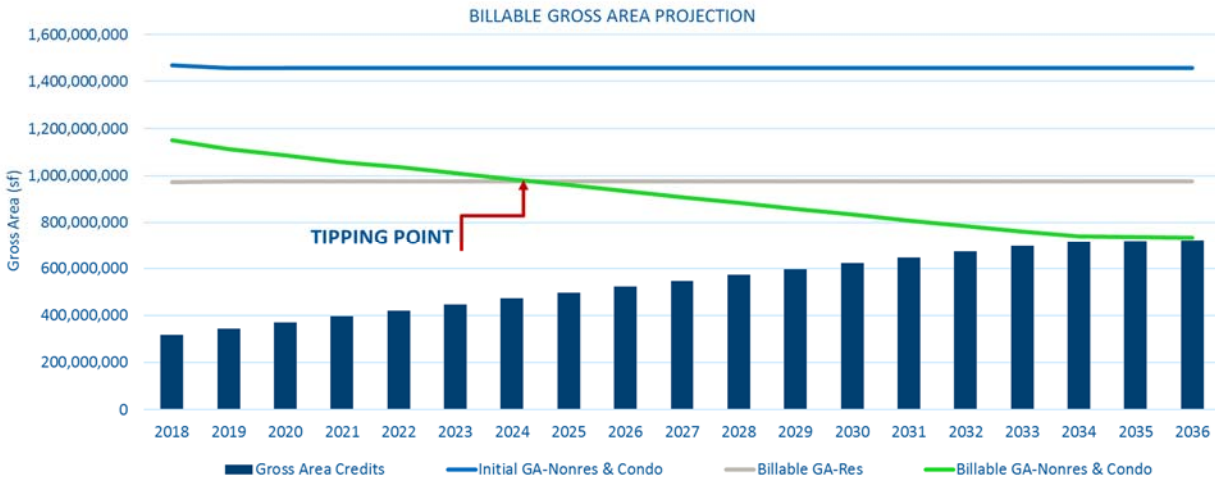
In addition, with rate proceedings occurring approximately once every two years, there are only 3 more proceedings in which to consider credit program and rate structure changes before the “Tipping Point” is reached. It may be more difficult to make changes in the future if the “Tipping Point” occurs. As such, PWD is interesting in re-examining whether the current credits and incentives programs are appropriate. Further, the level of credits offered should be reviewed to determine whether they are appropriate as they do not necessarily reflect reductions in cost or cost avoidance as it relates to the stormwater program.

Long-Term Credit Projections – GA Units of Service

The Team then presented a projection of the long-term impact of credits on the GA billable units of service, as summarized in Figure 6. Similar to the corresponding figure for IA, the figure shows the projection for the gross area units of service through FY 2036.

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Figure 6 – GA Units of Service Impacts

As indicated by the figure, by FY 2025, GA Credit is projected to increase by 153 million square feet; as a result, there will be more residential billing units than non-residential. Like the impacts of the IA “Tipping Point,” this will put further pressure on residential customers as well as those that cannot achieve credit.

With respect to GA, there are only 2 more proceeding in which to consider credit program and rate structure changes before the GA “Tipping Point” occurs. This is part of the reason that PWD is being to look at these issues now and discuss them with stakeholders. A broader review and evaluation of additional changes will be undertaken following the next rate proceeding.

Accelerated Eligible Credits Analysis

The long-term impacts are based upon projected growth in the credit program. However, another area that has the potential to influence customers rates and credits relates to “Credit Eligible Parcels,” which have the potential to create uncertainty with respect to stormwater revenues and customer rates. In other words, “Credit Eligible Parcels” present a potential financial risk to both PWD and customers.

Stormwater credits are voluntary, and customers need to apply in order to receive credit. Right now, there are over 500 “known” projects that have been through PWD’s plan review process that have either been completed or are in construction that could potentially apply for credit. These “Credit Eligible Parcels” are from projects which date back as far as 2005. The fact that these projects haven’t applied for the credit program creates uncertainty with respect to stormwater revenues and customer rates.

As mentioned earlier, the stormwater credit program only requires management of the first inch of runoff to qualify for credit. Whereas, the stormwater management regulations require management of the first inch and a half of runoff. So, anything approved prior to 2015, when the current regulations were adopted, does not meet current stormwater management requirements, yet they are technically eligible to receive credit.

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As indicated in Figure 7, there are an estimated 40 million square feet of “eligible credits”. Of the total, roughly 32 million square feet correspond to over 400 projects developed under the old regulations.

Given the potential uncertainty, the Black & Veatch Team ran a “what if” scenario analysis and looked at varying levels of enrollment assuming customers would apply and receive credit during the current fiscal year. This is referred to as the Accelerated Eligible Credits Analysis.

Figure 7 – Estimated Potential Credit

Non-Surface Discharge Credit = 32.25 M sf

Surface Discharge Credit = 8.65M sf

M = Million

Summary – “Eligible Credits” Analysis

The Team then presented the “book ends” of the analysis, showing the impacts of 100 percent of “Credit Eligible” projects applying and receiving credit.

With respect to projected “Tipping Points”:

- Under the current programs and policies, the “Tipping Points” are projected to occur in FY 2025 for GA and FY 2027 for IA.
- If all properties “Credit Eligible” projects applied and received credits, the tipping point would accelerate and occur in FY 2023 for both GA and IA.

With respect to customer rates, Figure 8 summarizes the potential impacts on both residential and non-residential rates.

Figure 8 – “Eligible Credits” Analysis – Impact to Stormwater Rates

	Status Quo	100% Apply
FY 2021 Residential Rates		
IA/GA	\$15.853	\$16.381
FY 2021 Non-Residential Rates		
IA (per 500 sf)	\$5.403	\$5.604
GA (per 500 sf)	\$0.773	\$0.789

In summary, Residential customers would see about a \$0.53/month increase. The non-residential IA rate would increase \$0.20, and the GA rate would increase a little over a penny.

It was noted that while is not likely that all “Eligible Parcels” would ultimately achieve credit, the analysis does provide a sense of the overall potential impacts if these customers are granted stormwater credit.

Key Take-Aways

The key take-aways from the analysis were summarized as follows:

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- The continued escalation of stormwater costs and reductions in billable units of service will put pressure on rates with compounding effect. Contra revenues will continue to increase.
- Within the next 6-9 years, residential customers will bear the majority of the burden of stormwater-related costs – with no ability to reduce their fees under the current program.
- “Credit Eligible” parcels have the potential to accelerate the tipping points and put further pressure on rates.

Potential Credit Program Adjustments

Short-Term Mitigation Approaches

The team introduced three short term incremental changes actions that will begin to help contain some of the potential long-term ramifications of the current programs and policies.

1. Align the credit criteria with stormwater regulations.
2. Specify an enrollment window for applying for credit following the development (or redevelopment) or a property.
3. Adjust the program budgets for SMIP and GARP.

Aligning the credit criteria with the current stormwater regulations would help reduce potential credit from properties, that have not applied for credit yet and which don’t meet current regulations. A sunset period or time horizon would likely be established to allow those potential “credit eligible” properties an opportunity to enroll.

By specifying an enrollment window for properties to apply for credit following the completion of construction, the Department reduces the size of the possible eligible candidates applying for credits. This potential policy would apply to projects built under the current regulations.

- The aim would be to avoid another build-up in “credit liability” similar to what “credit eligible” properties currently present.
- This would be an administrative policy to help manage potential contra revenues and rate pressure and contain the associated risks.
- While a specific proposal has not been identified, a 12-24-month period following the completion of construction has been discussed internally.
- With this approach, additional policies would likely be needed, such as specifically policy that addressed property ownership changes.

Finally, an adjustment to the SMIP/GARP program budget could help to mitigate some of the short-term credit impacts and provide all customers with some rate relief.

Long-Term Mitigation Approaches

The Team explained that while the short-term adjustments would buy some time to contain the potential issues, longer-term adjustments are likely needed to fully mitigate concerns. Two areas for long-term evaluation would include:

- Holistic credit program updates

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- Revisiting stormwater rate structure

It was noted that longer-term adjustments will require further evaluation and deliberation with stakeholders. This effort will take place over the next several years following the next rate proceeding.

Questions Posed During the Presentation

The following is a summary of questions posed during the presentation

Question: *Are the changes for stormwater management (from 1 inch to 1 ½ inches) stated in PWD's regulations? Will the requirements change again, meaning increasing the capture requirement (from 1 ½ inches to 2 inches for example)?*

Response: Yes, the stormwater management requirements are specified in Section 600.5 of the Department's regulations. The credit program requirements are stated in the *Stormwater Management Service Charge Credits and Appeals Manual*. The credit program requirements were not aligned when the regulations were updated in 2015.

Currently, there are not any planned increases to the volume capture requirement further. That said, there is a possibility that the requirements may need to be adjusted in the future as necessary to meet permit requirements.

Question: *Do you think the credits are linked to the financial commitment the owner has to make to implement stormwater management on his or her property?*

Response: Credits are not linked to investments made by private owners. Regardless of whether or not there is a stormwater fee and credit program, there would still be stormwater management requirements that private development projects would need to meet.

Rather, credit programs are typically intended to recognize the avoided costs or costs savings. In the Department's case, the credit program was not initially designed around program costs by the Department, but instead to incentivize participation. There's not a 1:1 correlation in cost savings/cost avoidance from the Department's perspective. The longer-term stormwater management program (reflected in the LTCP) assumes a certain level of private stormwater management will occur. The current stormwater costs, recovered by the stormwater fee, related to the management of and improvements to the City's stormwater system. In other words, the Department's stormwater program costs already account for private stormwater management and aren't necessarily reduced by private stormwater management. That said, it's important to recognize private stormwater management in the context of the credit program.

Question: *The \$25M grant program a current program? Is it a competitive process? Is the budget being fully expended?*

Response: Yes, there is a competitive application process for the SMIP/GARP grants. Applications are judged based on overall management potential (i.e., greened acres achieved), project, cost per greened acre as well as several other factors. There is no required match for participants. The program budget is currently being fully expended.

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Question: Residential properties manage stormwater. Does the credit projection include residential stormwater management? Why don't residential properties receive credits?

Response: Residential properties may manage stormwater if the requirements were triggered. That said, credit projections only look at non-residential projects, as only they are eligible.

A residential credit program isn't part of the current evaluation but could be looked at in the future.

The Department has looked at this in the past, and one concern is that a residential credit program would likely create a significant administrative burden (i.e., cost) given that there are over 460,000 residential properties versus the 75,000 non-residential properties.

Question: Do you know why customers aren't taking advantage of the program?

Response: For some customers, the long-term maintenance of the system (which is required) may seem burdensome. Some believe the amount of the credit isn't worth the effort to apply for and maintain documentation required as part of the credit program.

Question: Are property owners able to fill out the credit application directly?

Response: Yes, and there's no fee associated with the credit application, and it can be submitted during the development review process.

The Department noted that there is a disconnect between the design engineer/ contractor, that may be interfacing with the Department during the re/development property, and the final property owner or property manager. The Department has found, on multiple occasions, that the owner may not understand these maintenance requirements or that they have an SMP on their property.

Question: Do you think property owners feel like there's less of an obligation for them to maintain the systems if they don't apply (for credit)?

Response: That's possible. There's more education that can be done to help owners understand their responsibilities.

Question: Why aren't property owners who make it through the development/redevelopment process automatically given the credit? And then if they're not maintaining the system, they lose your credit?

Response: The credit program is voluntary. While the credit program is introduced, and enrollment is encouraged many times throughout the development process, it is still up to the property owner to decide whether to apply.

Staff noted that it's important to have people speak directly with the Department to acknowledge and understand the implications of having an SMP on their property. There are still a good number of people that are surprised during post-construction that they are liable for this infrastructure.

If an SMP is not maintained, the customer could lose their credit.

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***Question:** With post-construction site inspection, what are the percentages of projects require repair?*

Response: Almost 100-percent of projects need some form of additional maintenance or repair after inspection.

***Question:** Is the property required to do reporting about maintenance?*

Response: No, currently, there are no specific reporting requirements back to the Department, but it is something that has been discussed previously. Instituting reporting requirements (especially tied to the credit) may help keep owners stay more on top of SMP maintenance.

Group Discussion

The facilitators led the meeting attendees through an individual exercise where participants expressed their opinions on the advantages and disadvantages of the short-term mitigation approaches presented. The following is a summary of the activity and the subsequent discussion.

Group Questions for the Short-Term Mitigation Approaches

Align Credit Criteria with Stormwater Regulations & Enrollment Window Discussion

- Some participants commented that it only seemed to make sense to align the credit program requirements with current stormwater management requirements as those facilities (designed to manage the first inch of runoff) no longer meet the code requirements.
- A participant asked if the Department would take away credit from customers with facilities designed to the 1" requirement.
 - o The Department is not considering making any changes to customers with existing credit at this time. The change would only apply to property owners with SMPs designed based on the 1" requirement who have not yet applied for credit.
 - o For any property already receiving credit, which manages the first inch of runoff, their credit would remain in place. Adjusting or pro-rating these credits may be a long-term consideration.
 - o Some participants commented that "taking away credit for people who have already invested sounds like a non-starter."
- Others wondered if there would be more certainty if credits were provided automatically and if it would help with tracking financial metrics and longer-term projections.
 - o Providing credits automatically could help alleviate some level of uncertainty. It may also create more administrative work.
 - Before automatically awarding credits, the Department would implement changes to the inspection process that would allow the PWD staff an opportunity to engage with the property owner.
 - The Department is also looking at moving up the date of the first inspection to establish a relationship with the owner sooner.
 - It was further noted that with respect to credit, the key is not the initial investment in the private SMP but rather the long-term operation and maintenance that helps/benefits the overall system. Having property owners

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understand their maintenance responsibilities and acknowledge them before receiving credit may be an important step in improving the process.

- Participants asked if the property owner should be required to be on-site during the final inspection.
 - o Currently, the Department requests that the property owner attend the final inspection, but they have the option to send a project representative. A policy change like this would require some deliberation by the Department.
 - o Attendees further commented that requiring the property owner to be present during the final inspection would help alleviate some of the confusion and help people better understand the obligation.
- A question was posed as to whether the credit enrollment window would re-open after a property was sold.
 - o It was noted that this is a policy that the Department is considering. If the prior property owner chose not to pursue credit, but the new property wished to take advantage of the program, it would seem fair to allow them the opportunity to apply.
 - o Participants noted that this seemed like an important policy that should be developed.
- Others were curious about what goal would be achieved by closing the application window.
 - o The team explained that the goal of specifying an application window is risk mitigation - both from the financial liability faced by the Department and the potential rate impacts to the customer. This type of administrative policy would help to avoid a buildup in potential credits, so that there are not 400 projects out “sitting out there” and eliminate uncertainty about whether or not or when they might apply for credit.
 - o The Department would plan to do outreach and education around the enrollment window to make sure the information gets to the appropriate people.
- A member of the DSC noted that a short application timeframe (say less than 60 days) seems unreasonable, but the timeframe also shouldn't be too long.
 - o A six to twelve months makes sense because if you tell someone, they have two years to complete something, they probably won't pay attention.
 - o A six to twelve months window might encourage/incentivize customers to act.
 - o One participant recommended six months, stating that twelve months is too long a window.
 - o Another participant noted that traditional ownership transactions associated development are typically completed within twelve months of construction close-out.
- Others noted that consultants that have helped guide people through this process should be highlighted and advertised so that people know where to get assistance.
 - o
 - o PWD customer service professionals are available to speak with property owners about their bill, visit their property to discuss management opportunities, as well as help with the credit application, etc.
 - o PWD has a list available online of contractors that conduct stormwater management maintenance and repairs.

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Adjust the SMIP/GARP program budget:

- DSC members asked if the goal of reducing the SMIP/GARP budget was to reduce the number of people coming in for credits or provide relief to rate payers.
 - o The team responded noting that it would help on both fronts. It would provide immediate rate relief to customers and reduce the amount of credit under the current program design.
 - o It was further explained that rate-payer money is helping fund the implementation of projects. Private property owners are receiving both a grant and long-term credit.
- Acknowledging that reducing the credit program budget may help rates, others asked how does the reduction in budget would impact meeting the greened acres requirements of the COA.
 - o The impact is still under evaluation. It is likely the reduction is SMIP/GARP projects would have to be accommodated by other Department projects.
- With a reduction in budget, could the cost per greened acre paid to property owners be reduced as well.
 - o That is a possibility. That would be evaluated if and when the program was redesigned.
 - o Some participants commented that it may disincentivize owners to participate because in many cases the current amount awarded per green acre only covers basic infrastructure and there's still an additional cost to the owner for planting and other elements that goes into a "complete" project.
- A committee member asked if the full \$25 million in program costs was available for grant funding.
 - o The majority of the budget is available for grant funding. The program is administered by PIDC, and there are some administrative costs (roughly \$600,000).
 - o The Department also incurs administrative costs, but they are not included in the SMIP/GARP budget, nor do they impact the amount of money available for grants.
- The committee discussed the impact on the system if fewer SMIP/GARP projects were completed.
 - o The Department stated that if fewer SMIP/GARP projects were completed, then the Department may have to find other ways to achieve that management. This may include projects on public lands, expanded or alternative capital improvements projects, among other approaches.
- The DSC asked if there was a comparison of SMIP/GARP cost per greened acre versus PWD's cost per greened acre.
 - o It was noted that the Department was currently evaluating this but couldn't share specific figures at this time.
 - o A stakeholder felt that this comparison would help tie the credit cost to the true costs of the program.
 - o The team further explained that the SMIP/GARP cost per greened acre has been increasing over time.
 - There is a sense that the Department may have already captured the lowest hanging fruit (i.e. most cost-effective greened acres) at the beginning of the program.

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Development Services Committee Meeting

- Projects that have more recently applied for grants now are more expensive (i.e. higher cost per greened acre) and may be more reflective of typical costs the Department would see for SMIP/GARP projects. Further, if credits are also considered in total project costs, SMIP/GARP may not always offer a lower cost alternative to achieving greened acres.

Longer-Term Adjustments

- A stakeholder questioned why credit was offered for only meeting the 1½" management requirement. They further suggested that perhaps requiring customers to go above and beyond what is required "by law" (to be eligible for credit) might truly encourage increased stormwater management on private property and provide a benefit to the system.
 - o The team noted that other cities require customers to go above and beyond the minimum requirements to be eligible for credits.
 - o Initially, Philadelphia's credit program was designed to incentivize participation and ensure more properties complied with regulations.
 - o Long term, the program may have to strike a balance between requiring participants go "above-and-beyond" while acknowledging customers that meet requirements and are maintaining their SMPs.
 - o Another member of the DSC further suggested that there should be a distinction made between those who voluntarily retrofit their properties and invest their own money, those taking advantage of SMIP/GARP grants, and those who are implementing SMPs to meet the regulations due to re/development activity.
- The DSC inquired as to how many people had retrofitted their property to date.
 - o The team explained that very few property owners had voluntarily retrofitted their properties.
 - o Most of the retrofits that have been installed are a result of SMIP/GARP.
- Other suggested a tiered program.
 - o The team agreed and noted that this is a potential option that they can investigate with a redesign of the credit program.

Summary

The Team summarized the potential incremental changes and associated benefits as follows:

- Aligning stormwater credit criteria with current regulations helps manage "build-up" of potential credit;
- Specifying an enrollment period helps manage longer-term impacts / reduces uncertainty; and
- Reducing SMIP/GARP Budget provides immediate relief to rate payers.

It was reiterated that broader changes need to be considered in the future to address potential future equity issues.

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Development Services Committee Meeting

Next Steps

Ms. Vicki Lenoci then closed the meeting, noting that DSC members were invited to provide written comments on the potential changes discussed during the meeting as well as any comments on longer-term adjustments. She noted that the deadline for submitting written comments was September 16th.

The team further explained that summary meetings notes, along with responses to questions posed during the meetings, would be provided. The notes, along with meeting materials, will be posted to the Rate Board website.

Ms. Lenoci then alerted the DSC to the upcoming Developer Right-Of-Way Incentive program and Maintenance Guide, which would be launched in the coming months. She noted the Department would also be moving to online technical submissions for stormwater permitting and plan review and that the PWD Plan Review website was also being revamped. Finally, Ms. Lenoci encouraged the DSC to sign-up for email updates via <https://phillyh2o.info/plan-review-email> and thanked the DSC for their participation.

Alternative Rate Structure Analysis

Development Services Committee Meeting

Appendix A – Meeting Invitees

Last Name	First Name	Organization
Baker	Alice	PennFuture
Bartolotta	Katie	Delaware Valley Green Building Council
Cahill	Deborah	City of Philadelphia, Department of Public Property
Celoni	Mark	Pennoni
Claflen	George	Claflen Associates
Craighead	Stephanie	City of Philadelphia, Parks and Recreation
Emmon	Brian	Southern Land Company
Farina	John	U.S. Construction
Franklin	Chris	Brandywine Realty Trust
Hoekstra	Altje	Meliora Design
Lawn	Fran	Sustainable Business Network – GSI Partners
Levine	Larry	Natural Resource Defense Council
Maransky	James	E-Built, BIA President
MCreesh	Tom	Temple University
McHale	Tom	The HOW Group
Mondlak	John	City of Philadelphia, Department of Development and Planning
Musil	Joe	Urban Engineers
Nuss	Jonathan	David Brothers
Peters	Libby	City of Philadelphia, Commerce, Director of Policy and Performance
Plante	David	Ruggiero Plante Land Design
Pluto	Ron	Brandywine Realty Trust
Scott	Marianne	Building Industry Association
Skafte	Karen	Ground Reconsidered
Smith	Kevin	Stantec
Tantala	Peter	Tantala Associates
Trainer	Nancy	Drexel University
Weingram	Josh	Liberty Property Trust
Weiss	Harry	Ballard Spahr
Zurn	John	University of Pennsylvania

Appendix B – Stormwater Credits and Incentives – Definitions List

Alternative Rate Structure: Stormwater Credits & Incentives

Definition List

Greened Acre Retrofit Program (GARP)	GARP is a PWD program that provides stormwater grants to contractors or project aggregators who can build large-scale stormwater retrofit projects across multiple properties.
Gross Area (GA)	A property's entire parcel area.
Impervious Area (IA)	A surface which restricts the infiltration of water. Examples: roofs, driveways, sidewalks, parking lots, etc.
Impervious Area Managed	Impervious area that directs runoff to surface water bodies or to approved Stormwater Management Practices (SMPs).
Impervious Area Reduction (IAR)	Impervious area directed to pervious area or which has characteristics similar to pervious area.
National Pollutant Discharge Elimination System Industrial Permit Stormwater Credit (NPDES Credit)	National Pollutant Discharge Elimination System Industrial Permit Stormwater Credit (NPDES Credit) To receive a NPDES Credit, the customer must demonstrate that the parcel is subject to an active NPDES Permit for Industrial Stormwater Discharge Activities and that the operator has been in compliance with the permit requirements during the preceding twelve months.
NRCS-CN Open Space Credit	Credit option applicable only to the Open Space, calculated as Gross Area subtracted by Impervious Area (GA-IA), of a parcel. Under this option, the customer must demonstrate an average Natural Resource Conservation Service Curve Number (NRCS-CN) meets one of the values as specified in the Credits and Appeals Manual Appendix A. The NRCS-CN represents the runoff potential for a particular soil and ground cover.
Open Space	The pervious area of a parcel (equal to GA minus IA).
Square feet (sf)	A measurement of area.
Stormwater Customer Assistance Program (CAP)	The purpose of the Stormwater Customer Assistance Program (CAP) is to mitigate the annual fiscal year increase due to the transition from a meter-based charge to a parcel-area based

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	stormwater charge. The CAP affords non-residential customers the ability to gradually transition to a parcel-area based SWMS Charge over a longer period of time than the established 4-year phase-in.
Stormwater Management Improvement Program (SMIP)	SMIP is a PWD program that offers grant funding to non-residential customers for the design and construction of stormwater projects.
Stormwater Management Practice (SMP)	Structural or engineered control devices and systems (e.g. retention ponds, rain gardens) that help reduce the quantity and improve the quality of stormwater runoff.
Stormwater Management Services (SWMS) Charges	Charges for Stormwater Management Services (SWMS) supplied by PWD
Surface Discharge	The discharge of stormwater runoff from a property to an adjacent surface water body without use of PWD infrastructure.

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STAKEHOLDER MEETING NO. 3 – PENSION RIDER

Summary Meeting Notes

Date: September 10, 2019

Time: 2:30 PM – 4:30 PM

Location: Philadelphia Water Department Offices, 1101 Market Street, 6th Floor Conference Room

Agenda

- ✓ Welcome & Meeting No. 2 Recap
 - ✓ Meeting Overview
 - ✓ Focus Topic No. 3 – Rider for Pension Expenses
 - ✓ Reflection & Discussion
 - ✓ Wrap-up
-

Attendees

Participants: Mathew Gerber, Philadelphia Large Users Group
Robert Ballenger, Community Legal Services
Cornelius Brown, Philadelphia Building Industry Association / Bohler Engineering

PWD Staff: Melissa La Buda, Glenn Abrahams, Scott Schwarz

Consultant Team: Ann Bui, David Jagt, Brian Merritt, Danae Mobley, Kash Srinivasan, Jennifer Hurley

The following is a summary of the third Alternative Rate Structure Stakeholder Group meeting. The presentation utilized during the meeting is available on the Philadelphia Water, Sewer and Storm Water Rate Board website: <https://www.phila.gov/departments/water-sewer-storm-water-rate-board/>

Attendees are listed above, and Appendix A includes a list of all invitees.

Welcome and Overview

Melissa LaBuda, the Philadelphia Water Department's (PWD or the Department) Deputy Water Commissioner of Finance, welcomed the Alternative Rate Structure Stakeholder Group (ARSG) and thanked them for their participation and feedback in this series of meetings. Ms. LaBuda then introduced Glen Abrahams, the Department's new Deputy Water Commissioner for Communications and Engagement.

The Black & Veatch Team (Team) provided background on the alternative rate structure analysis and reiterated that the Department had undertaken this effort to evaluate whether the current rate structure supports the Department's mission and goals and if it will continue to do so into the future. Ahead of the next rate proceeding, the Department was interested in exploring incremental changes in three main areas:

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1. Water quantity charges;
2. Stormwater credits and incentives; and
3. A potential rider mechanism for pension related expenses (the topic of the third meeting).

More holistic changes will be further discussed following the next rate determination.

During the last ARSG meeting (Meeting No. 2), potential adjustments to the stormwater credits and incentives programs were discussed including aligning the stormwater credit program's technical requirements with the current stormwater management requirements, specifying an enrollment window for future credit applicants and adjustments to the SMIP/GARP budget. The Team noted that summary notes for Meeting No. 2 would be issued shortly. All meeting materials from prior meetings are also available on the Rate Board website. The Team thanked the ARSG for their feedback.

The ARSG was informed that the Team also spoke with the Department's Development Service Committee (DSC), which includes representation from engineers, designers, developers, property owners and other City partners involved in stormwater management throughout Philadelphia. The feedback of both groups will be taken into consideration as the Department moves forward.

The Team noted that with the rescheduling of the third meeting, the **deadline for written comments had also been extended to September 20th.**

Kash Srinivasan and Jen Hurley, the meeting facilitators, noted the discussion portion of the meeting would focus on the recommended alternative and the ARSG would be asked to provide feedback on the other options as well.

Focus Topic No. 3 – Potential Pension Rider

The Black & Veatch Team then provided a presentation which included general background on rate riders and their use within PWD's rates and charges; pension trends at the national, state and local level; PWD's pension expenses; example riders from other utilities and industries; the applicability of a pension rider to PWD and associated factors for consideration; alternative approaches; and a recommended alternative. The following section summarizes key points for the presentation. For a copy of the complete presentation, please refer to the Rate Board website.

Background on Rate Riders

Tiered Assistance Program (TAP Rate Rider)

Before delving into a potential rider for pension related expenses, the Team provided background on the Tiered Assistance Program (TAP) Rate Rider, which was adopted as a result of the last rate determination.

- The TAP Rate Rider (TAP-R) was implemented to recover the cost of lost revenue associated with providing discounts to qualifying TAP customers.
- Lost revenue is recovered as a surcharge via the water and sewer quantity charges and expressed in terms of dollars per thousand cubic feet (\$ per MCF).
- The resulting TAP-R surcharge is included in the overall quantity charge rates.
- The TAP-R allows the Department to reconcile both the actual lost revenue experienced in a given year with the surcharges that are collected from non-TAP customers.
- The rider was developed to address:

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- o Difficulty in predicting overall levels of enrollment in the TAP program;
- o Uncertainty with the respect to the revenue loss due to discounts; and
- o Any potential under or over-recovery from PWD's non-TAP customers.

As part of the alternative rate structure analysis, the Department is interested in exploring what other expenses might benefit from adopting a similar approach.

Reasons to Consider a Rider

The primary reasons to consider using a rider as a cost recovery mechanism is the ability of a utility to control the expense and whether the cost is easily identifiable. To identify potential expenses that could be included on a rider, the Team also looked at expenses which have been difficult to project, the volatility of the expense year to year, and the contribution to overall variance between projected and actual costs. Expenses with these general characteristics might benefit from the implementation recovery via a rider mechanism. Using a rider allows the utility to better reconcile costs and revenues with actual experience and closer to the period in which they occur. Moreover, a rider framework does not require a full rate proceeding.

The Team noted that pension expenses generally fit each of these criteria, as would be further explained during the presentation.

National Industry Trends

Pensions are a challenge that many utilities and industries are facing but they do not garner the same amount of attention as issues such as aging infrastructure, lead service lines and climate change when it comes to water utilities. The pension related challenges that PWD faces are not unique. Currently, 48 out of 50 states have underfunded pension plans. According to Moody's the unfunded pension liabilities nationwide are estimated at \$4.4 trillion. This value is comparable to \$4.5 trillion that the American Society of Civil Engineers estimates is needed to address aging infrastructure issues by 2025.

Similar to aging infrastructure issues, pensions are an area that have historically been underfunded. This creates another large funding gap that utilities will need to address moving forward and there is a great deal of uncertainty as to how to address the gap nationally.

Effects of Pension Issues on Credit Ratings

Pensions do present a risk when it comes to credit ratings and the size of the obligation as well as the planned course of action have impacted credit ratings for cities and states throughout the country.

- In 2013, Chicago's credit rating was downgraded to junk status. To address this and their unfunded pension liability, Chicago is increasing annual contributions from \$1 billion in 2018 to \$2.1 billion in 2023. This will result in both higher property taxes and utility bills for residents and customers alike.
- Detroit, Michigan and Stockton, California still have pension obligations despite having gone through bankruptcy.
- New Jersey and Illinois rank number one and number two when it comes to the cost of unfunded pension state liabilities when measured on a per state resident basis.

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State Level Trends

As illustrated in Figure 1, while New Jersey and Illinois rank near the top when it comes to the unfunded state government employee pension liability per state resident, nearly every state except for South Dakota and Wisconsin, have some level of funding gap. Pennsylvania ranks thirteenth on a per state resident basis. For the past several years, Pennsylvania has ranked in the top five states with the largest unfunded pension liabilities with an estimated shortfall of \$68.8 billion.

The Commonwealth of Pennsylvania has more than 3,200 public pension plans, the largest number of all 50 states. The state plays an active role in local pensions by mandating minimum funding requirements and providing contribution assistance. Factors that make solving the pension funding gap difficult include:

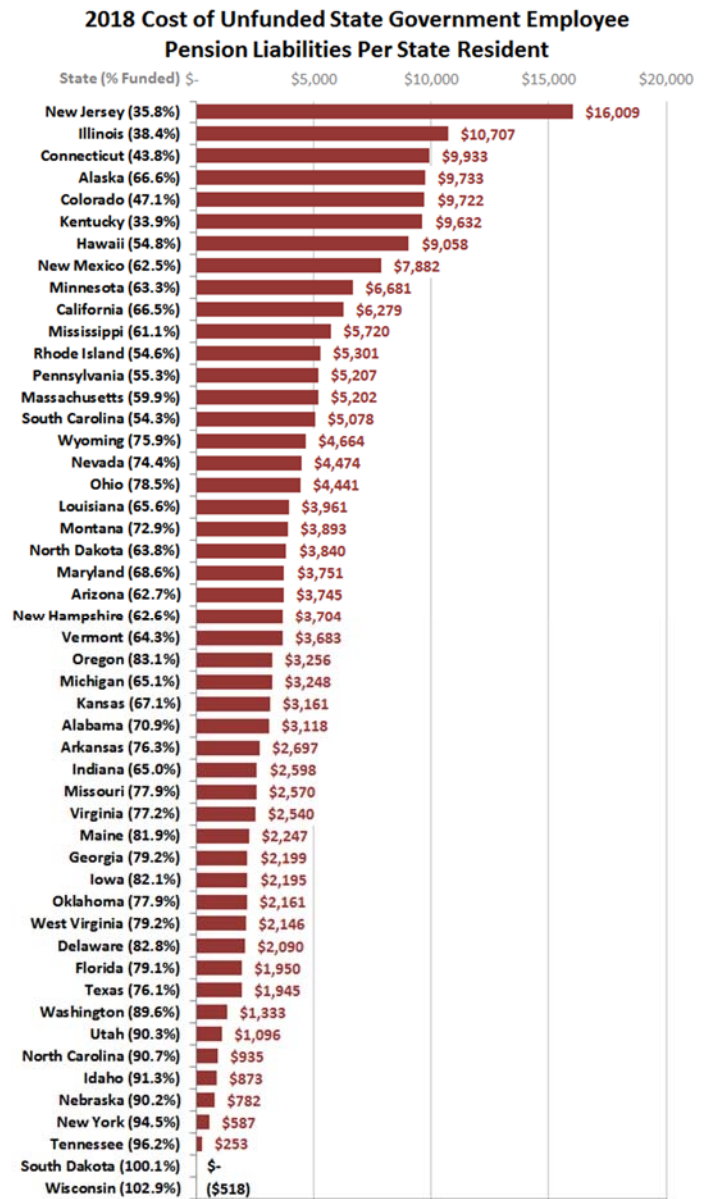
- Many plans in Pennsylvania have fewer active members than retirees and other inactive members.
- State and local governments are increasingly susceptible to contribution volatility and funding challenges stemming from negative plan cash flows as the growing portion of retirees increases.
- Some plans are having trouble making “tread water” contributions to prevent their pension liabilities from growing.

City of Philadelphia – Pension Plan

The Team presented background on the City’s pension plan. The City’s pension plan, which includes all Departments, including Water, Fire, Police as well as several other quasi-City agencies such as the parking authority. Note – Philadelphia Gas Works maintains a separate pension fund. The Pension Fund is managed by the Pension Board, who make decisions with respect to funding, supporting policies and investment decisions.

The City faces significant ongoing financial challenges in meeting its pension obligations, including an unfunded actuarial liability (UAL) of approximately \$6.1 billion as of July 1, 2018. A summary of the City’s contributions was presented and provided here in Figure 2. As seen in the figure, the City’s contribution to the Municipal Pension Fund was approximately \$782 million in FY 2018, of which the Water Fund’s

Figure 1 – Unfunded Pension Liabilities per State Resident



Source: Bloomberg (October 12, 2018, 2017 Data), 2017 U.S. Census Bureau Population Estimates

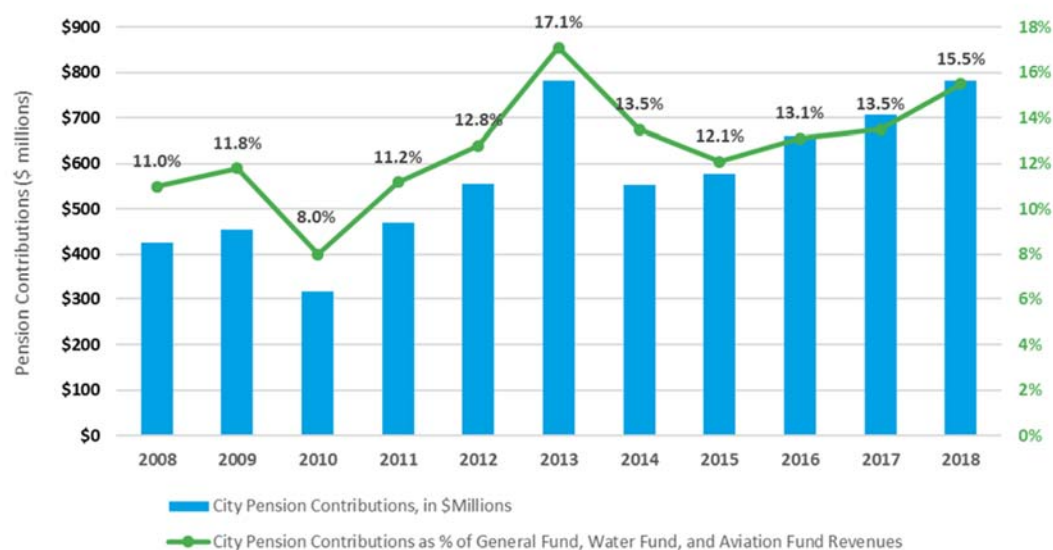
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share was \$62 million. The Team noted that the City has committed to making higher contributions to the pension fund. The higher contributions are just one step the City has undertaken to address its unfunded pension liabilities, others include:

- Reducing the assumed rate of return on a gradual and consistent basis;
- Adopting more conservative mortality rates;
- Changing from a level percent of pay amortization schedule to a level dollar amount schedule;
- Negotiating collective bargaining agreements by which additional contributions are being made and by which benefits will be capped;
- Securing additional funding, including funds required to be deposited by the City to the Municipal Pension Fund from its share of sales tax revenue;
- Adopting a Revenue Recognition Policy, which dedicates additional revenues to paying down the unfunded pension liability; and
- Changing the investment strategy to increase the use of passive investment vehicles.

Figure 2 – City Contributions to the Philadelphia Pension Fund FY 2008 to FY 2018



Source: 2019 The Pew Charitable Trust

In addition to these changes active employees are also increasing their contributions as shown in Figure 3. As a result, workers are bearing more risk via investment, inflation, longevity, and plan termination. Many receive lower benefits because of the greater use of hybrid plans, longer vesting periods, and lower Cost of Living Adjustments (COLAs).

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Figure 3 – Annual Employee Contributions to the Philadelphia Pension Fund FY 2008 to FY 2018



Source: 2019 The Pew Charitable Trust

In summary, both the City and its employees are paying more toward the pension fund every year. It's anticipated that these trends will continue for the foreseeable future. The overall contributions will further be influenced by market performance, which has fluctuated significantly in the past, leading to many of the changes in funding approaches noted earlier.

PWD Pension Expenses

The Team then presented background on the Department's pension related expenses.

PWD Pension Expenses – Background

As shown in Figure 4, workforce costs make up nearly 37% of the Department's annual obligations, the single largest cost next to capital financing. Of the overall obligations, pension costs make up 10%.

Pension costs have nearly doubled over the last 7-8 years. Put in context of the Water Fund's contribution as a percentage of the Municipal Minimum Obligation (MMO) has increased from 5.6% in FY 2010 to 10% in FY 2018. It was noted that the MMO is the state-mandated minimum a municipality must contribute to any pension plan established for its employees.

Figure 4 – FY 2018 Expense Summary Resident

EXPENSE CATEGORY	FY18 FINAL (\$000s)
10.6% - Pension Costs	76,957
18.3% - Personal Services	132,309
7.9% - Other Employee Benefits	56,889
Workforce Costs	266,154
21.7% Services	156,997
2.6% Electricity and Gas	18,858
3.9% Materials, Equipment & Supplies	28,306
3.0% Chemicals	21,771
0.9% Indemnities	6,779
30.1% Capital Program - Debt Service Payments	218,483
1.0% General Fund Reimbursement	7,319
TOTAL	724,667

Increases in pension costs are generally due to increases in required contributions. In addition, per a recent City policy change, funding for pension costs must come from operating revenues. Prior to the change, capital funding could be utilized toward pension expenses. In other words, some pension expenses associated with the capital program were funded via long-term debt issues. And finally, overall increases in Department staffing levels have also impacted pension costs.

Pension costs are further influenced by:

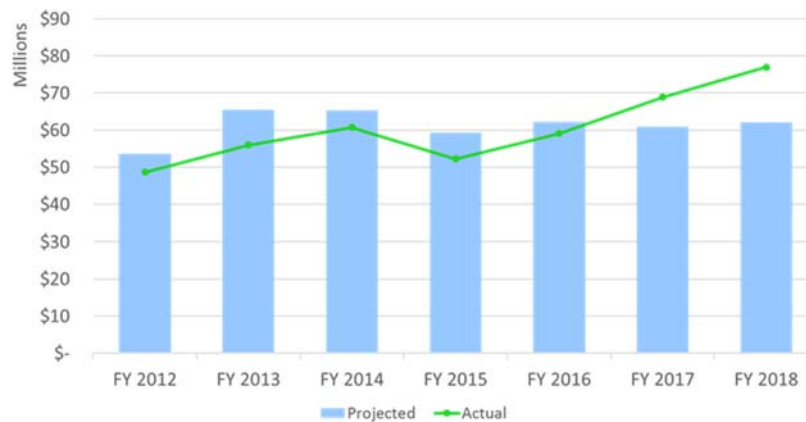
- The overall performance of the City's pension plan.
- Actuarial calculations (performed by an outside firm), which determine pension liabilities.
- Finally, as the Department's staffing levels increase in comparison to the rest of the City, PWD's proportion of costs may further increase. If PWD's staffing levels continue to increase and other departments remain the same or decrease, PWD will bear more of the pension expenses.

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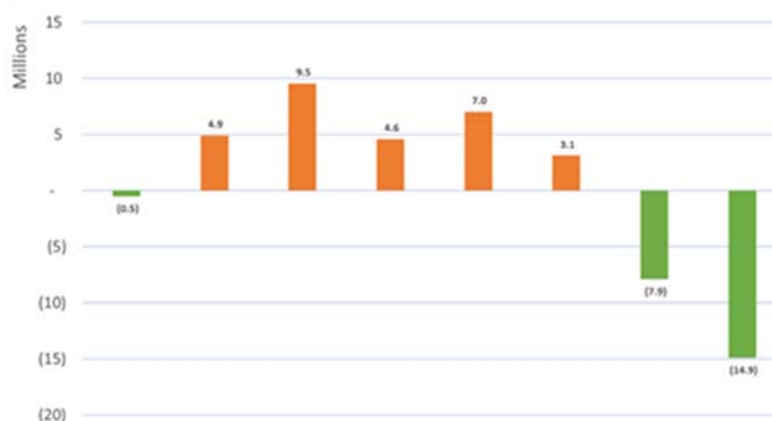
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Comparison of Prior Projections and Actual Experience

The Team again stated that based on the parameters used to help identify potential costs for a rider mechanism, expenses that have historically been difficult to project were considered. The Team presented a comparison of projected and actual pension expenses as shown in Figure 5. Actual expenses are represented by the green line and the projected expenses from the rate determinations by the blue bars.

Figure 5 – Prior Projections vs. Actual Experience

As evident by the above figure, prior projections have both under and overestimated pension related expenses. Taking a closer look at the variances, summarized in Figure 6, prior projections have overestimated actual expenses by \$9.5 million dollars and more recently under estimated costs by nearly \$15 million. These more recent variances (in FY 2017 and FY 2018) are a result of the change in funding policy noted earlier in the presentation; the rates for these fiscal years were adopted prior to the change in policy.

Figure 6 – Projected vs. Actual Variance

Figures 5 and 6 illustrate both the difficulty in historically projecting pension expenses as well as the influence of decisions, outside of the Department's purview. The Team noted that depending on how other cost categories perform, the variance associated with pension projections can contribute to how much is either deposited or drawn from the Department's Rate Stabilization Fund each year. The Rate

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Stabilization Fund is the Department's primary source of reserve funding and is also intended to provide the Department with the ability to manage revenue adjustments and customer rates. The Department does not have the ability to adjust rates, with respect to pension expenses, between rate proceedings to better reflect actual experience.

Projected PWD Pension Expenses and Personnel Count

The Team then presented recent 5-year projections of both pension expenses and personnel counts. Looking forward, pension expenses are anticipated to increase from \$79 million last fiscal year to nearly \$88 million in FY 2024. In addition, PWD's headcount is expected to continue to grow to nearly 2,600 to meet utility needs. It was noted that these figures were estimates and subject to change.

Pension Riders – What are Others Doing?

Pension and Other Post-Employment Benefits (OPEB) related riders are more common in the electric and natural gas industries. While there are a few examples in the water industry, this is an area where water utilities generally lag electric and gas utilities, which have had these types of mechanisms in place for years.

This is similar to the TAP Rider, where PWD was one of the first water utilities in the country to adopt such an approach for recovering lost revenue associated with their low-income assistance program. Whereas many electric and gas utilities have had surcharge mechanisms in place to aid in the cost recovery of their universal service programs for well over a decade.

With respect to pension costs, electric and gas utilities face many of the same challenges as water utilities, in that they need to continue to recover costs via annual operating revenues without eroding their reserves, they need to be able to address and respond to market fluctuations to continually meet their long-term pension liabilities, as well meet any applicable indenture requirements.

Pension and OPEB Related Rider – Examples

The Team then presented examples of pension and OPEB related riders used in the electric, gas and water industries. The examples are presented in Figure 7.

Figure 7 – Pension and OPEB Related Rider Examples

Utility	Type	Rider Mechanism(s)	Expenses Recovered	Reconciliation Frequency	Charge Component
National Grid	Electric	Pension Adjustment Factor (PAF)	Uncapitalized Pension and OPEB expenses	Annual	\$ Per kWh
Eversource Energy	Electric	PAF	Uncapitalized Pension and PBOP expenses	Annual	\$ per kWh
PGW	Gas	OPEB Surcharge	OPEB Expenses	Annual	\$ per Mcf
Cal Water	Water	Pension Surcharge Healthcare Surcharge	1) Uncapitalized pension expenses 2) Healthcare expenses	Annual	\$ per CCF

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It was noted that the California Water Company (Cal Water) Pension and Healthcare Surcharges utilize balancing accounts to help track both the expenses and the revenues collected. The surcharges are included in the volumetric or quantity charges and expressed as dollars per hundred cubic feet.

Applicability to PWD

Looking at the applicability of a rider to PWD's pension expenses, as the Team noted previously:

- Pension costs make up nearly 10% of the Department's annual obligations and are expected to rise from \$79 million in FY 2019 to \$88 million in FY 2024;
- Further, the Department does not directly control its pension expenses. The calculations to determine pension liabilities are performed by an outside actuarial firm; and
- In addition, the Department's proportion of staffing level in comparison to the rest of the City influences the Department's portion of pension costs.

Given the variability and overall level of pension expenses, any under or over performance can have a material impact on fund balances and may affect the Department's ability to meet bond ordinance and rate board covenants. Similar to the TAP Rider, recovering pension expenses via a rider mechanism would provide agility in reflecting actual experience in rates and in addressing the cost recovered via rates in a more timely and transparent fashion.

Factors for Consideration

There are several factors which need to be considered when evaluating a potential rider for the Department's pension related expenses. The Team acknowledged that all of the examples of pension and OPEB related riders utilized the consumption-based charges (of their respective utility) as part of their respective recovery mechanisms. These utilities are primarily single service utilities (i.e. electric, gas or water) whereas PWD provides water, sewer and stormwater services.

Further, since pension costs are a personnel-related operation and maintenance expense, all cost components and customers receive an allocation of those costs under cost of service principles. As a result, under the current approach, pension costs are recovered via all rates and charges. Adjusting how pension costs are recovered from customers may have an impact on overall rates and charges and how costs are recovered by PWD's various customer types.

Pension Riders – Alternative Approaches

The Team then presented several alternative approaches. It was noted that the alternatives were only explored at a conceptual level. Detailed approaches and example calculations had not been developed. The Department and the Team were interested in understanding which option would be most feasible and should be developed further. A summary of the alternative approaches, options along with advantages and disadvantages are provided in Figure 8.

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Figure 8 – Pension Rider Alternative Approaches

Approach	Option	Advantages	Disadvantages
Water / Sewer Quantity Surcharge	<u>All</u> pension expenses	- Simple surcharge / reconciliation calculations - Similar to TAP Rider - Allows for annual reconciliation of revenues and expenses	- Less than ideal cost recovery as costs only recovered from water and sewer - Overburdens water and sewer quantity charges - Stormwater customers would not contribute
	<u>Only under/over-performance of</u> pension expenses	“Base level” pension costs remain in each rate - Limits the number of rates and charges impacted - Simple surcharge / reconciliation calculations - Similar to TAP Rider - Allows for annual reconciliation of expenses	- Less than ideal cost recovery as costs only recovered from water and sewer - Overburdens water and sewer quantity charges - Stormwater customers would not contribute to surcharge or benefit from credit
Percentage Cost Adjustment	Cost-based adjustment for each rate (percent basis)	Allows for adjustment to all rates to be adjusted to better align with actual experience	Requires adjustment to all rates and may require more complex calculations and documentation
Per Bill Surcharge	<u>All</u> pension expenses	- Retains a nexus in that each type of utility service contributes to recovery of pension costs - Reconciliation more feasible compared to a surcharge on all fees	- Not directly tied to current base rate recovery approach - Might result in a significant cost per bill (i.e., \$/bill or \$/meter size)
	<u>Only under/over-performance of</u> pension expenses	“Base level” pension costs remain in each rate - Retains a nexus in that each type of utility service contributes to recovery of pension costs - Lower surcharge compared to recovering all costs per bill - Could be reset with a base rate proceeding	- Not directly tied to base rate recovery - Might result in a significant cost per bill (i.e., \$/bill or \$/meter size)

Recommended Alternative

Of the alternatives, a per bill surcharge (or sur-credit) for only the under or over performance of the expense seems most feasible at this time. This approach:

1. Keeps a portion of pension expenses within the base rates;
2. Retains a nexus by being distributed to all utility service types;
3. Could be reset with a base rate proceeding; and
4. Allows for simplified reconciliation compared to the other alternatives.

Note – the Recommended Alternative was identified by Black & Veatch for further evaluation. The Department has not made a determination on which, if any approach, should be pursued.

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Summary

The Team then wrapped up the technical portion of the presentation and summarized:

- Pension costs make up nearly 10% of Department operating expenses.
- The Department does not have direct control over this expense.
- The Department's contributions are expected to further increase and will be influenced by market fluctuations / pension plan performance.
- A rider mechanism would:
 - Aid in managing costs recovered by rates
 - Allow for more timely adjustments

Questions Posed During the Presentation

The following is a summary of questions posed during the presentation.

<u><i>Question:</i></u> Legally, the Water Fund and its money are separate from the rest of the City (i.e. the general fund). Are all the City departments paying into one City Pension Fund?
<u><i>Response:</i></u> Water does not have a separate pension fund. There are several other City departments, non-city agencies and quasi-City organization that pay into the fund. PGW maintains a separate pension fund. The Board of Pensions and Retirements (Pension Board) oversees the management of the Pension Fund.
<u><i>Question:</i></u> With multi-employers and one pension plan, how do you make sure that the Department is paying the right amount for its employees (and beneficiaries)?
<u><i>Response:</i></u> Payments from the Water Fund to the City's General Fund for the Municipal Pension are governed by funding policies and requirements and also reflect the Water Fund's share of allocable costs.
<u><i>Question:</i></u> When the Water Department is remitting costs for pensions, who determines how much the Department is responsible for? How often are payments made?
<u><i>Response:</i></u> The City determines the amount each Department is responsible for paying into the pension fund. This is based upon the required contributions, overall personnel levels, plan requirements, etc. Payments are made annually.
<u><i>Question:</i></u> Has the Water Fund increased its percentage contribution to the MMO?
<u><i>Response:</i></u> Yes. The Water Department's percentage contribution to the MMO is directed by the City and this has increased due to changes in funding policy, overall increases in employee levels when compared to the rest of the City, among other factors.
<u><i>Question:</i></u> PGW froze their plan and switched their plan for new employees. Is the City's plan still a uniform approach for all City employees?
<u><i>Response:</i></u> There are multiple tiers within the retirement plans currently offered, which depend on when an employee started/their tenure with the City, professional level, and annual salary. There

Alternative Rate Structure Analysis

Stakeholder Meeting No.3

are still some fixed pension benefits plans in place; however, newer employees are on a hybrid style plan.

An attendee commented that this would provide some background on the expected costs (from an actuarial approach).

Question: Will this [pension] cost continually increase, or will it plateau at some point?

Response: On a national level, there are several studies that show that the pension obligations will likely continue to increase. That said, pension costs are dependent on a number of factors including market performance, targeted rate of return, fund maturation and others that can influence costs in the future.

Pension costs are similar to aging infrastructure issues – it may be some time before the costs are addressed due to deferred investment. Changes in pension funding and policies are meant to address this in part.

Question: With respect to the rider examples from the gas and electric industry that have been cited, are these municipal or Investor Owned Utilities (IOU)?

Response: The examples are mostly from the IOU side. That said, municipal utilities face the same challenges as IOUs when it comes to pension expenses.

An attendee commented that it was surprising IOUs required pension riders, noting that (from their perspective) they would have anticipated privately held utilities would have transitioned to 401(k) style retirement plans. The Team noted that even though IOUs typically have more flexibility than municipalities, IOUs may deal with legacy pension expenses and may also have elements of prior public pension plans in place (from before the transition to an IOU).

Question: [In reference to the California Water Services Pension and Healthcare Surcharges], what is the balancing fund (i.e. balancing account)?

Response: The balancing account is a separate account which is used to track both the pension and healthcare expenses as well as the surcharge revenue received. It acts as a tracking mechanism and helps to address under/over-recovery of the respective expenses.

Question: With respect to the Per Bill Surcharge [Per Service] alternative, would the bill be uniform, or would it vary by customer type?

Response: The alternatives have only been evaluated at a conceptual level; this is an area that would need to be further evaluated – similar to the effective meter size and the allocations applied to residential and non-residential customers. The Team would anticipate that any factors for applying or distributing costs would likely need to be codified with the final rider language.

Attendees felt it would be helpful to see an example of how costs would be distributed in order to formulate an opinion and provide feedback.

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Reflection and Discussion

The facilitators led the meeting attendees through a discussion of the recommended alternative and asked for feedback on the other options presented. The following is summary of the discussion.

Recommended Alternative

The following is a summary of the discussion of the recommended alternative.

- An attendee noted they were unaware that the Department didn't have full control over its pension costs.
- A member of the ARSG inquired what happens when there is a significant under/over performance in the year you are reconciling? How does that work?
 - They cited this could be a challenge if there is a different number used for "base level" pension expenses every year, which would make calculations and reconciliation confusing and potentially volatile.
 - The Team noted that the alternatives were conceptual, and examples would need to be developed. Further, the rider would work both ways and customers would receive a credit in the event that actual pension costs were lower than expected.
- An attendee commented that they liked the simplicity of just reconciling the amount over or under amount. Noting that they weren't sure if taking on a more complex calculation approach would be worth it between proceedings.
 - The ARSG was asked if the over/under approach is a better option than the "all-in" approach?
 - The attendee said they were not sure but liked the simplicity of the over/under option at a conceptual level.
 - Another ARSG member felt the over/under seems to make more sense because the base level could be set during a full rate proceeding and in theory this expense would be vetted prior to inclusion in the rates. Their concern with the "all-in" approach is that it divorces the expense from the rate case process. The over/under is preferable because it will allocate the bulk of the money equitably through the rate case process.
- An attendee asked if there could be a threshold that could be utilized? And suggested that perhaps the rider didn't kick in unless there was a certain level of variance (e.g. 2 percent).
 - The Team noted that the original TAP Rider approach included a threshold, and this is something that could be explored for a Pension Rider as well.
- An ARSG member asked if the main advantage of the proposal was increased cash flow and adjusting more quickly in potential spikes [in costs] from the pension fund.
 - The Team noted that the rider approach wouldn't be aimed at increasing cash flow, rather it is intended to help avoid the diversion of funds from other necessary activities, such as capital improvements or required operation and maintenance.
 - An attendee felt that from the user perspective, costs are less predictable under a rider approach. The cost of service issue is a concern since the rider may not allocate costs in the most equitable way (versus what can be achieved during a full rate proceeding).
 - Another attendee felt that it could lead to single issue rate making.

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- An attendee posed the question: “what would prevent the City from using this as a fast-acting mechanism for cost allocation?” Couldn’t the City conceivably push more pension costs to the Department (knowing the Department could utilize the Rider to recover costs).
 - The Team responded that there isn’t necessarily something that could prevent this from occurring. However, the Team and the Department were assuming good intent. The Team also reiterated that the Pension Fund is governed by the Pension Board and there are policies, accounting measures and ordinances that help to oversee pension activities.
- Several committee members felt that they would need more background information on the Pension Board, the pension plan, funding requirements, and how allocations are determined for each Department. Noting that this was a big gap in information, they felt needed to be addressed, in order to evaluate the various alternatives.
- The ARSG asked if the Department considered talking to the City to see if their contribution could be more predictable or known earlier. They further inquired if the Pension Board has a lot of discretion in how it determines allocations and if their process was codified.
 - The Team noted that the MMO contribution may not allow for much discretion when it comes to the minimum contributions that need to be made each year. The MMO is also based upon the available data included the past years performance. This helps the Pension Board make informed decisions about contributions.

Other Alternatives

The ARSG was asked for their feedback on the other alternative approaches, if they had other suggestions or any general comments on the pension rider concept.

- An ARSG members commented that it might be helpful to align rate cases with the budgeting and planning process so that there is less of a lag when the Cost of Service analysis is developed.
 - The Team noted that the base rate case process has been pushed back to allow for the budgeting and five-year plan updates. The financial year begins on July 1st; however, rates do not go into effect until September 1st.
 - An attendee felt that the Department should serve as an intermediary with the Pension Board and City to help control costs and advocate on behalf of the rate payers.
- Another attendee felt this isn’t necessarily something you want to plan into a complicated recurring issue, especially with rate cases every 2 years. They wondered if it was worth pulling out pension costs as an issue at this time noting it may not be worth the level of effort for small variances.
 - The ARSG member was asked “What’s the benefit of delaying catching up on cost recovery?”
 - It doesn’t necessarily mean that rates would have to catch up.
 - Rate proceedings offer a more holistic approach to cost recovery when everything is reviewed at the same time.
 - The ARSG was further asked “If the Department is only doing a rate case every 5 years, would the proposal be more favorable to you?”
 - The attendee noted they would have stronger objections to longer rate periods, noting that when the Department established rates every 4 years, it has led to more of an accumulation of reserves.

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- It was noted that with longer rate periods a rider would help avoid accumulations due to over estimating expenses.
 - The attendee would be interested in seeing more data about how the scenarios might play out.
- Another ARSG member noted that other alternatives seemed like a pass-through and inquired “on average, wouldn’t this [*costs versus revenues*] balance out over time or is it just the concern that costs will just keep increasing?”
 - The Team noted that this is a particularly volatile and large expense that could have more pronounced impacts on reserves. There is a risk of continuing to deplete reserves year after year for this cost which might impact funding available for other needs such as necessary system repairs.
 - The Team also mentioned that pass-through mechanisms are becoming more common as utilities can be more transparent about the elements of their service that are not fully in control of.
 - The attendee felt the biggest risk associated with a pension rider was the same as the justification, noting that a pass-through approach absolves the utility of the responsibility for the utility to be more creative about how they can mitigate the cost impacts.
 - The Team noted that Philadelphia is in a good position to come up with a reasonable solution that doesn’t defer attention from the issue.
- An attendee asked if there would be an isolated item on the customer’s bill for something like this (i.e. pension rider surcharge).
 - A pension rider surcharge could be handled similar to the TAP-R surcharge and included in other expenses. For TAP-R the surcharge is included in the overall water and sewer quantity charges, and not a separate line item on customer bills.
 - A line item charge would require changes to customer bills and have billing system implications. These would have to be evaluated. It was noted that a simple approach may be the best option to help calculate the impacts and explain to stakeholders.

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Appendix A – Meeting Invitees

Organization	Contact Name
Department of Commerce	Libby Peters
Friends of Wissahickon	Maura McCarthy
Managing Directors Office	Liz Lankenau
National Resources Defense Council	Larry Levine
PECO/Exelon	Anthony Holtzman Alfred Ryan Daniel P. Delaney (K&L Gates)
PennEnvironment	Stephanie Wein, Clean Water Advocate David Masur, Executive Director
PennFuture	Alice Baker, Staff Attorney
Pennsylvania Horticultural Society	Glen Abrams
Philadelphia Building Industry Association	Cornelius Brown
Philadelphia Land Bank	Steve Cusano (Senior Counsel, City of Philadelphia)
Philadelphia Large Users Group (PLUG)	Alessandra Hylander
PIDC	Tom Dalfo
Public Advocate	Robert Ballenger / Community Legal Services
Rate Board Consultant (Amawalk)	Ed Markus
Sustainable Business Network	Anna Shipp

APPENDIX D – SUBMITTED FEEDBACK



September 20, 2019

Ms. Melissa LaBuda
Deputy Water Commissioner, CFO
Philadelphia Water Department
1101 Market Street
Philadelphia, PA 19107

Re: 2019 Alternative Rate Structure Analysis

Dear Ms. LaBuda:

On behalf of the Building Industry Association of Philadelphia (BIA), I am writing to provide feedback on the Philadelphia Water Department's (PWD) 2019 Alternative Rate Structure Analysis. The BIA is a trade association of residential and mixed-use developers working throughout Philadelphia, along with the professionals who provide the development industry with products and services.

The BIA was fortunate to receive notice of the stakeholder meetings on potential rate structure changes; however, the opportunity to provide input during the analysis phase may have been more useful to the process. In addition, the proposed changes appear to be conceptual, making it difficult to evaluate impacts accurately.

Based on the information presented at the meetings, the BIA offers the following comments:

1. **Water Quantity Charges.** Before transitioning to a uniform block rate, PWD should assess the impact on property-owners and tenants of multifamily and multi-tenant buildings, as well as small businesses that may have larger usage such as restaurants.
2. **Stormwater Credits and Incentives.** The BIA is concerned that the proposal to align stormwater credit criteria with current regulations may make stormwater retrofit projects cost prohibitive. In addition, the proposed reduction in the SMIP/GARP budget would reduce the amount of greened acres and negatively impact the growing Green Stormwater Infrastructure (GSI) businesses, many of whom are members of the BIA.
3. **Stormwater Credit Liability.** The BIA recommends working with our builder members to determine how and when to promote enrollment in the credit program and how to ensure the maintenance and inspection requirements are communicated to subsequent owners and/or property managers.

Sincerely,

A handwritten signature in black ink, appearing to read 'J Maransky', is written over a faint, larger signature.

James Maransky
President



1735 Market Street, Suite 432A • Philadelphia, PA 19103 • TEL 215.BIA.PHIL (242.7445)
FAX 215.600.3522 • biamail@biaofphiladelphia.com • www.biaofphiladelphia.com

Callowhill Neighborhood Association • Conservation Voters of Pennsylvania • East Falls • Tree Tenders • The Enterprise Center • Friends of the Wissahickon • Green Building United • Manayunk Neighborhood Council • Northern Liberties Neighbors Association • PennFuture • Port Richmond on Patrol and Civic (PROPAC) • Southwest Community Development Corporation • UC Green

September 16th, 2019

Via electronic mail (Melissa.LaBuda@Phila.gov)

Ms. Melissa LaBuda
Deputy Water Commissioner, CFO
Philadelphia Water Department
1101 Market Street
Philadelphia, PA 19107

Re: **Comments to the Philadelphia Water Department on potential stormwater rate mitigation approaches impacting the SMIP and GARP programs being explored for the 2020 rate proceeding.**

Dear Ms. LaBuda,

We are writing in response to your request for comments on potential rate mitigation approaches the Philadelphia Water Department (PWD) is exploring in advance of its 2020 rate proceeding. We represent Philadelphia area organizations who support the *Green City, Clean Waters* plan and continue to advance its goals and champion its success. We appreciate PWD's attention to the impacts of its stormwater fee on Philadelphians and understand the need to address an upcoming shift to residential customers bearing the financial burden of stormwater management while commercial properties continue to generate stormwater runoff in the city. We believe it is essential to ensure that all residents of Philadelphia have affordable access to clean, safe water and sewer services.

In undertaking its obligations, however, the City must comply with the Clean Water Act, Consent Orders & Agreements with the Pennsylvania Department of Environmental Protection (DEP) and the Environmental Protection Agency (EPA), and the resulting *Green City, Clean Waters* program. All of these obligations require sufficient and stable funding sources. A primary source of funding to fulfill these obligations is a stormwater fee assessed to all properties in Philadelphia—commercial, industrial, residential, etc. As nonresidential properties are developed and retrofitted and take advantage of fee reducing practices, residential customers will eventually take on a larger share of the financial burden of the stormwater fee. PWD's stormwater incentive programs known as SMIP and GARP are an important tool for increasing the city's greened acres and changes to the programs may impact the future success of *Green City, Clean Waters*. To this end, we offer the following comments in response to potential rate structure changes currently being presented by PWD to stakeholders in preparation for the upcoming rate hearing cycle.

1. PWD’s stormwater grant programs are important to cost effectively incentivize private property’s contribution to the success of *Green City, Clean Waters*.

From its beginning, *Green City, Clean Waters* contemplated the necessity of private development and investment in the success of the program.¹ As far back as 2006, Philadelphia acknowledged the opportunity that redevelopment on private property had to address impacts from stormwater. PWD’s stormwater regulations shift a major portion of the cost of compliance away from PWD and its ratepayers and onto private property developers and owners. Just as developers must meet building code requirements for the design and construction of their projects, and factor those costs into their development budgets, so too must they meet PWD’s stormwater management requirements as a cost of doing business.

Early in the implementation of *Green City, Clean Waters*, PWD realized that investing directly in green stormwater infrastructure retrofits on already-developed private properties provided cost-savings to ratepayers, as compared to investing only in green stormwater infrastructure on public property. This is because many of the most cost-effective areas to site green stormwater infrastructure projects remain on privately owned land. PWD launched the Stormwater Management Incentive Program (SMIP) in 2011 to provide a rebate to non-residential property owners for the construction of stormwater retrofit projects on privately owned property. The resulting greened acres are counted towards PWD’s compliance requirements within *Green City, Clean Waters*.

Despite the successes of SMIP, PWD initially saw limited participation in the program from the large industrial and commercial properties where the return on investment would be most beneficial.² To incentivize implementation of green stormwater infrastructure on these large industrial and commercial properties, PWD developed the Greened Acre Retrofit Program (GARP) in 2014.³ GARP provides grant funding to companies or contractors to construct stormwater projects across multiple properties in Philadelphia’s combined sewer area. This model reduces the administrative burden on the property owners, encourages growth in the private sector, and produces cost effective stormwater management for which the city can take credit towards its *Green City, Clean Waters* goals. GARP has been profiled as a model of innovation for securing cost-effective green infrastructure.⁴ In fact, other cities are now looking to the GARP approach for inspiration to help them meet green infrastructure targets under their own CSO enforcement orders.⁵ In the first eight years of *Green City, Clean Waters*, SMIP and GARP resulted in 579 greened acres managed.⁶

¹ *Green City, Clean Waters*, at 1-2 (describing PWD’s vision as including “[r]equirements and incentives for green stormwater infrastructure to manage runoff at the source on private land”)

² *Id.*

³ *Id.*

⁴ See, NRDC, *Wanted: Green Acres – How Philadelphia’s Greened Acre Retrofit Program is catalyzing low-cost green infrastructure retrofits on private property* (2015), available at <https://www.nrdc.org/sites/default/files/philadelphia-green-infrastructure-retrofits-IB.pdf>.

⁵ New York City Department of Environmental Protection, 2017 Green Infrastructure Annual Report, p. 44 (2018) (Discussing “Private Incentive Retrofit Program”), http://www.nyc.gov/html/dep/pdf/green_infrastructure/gi_annual_report_2018.pdf; NRDC, *Catalyzing Green Infrastructure on Private Property: Recommendations for a Green, Equitable, and Sustainable New York City* (2017), available at <https://www.nrdc.org/sites/default/files/catalyzing-green-infrastructure-on-private-property.pdf>.

⁶ PWD Data, 8.1.2019 Greened Acre Progress Update

Despite the success of these programs, it is our understanding that PWD is exploring reducing the funding of these programs by half. We find this sudden proposal concerning because no alternative modifications to the SMIP/GARP programs were offered, and therefore we conclude, not properly explored, and this potential mitigation approach did not acknowledge or address the myriad of possible impacts to *Green City, Clean Waters*.

a. PWD should provide a suite of alternatives of potential rate mitigation approaches to SMIP and GARP.

As presented to stakeholders, PWD offered only one alteration to SMIP/GARP—a 50% reduction of funding to the programs.⁷ A reduction of the funding available for SMIP/GARP will have a significant impact on the ability of private developers to implement green stormwater infrastructure towards the city’s greened acres requirement. This is offered at a time when the programs have become particularly streamlined and initial kinks have been worked out, making it more effective and efficient at achieving greened acres towards the city’s target. Even with the significant contribution these programs make towards the city’s greened acres target, the only option presented to stakeholders was halving the current SMIP/GARP budget. PWD did not present any alternative scenarios investigated, for example reducing funding by a more modest amount, or staging SMIP/GARP funding reductions over time. If PWD does plan to move forward with proposing adjustments to the SMIP/GARP programs, PWD should investigate, and present for public consideration various options.

b. Potential impacts of any adjustment to the SMIP/GARP programs to PWD’s ability to comply with *Green City, Clean Waters* should be considered.

There is no doubt that SMIP and GARP funding has allowed PWD to cost effectively reach its *Green City, Clean Waters* targets.⁸ Adjustments to these programs will have significant impacts on PWD’s ability to reach its compliance targets moving forward. Yet presentations of this potential rate mitigation approach did not include any discussion of these impacts or how such impacts might be mitigated. As noted above, implementation of green stormwater infrastructure on private property was always essential to the success of *Green City Clean Waters*. Disincentivizing this investment will require the city to undertake significantly more public green stormwater projects. SMIP and GARP were initially proposed as a way to lower the costs of green infrastructure projects.⁹ Such a shift in responsibilities will only cost the rate payer more—the precise circumstance PWD articulates it is seeking to avoid with this proposed approach. Therefore, any proposed adjustments to these programs should be accompanied with thorough analysis of potential impacts and explanation of how PWD

⁷ Two other potential mitigation approaches were offered—aligning credit criteria with stormwater regulations of managing 1.5-inch of runoff and specifying and enrollment window for applying for credit following completion of development. For the purposes of this letter, we are focused on the approach impacting SMIP/GARP.

⁸ *Green City, Clean Waters*, Evaluation and Adaptation Plan, 2016 (hereinafter 2016 EAP), at 4-2, available at http://phillywatersheds.org/doc/Year5_EAPBody_website.pdf.

⁹ See, NRDC, *Wanted: Green Acres – How Philadelphia’s Greened Acre Retrofit Program is catalyzing low-cost green infrastructure retrofits on private property* (2015), available at <https://www.nrdc.org/sites/default/files/philadelphia-green-infrastructure-retrofits-IB.pdf>.

expects to meet its compliance targets under each scenario. Without this information, appropriate evaluation of any proposal is impossible.

The success of *Green City, Clean Waters* depends on the use of private property for development of greened acres. By encouraging stormwater management on private property, Philadelphia's SMIP and GARP programs have a significant impact on the city's ability to comply with the Clean Water Act. Yet, without presenting thorough options, analysis, or resulting impacts, a potential mitigation approach inexplicably proposes reducing these programs' budgets by half. Therefore, we request PWD continue funding the SMIP and GARP programs at the current rate.

Thank you for your consideration of these comments.

Sarah McEneaney
Board President
Callowhill Neighborhood Association

Kevin Smith
President
Manayunk Neighborhood Council

Josh McNeil
Executive Director
Conservation Voters of Pennsylvania

Matt Ruben
President
Northern Liberties Neighbors Association

Cynthia Kishinchand
Coordinator
East Falls Tree Tenders

Matt Stepp
Vice-President and Chief of Staff
PennFuture

Jeff Wicklund
Executive Vice President
The Enterprise Center

Kenneth Paul
President
Port Richmond on Patrol and Civic (PROPAC)

Maura McCarthy
Executive Director
Friends of the Wissahickon

Donna Henry
Executive Director
Southwest Community Development Corporation

Katie Bartolotta
Policy and Programs Director
Green Building United

Kiasha Huling
Director
UC Green

CC: Randy Hayman, Esq. Commissioner and CEO, Philadelphia Water Department
Via electronic mail (Randy.E.Hayman@phila.gov)



September 20, 2019

VIA ELECTRONIC MAIL

Melissa LaBuda (melissa.labuda@phila.gov)
Danae Mobley (danae.mobley@phila.gov)
Philadelphia Water Department
1101 Market Street, 5th Floor
Philadelphia, PA 19102

Dear Ms. LaBuda and Ms. Mobley,

I submit this letter on behalf of the Energy Unit at Community Legal Services, Inc. (CLS), which has historically served as Public Advocate when the Philadelphia Water Department (PWD) seeks to increase customer rates and charges.¹ As you know, I participated in three Alternative Rate Structure Analysis Stakeholder Meetings, organized by PWD's long-standing rate consultants, Black & Veatch (B&V), to evaluate certain potential rate structure changes identified by B&V. It is my understanding that PWD has not expressed any preference for or against any rate structure changes discussed during these meetings, and that the options were identified by B&V for stakeholder consideration and feedback, in order to provide preliminary input to PWD.

As I expressed during these meetings, I do not believe it is possible to fully assess proposed rate structure changes without detailed information. Such information is not yet available. That said, based on the information provided, I am submitting some preliminary thoughts and reactions to the options identified by B&V and the subject matter discussed during the stakeholder meetings. I hope that this information will be useful as PWD considers potential rate structure changes that it may pursue in the future.

I. Water Quantity Charges

PWD has utilized declining block rate charges for all customers for water consumption for approximately 40 years. I agree with the underlying premise for considering alternative rate structures such as uniform rates, inclining block rates, and seasonal rates; namely, that

¹ CLS serves as Public Advocate pursuant to a contract with the Philadelphia Water, Sewer and Storm Water Rate Board. The terms of that contract were not extended to the Alternative Rate Structure Stakeholder meetings. The views expressed in this letter should not be attributed to the Public Advocate. These comments are offered without prejudice to any positions CLS or the Public Advocate may take in the future.



reevaluation of rate structure should be undertaken periodically. My understanding is that B&V believes that a uniform rate would be the most likely alternative for PWD, if PWD chooses to pursue a change in rate structure.

While a single, uniform rate may serve PWD's mission and goals, it could also fail to capture class-based, cost-of-service differentials. Although the simplicity of a uniform volumetric rate for all water usage has a certain appeal, questions and concerns could arise about whether such a rate is justified based on customer demand patterns. B&V has concluded that 1% of PWD bills issued to high volume water users under the current declining block rate account for approximately 45% of water quantity charges. The same 1% of bills would increase to approximately 50% of water quantity charges if a single, uniform rate were to be implemented. This significant usage variation suggests that PWD customers may not have similar demand patterns and so there may be cost-of-service differentials that weigh against a single uniform rate across classes. In such circumstances, the American Water Works Manual, M1, indicates that uniform rates by customer class should be designed to respond to differences in class-based cost-of-service.

In response to one question posed during the stakeholder meetings, B&V submitted that PWD is looking into improving the specificity of data in its billing-system that may enable it to confidently establish rates by customer class. It is not clear whether some of the existing customer classes B&V identifies (e.g., customers receiving bill discounts such as seniors, PHA properties, charities, etc.) are as relevant to this inquiry as the usage patterns and demand associated with customers who utilize higher volumes of water and for whom monthly usage characteristics are presumably available at this time. Uniform rates by customer class may be worth considering if such rates would also address PWD's mission and goals.²

II. Stormwater Credits & Incentives

PWD currently operates two grant programs, the Stormwater Management Improvement Program (SMIP) and Green Acre Retrofit Program (GARP), with a combined annual budget of \$25 million. These programs provide grants to non-residential customers or to projects of multiple non-residential customers, to implement stormwater management practices (SMPs) that reduce stormwater runoff. The revenues to support these programs' budgets are components of PWD's wastewater charges, and are paid by all customers, including residential customers.

² B&V highlighted four particular areas of focus regarding PWD's mission and goals: water resources and sustainability; declining consumption; changes to water supply management approaches; and affordability.



PWD provides credits against non-residential customers' stormwater charges.³ Those credits are calculated differently for the impervious area (IA) and gross area (GA) components of the stormwater charges. Currently, for IA, credits can be up to 100% of the impervious area of a parcel if stormwater is directed to a pervious area or has characteristics similar to a pervious area. Otherwise, IA credits can be up to 80% of non-surface discharge managed (stormwater that would otherwise be directed to City infrastructure) or 90% of surface discharge managed (stormwater that would otherwise be directed to an adjacent surface water body, such as a creek or stream). GA credits apply to IA managed or open space at the same 80% or 90% maximum levels.

The Public Advocate expressed concerns previously about the equities associated with SMIP/GARP grants, which are not based on any means testing or customer economic eligibility, and their impact upon rates and charges:

Through these programs, PWD directs grant dollars to non-residential customers and vendors for non-residential construction projects. Once completed, PWD also reduces ongoing stormwater charges paid by those customers to reflect the reduced stormwater runoff contributed by their parcels. Accordingly, those customers who receive SMIP/GARP grants actually contribute less, in ongoing rates and charges, to the funding of future incentive grants for other customers. The Public Advocate submits that increased funding for SMIP/GARP incentive grants, which trigger recipients' reduced contributions toward stormwater costs and future incentive grants, should not be the basis for increased rates and charges imposed on the majority of PWD customers – the small users – who are incapable of benefiting from either.⁴

B&V has projected that under the current credit structure, and assuming level funding of SMIP/GARP, significant reduction in both IA and GA units of service will result in residential billing units reflecting the majority of stormwater units of service. In other words, without adjustment, B&V anticipates that residential customers will become responsible for the majority of the system-wide stormwater costs within five to ten years. I agree with B&V that this raises a significant issue of customer equity. Steps should be taken to ensure that residential customers are not required to absorb further stormwater costs as a result of non-residential construction grant programs they have helped fund.

³ Although not discussed at length herein, PWD provides 7% credits against IA and GA stormwater charges if the customer has an active NPDES permit and has been in compliance with that permit for the preceding twelve months.

⁴ 2018 Rate Proceeding, PA Brief at 72 (internal citations omitted).



B&V presented three potential modifications to PWD's stormwater credits and incentives. First, B&V explained that the current stormwater credits are based on managing 1 inch of runoff, while the City's stormwater regulations require developments to manage 1.5 inches of runoff. These policies could be aligned, which would affect the credit eligibility for some non-residential customers. Although B&V indicated this would not impact upon customers who have qualified for credits based on the 1 inch standard, if pursued, I believe it would be appropriate to consider eliminating or reducing the level of credits customers may be receiving for managing less than 1.5 inches of runoff. It would not make sense for credits to be identical among customers who meet different standards.

Second, B&V presented an analysis that indicates that there may be customers who are currently eligible for credits, but who have not applied. B&V submitted that an enrollment window could be implemented to provide some certainty that these customers would not belatedly apply for credits that would further reduce stormwater billings. The potential for an enrollment window to close appears unfair and would necessarily be complicated by the need for a policy to address ownership changes. Furthermore, because eligibility for stormwater credits is prospective only, potential changes to the credit structure for all non-residential parcels could provide greater long-term certainty.

Finally, B&V submitted that SMIP/GARP grant funding could be reduced to mitigate the revenue requirement associated with these programs and the associated bill impact on residential customers. I believe it is appropriate to consider mitigating the stormwater bill impact on residential customers because their smaller scale contributions to stormwater management collectively account for a gross reduction in stormwater flows.⁵ In addition to considering the reduction in actual funding, the rationale and manner of charging residential customers for these programs may warrant reevaluation.

Ultimately, the interplay between SMIP/GARP and the amount of stormwater credits non-residential customers can receive may require adjustment. Under the current structure, a customer or developer who independently finances SMPs is treated no differently than a customer who is successful in obtaining grant funding. While each could contribute identically to reducing stormwater flows, the latter benefits far more and in a manner that relies upon other customers to foot the bill. Adjustment of the credit structure for customers whose SMPs are financed by SMIP/GARP would provide a mechanism to directly

⁵This raises a question: Is it possible to establish reasonable assumptions based on PWD and other available data regarding how much residential customers have contributed (e.g., through the use of rain barrels, green roofs, tree planting and other common activities) to reduced stormwater flows such that stormwater units of service among residential customers should be reduced?



recoup the costs of those grants from the customers who benefit from them and promote more fairness vis-à-vis the customers who implement SMPs without relying upon PWD grants. For example, the stormwater IA and GA credit maximums for customers who benefit from SMIP/GARP grants could be reduced by a fixed percentage over a number of years. That incremental increase in revenues (reflecting a reduction in credits) could offset the need for customers to fund some or all of the \$25 million budget through rates.

Ultimately, I believe a more detailed, long-term analysis should be undertaken to determine whether the IA and GA credits are too high and fail to properly account for the stormwater treatment costs generated by non-residential parcels and the rights of way serving them. If adjustment is warranted, consideration should be given to an appropriate period of time over which to phase-in changes to the credit structure.

III. Potential Pension Rider

B&V presented for consideration an alternative means of recovery of pension costs through a pension rate rider. While several options for recovery of a pension rider were presented, B&V recommended a per bill surcharge/surcredit for under- or over-performance only.⁶ Under this type of rider, a uniform per bill adjustment would be made to account for any difference between the projected pension expense included in rates for the preceding period (presumably the prior fiscal year).

In general, I believe it is worth noting that rate riders, surcharges, cost trackers and other utility rate mechanisms accelerate the shift of expense differentials from PWD to its customers, leaving customers to bear all of the risk of isolated cost overruns without the benefit of a full examination of revenues and revenue requirements. This form of single-issue ratemaking should be used sparingly and cautiously.

PWD experienced significant and unexpected additional pension operating expenses in FY 2017 and FY 2018 due to a city policy change that required a shift of pension expenses from capital to operating. Over the five consecutive years prior to FY 2017, however, information provided by B&V demonstrates that projected pension expenses for PWD exceeded actual pension expenses.

B&V explained that some primary considerations underlying its proposal for a rate rider to recover pension expense are PWD's ability to control the expense, PWD's ability to easily

⁶ This is to be contrasted with a rider that would recover all pension expenses independent of base rate assumptions and adjust usage-based charges or reconcile via a percentage adjustment to all rates.



identify the expense, and the volatility or unpredictability of the expense.⁷ I recognize that the amount of PWD's budgeted pension expense is determined by the City's Board of Pensions, and so PWD may not be able to fully control the expense in any one year period. I also recognize the expense may be easily identifiable.

However, the data indicates that PWD only experienced a significant obligation in excess of what it budgeted in rates due to a change in policy affecting all City Departments (prohibiting the use of capital funds for pension expense). PWD had more than adequate reserves in its rate stabilization fund to address this obligation. Prior to the policy change in 2017, the City consistently provided PWD with projections (albeit somewhat conservative ones) that were sufficient to enable PWD to adequately recover pension expense through rates. PWD's pension expense has not historically exhibited volatility and unpredictability sufficient to justify a pension rider.

During the stakeholder meeting, the participants discussed some questions about the City's methodology for determining PWD's pension expense. In general, the participants questioned whether PWD possesses or obtains adequate information to determine whether the pension expenses allocated to PWD fairly represent the pension expense associated with PWD's employees and retirees. Because pension expense comprises a significant portion of PWD's budget and, therefore, the revenue requirements upon which its rates are based, it is important to ensure that customers are provided with clear information to demonstrate that rates are not recovering City pension expenses in excess of what is necessary to fund the obligations to PWD's employees.

* * * * *

I appreciate the opportunity to participate in the Alternative Rate Structure Analysis Stakeholder meetings and look forward to future opportunities to contribute to the consideration of potential changes in PWD rate structure.

Robert W. Ballenger
Energy Unit Attorney

⁷ I am not familiar with a standard set of criteria utilized to determine the appropriateness of a rate rider, nor do I agree that B&V has identified the right criteria to utilize in this instance. My comments are offered in response to B&V's presentation.

**PHILADELPHIA LARGE USERS GROUP
COMMENTS ON PHILADELPHIA WATER DEPARTMENT ALTERNATIVE RATE
STRUCTURE STAKEHOLDER PROCESS**

I. BACKGROUND

Throughout the summer of 2019, the Philadelphia Water Department ("PWD") held three stakeholder meetings to present specific alternative rate methodologies ("ARMs") that PWD is evaluating. Each stakeholder meeting focused on a specific ARM. PWD has not formally proposed to implement any of these methodologies. However, the purpose of the stakeholder process is to gather feedback to inform PWD's preparation of its next base rate case, which is anticipated to commence in early 2020 and may include proposed ARMs. As a part of this process, PWD asked participants to provide written Comments on the ARMs discussed during the stakeholder process.

The Philadelphia Large Users Group ("PLUG") is an ad hoc group of large commercial, institutional, and industrial customers served by PWD. As high-volume PWD customers, PLUG members rely heavily on PWD to support their operations. PLUG actively participated in each of the three Alternative Rate Structure stakeholder meetings. With its varied membership, PLUG is uniquely positioned to provide a thoughtful perspective on each ARM addressed during the stakeholder process. To that end, PLUG hereby submits these Comments ("Comments").

II. COMMENTS

PLUG commends PWD for convening the Alternative Rate Structure stakeholder collaborative. Following are brief general comments addressing the importance of incorporating appropriate customer protections into any ARM and specific comments on each of the three ARMs discussed during the stakeholder process.

A. GENERAL

PLUG members include various large commercial, institutional, and/or industrial energy consumers. PLUG members contribute substantially to Philadelphia's economy, providing jobs and investing in their local communities. By the nature of their businesses, water, sewer, and stormwater expenses comprise a large portion of PLUG members' operating costs. Consequently, ratemaking policy developments significantly impact PLUG members.

As noted above, PLUG appreciates the opportunity to participate in PWD's Alternative Rate Structure Stakeholder Meetings. PLUG is encouraged that PWD is taking steps to gather information and customer feedback prior to considering ARMs. PLUG also commends PWD and its consultants for preparing meeting materials recognizing that ARMs can result in significant rate impacts for customers.¹ As a result, PLUG encourages PWD and the Rate Board to take a cautious and judicious approach to alternative ratemaking. To the extent any ARMs are

¹ For purposes of simplicity, these Comments refer to representations from PWD's consultants as if they were made by PWD itself.

deemed necessary, PWD and the Rate Board should develop customer protections to avoid unreasonable cost shifts, rate volatility, or rate increases. Depending on the specific ARM, such customer protections could include phased rates, revenue caps, sunset terms, periodic review/renewal processes, and other appropriate measures.

B. TRANSITION TO UNIFORM WATER RATE (MEETING NO. 1)

1. Background

PWD held the first stakeholder meeting ("Meeting No. 1") on July 30, 2019. At Meeting No. 1, PWD discussed potential changes to PWD's block consumption charge for water service. PWD is considering a transition from its current declining block rate structure to a uniform rate structure. PWD has also suggested that this transition could serve as an initial step towards implementing an inclining block rate.

A uniform water rate raises significant concerns. First, a uniform rate conflicts with cost-of-service principles. Second, a uniform water rate would generate a dramatic rate increase for large users, resulting in potential rate shock to existing customers. Third, the claimed advantages of transitioning to a uniform water rate are specious and likely outweighed by the severe and unreasonable impacts on large users.

2. A Uniform Water Rate Conflicts with Cost-of-Service Principles and May Result in Large Water Users Subsidizing Other Customers.

PLUG's primary concern with a uniform water rate is that it runs contrary to cost-of-service principles.

Section 13-101(4) of the Philadelphia Code sets forth the standards the Philadelphia Water, Sewer, and Storm Water Rate Board ("Rate Board") must apply in reviewing and determining rate cases. In applicable part, Section 13-101(4) states that "[r]ates and charges shall be developed in accordance with sound utility rate making practices and consistent with the current industry standards for water, wastewater and storm water rates." Subsection (4)(b) states that "rates and charges shall be equitably apportioned among the various classes of consumers."

The Rate Board affirmed this principle in its last Rate Determination, stating that "[t]he Ordinance requires that rates and charges be equitably apportioned among the various classes of consumers."² In consideration of sound utility rate making practices, PLUG has historically encouraged PWD and the Rate Board to set rates for each customer class based on the cost to serve that class. While valid policy reasons can support adjustments to cost-based rates under appropriate circumstances (such as gradualism or certain policy-based programs) cost-of-service should service as the "polestar" for utility ratemaking.³

² 2018 Rate Determination, Rate Determination Order, at 11 (Jul. 12, 2018).

³ See *Lloyd v. Pa. Pub. Util. Comm'n*, 904 A.2d 1010, 1020 (Pa. Commw. Ct. 2006).

Problematically, a uniform water rate directly conflicts with cost-of-service ratemaking by ignoring economies of scale. Consumers enjoy lower rates for a gallon of milk at big box stores compared to a pint of milk at the gas station because it's more efficient and less costly to produce the milk for bulk sale. Similarly, high-volume customers do not impose the same system costs on PWD as low-volume customers. The current declining block rates exist precisely to reflect the varied consumption patterns of different classes of users. As PWD acknowledges, a uniform block rate "does not reflect the unique characteristics of different customer types."⁴ Transitioning to a uniform block structure would result in one of two effects: either (a) high volume users would be forced to substantially subsidize low-use customers; or (b) the Board will be forced to impose higher fixed rate charges on low-volume customers to neutralize this cost shift.⁵ As discussed in the following section, the estimated uniform block rate presented to the stakeholder group would result in severely inequitable rates on large users on PWD's system.

Additionally, PWD indicates that a shift to a uniform block rate structure could serve as an initial step towards transitioning to inclining block rates. Such a move would only intensify adverse rate impacts for large users and further distance PWD's rates from cost-of-service.

3. A Uniform Water Rate Would Result in Unreasonably Severe Rate Increases for Large Users.

During the stakeholder process, PWD characterized the potential shift to uniform block rates as a "revenue neutral" proposal. Unfortunately, while transitioning to a uniform block rate could be revenue neutral on a system-wide basis, it would necessarily result in significant rate impacts on a customer class basis. At the stakeholder meeting, PWD presented an estimated uniform rate of \$40.50/MCF. PWD projects that shifting from the current declining block rate structure to the estimated uniform rate would increase water consumption rates for large users by 37.5%. In other words, water service costs for large users such as PLUG members would increase by nearly 40% solely as a result of the rate structure change. This is a plainly unreasonable cost shift.

4. The Benefits of a Uniform Water Rate Are Marginal.

In discussing its consideration of this ARM, PWD articulated several possible reasons for a switch to uniform block rates. In particular, PWD posited that the change would promote customer equity through uniform rates and reduce administrative complexity. However, these

⁴ Philadelphia Water Department Stakeholder Meeting Presentation No. 1 (July 30, 2019), Slide 22.

⁵ In the 2018 Rate Proceeding, the Public Advocate proposed to freeze volumetric rates for the 0-2 MCF consumption block. This proposal would have moved PWD in the direction of a uniform block rate structure. As explained by PLUG in the Rate Proceeding, such a move would have resulted in a disproportionate cost shift from non-residential to residential customers. For example, as articulated by PLUG's expert witness at the time, if the Board had increased total rates by 10%, the actual increase to non-Residential customers would more than double to Rate 22.8% under the Public Advocate's rate design proposal. 2018 Rate Proceeding, PLUG Statement 1, at 6. While the Rate Board rejected the Public Advocate's proposal, the current proposal by PWD for a uniform block rate structure would likely initiate an even more severe cost shift.

purported benefits are speculative, unfounded, or marginal in comparison to the potentially drastic and unreasonable rate impacts of a uniform block rate.

Contrary to PWD's suggestion that uniform block rates promote fairness, uniform rates erode the fundamental inherent equity of cost-based rates. As discussed above, customers' rates should reflect the service characteristics of the customer classes, including recognizing the economies of scale for large volume users.

While reducing administrative complexity should be an important component of any enterprise, simplicity cannot supplant PWD's obligation to set equitable rates. PWD can and should explore opportunities to improve its administrative processes, but not at the cost of unjustly violating fundamental ratemaking principles such as cost-of-service rates.

5. At Minimum, any Transition to a Uniform Block Rate Should be Limited to Residential Customers.

At Meeting No. 1, PWD reviewed data from other municipal systems that have implemented uniform or even inclining block rates since 2001. Of the referenced utility systems, three incorporated dual rates structures for Residential and Non-Residential customers, respectively.⁶ Because Residential customers' usage patterns will be considerably more uniform than Non-Residential consumption, PLUG recommends that PWD and the Board limit any consideration of a uniform rate block to Residential customers.

6. There is no Basis for PWD to Transition to an Inclining Rate Block.

Although PWD does not appear likely to support transitioning to an inclining block rate at this time, PLUG will address a particular concern with this potential outcome. During Meeting No. 1, PWD discussed the benefits of an inclining rate block as a catalyst for water conservation. However, during the same discussion, PWD represented that part of the impetus for examining ARMs is an interest in combatting declining revenues associated with decreased consumption. If revenues are declining due to reduced consumption, consumers are already incentivized to conserve water. Accordingly, PWD and the Rate Board should refrain from any further consideration of an inclining block rate.

7. Conclusion.

In conclusion, PLUG recommends that PWD and the Rate Board preserve the current declining block rate structure.

⁶ Philadelphia Water Department Stakeholder Meeting Presentation No. 1 (July 30, 2019), Slide 20.

C. STORMWATER CREDITS & INCENTIVE PROGRAMS (MEETING NO. 2)

1. Background.

The second stakeholder meeting ("Meeting No. 2") addressed potential changes to PWD's stormwater credits and incentive programs. PWD's stormwater credit programs allow non-residential customers to earn annual credits generally offsetting some or all of PWD's stormwater charge. PWD's grant programs provide one-time funding for qualifying stormwater mitigation projects.

During the stakeholder process, PWD expressed concerns that (1) the credit and grant programs may result in a situation where residential parcels paying the stormwater fee will exceed the surface area of the non-residential parcels paying the stormwater fee; and (2) the current stormwater credit rules drive revenue uncertainty because the total amount of parcels currently benefitting from stormwater credits (31 million square feet) would more than double if every eligible parcel applied for credits. To mitigate these impacts, PWD introduced several ARMs intended to reduce the cost of its stormwater grant and credit programs, including: (1) increasing the eligibility criteria for credit program eligibility from management of 1 inch of runoff to management of 1.5 inches; (2) setting a maximum enrollment period for PWD's credit program following completion of a mitigation measure; and (3) adopting a reduction to the combined \$25 million budget for stormwater grants.

2. PWD Should Remain Focused on Preserving Robust Incentives for Stormwater Mitigation Projects.

PLUG encourages PWD to maintain a high level of availability of stormwater grants and credits. As a participant in the 2011 Customer Advisory Committee tasked with reviewing PWD's plans (including credit and grant programs) for transitioning to parcel-based stormwater rates, PLUG recalls the emphasis on incentivizing large users to implement stormwater mitigation measures across the City. Accordingly, PLUG recommends that PWD decline any proposed changes that would reverse the historical growth and expansion of stormwater mitigation measures in the City.

PLUG is particularly concerned with PWD's proposal to adopt a maximum enrollment period for stormwater credits and reduce the combined \$25 million budget for the Storm Water Management Incentive Program ("SMIP") and Greened Acres Retrofit Program ("GARP"). As explained above, PWD's credit programs have catalyzed stormwater mitigation projects in the City. Adopting a maximum credit enrollment period could exclude viable projects from the program. While this proposal should be discarded, PLUG alternatively recommends that PWD and the Rate Board avoid establishing a maximum deadline intended to be punitive and ensure any limitation preserve a generous timeframe for program enrollment.

PWD's proposal to reduce the combined SMIP and GARP similarly seems squarely at odds with both PWD's and the Rate Board's prior support of the programs. The Rate Board's 2018 Rate Determination emphasized the essential role of the SMIP and GARP programs, in

particular, in PWD's efforts to meet its environmental commitments, and approved a funding *increase* for those programs of \$10 million. The Board stated:

The Board agrees that the SMIP and GARP programs play a vital role in the Department's efforts to meet its environmental commitments and therefore accepts the proposal to increase the annual level of funding for these programs by \$10 million. The increase in SMIP and GARP funding was supported not only by the Department but by the Philadelphia Large Users Group, PennEnvironment Research Center, and a large number of the public commenters in this proceeding... The Board concludes that the anticipated increased costs of the SMIP and GARP programs should be explicitly reflected in the Department's revenue requirement calculations during the rate period established in this case. The Public Advocate's exception on this issue is therefore denied.⁷

Moreover, PWD representatives confirmed at Meeting No. 2 that the SMIP and GARP remained fully subscribed. In light of this, PLUG recommends that PWD and the Rate Board reject any proposal that would reduce grant funding or unreasonably impact credit eligibility for customers pursuing stormwater mitigation projects.

D. PENSION COSTS (MEETING NO. 3)

At the third and final stakeholder meeting held on September 13, 2019 ("Meeting No. 3"), PWD presented proposals intended to address increasing pension costs, including its recommendation to implement a per-bill surcharge to recover under and over-collections of budgeted pension expense. PLUG is concerned that PWD's proposals address only the recovery of the escalating pension expenses without taking additional measures to ascertain the basis for the increased expenses. PLUG is also concerned that PWD's proposal closely follows implementation of the Tiered Assistance Program ("TAP") surcharge and reflects a trend that could erode the benefits of conducting rate cases where parties have an opportunity to comprehensively examine both revenue and expense shifts. Finally, to the extent PWD proposes a surcharge or other alternative ratemaking mechanism to recover increasing pension expenses, PLUG recommends consideration of several modifications and clarifications to the concepts proposed at the final stakeholder meeting.

1. Background.

PWD's meeting presentation reviewed national data showing upwards trends for pension costs across the nation and specifically reviewed the rising pension costs paid by PWD as an agency of the City of Philadelphia. Of significance, PWD clarified that its pension expense consists of a contribution calculated by City. For Fiscal Year ("FY") 2019, PWD projects total pension expense of \$79 million, which is projected to increase to \$87.8 million by FY 2024. While PWD suggests its contribution derives from a personnel count, it does not appear that the City provides PWD with a detailed account of the allocation method used to develop PWD's contribution.

⁷ 2018 Rate Proceeding, Rate Determination Order, at 42 (Jul. 12, 2018).

PWD claims the increasing pension costs could negatively impact its ability to meet its Bond Ordinance and Rate Board Covenants. As a result, PWD is considering implementing a surcharge mechanism to generate additional revenues between rate cases and avoid transferring funds from reserves to address rising pension expenses.

PWD's presentation outlined several potential surcharge mechanisms and ultimately focused on a recommendation supported by its consultants. The three overarching proposals considered were: (1) a water/sewer quantify surcharge; (2) a percentage cost adjustment; and (3) a per-bill surcharge. For both the water/sewer quantity surcharge and the per-bill surcharge, PWD provided one version proposing to recover total pensions expense and another version limited to recovery of the over or under-collection from budgeted pension expense. PWD ultimately selected the per-bill surcharge for recovery of under and over-collection of pension expense as the preferred alternative.

2. Implementation of the Proposed Pension Surcharge Would be Premature.

As noted above, PLUG is concerned that consideration of a surcharge for recovery of increased pension expense may be premature until PWD has an opportunity to examine the basis driving the increased pension expense. Further, even if these costs are correctly assessed upon PWD, it is not clear that a surcharge is appropriate. The Rate Board should consider that PWD already benefits from phased rate increases, which itself is a form of alternative ratemaking. By way of comparison, many of the electric and gas utilities referenced as comparisons in the meeting materials, including Philadelphia Gas Works, receive single phase rate increases. With its multi-phased rate increases, PWD already has tools at its disposal to address rising costs between rate cases.

Moreover, PWD very recently implemented its TAP Rider. At this time, the near-term rate impacts of that rider still remain largely uncertain. PLUG submits that PWD should refrain from implementing additional surcharges pending further study and review of the rate impacts of the prior surcharge implementation just one year ago.

3. Any Version of a Pension Surcharge Should Include Customer Protections.

While PLUG reserves final judgment until such time as actual rate impact calculations for any contemplated ARMs become available, a preliminary review of the pension-related ARMs indicates the quantity surcharge and percentage cost adjustment should be omitted from any further consideration. Both mechanisms could expose large users to potentially unreasonable rates as there is no nexus between PWD's pension costs and per-MCF consumption and the complexity of administering a percentage cost adjustment may frustrate customers' ability to assess the reasonableness of PWD's rates.

Notwithstanding PLUG's primary position that consideration of a pension surcharge would be premature absent further examination of the underlying costs and unnecessary in light of PWD's access to phased rate increases, PLUG concurs that the least detrimental model would

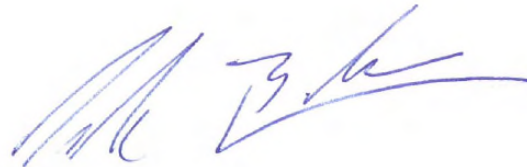
be a pension surcharge implemented on a per-bill basis to recover solely the under and over-collections from budgeted pension expense. However, any consideration of the surcharge must be balanced with development of appropriate customer protections. These protections should include development of a cap on revenues recovered through the surcharge. This protection will preserve some incentive for PWD to monitor and continually review its allocation of the City's pensions costs and limit customers' exposure to rate volatility. Additionally, PWD should be directed to provide detailed support outlining the anticipated revenues to be collected through the pension surcharge and the rate impacts on each customer class.

III. CONCLUSION

PLUG appreciates the opportunity to provide input to PWD. PLUG respectfully requests that PWD and the Rate Board consider the above Comments.

Respectfully submitted,

McNEES WALLACE & NURICK LLC



By

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Counsel to the Philadelphia Large Users Group

Dated: September 26, 2019

Friday, September 20, 2019

Ms. Melissa LaBuda
Deputy Water Commissioner, CFO
Philadelphia Water Department
1101 Market Street
Philadelphia, PA 19107

Re: 2019 Alternative Rate Structure Analysis

To Ms. LaBuda:

Thank you for the opportunity to submit comments in response to the Alternative Rate Structure Analysis proposals. SBN participated in both the Water Quantity Charges and the Stormwater Credits sessions. Below, we have offered written comments on both topics, as well as some feedback on the process overall.

The Sustainable Business Network of Greater Philadelphia (SBN) is a community of local, independent businesses that demonstrate the degree to which businesses can build profitable enterprises while doing good for their workers, their community, and our planet. SBN's mission is to build a just, green, and thriving economy in the Greater Philadelphia region. Since 2001, SBN has been the region's leading advocacy and membership organization for businesses committed to improving their environmental and social impact as well as their profitability. Through SBN's Green Stormwater Infrastructure (GSI) Partners, one of our signature initiatives, we are working to advance the local industry, innovation, and the local economy as it relates to GSI in order to advance a more equitable and climate resilient economy in the Philadelphia region.

Water Quantity Charges

Before adopting a shift to a uniform block rate, PWD should create more opportunities for engagement with relevant stakeholders who could potentially be negatively impacted by the change. Black and Veatch's presentation highlighted important information regarding shifting trends in water utilities across the country, as well as how this shift can encourage sustainable consumption and affordability for residential ratepayers.

As an organization that supports values-based businesses, we applaud PWD for seeking to strike the appropriate balance between economics, equity, and the environment. However, we also see potential significant impacts for certain types of local business owners, especially food service industry businesses. Local, independent food services businesses, such as restaurants, caterers, coffee shops, and breweries, often operate with slim margins and many do not own their facilities. If these high-usage businesses were subject to higher consumption rates, it could potentially have a negative impact on their operations. We encourage PWD to further explore how these and other types of businesses would be impacted by the switch to a uniform block rate, as well as programs that could ease the burden for the businesses that may struggle.

Stormwater Credits

As long-time partners of PWD, including as a member of the *Green City, Clean Waters* Steering Committee and the Development Services Committee, SBN has significant concerns about the recent proposals to alter the stormwater credit and incentives programs. Most importantly, our concerns come from a desire to see the department thinking holistically about stormwater management. While it is clear PWD and Black & Veatch have put time and resources into identifying these proposals and understanding some of their impacts, it is not clear that the Department has put any consideration into how these proposals will impact its greened acre goals, the costs associated with achieving compliance targets, the potential impacts on the thriving, local GSI industry, the possible loss of jobs in this sector, and the equitable distribution of stormwater management across the City. These are the most critical questions to answer before adapting the program, and no changes should be made to either the credits or the incentives programs until their full impact on the goals of *Green City, Clean Waters* are measured.

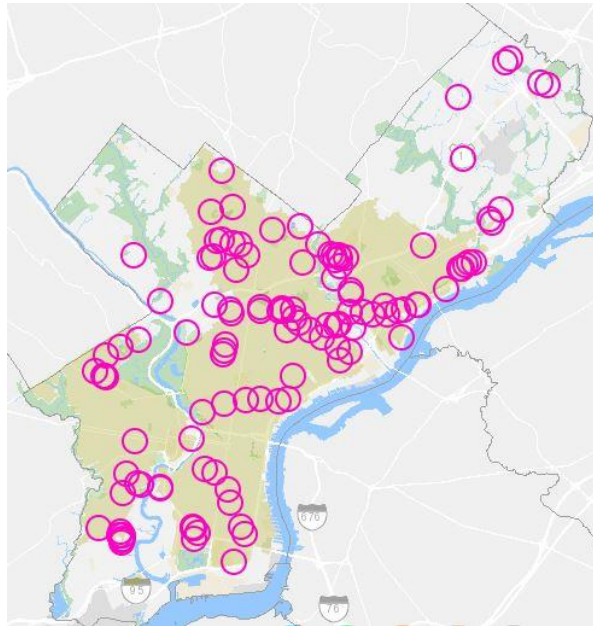
Stormwater Incentives (SMIP& GARP) Program

From the beginning of *Green City, Clean Waters*, stormwater retrofits on private property have been a key component in achieving compliance targets: “This vision includes...Requirements and incentives for green stormwater infrastructure to manage runoff at the source on private land and reduce demands on sewer infrastructure.”¹ The incentives program has been one of the most significant drivers in the completion of compliance targets to date. According to the Department’s own analysis for reaching Year 10 compliance goals, 80 percent of the compliance complete greened acres (1,154 out of 1,450) came from private sector development with the largest number of acres (579) coming from the incentives program.² With the significant impact the incentives program has on helping the Department achieve these targets, it is short-sighted to view the program’s expenditures as a burden on the Department without doing a full evaluation of the program’s benefits to program participants, compliance targets, and a cost comparison with capital expenditure projects. A significant reduction in SMIP/GARP funding will lead to an increased need for capital projects to make up the difference in greened acre development in order to achieve Year 15, 20, and 25 targets. It is our understanding that these targets are already out of reach without a significant increase in private sector development; thus, reducing the grant program budget will make achieving these targets even more challenging. Additionally, with the higher costs per greened acre Department projects see compared to private projects, cutting the grant program has the potential to burden the residential ratepayer as significantly, if not more so, than the current levels of funding.

The grant program funds projects across the City, demonstrating an equitable investment in diverse communities. The map below shows where grant-funded projects are located within the City.

¹ Philadelphia Water Department, *Green City, Clean Waters: The City of Philadelphia’s Program for Combined Sewer Overflow Control*, September 2009, 1-2.

² Philadelphia Water Department, “Greened Acre Progress Update,” August 2019



Source: Philadelphia Water Department

Grant recipients range from non-profits like public schools, charter schools, and churches to large industrial landowners with high Impervious Area proportions. These two types of property owners face significantly different challenges. For non-profits with comparatively moderate monthly stormwater fees, these projects reduce what is often a burdensome monthly line item for the property owner while also allowing for investment in community resources and mitigation of neighborhood environmental issues like urban heat islands and flooding. Examples of these projects include upgraded school playgrounds, like at William Cramp Elementary in Fairhill, a highly industrial community that lacks community recreation space, or a rain garden at the Settlement Music School on Germantown Avenue, a neighborhood that struggles with flooding. For large industrial properties who face the highest monthly stormwater fees, the grant program helps them continue to operate their business in the City. For example, Baker Industries is an outsourcing and fulfillment company that hires employees with barriers to the labor market, such as people with intellectual or physical disabilities, people with substance use disorder, people with experiences in the criminal justice system, or people experiencing homelessness. They received a SMIP grant to retrofit their site in North Philly. This retrofit grant and subsequent stormwater credit allowed them to reduce their overhead, freeing up more capital to invest in their employees.

In addition to the grant program's impacts on compliance targets and equitable community development goals, we have significant concerns about how cutting the grant program will negatively impact the local GSI industry and job opportunities in this field. SBN's research found our GSI Partners alone have an estimated \$89 million annual economic impact on the City of Philadelphia, supporting 927 jobs and \$30 million in employee compensation.³ Reducing incentives for private retrofits will lead to fewer projects, less business, and lost jobs across the City. These firms, which have been recognized as industry leaders for their work and have spent a significant amount of time working with PWD to develop and implement programs,

³ Sustainable Business Network of Greater Philadelphia, *The Economic, Social, and Environmental Impacts of Green City, Clean Waters: An Update*, June 2019.

will once again look outside the City for business opportunities. Workforce development organizations, such as PowerCorpsPHL, have also spent a significant amount of time and resources training Philadelphia citizens for work in this field. Any program adaptations should take the workforce and industry implications into account.

Recent changes to the grant program have spurred increased interest and competition, forcing companies to be more innovative in their submissions. Reducing the program budget now effectively punishes the program participants, who adapted their businesses to serve this need, and the Department for its success in driving competition in the industry. For example, design/build/maintenance firms are full-service stormwater management companies that bloomed because of the grant program. These businesses create continuity between PWD, developers, and property owners, and they are the connection between short-term and long-term compliance by having access to the projects from start to finish and creating more effective and efficient maintenance services and communication channels. Their most recent adaptation has been to add maintenance services to their portfolios in response to the growing demand for GSI. These businesses have the potential to be the industry's answer to stormwater maintenance challenges, which would help ensure the success of *Green City, Clean Waters* as a program. Without the grant program, these firms struggle to continue operating their maintenance programs, eliminating jobs and jeopardizing compliance. The Department has also cited the growing costs related to maintenance as a significant challenge. Reducing incentives for private retrofits and creating the need for more public projects will also lead to longer term costs for PWD as the Department or City must maintain public sites. This will put a long-term burden on ratepayers.

While it is clear the costs of the credit and the incentives programs have a significant impact on PWD, there are alternate solutions that could be evaluated. For example:

- An evaluation of the stormwater fee to ensure the fees being assessed and the credits offered are in line with PWD's cost of service;
- A new structure for the credit program with a tiered system where credits are earned based on certain criterion, such as location within a target community, a prioritization of nature-based solutions, managing street runoff, or exceeding the required amount of stormwater managed;
- An Energy Services Company (ESCO) model, similar to Commercial Property Assessed Clean Energy (C-PACE), which offers low-interest loans through a third party that are tied to the property, not the property owner, for retrofit projects. This could create more sustainable funding for the incentives program while still offering upfront cost assistance and lower stormwater fees;
- An overall evaluation of the grants and credits programs to determine how PWD can most effectively incentivize private greened acres.

These are all early stage ideas, and we are not recommending any one solution. We are, however, suggesting PWD evaluate the suite of available options and proceed with a solution that allows for the Department to meet its compliance targets in the most financially responsible and efficient way, while accounting for other priorities such as those noted above. If it is determined that the grant program is no longer the most effective way to incentivize private development in the future, it is crucial the funding for the program is not reduced until there are alternative incentives in place.

Additional comments on the Stormwater Credits Alternative Rate Analysis presentation

- 1) Surface dischargers appear to have the most significant burden on the credit program. According to Black and Veatch's presentation, surface dischargers are eligible for four types of credits whereas SMIP/GARP properties are only eligible for two types. Additionally, surface dischargers make up nearly 7 times more Gross Area Average Annual Lost Billable Units of Service than SMIP/GARP, as well as 1.4 million more square feet of Impervious Area Average Annual Lost Billable Units.⁴ While they may not discharge stormwater directly into the sewer system, surface dischargers have other significant impacts on water quality. This is especially true when they discharge into smaller tributaries, which can lead to significant pollution and erosion of streambanks. While the burden of stormwater billing should not fall to residential ratepayers, short-term solutions that do not address the largest category of participants in the credit program are not sustainable.
- 2) The concern over "credit liability" is understandably significant; however, it seems as if this problem could be solved by directly enrolling completed projects in the credit program upon final inspection, and then confirming compliance with the credit program requirements upon regular inspections. While it seems to be sensible to create a time window for application, there are often significant communication breakdowns after a building is turned over to a property manager. There may be other ways to better address this problem. For example, PWD could connect earlier with property managers as opposed to the current four-year window or work more closely with the businesses who design, build, and maintain the systems to ensure there is effective communication across all relevant parties.
- 3) SBN wholeheartedly supports the suggestion to upgrade the credit requirement from 1 inch of stormwater managed to 1.5 inches in order to align the credit programs with the current stormwater regulations for development. As climate change continues to increase the severity of weather events in Philadelphia, increased performance of stormwater management systems will be key to ensuring their effectiveness at managing overflows and keeping our waterways clean. However, the projects already receiving credits for 1 inch of stormwater management should be grandfathered into the credit program at least for the foreseeable future.

⁴ SBN requested more information on the breakdown of the amount of credits given out each year to the different categories of participants in the program; however, we were told no other information would be shared at this time.

Alternative Rate Analysis Process Feedback

SBN would also like to offer feedback on the Alternative Rate Analysis process overall. While we deeply appreciate the opportunity to be engaged, we are confused about the process and reasons behind the rate analysis. We know this relates to the rate board hearing process, but we were not aware until the announcement of the engagement sessions that these issues were being evaluated nor do we feel like all relevant groups were aware of the opportunities to participate. In the future, we suggest significantly more opportunities for engagement, as well as earlier notification about the process and the questions being evaluated. SBN is always looking for opportunities to support PWD in achieving its mission; therefore, earlier engagement to help support the Department's work in this strategic planning would help us be better partners and offer more substantive feedback. For example, the industry knowledge behind the stormwater presentation was limited, and it would have been more useful to gather industry experts to offer feedback on the suite of available options for dealing with the credit program challenges before the analysis was completed as opposed to gathering a limited group of people on the back end to say yes or no to very specific ideas that do not necessarily reflect what is best for the industry or compliance.

Conclusion

The questions posed in the Alternative Rate Analysis are important, and they have far reaching implications. We are not entirely clear on what the Department is hoping to achieve with these interim changes, but we hope to see more holistic solutions and long-term strategic planning processes. Answering these questions with short-term changes that will only need to be updated in the next rate proceeding will have significant impacts on compliance, the green stormwater infrastructure industry, job opportunities, and the economic development of the City. No changes should be made until further analysis on all the implications can be completed.

Thank you for the opportunity to participate in the Alternative Rate Analysis proceedings. We appreciate the Department's willingness to engage stakeholders on important questions, and we hope these comments will impact its decision-making process for its submission to the rate board. We are happy to answer any questions about our comments, and we are available for further conversation on these topics.

Sincerely,



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