

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.

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

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.

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
<ul style="list-style-type: none"> Includes residential properties up to 4 dwelling units (excluding condominiums) Residential customers are billed: <ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Includes all properties which cannot be classified as residential Non-Residential customers are billed: <ul style="list-style-type: none"> 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.

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.

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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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.

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	

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.

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:

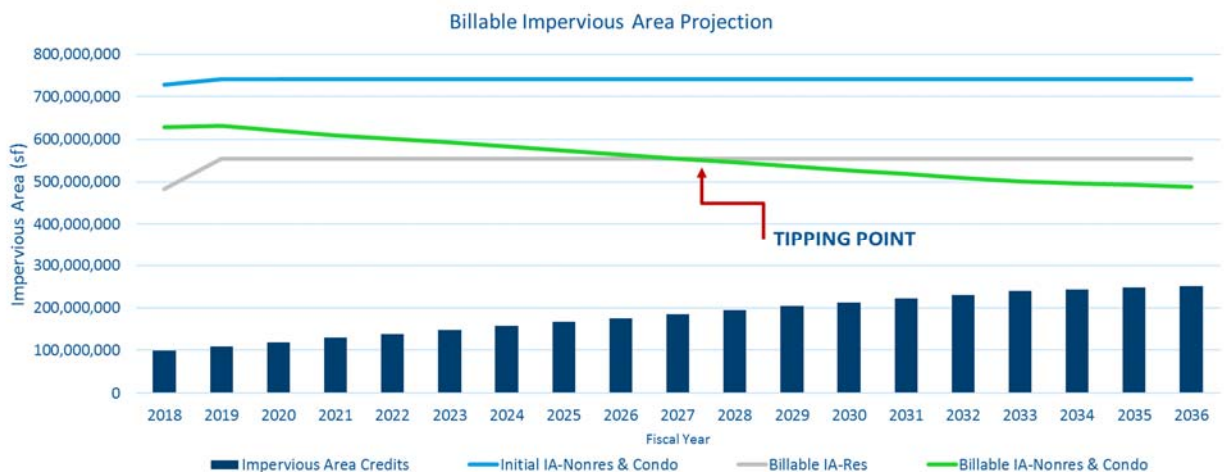
- Impervious Area has increased a total of 84 million square feet or 6.9 percent when compared to the current billing data set, which has approximately 1.2 billion square feet of IA (prior to accounting for credit impacts). Of the IA impacts:
 - Residential IA increased by 72 million square feet (14.9 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.

- 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.

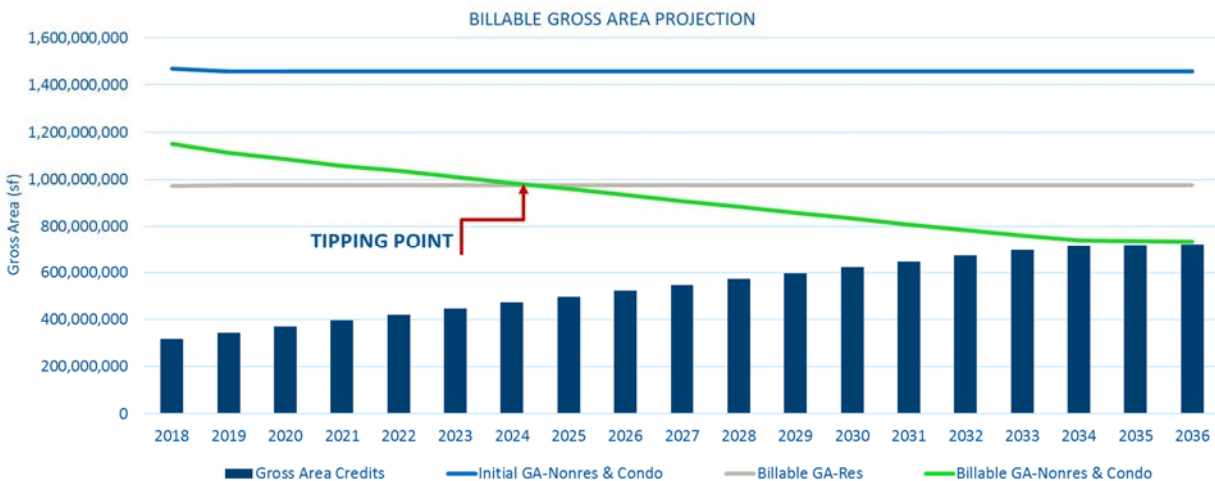
As indicated by the figure, by FY 2027 IA Credit is projected to increase by 77 million square feet; as a result, there will be more residential billing units than non-residential. This will further put pressure on residential customers as well as those that cannot achieve credit. This potential “Tipping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

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.

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 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.

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.

Questions Posed During the Presentation

The following is a summary of questions posed during the presentation

Question: *What's the total amount of impervious area and gross area? How are they impacted by the new data set?*

Response: 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.](#)

Question: *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?*

Response: 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.](#)

Question: *If you put in a [stormwater management practice], aren't there savings for the Department?*

Response: 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 LTCF, the Department's stormwater program and associated costs already assumes a certain level of private stormwater management will occur because of development and redevelopment.

Question: *Could there be a matching program [with respect to the SMIP/GARP grants]?*

Response: 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.

Question: *Is the change to billable impervious area driven by better data or redevelopment?*

Response: 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.

Question: *What are the Department's current stormwater costs? Does this include credits?*

Response: 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.

Question: *Why would billing units be the barometer instead of revenue?*

Response: 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

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.

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.

- 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

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).
- 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.
 - 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.
 - 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.
 - For some, it seemed counterintuitive to reduce the budget of a fully utilized, seemingly successful program.
 - 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.

- Others agreed with that sentiment and advocated for an increase in the SMIP/GARP program budget.
 - Some cited concerns that a reduction in SMIP/GARP would have on their business
 - 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.
 - 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.
 - 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?
 - 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.

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

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

	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

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.