

PHILADELPHIA WATER DEPARTMENT

PA INTERROGATORY SET #I

RESPONSE TO

PUBLIC ADVOCATE'S INTERROGATORIES

QUESTIONS 1 - 35

Dated: February 2020

1 **PA-I-1.** REFERENCE STATEMENT NO. 2, Q/A 37. PLEASE PROVIDE A COPY OF
2 THE ANALYSIS SUPPORTING THE ANNUAL DECLINE IN USAGE.
3

4 **RESPONSE:**

5 The decline in usage per account from 2015 to 2019 for 5/8" General Service Customers is
6 approximately 2.4% annually based on the data from PWD Exhibit-6: Black & Veatch
7 Management Consulting, LLC, Calculations Supporting Schedules BV-1, BV-2, BV-3,
8 and BV-5, page 116:
9

10 Water - Billed Volume Per Account for General Service (Including Senior Citizens)

11 FY 2019 = 6.64 Mcf / Account

12 FY 2015 = 7.32 Mcf / Account

13 Average Annual Decline = $\{(6.64/7.32)^{1/(2019-2015)} - 1\} \times 100\% = 2.4\%$
14

15 The above figures should be referenced with the respect to the annual decline in usage.
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17 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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PA-I-2. REFERENCE STATEMENT NO. 2, Q/A 39. PLEASE PROVIDE A COPY OF THE ANALYSIS SUPPORTING THE CHANGE IN THE STORMWATER MANAGEMENT FEE IN LIEU OF CHARGES.

RESPONSE:

Please see response attachment PA-I-2. Please note the proposed rate of \$25.00 reflects the calculated rate rounded to the nearest five dollars (see PWD Statement 7A, page 42, lines 10 to 13).

RESPONSE PROVIDED BY: Melissa LaBuda, Philadelphia Water Department

1 **PA-I-3.** REFERENCE STATEMENT NO. 7A, PAGE 32, LINES 18-25. PLEASE
2 PROVIDE THE ANALYSIS/DOCUMENTATION SUPPORTING THE CLAIM
3 THAT TOTAL IA INCREASED BY 86 MILLION SQ. FT. AND RESIDENTIAL
4 IA INCREASED BY 72 MILLION SQ. FT.

5
6 **RESPONSE:**

7 The total increase in impervious area is due to the updated stormwater billing data, which
8 is detailed in Schedule BV-6: WP-2 – Stormwater Units of Service.

9
10 As discussed on page 2 of the aforementioned white paper: *“The Water Department*
11 *recently obtained updated Stormwater Billing Data based upon 2015 aerial and infrared*
12 *imagery. The updated data set provides new impervious area and gross area data for*
13 *billing purposes for properties City-wide. The City-wide total impervious area is 1,298*
14 *million square feet (sf) and the total gross area is 2,444 million sf. Table 1 below presents*
15 *the impervious area under the prior dataset¹ and the updated data set.”*

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¹ Prior dataset is data from the Stormwater Database as of June 30, 2018

Table 1 Impervious Area Change by Customer Class

		Updated		
Line		Prior Dataset	Dataset	Variance
No.	Description	(Square Feet)	(Square Feet)	(Square Feet)
	Initial Impervious Area-			
1	Residential	482,687,000	554,856,000	72,169,000
	Initial Impervious Area-Non-			
2	Residential	706,470,000	717,806,000	11,336,000
	Initial Impervious Area-			
3	Condominium	22,198,000	24,903,000	2,705,000
4	Initial Impervious Area-Total	1,211,355,000	1,297,565,000	86,210,000

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC.

PA-I-4. REFERENCE STATEMENT NO. 7A, PAGE 33, LINE 25 TO PAGE 34, LINE 2.
PLEASE IDENTIFY THE IMPACT OF STORMWATER CREDITS ON TOTAL
RESIDENTIAL, AND NON-RESIDENTIAL GA AND IA FROM THOSE USED
TO SET RATES IN THE TWO PRIOR CASES.

RESPONSE:

The table below provides the impact of stormwater credits on total residential, non-residential and condominium GA and IA. The amount of credit reflects the reduction in the billable units of service used to set rates.

Line No.	Description	FY 2016 RATE PROCEEDING		FY 2018 RATE PROCEEDING	
		FY 2017	FY 2018	FY 2019	FY 2020
1	IMPERVIOUS AREA (SF)	98,006,660	107,239,980	108,341,119	115,721,711
2	GROSS AREA (SF)	274,831,520	291,187,590	352,820,378	372,241,706

The credits set forth in the above table are associated with non-residential and condominium customers. Residential customers are not eligible for stormwater credits.

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC.

1 **PA-I-5.** REFERENCE STATEMENT NO. 7A, PAGE 37, ONE 21 THROUGH PAGE 39,
2 LINE 7. PLEASE EXPLAIN WHETHER AS A RESULT OF ELIMINATING
3 THE DESCRIBED ADJUSTMENT, IS IT CORRECT THAT NO
4 DISTRIBUTION O&M EXPENSES ARE ASSIGNED TO HYDRANTS
5 (DIRECT FIRE)?
6

7 **RESPONSE:**

8 The premise of the above data request that no distribution O&M expenses are assigned to
9 hydrants (Direct Fire) is incorrect. As presented on page 807 of PWD Exhibit-6: Black &
10 Veatch Management Consulting, LLC, Calculations Supporting Schedules BV-1, BV-2,
11 BV-3, and BV-5, \$392,618 of distribution O&M expense is assigned to Hydrants (Direct
12 Fire).
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14 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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PA-I-6. PLEASE IDENTIFY EACH STORMWATER CREDIT GA AND IA ADJUSTMENT AUTHORIZED FOR THE LAST THREE YEARS. IDENTIFY FOR EACH ADJUSTMENT, THE CUSTOMER’S GA AND IA BEFORE THE ADJUSTMENT AND AFTER THE ADJUSTMENT.

RESPONSE:

Please see response attachment PA-I-6.

The workbook includes a summary of all of the credit applications, based upon PWD records, that are applicable for Fiscal Year 2016 through Fiscal Year 2019 and the associated area and credit information by parcel. Many parcels have multiple credit applications during the above period primarily due to renewals, so such parcels have multiple entries in the workbook.

RESPONSE PROVIDED BY: Philadelphia Water Department

1 **PA-I-7.** REFERENCE TABLE W-1A. PLEASE PROVIDE A BREAKDOWN OF
2 PENALTY REVENUE BY CUSTOMER CLASS.

3
4 **RESPONSE:**

5 Penalty revenues are reported for the System (not broken down by customer types). The
6 Department does not have customer classes. The General Bond Ordinance defines “System”
7 as the entire combined water system and wastewater system of the City (see PWD Statement
8 2, Schedule ML-3: Bond Counsel Memorandum). Penalty revenues totaled \$10,337,746 in
9 Fiscal Year 2019. Note that total penalty revenues are net from system operating expenses.
10 See, PWD Statement 7A, Schedule BV-1, Tables W-10 and WW-10 (Line 10).

11
12 **RESPONSE PROVIDED BY:** Melissa LaBuda, Philadelphia Water Department and Black &
13 Veatch Management Consulting, LLC

1 **PA-I-8.** REFERENCE TABLE W-10:

2 A. PLEASE PROVIDE A DETAILED BREAKDOWN OF LINE ITEMS 3, 7,
3 AND 11; AND

4 B. PLEASE PROVIDE A REPRESENTATION EXAMPLE OF THE INVOICES
5 FOR PURCHASED GAS EXPENSES.

6
7 **RESPONSE:**

8 A. A detailed breakdown of line item 3, Raw Water Power & Pumping – Other operation
9 and maintenance expenses, is presented on PWD Exhibit-6: Black & Veatch
10 Management Consulting, LLC, Calculations Supporting Schedules BV-1, BV-2, BV-
11 3, and BV-5, Womallo-14, Line 4 (Raw Water Power & Pumping - Baxter Treatment
12 Plant - All Other Costs) and Line 8 (Raw Water Power & Pumping – All Other
13 Treatment Plants - All Other Costs). The O&M expenses allocated to the Raw Water
14 Power & Pumping – Other function include a proportionate share of the Operations
15 Division load control, machine shop and materials management units, and a
16 proportionate share of Water Fund administrative and general costs.

17
18 A detailed breakdown for line item 7, Purification and Treatment – Power and
19 Pumping – Other expenses, is presented on PWD Exhibit-6: Black & Veatch
20 Management Consulting, LLC, Calculations Supporting Schedules BV-1, BV-2, BV-
21 3, and BV-5, Womallo-14, Line 26 (Treatment – Treated Water Power & Pumping -
22 Baxter Treatment Plant - L.S. - All Other Costs) and Line 30 (Treatment - Treated
23 Water Power & Pumping - All Other Pumping - All Other Costs). The O&M expenses
24 allocated to the Treatment - Treated Water Power & Pumping - All Other Pumping -
25 All Other Costs function a proportionate share of the Operations Division load control,

1 machine shop and materials management units, and a proportionate share of Water
2 Fund administrative and general costs.

3
4 A detailed breakdown for line item 11, Purification and Treatment - Treatment – Other
5 expenses, is presented on PWD Exhibit-6: Black & Veatch Management Consulting,
6 LLC, Calculations Supporting Schedules BV-1, BV-2, BV-3, and BV-5, Womallo-14,
7 Line 15 (Treatment - Purification - Baxter Treatment Plant - All Other Costs) and Line
8 21 (Treatment - Purification - All Other Treatment Plants - All Other Costs). The
9 O&M expenses allocated to the Purification and Treatment - Treatment - Other
10 function include the Operation Division treatment plant and treatment headquarters
11 costs, proportionate share of the Operations Division machine shop and materials
12 management unit, and a proportionate share of Water Fund administrative and general
13 costs.

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15 Note - the same allocation process for the above referenced costs was utilized in prior
16 proceedings. Details of this response regarding items 3 and 11 were provided in
17 response to PA-II-27 in the prior proceeding.

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19 B. Gas expenses are allocated based on a summary of FY 2018 and FY 2019 annual gas
20 costs as provided by the Department (PWD Exhibit-6: Black & Veatch Management
21 Consulting, LLC, Calculations Supporting Schedules BV-1, BV-2, BV-3, and BV-5,
22 WCOS19, WOMALLO-6, page 805).

23
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25 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.

1 **PA-I-9.** REFERENCE TABLE WW-1C. PLEASE PROVIDE A BREAKDOWN OF
2 PENALTY REVENUE BY CUSTOMER CLASS.

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4 **RESPONSE:**

5 Please see response to PA-I-7.

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7 **RESPONSE PROVIDED BY:** Melissa LaBuda, Philadelphia Water Department

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1 **PA-I-10.** REFERENCE TABLE WW-2. PLEASE PROVIDE A DETAILED
2 BREAKDOWN OF LINE ITEMS 7 AND 10.

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4 **RESPONSE:**

5 Please refer to the attached table: Response PA-I-10.xlsx

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7 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.

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PA-I-11. REFERENCE TABLE WW-14. PLEASE EXPLAIN HOW THE PERCENTAGES IN FOOTNOTE (A) WERE DETERMINED. PROVIDE SUPPORTING WORKPAPERS AND CALCULATIONS.

RESPONSE:

The percentages in Footnote (A) of Table WW-14 are based on the ratio of average dry weather flow to average wet weather flow, and are consistent with analogous percentages used in prior rate proceedings (PWD Statement 7A, Schedule BV-5, page 145).

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC.

1 **PA-I-12.** REFERENCE TABLE SW-4. PLEASE EXPLAIN LINE ITEM 6.
2

3 **RESPONSE:**

4 Line No. 6 of Table SW-4: Determination of Billable Impervious Area (sf), captures
5 reductions in billable IA related to customer appeals. As described in Schedule BV-6: WP-
6 2 – Stormwater Units of Service:

7
8 *“PWD’s appeal program which enables customers to seek adjustments for billing*
9 *inaccuracies including inaccurate parcel classification, incorrect parcel identification,*
10 *residential sideyard, or for errors in the calculation of a parcel’s gross and/or impervious*
11 *area.” (See page Schedule BV-6: WP-2 page 2).*

12
13 *Stormwater adjustment appeals, which customers can seek for inaccurate property*
14 *classification, and GA and IA data exceptions, have the potential to cause a reduction in*
15 *the billable GA and IA units of service; these adjustments primarily occur for the Non-*
16 *residential and customer class. (See page Schedule BV-6: WP-2 page 10).*

17
18 As a result of the appeals program, some Non-Residential Customers (including
19 condominium properties) who have sought an appeal of their stormwater billing data have
20 been granted a reduction in their billable GA and IA. Historically, this has resulted in a
21 downward adjustment of overall billable GA and IA.

22
23 The projection of losses in billable GA and IA is further described in the aforementioned
24 white paper. The appeals process is detailed in the Water Department’s “Stormwater
25 Management Service Charge Credits and Appeals Manual.”

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RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC.

1 **PA-I-13.** REFERENCE TABLES SW-3 SW-4, AND SW-5. PLEASE PROVIDE ACTUAL
2 DATA FOR THE LAST FIVE YEARS FOR EACH TABLE.

3

4 **RESPONSE:**

5 In reference to table SW-3 (Determination of Billable Gross Area), see table PA I-13
6 TABLE 1 for last five years of historical billable Gross Area.

7

8 In reference to table SW-4 (Determination of Billable Impervious Area), see table PA I-13
9 TABLE 2 for last five years of historical billable Impervious Area.

10

11 In reference to table SW-5 (Credit projections), see table PA I-13 TABLE 3 for last five
12 years of historical number of parcels receiving credits and impervious and gross area
13 credits.

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16 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.

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1 **PA-I-14.** REFERENCE TABLE SW-5. PLEASE PROVIDE A DETAILED
2 EXPLANATION OF LINE ITEMS 1-3 AND 5-7.

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4 **RESPONSE:**

5 Line No. 1-3 and 5-7 of Table SW-5: Credit Projections are described in Schedule BV-6:
6 WP-2 – Stormwater Units of Service.

7
8 Line No. 1 represents the total number of parcels projected to receive Impervious Area
9 Reduction (IAR) Credits.

10 Line No. 2 represents the total number of parcels projected to receive GA/IA Management
11 Practice Credits including Non-surface and Surface Discharge credits.

12 Line No. 3 represents the total number of parcels projected to receive stormwater credits as
13 a results of the Stormwater Management Incentive Program (SMIP) and the Greened Acre
14 Retrofit Programs (GARP).

15
16 Line No. 5 represents the reduction in billable impervious area resulting from Impervious
17 Area Reduction (IAR) Credits.

18 Line No. 2 represents the reduction in billable impervious area resulting from GA/IA
19 Management Practice Credits including Non-surface and Surface Discharge credits.

20 Line No. 3 represents the reduction in billable impervious area from stormwater credits
21 resulting from the Stormwater Management Incentive Program (SMIP) and the Greened
22 Acre Retrofit Programs (GARP).

23
24 For all of the line items noted above, the figures reflected in the table include both existing
25 credits, as of the end of FY 2019, and projected credits thereafter.

1 The Factors used to project GA/IA Management Credit for Non-Surface and Surface
2 Discharge Credits are presented in Table SW-11 and further discussed in the
3 aforementioned white paper.

4
5 Projection of GA/IA Management Practice Credits as well as SMIP/GARP Credits are
6 described in the aforementioned white paper.

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8 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.

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1 **PA-I-15.** REFERENCE TABLE SW-12. PLEASE PROVIDE ACTUAL DATA FOR THE
2 LAST FIVE YEARS.

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4 **RESPONSE:**

5 In reference to table SW-12 (Projected number of Billable Accounts), see table PA I-15
6 TABLE 1 for last five years of historical billable accounts.

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8 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.

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1 **PA-I-16.** PROVIDE COPIES OF FILES: FINPLAN19.XLS, WCOS19_21.XLS, AND
2 SCOS19_21XLS IN MICROSOFT EXCEL FORMAT WITH ALL FORMULAS
3 INTACT. ALSO INCLUDE ALL SUPPORTING SCHEDULES AND
4 WORKPAPERS IN EXCEL FORMAT WITH ALL FORMULAS INTACT.
5

6 **RESPONSE:**

7 The Microsoft Excel-based Computer Models included in PWD’s application will be
8 made available to Participants that execute a confidentially agreement. The Excel-based
9 models, which include the following Black & Veatch Management Consulting, LLC
10 (Black & Veatch) Cost of Service Work papers (PWD Exhibit-6) are as follows:

- 11 1. Financial Plan (Finplan19.xlsm)
- 12 2. Wastewater Cost of Service (SCOS19_21.xlsm)
- 13 3. Water Cost of Service (WCOS19_21.xlsm)

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15 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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1 **PA-I-17.** PLEASE EXPLAIN IN DETAIL ANY CHANGES IN THE COST
2 ALLOCATION AND RATE DESIGN METHODOLOGIES SINCE THE LAST
3 PROCEEDING.
4

5 **RESPONSE:**

6 There are no significant changes in the cost allocation and rate design methodologies since
7 the last proceeding. Note that the response to Question 37 in PWD Statement 7A, Direct
8 Testimony of Black & Veatch, identifies a revision to the allocation of water distribution-
9 related operating and maintenance expenses.
10

11 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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1 **PA-I-18.** PLEASE EXPLAIN IN DETAIL THE BASIS FOR ANY CHANGES IN THE
2 WATER CUSTOMER CLASS DEMAND FACTORS COMPARED TO THE
3 LAST PROCEEDING.
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5 **RESPONSE:**

6 There are no changes in the water customer class demand factors compared to the prior
7 proceeding.
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10 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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PA-I-19. FOR EACH OF THE PAST THREE YEARS, PLEASE PROVIDE FOR THE WATER SYSTEM:

- A. SYSTEM AVERAGE DAY PRODUCTION;
- B. SYSTEM MAXIMUM DAY PRODUCTION; AND
- C. SYSTEM MAXIMUM HOUR PRODUCTION.

RESPONSE:

A. SYSTEM AVERAGE DAY PRODUCTION;

FY 2017	FY 2018	FY 2019
222.2 MGD	222.6 MGD	221.8 MGD

B. SYSTEM MAXIMUM DAY PRODUCTION; AND

FY 2017	FY 2018	FY 2019
263.8 MGD	301.0 MGD	258.1 MGD

C. SYSTEM MAXIMUM HOUR PRODUCTION

FY 2017	FY 2018	FY 2019
402.5 MGD	346.0 MGD	330.9 MGD

MGD = Millions of gallons per day

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC.

1 **PA-I-20.** PLEASE PROVIDE A COPY OF PWD'S MOST RECENT LONG-TERM
2 WATER SUPPLY PLAN.

3
4 **RESPONSE:**

5 The Department's full document is not publicly available due to security concerns. For an
6 overview of plan, please see response attachment PA ADV 4 Drinking Water Master Plan.

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8 The overview is also available via the following link:

9 https://www.phila.gov/water/wu/Documents/PWD_DrinkingWaterMasterPlan.pdf

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12 **RESPONSE PROVIDED BY:** Thomas Spokas and Stephen J. Furtek, Philadelphia Water
13 Department

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1 **PA-I-21.** PLEASE PROVIDE AN ESTIMATE OF THE QUANTITY OF WATER USED
2 FOR PUBLIC FIREFIGHTING FOR EACH OF THE LAST THREE YEARS.

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4 **RESPONSE:**

5 The Department does not have an estimate on the quantity of water used for firefighting
6 purposes for each of the last 3 years. However, for purposes of water accountability, an
7 estimate of 55MG/year is currently being used.

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9 **RESPONSE PROVIDED BY:** Donna Schwartz, Philadelphia Water Department

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PA-I-22. FOR EACH CUSTOMER CLASS REFLECT IN THE WATER CLASS COST OF SERVICE STUDY, PLEASE PROVIDE MONTHLY SALES FOR THE MOST RECENT 36-MONTH AVAILABLE IN EXCEL FORMAT.

RESPONSE:

Please refer to the attached table: Response PA-I-22.xlsx

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC.

1 **PA-I-23.** PLEASE EXPLAIN IN DETAIL HOW THE MAXIMUM DAY AND
2 MAXIMUM HOUR CAPACITY FACTOR FOR EACH CLASS IN THE
3 WATER CLASS COST OF SERVICE STUDY WAS DETERMINED
4 (INCLUDING PUBLIC AND PRIVATE FIRE). INCLUDE SUPPORTING
5 CALCULATIONS AND DOCUMENTATION.
6

7 **RESPONSE:**

8 The customer type extra capacity factors were determined based on previous cost of service
9 studies and rate proceedings. To review and verify the reasonableness of the capacity
10 factors, Black & Veatch performed a capacity factor analysis according to the methodology
11 outlined in Appendix A of AWWA Manual M-1: Principles of Water Rates, Fees, and
12 Charges. Accordingly, Black & Veatch used the monthly customer billing data, and system
13 historical peak demands, and weekly and hourly usage adjustments to derive an estimate of
14 capacity factors for each customer type.
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18 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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PA-I-24. PLEASE IDENTIFY THE ANNUAL QUANTITIES OF NON-REVENUE WATER BY TYPE FOR THE MOST RECENT FIVE-YEAR PERIOD AVAILABLE. ALSO IDENTIFY ANNUAL WATER PRODUCTION FOR THE SAME FIVE ANNUAL PERIODS.

RESPONSE:

Response attachment response PA-I-24 is the standard International Water Association / AWWA water balance for the Department for the last five years with key definitions. A detailed description of the water balance can be found in the AWWA M36 Manual.

RESPONSE PROVIDED BY: Philadelphia Water Department

1 **PA-I-25.** SINCE ITS LAST CASE, HAS THE PWD CONDUCTED A
2 COMPREHENSIVE HOLISTIC REVIEW OF ITS RATE STRUCTURE FOR
3 WATER SERVICE UNDER WHICH SEPARATE RATE SCHEDULES WERE
4 CONSIDERED FOR CERTAIN CUSTOMER CLASSES? IF NO, WHY NOT?
5 IF YES, PLEASE DESCRIBE THIS REVIEW IN DETAIL AND PRESENT ALL
6 RESULTS AND FINDINGS OF THE REVIEW.
7

8 **RESPONSE:**

9 Since the last rate proceeding, PWD conducted an Alternative Rate Structure Analysis, a
10 facilitated process to consider changes to its rate structure in three areas: water quantity
11 charges, stormwater credits and incentives, and recovery of pension-related expenses. The
12 Department recognizes that a comprehensive review of the current rate structure and
13 analysis of alternative ratemaking methodologies is a lengthy and ongoing process, and the
14 information presented in the Alternative Rate Structure Analysis Report is the first step.
15

16 The Alternative Rate Structure Analysis Report is available on the Water, Sewer and Storm
17 Water Rate Board's website:

18 [https://www.phila.gov/media/20191122181318/ARSG-Summary-Report-Final-](https://www.phila.gov/media/20191122181318/ARSG-Summary-Report-Final-2019.11.05.pdf)
19 [2019.11.05.pdf](https://www.phila.gov/media/20191122181318/ARSG-Summary-Report-Final-2019.11.05.pdf)
20

21 As noted on page 8 of the Alternative Rate Structure Analysis Report: “the City’s existing
22 billing system has many limitations and in particular, concerning customer types. Prior to
23 implementing any rates by customer type, the Department would need to address these
24 limitations and verify all customer types.”
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1 **RESPONSE PROVIDED BY:** Philadelphia Water Department, Black & Veatch Management
2 Consulting, LLC
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1 **PA-I-26.** PLEASE PROVIDE AN ESTIMATE OF THE REVENUE REDUCTIONS
 2 RESULTING FROM STORMWATER CREDITS FOR THE LAST FIVE
 3 FISCAL YEARS.
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5 **RESPONSE:**

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 7 **CITY OF PHILADELPHIA WATER DEPARTMENT**
FOR THE FISCAL YEARS ENDED JUNE 30, 2019, 2018, 2017, 2016 and 2015
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<u>Program</u>	<u>Program Type</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>
Phase in Program (CAP)	Bill Reductions	2,003,238	2,011,096	2,531,367	3,282,654	4,164,073
Stormwater Credits	Bill Reductions	17,988,320	16,038,856	13,819,758	12,864,862	12,262,191
Community Gardens	Bill Reductions	9,966	14,320	-	-	
Total		\$ 20,001,524	\$ 18,064,272	\$ 16,351,125	\$ 16,147,516	\$ 16,426,264

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 14 **RESPONSE PROVIDED BY:** Melissa LaBuda Philadelphia Water Department
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1 **PA-I-27.** PLEASE PROVIDE A COPY OF ANY STUDIES PERFORMED BY THE
2 DEPARTMENT THAT EVALUATE THE EXTENT TO WHICH THE
3 STORMWATER CREDIT PROGRAM HAS REDUCED STORMWATER
4 VOLUMES.

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6 **RESPONSE:**

7 There are no such studies available at this time.

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9 **RESPONSE PROVIDED BY:** Philadelphia Water Department
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1 **PA-I-28.** REFERENCE SCHEDULE BV-4. PLEASE PROVIDE THE WORKPAPERS
2 AND CALCULATIONS SUPPORTING EACH NEWLY CALCULATED
3 CHARGE.

4
5 **RESPONSE:**

6 There are only two new miscellaneous fees proposed which are for TAP customers -
7 Shutoff and Restoration of Water Service. These fees are based on the minimum bill for
8 TAP customers and not based on any cost calculation for miscellaneous fees.

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11 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.

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1 **PA-I-29.** WHAT IS THE POPULATION OF PWD'S WATER SERVICE TERRITORY?
2

3 **RESPONSE:**

4 The Water System's service area includes the City and one wholesale customer outside of
5 the City. According to the 2018 U.S. Census Bureau estimate, the City's population is
6 1,584,138.
7

8 **RESPONSE PROVIDED BY:** Melissa LaBuda, Philadelphia Water Department
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1 **PA-I-30.** REFERENCE BV-1, TABLE W-10. PLEASE IDENTIFY BY LINE ITEM, THE
 2 COSTS ASSOCIATED WITH WATER QUALITY TESTING REFLECTED IN
 3 TEST YEAR O&M EXPENSE.
 4

5 **RESPONSE:**

6 The estimated FY 2019 costs of the Bureau of Laboratory Services (BLS) are included in
 7 the following line items in Table W-10.
 8

Line No.	Description	FY 2021 Costs
3	Raw Water Pumping – Other	\$ 158,321
7	Purification & Treatment – Power & Pumping – Other	\$ 576,460
11	Purification & Treatment – Other – Other	\$ 2,189,319
15	Mains	\$ 3,053,082
16	Meters	\$ 83,743
17	Fire Hydrants	\$ 32,036
18	Filtered Water Storage	\$ 60,512
19	High Pressure Fire System	\$ 0
21	Customer Accounting & Collection	\$ 505,262
24	Administrative & General	\$ 987,513
	Total	\$ 7,646,248

1 Note: The Allocation of the FY 2021 BLS costs is presented on PWD Exhibit-6: Black &
2 Veatch Management Consulting, LLC, Calculations Supporting Schedules BV-1, BV-2,
3 BV-3, and BV-5, WCOS17_19, Womallo-14, Column 7 (page 817).

4
5 There are additional water quality testing costs included in Line 8 (Purification &
6 Treatment – Treatment – Other) of Table W-10 which are associated with the labs located
7 at each of the water treatment plants. The budgeted costs for each water treatment plant
8 include the lab costs at each plant. At this time the costs for these labs are not readily
9 identifiable as there is not a specific cost center or unit within the treatment plant budgets
10 to isolate these lab costs.

11
12 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.

1 **PA-I-31.** PLEASE IDENTIFY THE FREQUENCY WITH WHICH PWD PERFORMS
2 EACH WATER QUANTITY TEST AND THE CRITERIA WHICH
3 DETERMINES HOW FREQUENTLY EACH WATER QUALITY TEST
4 SHOULD BE PERFORMED (I.E., DAILY WEEKLY PRODUCTION
5 QUANTITY, ETC.).
6

7 **RESPONSE:**

8 The Department performs quantity and quality tests on many aspects of the water and
9 wastewater treatment processes, which include raw water, water in various stages of
10 treatment, potable water, untreated wastewater, wastewater in various stages of treatment
11 and treated wastewater. The frequency of tests is determined by the Safe Drinking Water
12 Act, Clean Water Act, state permits, such as the NPDES permits, state regulations and
13 responsible treatment practices.
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16 **RESPONSE PROVIDED BY:** Donna Schwartz, Philadelphia Water Department
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1 **PA-I-32.** REFERENCE SECTION S.S.1 OF THE WATER WASTEWATER COST OF
2 SERVICE REPORT. PLEASE EXPLAIN WHY THE MAXIMUM DAY IS 1.4
3 IN THE MAXIMUM DAY CALCULATION BUT 1.3 IN THE MAXIMUM
4 HOUR CALCULATION.

5
6 **RESPONSE:**

7 Different Base/Maximum Day Extra Capacity/Maximum Hour Extra allocation
8 percentages were used to allocate the power costs associated with the raw water pumping
9 and treatment and pumping functional cost centers as a reflection of the operating
10 characteristics of the facilities associated with each functional cost center. Raw water
11 pumping facilities are designed and operate to meet the maximum day demands and as
12 such do not include an allocation of power costs to the maximum hour extra capacity
13 component.

14
15 Note that the Base/Maximum Day Extra Capacity/Maximum Hour Extra allocation
16 percentages used to allocate the power costs associated with the raw water pumping and
17 treatment and pumping functional cost centers are consistent with prior cost of service
18 studies.

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22 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.

1 **PA-I-33.** IN THE WASTEWATER COST OF SERVICE STUDY, PLEASE EXPLAIN
2 HOW THE COSTS ASSOCIATED WITH I/I ARE ALLOCATED TO EACH
3 CUSTOMER TYPE.
4

5 **RESPONSE:**

6 In accordance with the prior rate proceeding decisions, the cost of service and rate design
7 for the current study reflects a 30 percent recovery of pumping and treatment related I/I
8 costs through the service charge and 70 percent through the volume charge (PWD Statement
9 7A, Schedule BV-5, page 140 and 145).
10

11 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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1 **PA-I-34.** REFERENCE SCHEDULE BV-6 WP-1, PAGE 13:

2 A. PLEASE EXPLAIN THE DIFFERENCE BETWEEN A NON-SURFACE
3 DISCHARGE CREDIT AND A SURFACE DISCHARGE CREDIT; AND

4 B. PLEASE PROVIDE TOTAL IA AND GA FOR EACH FISCAL YEAR.

5
6 **RESPONSE:**

7 A. With respect to the Water Department's stormwater credit program, the primary
8 difference between non-surface and surface discharge credit holders is the maximum
9 credit allowed.

10
11 As defined in Section 4.5 (c)(1)(ii) of the Water Department's Rates and Charges, in
12 order to receive Impervious Area Credit for a non-surface discharge, *"the customer*
13 *must demonstrate management of the first inch of stormwater run-off in one of the*
14 *three following ways: (A) infiltration, (B) detention and slow release, and/or (C)*
15 *routing through an approved volume-reducing SMP."*

16
17 As defined in Section 4.5 (c)(1)(iii) of the Water Department's Rates and Charges, in
18 order to receive Impervious Area Credit for a surface discharge, *"the Customer must*
19 *demonstrate that a portion or all of the impervious area discharges directly to a*
20 *surface water body."*

21
22 As defined in Section 4.5 (c)(2)(i) of the Water Department's Rates and Charges, with
23 respect to Gross Area Credit, customers receiving IA credit receive *"GA credit based*
24 *on the criteria defined in Section 4.5(c)(1)(ii) and (iii) herein."*

Customers may also be eligible for GA Credit for “*Open Space area only*” as defined in Section 4.5 (c)(2)(ii) of the Water Department’s Rates and Charges as well as “*National Pollutant Discharge Elimination System (NPDES) Credit*” as defined in Section 4.5(c)(3) of the Water Department’s Rates and Charges.

The credit maximums by credit type as defined in Section 4.5 (d) of the Water Department’s Rates and Charges are summarized in the following table:

	<u>Non-Surface</u>	<u>Surface</u>
Impervious Area Credit		
IAR	100%	100%
IA Managed	80%	90%
Gross Area Credit		
IA Managed	80%	90%
Open Space Area	80%	90%
NPDES Credit		
IA Managed	7%	7%
Open Space Area	7%	7%

The credit program is further detailed in in the Water Department’s “Stormwater Management Service Charge Credits and Appeals Manual”

B. The total GA credit and total IA credit for Non-Surface Discharge and Surface Discharge Credit for holders for FY 2013 to FY 2019 is provided on Page 13 of Schedule BV-6: WP-1.

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Projections of future Non-Surface and Surface Discharge credits are discussed in Schedule BV-6: WP-2 – Stormwater Units of Service (see Page 7). The resulting projections of overall stormwater credits due to GA/IA management practices as summarized in Tables SW-5 includes the impact of both Non-Surface and Surface Discharge credits. The projection factors used are presented in Table SW-11.

RESPONSE PROVIDED BY: Black & Veatch Management Consulting, LLC.

1 **PA-I-35.** REFERENCE BV-1, TABLE W-10:

2 A. PLEASE IDENTIFY LABOR EXPENSE BY LINE ITEM; AND

3 B. PLEASE IDENTIFY THE EXTENT TO WHICH TREATMENT PLANT
 4 LABOR EXPENSE WOULD INCREASE ON A MAXIMUM DAY TO AN
 5 AMOUNT HIGHER THAN THAT EXPERIENCED ON AN AVERAGE DAY.

6
 7 **RESPONSE:**

8 A. Estimated FY 2019 direct labor expenses are included in the following line items in
 9 Table W-10:

Line No.	Description	FY 2021 Costs
3	Raw Water Pumping – Other	\$ 1,569,407
7	Purification & Treatment – Power & Pumping – Other	\$ 5,714,350
11	Purification & Treatment – Other – Other	\$ 21,666,993
15	Mains	\$ 37,106,938
16	Meters	\$ 1,030,080
17	Fire Hydrants	\$ 389,358
18	Filtered Water Storage	\$ 735,454
19	High Pressure Fire System	\$ 0
21	Customer Accounting & Collection	\$ 1,636,683
24	Administrative & General	\$ 0
	Total	\$ 68,849,263

1 Note: The Allocation of the FY 2021 direct personnel costs is presented on PWD Exhibit-
2 6: Black & Veatch Management Consulting, LLC, Calculations Supporting Schedules BV-
3 1, BV-2, BV-3, and BV-5, WCOS17_19, Womallo-12, Column 9 (pages 814 and 815).

4
5 B. Black & Veatch is not aware of any available staffing or labor analysis which would
6 identify the extent to which treatment plant labor expense would increase on a maximum
7 day to an amount higher than that experienced on an average day.

8
9 It should be noted that the allocation basis for water treatment labor expense reflected in
10 the current cost of service study is consistent with the AWWA's "Principles of Water
11 Rates, Fees, and Charges" Manual of Water Supply Practices M1. As indicated on pages
12 66-67 of the manual: "Expenses other than power, chemical, and customer-related costs
13 can be allocated to cost components on the basis of operating considerations or the design
14 capacity requirements of each facility." The allocation basis for the water treatment labor
15 expense in the current cost of service study reflects the maximum day demand, which is
16 consistent with the design capacity requirement and operating basis of PWD's water
17 treatment facilities.

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21 **RESPONSE PROVIDED BY:** Black & Veatch Management Consulting, LLC.
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