

**DIRECT TESTIMONY OF  
HAROLD J. SMITH, VICE PRESIDENT  
RAFTELIS FINANCIAL CONSULTANTS, INC.**

**for**

**PROVIDENCE WATER SUPPLY BOARD  
DOCKET # \_\_\_\_\_**

**December 2019**

**INTRODUCTION**

1 **Q. Please state your name and business address.**

2 A. My name is Harold J. Smith and my business address is 227 W. Trade Street, Suite  
3 1400, Charlotte, North Carolina 28202.

4

5 **Q. By whom are you employed and in what capacity?**

6 A. I am a Vice President of Raftelis Financial Consultants, Inc. (Raftelis), a consulting  
7 firm specializing in the areas of water and wastewater finance, pricing and ratemaking.  
8 Raftelis was established in 1993 in Charlotte, North Carolina, by George A. Raftelis to  
9 provide environmental and management consulting services to public and private sector  
10 clients. Raftelis is a national leader in the development of water and wastewater rates.

11

12 **Q. Please describe your educational background and work experience.**

13 A. I obtained a Master of Business Administration from Wake Forest University in 1997  
14 and a Bachelor of Science in Natural Resources from the University of the South in 1987.  
15 As an employee of Raftelis Financial Consultants, I have been involved in numerous  
16 projects for public utilities including a number of studies involving a wide range of  
17 technical specialties including water utility cost of service and rate structure studies and  
18 water utility financial planning studies.

19

20 **Q. Have you previously testified before any Rhode Island regulatory agencies on  
21 utility rate related matters?**

22 A. Yes. I provided testimony before the Rhode Island Public Utilities Commission  
23 (RIPUC) in Providence Water Supply Board's (Providence Water) most recent filing  
24 (Docket 4618) and in Newport Water's eight most recent filings (Docket Nos. 3578, 3675,  
25 3818, 4025, 4243, 4355, 4595 and 4933). I have also provided testimony on behalf of the  
26 Pittsburgh Water and Sewer Authority before the Pennsylvania Public Utility Commission  
27 (Docket Nos. R-2018-3002645 and R-2018-3002647) and I have testified on behalf of the  
28 Consumer Advocate before the Nova Scotia Utility and Review Board (W-HRWC-R-10)

1 and on behalf of Cecil County, Maryland before the Maryland Public Service Commission  
2 (MPSC) in MPSC Case No. 9190.

3

4 **Q. Do you belong to any professional organizations or committees?**

5 A. Yes. I am a member of the American Water Works Association where I served as  
6 chairman of the Competitive Practices Committee.

7

8 **Q. Please describe your role in this proceeding?**

9 A. I have worked with Providence Water staff to develop rate year revenue requirements,  
10 a cost of service analysis, cost of service-based rates and charges an appropriate  
11 reimbursement to the City of Providence (City) for services rendered to Providence Water.

12

13 **Q. Please describe the purpose of your testimony.**

14 A. This testimony provides an explanation for each schedule attached to my testimony.  
15 The schedules develop revenue requirements for the Fiscal Year Ending June 30, 2021,  
16 2022 and 2023. The FY 2021 revenue requirement forms the basis for the cost of service  
17 analysis and FY 2021 rates. The schedules also include rates for FY 2022 and FY 2023  
18 based on an across-the-board increase to all rates proportionate to the overall increase in  
19 the revenue requirement in those years. Finally, the schedules include a City Services  
20 Analysis to support my recommended reimbursement for services rendered to Providence  
21 Water by the City.

22

23 **Q. What are your general conclusions?**

24 A. As shown on schedule HJS-1, Providence Water needs additional rate revenue to  
25 properly fund O&M and capital costs related to providing safe and reliable service to its  
26 customers. Providence Water is seeking to address this need through a multi-year rate  
27 increase. The proposed increases in rate revenue, are as follows:

- 28 • FY 2021 – \$13,311,349 (19.07%)
- 29 • FY 2022 – \$6,131,341 (7.26%)
- 30 • FY 2023 – \$3,574,759 (3.94%)

1 **Q. Will all rates increase by the 19.07% indicated for FY 2021?**

2 A. No, this represents the increase in rate revenue. Please see HJS-22, which provides a  
3 breakdown of current rates, proposed rates, and the associated percentage changes. Rate  
4 adjustments will vary and are based on the cost of service analysis and rate design described  
5 below.

6  
7 **Q. How will the increases in FY 2022 and FY 2023 be applied?**

8 A. These adjustments will be applied equally in an across the board fashion to all rates.

9  
10 **CONTENT OF EXHIBITS**

11 **Q. Please provide a brief description of your pre-filed Exhibits.**

12 A. My pre-filed exhibits fall into four categories, those addressing the development of a  
13 normalized test and rate year revenue requirements, those addressing the cost of service  
14 allocation, those addressing rate design and those addressing my City Service Analysis.  
15 They are as follows:

16 **1. Normalized Test-Year and Rate Year Revenue Requirements:**

- 17 a. **Schedule HJS-1** is a summary of the of costs and revenues associated with  
18 serving Providence Water customers, under existing rates and proposed  
19 rates for the FY 2021, 2022 and 2023.
- 20 b. **Schedule HJS-2** indicates Providence Water's revenue for the FY 2019 test  
21 year.
- 22 c. **Schedule HJS-3A and B** indicate test year adjustments and rate year  
23 adjustments to Providence Water's payroll expense. This includes  
24 normalizing adjustments to the FY 2019 test year, as well as contractual  
25 increases in salaries and wages anticipated in FY 2020 through FY 2023.
- 26 d. **Schedule HJS-4A and B** indicate test year adjustments and rate year  
27 adjustments to Providence Water's pension and other benefits expense  
28 (OPEB).



- 1 e. **Schedule HJS-5** indicates rate year adjustments to Providence Water’s  
2 purchased power expense, reflecting a reduction in these costs due to newly  
3 onsite solar generation at Providence Water facilities.
- 4 f. **Schedule HJS-6** indicates test year and rate year adjustments to Providence  
5 Water’s materials, supplies and contract services expenses.
- 6 g. **Schedule HJS-7** indicates rate year adjustments to Providence Water’s  
7 regulatory and rate case expense.
- 8 h. **Schedule HJS-8A and 8B** indicate rate year adjustments to Providence  
9 Water’s chemicals and sludge maintenance expense. This includes rate year  
10 adjustments to support an increase in funding for the chemical and sludge  
11 maintenance fund, based on an increase in expenses anticipated in rate years  
12 FY 2021 to 2023.
- 13 i. **Schedule HJS-9** indicates rate year adjustments to Providence Water’s  
14 property tax expenses to reflect anticipated increases in property taxes on  
15 Providence Water assets in rate years FY 2021 to FY 2023.
- 16 j. **Schedule HJS-10A to 10J** indicate the sources, uses and ending balance of  
17 each of Providence Water’s restricted funds, as well as changes in the  
18 requested funding level of each fund, as needed, to cover increased expenses  
19 in rate years FY 2021 to FY 2023.
- 20 k. **Schedule HJS-11** calculates an inflation adjustment for any rate year  
21 expense that does not otherwise have adjustment associated with Schedules  
22 HJS-3 to 10 above.
- 23 l. **Schedule HJS-12** indicates the progression of Providence Water’s  
24 proposed revenue requirement from test year FY 2019 through the final rate  
25 year FY 2023, including all test year and rate year adjustments reflected in  
26 Schedules HJS-3 to HJS-11.

27 **2. Cost of Service Analysis:**

- 28 a. **Schedule HJS-13A** summarizes the factors which are used to allocate costs  
29 to the cost components of the Providence Water revenue requirement,  
30 which are developed in Schedules HJS-13B through 13G.

- 1           b. **Schedule HJS-13B** indicates the development of Factors 12 and 18, which  
2           are used to allocate pump station electric costs and the net book value of  
3           pumping assets to cost components.
- 4           c. **Schedule HJS-13C** indicates the breakdown of the Providence Water  
5           transmission and distribution system by length and diameter.
- 6           d. **Schedule HJS-13D** uses historical data regarding work and service orders  
7           completed by Providence Water employees to develop Factor 13, which is  
8           used to allocate transmission and distribution labor costs to cost  
9           components.
- 10          e. **Schedule HJS-13E** uses historical data regarding contract services to  
11          develop Factor 14, which is used to allocate transmission and distribution  
12          labor contract services costs to cost components.
- 13          f. **Schedule HJS-13F** develops Factors 19, 20 and 21 based on Providence  
14          Water's net plant investment in utility assets. These factors are used to  
15          allocate rate year capital costs to cost components.
- 16          g. **Schedule HJS-13G** develops factor 22 which is used to allocate the net  
17          book value of Providence Water's Central Operations Facility.
- 18          h. **Schedule HJS-14A and B** indicate the allocation of each component of the  
19          FY 2021 revenue requirement from HJS-12 based on the allocators  
20          indicated in HJS-13A.
- 21          i. **Schedule HJS-15A** indicates historical usage, test year FY 2019 usage and  
22          pro-forma usage for the rate years FY 2021 to FY 2023.
- 23          j. **Schedule HJS-15B** assigns non-revenue water to retail and wholesale  
24          customers.
- 25          k. **Schedule HJS-16A, B, and C** indicate the rate year FY 2021 units of  
26          service by customer class.
- 27          l. **Schedule HJS-17** develops unit cost of service for rate year FY 2021.
- 28          m. **Schedule HJS-18** indicates the distribution of the FY 2021 revenue  
29          requirement to each class of customers based on their respective units of  
30          service.

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**3. Rate Design**

- a. **Schedule HJS-19** indicates the calculation of volumetric rates for residential, commercial and wholesale customers.
- b. **Schedule HJS-20A** indicates the calculation of the retail meter service charges.
- c. **Schedule HJS-20B** indicates the development of the City of Providence retail fire protection service charge.
- d. **Schedule HJS-21A** indicates the calculation of the private fire service charge.
- e. **Schedule HJS-21B** indicates the development of hydrant charge.
- f. **Schedule HJS-22** indicates the proposed rates for rate years FY 2021 to FY 2023.
- g. **Schedule HJS-23** indicates comparison of revenues under existing rates to the proposed rates for rate years FY 2021 to FY 2023.
- h. **Schedule HJS-24** indicates revenue proof which compares the rate year revenue requirement to revenues generated under the proposed rates for rate years FY 2021 to FY 2023.
- i. **Schedule HJS-25** indicates typical bill impacts for residential, commercial and industrial customers.

**4. City Services Analysis**

- a. **Schedule HJS-CS1** indicates the allocation bases Raftelis developed for the City Services Analysis.
- b. **Schedule HJS-CS2** indicates the division of the City Controller’s budget into distinct functions and adjustment to the City Clerk’s budget to remove the estimated portion which is not related to serving Providence Water.
- c. **Schedule HJS-CS3** indicates the development of the City Services Reimbursement.



1    **TEST YEAR ADJUSTMENTS**

2    **Q. What adjustments did you make to the fiscal year ending June 30, 2019 revenues**  
3    **and expenses to arrive at a normalized “rate making basis” test year?**

4    A. I made three normalizing adjustments. First, I adjusted test year revenues to reflect the  
5    anticipated acquisition of 1700 customers that are currently being served on a wholesale  
6    basis in Johnston. Providence Water is in the process of acquiring the Johnston system and  
7    the transaction is anticipated to be completed by the end of FY 2020. The acquisition of  
8    Johnston will decrease wholesale volume revenues and increase retail volume revenues,  
9    meter service charge revenues and hydrant charge revenues.

10

11   Second, I incorporated normalizing adjustments to account for payroll expenses that were  
12   not incurred in the test year but will be incurred during each rate year as Providence Water  
13   fills currently vacant positions. I have also excluded payroll expense for employees not  
14   paid out of operations. Note that I have maintained both the reduction in payroll expense  
15   associated with payroll clearing, and overhead rate applied amounts, which represent  
16   payroll expenses which will be reimbursed from the Infrastructure Replacement (IFR)  
17   Fund.

18

19   Finally, I removed \$60,686 in non-recurring test year contractual services expense from  
20   account 63680, which was related to the demolition of the operations facility in Cranston.  
21   I also added \$1,500 in expenses which were not incurred in FY 2019 but were incurred in  
22   FY 2020 and will be incurred going forward.

23

24   **Q. Did you make any adjustments to test year FY 2019 sales based on a multi-year**  
25   **average, as in previous Dockets?**

26   A. No. As I testified in Docket 4618, Providence Water’s annual sales have declined at  
27   an average rate of 0.6% per year. This is consistent with a nationwide trend in reduced per  
28   capita consumption due to increased fixture efficiency, a general culture of conservation  
29   and demand response to increasing water rates. Developing rates based on pro-forma sales  
30   which are too high will result in an under-recovery of revenues in the rate year. This was



1 the case Docket 4618, where Providence Water was approved to transfer funds from the  
2 restricted revenue reserve because actual water sales fell significantly short of those used  
3 to develop the rates that were in place at the time.

4  
5 On the other hand, significantly underestimating pro-forma sales may drive rates higher  
6 than they ultimately need to be. Using test year FY 2019 sales—rather than, for example,  
7 assuming a decline in sales—is a reasonable compromise between the two positions.

8  
9 **Q. Mr. Smith, in your professional opinion, does your adjusted test year present a  
10 proper normalized test-year?**

11 A. Yes, I believe that the adjusted, normalized test year I have prepared for this filing fairly  
12 presents the operations of Providence Water in a normal year on a ratemaking basis with  
13 currently approved rates.

14  
15 **RATE YEARS (FYE June 30, 2021, 2022 and 2023)**

16 **Q. Mr. Smith, for what period is Providence Water seeking to establish rates?**

17 A. Providence Water is seeking to establish rates for the fiscal year ending June 30, 2021  
18 based on the rate year revenue requirement and the cost of service analysis and rate design  
19 proposals described in further detail below. In addition, Providence Water is proposing  
20 “across the board” adjustments to those rates for the fiscal years ending June 30, 2022 and  
21 June 30, 2023 based on the overall percentage increase in revenues required for those  
22 periods, which would be applied equally to all rates.

23  
24 **Q. Would the proposed FY 2022 and FY 2023 rates take effect exactly as proposed in  
25 HJS-22?**

26 A. Not necessarily. While the FY 2021 rates would take effect, as proposed, on July 1,  
27 2020, the rates for FY 2022 and FY 2023 would be subject to compliance filings that could  
28 change the FY 2022 and FY 2023 rates presented here. They are being included in this  
29 filing to allow the parties to this docket to resolve all major revenue requirement issues  
30 now, allowing for more limited compliance filings to adjust rates in FY 2022 and FY 2023.

1 **Q. What adjustments have you made for the rate year in this filing?**

2 A. I made 13 rate year adjustments, as indicated on Schedules HJS-3A through HJS-11.

3 They are as follows:

- 4 1. I adjusted *payroll expense* to reflect contractual increases in FY 2021 and FY 2022  
5 and an anticipated increase in FY 2023 (HJS-3A and B).
- 6 2. I adjusted *OPEB expense* to reflect increases in employee benefits such as pensions,  
7 healthcare, dental etc. (HJS-4A and B).
- 8 3. I adjusted *utilities expense* to reflect electric cost savings associated with onsite  
9 solar generation at Providence Water facilities (HJS-5).
- 10 4. I adjusted *materials, supplies, contract services, transportation and miscellaneous*  
11 *expenses* to reflect known and measurable changes in specific expense items (HJS-  
12 6).
- 13 5. I adjusted *regulatory and rate case expense* to reflect anticipated increases in  
14 regulatory commission expenses and a three-year amortization of rate case expense  
15 (HJS-7).
- 16 6. I adjusted *chemicals and sludge maintenance* funding to ensure sufficient funds are  
17 available to cover increasing chemical costs (HJS-8A and B, HJS-10G).
- 18 7. I adjusted *property taxes* to remove property taxes associated with the old Cranston  
19 operations facility and assumed the statutory maximum increase (4% per year) for  
20 all other taxes that were not covered by property tax agreements (HJS-9).
- 21 8. I increased funding for the *IFR fund* to ensure sufficient funds are available to cover  
22 anticipated new debt service and cash funded construction in each year (HJS-10C).  
23 Please see the Testimonies of Providence Water Witnesses Gregg Giasson and  
24 Nancy Parrillo.
- 25 9. I increased funding for the *AMR/Meter Replacement Fund* to ensure sufficient  
26 funds are available to cover ongoing meter replacement costs in each year (HJS-  
27 10D). Please see the Testimony of Providence Water Witness Nancy Parrillo.
- 28 10. I increased funding for the *Equipment/Vehicle Replacement Fund* to ensure  
29 sufficient funds are available to cover equipment replacement costs in each year

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1 (HJS-10E). Please see the Testimonies of Providence Water Witnesses Stephen  
2 Colman and Nancy Parrillo.

3 11. I increased funding for the *Restricted Revenue Reserve Fund* based on a funding  
4 level of 0.5% of expenses (HJS-1 and HJS-10J).

5 12. I increased funding for the *Unrestricted Operating Reserve* based on a funding level  
6 of 1.5% of expenses (HJS-1).

7 13. I increased any expenses that were not otherwise adjusted at inflation rate of 2.10%  
8 per year based on the 3-year compounded average growth rate of the Consumer  
9 Price Index for All Urban Consumers (CPI-U) from FY 2016 to FY 2019, based on  
10 data from the United States Bureau of Labor Statistics (HJS-11)

11

12 **Q. Mr. Smith, how specifically did you adjust for payroll expense in each year?**

13 A. I began with the FY 2019 normalized payroll and increased the expense to account for  
14 a 2% contractual increase to occur on July 1, 2019 and again on July 1, 2020. For FY 2022,  
15 I increased the expense 3%, representing the contractual increase in that year. FY 2023  
16 was increased 2.5% to account for an anticipated contractual increase in that year. I also  
17 accounted for step increases, which represent anticipated promotions for certain  
18 employees.

19

20 **Q. How did you determine the adjustments for OPEB expense on HJS-4A and B?**

21 A. Notes for these adjustments are indicated on the schedule. Generally speaking, they are  
22 all based on contractual requirements or estimates based on historical increases.

23

24 **Q. Is it your intent to update any estimated OPEB expenses, when they become  
25 known?**

26 A. Yes.

27

28 **Q. How did you allocate the reduction in utilities expense to the various NARUC  
29 accounts?**

30 A. These are applied proportionally based on test year electric expenses.



1 **Q. How were the adjustments on HJS-6 determined?**

2 A. Many are estimated increases in existing expenses based on historical increases or  
3 industry standard estimates. Some are new expenses which did not occur in the test year  
4 but will occur in the rate years. Also, note that—in cases where an expense is one-time, it  
5 has been adjusted out in the year after which it is expected to be incurred. By major  
6 functions the primary drivers of the increases are as follows:

- 7 1. Water Treatment – increases due to new lead and copper rule related programs
- 8 2. Transmission and Distribution – anticipated cost of materials and supplies (pipe,  
9 sand and gravel, asphalt, valves) and contract services used for water main  
10 replacement.
- 11 3. Customer Accounts – increase in printing and postage costs
- 12 4. Administrative and General –
  - 13 a. IT related (software contracts, cybersecurity upgrades)
  - 14 b. Employee Training
  - 15 c. Filtered Watering Stations for Public Schools (one-time)

16

17 **Q. Is it your intent to update any estimated expenses on HJS-6, when they become**  
18 **known?**

19 A. Yes.

20

21 **Q. How did you determine regulatory and rate case expense on HJS-7?**

22 A. Regulatory commission expenses are based on historical actual increases, as noted on  
23 HJS-7, with the exception of the “Financial Consultant” expense, which represents  
24 estimated consultant costs for compliance filings in FY 2022 and FY 2023 (as discussed  
25 above). Rate Filing Consultant expenses represents the actual amount indicated on a  
26 purchase order with Raftelis. Legal expenses are based on estimated hours and hourly  
27 billing rates for Schacht and McElroy. Finally, Division expenses are based on 2018  
28 actuals plus 5% based on historical actuals. As noted above I propose a three-year  
29 amortization of rate case expense.

30



1 **Q. Why did you not adjust the funding level of insurance expense on HJS-10F?**

2 A. These expenses are expected to increase over time, as noted in the testimony of  
3 Providence Water Witness Nancy Parrillo, but the existing funding level is sufficient to  
4 cover the increased expense over the next three years.

5

6 **Q. What is driving the need for increased funding for the Chemicals and Sludge  
7 Maintenance Fund?**

8 A. Providence Water expects chemical costs—especially those for Ferric, Lime, Fluoride  
9 and Ascorbic Acid—to continue to rise. In addition, Providence Water anticipates adding  
10 Orthophosphate, beginning this year at pilot scale, then ramping up to full scale by FY  
11 2020. Sludge maintenance costs are expected to remain constant. Note that although  
12 increased funding is being requested, the balance in this fund is being drawn down over  
13 time. Without the additional funding, fund balance would be negative by the end of FY  
14 2022.

15

16 **Q. Mr. Smith what costs are included in HJS-10I?**

17 A. These represent the costs associated with the private side lead service line replacement  
18 program. This program is described in greater detail in the testimonies of Providence Water  
19 Witnesses Ricky Caruolo, Nancy Parrillo and Gregg Giasson.

20

21 **Q. Please overview your adjustment for Property Tax expense on HJS-9?**

22 A. For the municipalities covered by tax agreements, the agreed to amount was used.  
23 Others are being increased by the 4% statutory maximum, with the exception of Cranston,  
24 which has been reduced by \$43,198 reflecting a reduction in property taxes associated with  
25 the old operations facility, which has been demolished.

26

27 **Q. Is it your intent to update the adjustments on HJS-9, when the actual property  
28 taxes become known?**

29 A. Yes.

30

1 **Q. What are the total rate year revenue requirements in each year, net of**  
2 **miscellaneous revenues?**

3 A. As indicated on HJS-1, the total rate year revenue requirements, net of miscellaneous  
4 revenues are as follows:

- 5 • FY 2021 – \$84,554,896
- 6 • FY 2022 – \$90,685,328
- 7 • FY 2022 – \$94,259,558

8

9 **COST OF SERVICE ANALYSIS**

10 **Q. Mr. Smith, which rate year revenue requirement forms the basis for your cost of**  
11 **service analysis?**

12 A. The costs included in the FY 2021 revenue requirement form the basis for the cost of  
13 service analysis.

14

15 **Q. Mr. Smith, please briefly describe the conceptual approach you employed to**  
16 **develop the cost of service analysis.**

17 A. I developed the cost of service analysis using the “Base-Extra Capacity Method” as  
18 outlined in the American Water Works Association’s Manual M1: “Principles of Rates,  
19 Fees and Charges”. This approach allocates costs to customer classes in proportion to their  
20 use of the Providence Water system. Under this approach, costs are primarily allocated  
21 based on peak demand, both on a maximum day and maximum hour basis. The rationale  
22 for this approach lies in the manner in which a water system is designed.

23

24 Water systems are designed to deliver water to customers to meet both average and peak  
25 usage demands. Accordingly, treatment, storage and pumping facilities must be designed  
26 with additional capacity to meet the peak demands, in addition to average demands. In  
27 addition, transmission and distribution mains must also be oversized to allow for additional  
28 flow during peak demand periods. The capacity built into Providence Water’s  
29 infrastructure represents an additional cost which is incurred above and beyond what would  
30 be the case if customers used water at the same rate every day and throughout the day.

1 Given that that additional costs are incurred to provide this additional capacity, the question  
2 then becomes how those costs should be recovered from the users of the water system. The  
3 Base-Extra Capacity Method assigns costs to users in proportion to both their average day  
4 demands and their extra capacity demands. For example, costs which are incurred to  
5 provide maximum day service are allocated to users in proportion to their maximum day  
6 usage above and beyond their average day usage. This approach recovers extra capacity  
7 costs from customers whose extra capacity demands drive the need for the larger water  
8 system.

9

10 **Q. Mr. Smith, could you summarize the steps involved in developing a cost of service**  
11 **analysis using the Base-Extra Capacity method?**

12 A. Yes. There are three steps: functionalization, allocation and distribution.

13

14 First, costs are assigned to the functions which Providence Water must perform to deliver  
15 water to customers. In Providence Water's case, given the use of the National Association  
16 of Regulatory Commissioners (NARUC) chart of accounts, costs are already tracked  
17 according to function. These functions are: source of supply, treatment, pumping,  
18 transmission and distribution, customer accounts and administrative and general.

19

20 Second, these functionalized costs are then allocated to cost components which include:  
21 Base, Max Day, Max Hour, Meters & Services, Billing & Collection and Direct Fire. These  
22 components represent different types of customer demand which drive variations in the  
23 cost of performing each function. For example, source of supply costs are driven by base  
24 demand, or demand on an average day. Higher customer base demand means higher source  
25 of supply costs.

26

27 Finally, costs are distributed to customer classes in proportion to their demand for each  
28 cost component. In other words, once the costs are assigned to Base, Max Day, Max Hour,  
29 Meters & Services, Billing & Collection, and Direct Fire, they can then be assigned to  
30 customer classes in proportion to their units for each cost component. Cost distribution is



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1 accomplished in two steps. First, unit costs are developed by dividing the allocated costs  
2 by the customer class units of service, in total, for that component (e.g., base costs divided  
3 by base demand, billing and collection costs divided by customer bills etc.). These unit  
4 costs are then multiplied, by class, by that class's unit of service to determine their  
5 proportionate share of costs. The result is a distribution of costs to Providence Water  
6 customers in proportion to their use of the system. If, for example, residential customers  
7 represent 25% of maximum day demand, they will be allocated 25% of maximum day  
8 costs.

9

10 **Q. Did you need to make any modifications to this general approach to fit the specific**  
11 **circumstances of Providence Water and its customers?**

12 A. Yes. The primary modification was to segregate the cost components between those  
13 which are incurred to serve all customers (retail and wholesale) and those which are  
14 incurred to serve retail customers only. Costs which are incurred to serve all customers are  
15 referred to as "Common to All." Those which are incurred to provide retail service only  
16 are indicated as "Retail Only". This distinction is typical for cost of service analyses which  
17 involve wholesale customers, who typically do not utilize the entire water system of the  
18 wholesale provider.

19

20 **Q. Could you provide a specific example of where this segregation might be relevant?**

21 A. Yes. The assignment of transmission and distribution system costs is the primary driver  
22 for this distinction. Providence Water has one interconnected pipe network, which  
23 provides potable water under pressure to both retail and wholesale customers. That said,  
24 wholesale customers are generally served off of transmission mains which are larger than  
25 12 inches. That is not to say they do not receive any benefit from the smaller distribution  
26 mains, but—because it is impractical to identify the exact mains which are used by each  
27 customer—it is typical to select a diameter above which the mains are generally considered  
28 to be used by all customers and below which the mains are considered to be used by retail  
29 customers only. The Common to All and Retail Only distinction assigns the costs



1 associated with transmission mains to all customers, and the costs associated with  
2 distribution mains to retail customers only.

3

4 **Q. Are there any other categories of costs which are considered retail only and not**  
5 **allocated to wholesale customers?**

6 A. Yes. Meters & Services, Billing & Collection, and Direct Fire are all considered retail  
7 only costs.

8

9 **Q. Are there are fundamental differences between the Base-Extra Capacity Approach**  
10 **you have developed for this filing, and that which has historically been employed?**

11 A. There are two key differences.

12

13 First, the approach which has been used historically for Providence Water did not take into  
14 account peak demand (i.e., maximum day and hour) for wholesale customers. Costs which  
15 were incurred to serve both wholesale and retail customers under the old approach were  
16 allocated solely based on annual water volumes. In other words, the allocation of costs  
17 between retail and wholesale customers did not account for differences in peak demand,  
18 essentially assuming that the peak demand of retail and wholesale customers was the same.  
19 In addition, retail only costs, which did account for peak demand under the previous  
20 approach, were allocated based on peaking factors for residential, commercial and  
21 industrial customers which had not been updated in many years. The cost of service  
22 analysis Providence Water is proposing in this Docket allocates costs for both retail and  
23 wholesale customers based on average and peak demand as I describe in further detail  
24 below.

25

26 The second difference relates the allocation of costs to cost components. The previous  
27 methodology employed a series of allocation factors to assign costs to the cost components.  
28 While the allocators were individually appropriate, their combined effect occasionally  
29 produced disproportionate impacts on certain charges. Over time additional allocation  
30 factors were added to shift costs away from certain charges and towards others. While the

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1 result was more palatable, it became difficult to understand the pure cost of service for each  
2 class, because it was being modified to address issues in the design of the rates, rather than  
3 the allocation of costs.

4

5 The most concrete example of this is the meter service charge. The previous approach  
6 involved many detailed steps which resulted in an allocation of costs to bills and meters &  
7 services, which were ultimately incorporated into the meter service charge. That said, once  
8 the charge was calculated it was high enough to raise concerns regarding rate shock. To  
9 resolve the issues, alternative allocators were included to shift costs away from meters &  
10 service and billing and collection and to other cost components which were ultimately  
11 incorporated into the volume charge (i.e., base, max day, max hour). While this produced  
12 the desired result, it is not very transparent. It is preferable to determine the true cost of  
13 service first, then deal with the implications and—if necessary—modifications in the  
14 design of the rates themselves. I have taken that approach in the cost of service analysis  
15 for this docket, calculating a reasonable cost of service for each class and charge, and  
16 proposing any modifications explicitly in the design of the rates themselves.

17

18 **Q. Mr. Smith, how do the schedules you developed for your cost of service analysis**  
19 **(Schedules HJS-13A through HJS-18) relate to the general process for the Base-Extra**  
20 **Capacity Method you described above (functionalization, allocation and**  
21 **distribution)?**

22 A. As I noted earlier, the functionalization step is already addressed by Providence Water's  
23 use of the NARUC chart of accounts, which are segregated by the major functions. This  
24 leaves allocation and distribution. Schedules HJS-13A through HJS-14B address the  
25 *allocation* step and Schedules HJS-15A through HJS-18 address the *distribution* step.

26

27

28

29

1 **Q. Mr. Smith, could you please overview your first cost allocation schedule, Schedule**  
2 **HJS-13A?**

3 A. Yes. HJS-13A indicates an overview of all of the factors used to allocate the rate year  
4 FY 2021 revenue requirement to the cost components. The schedule is divided into three  
5 sections.

6  
7 **Factors 1 through 6** allocate costs incurred to provide base, max day and max hour service  
8 to Providence Water customers. These factors were developed based on the units of service  
9 for base, maximum day and maximum hour indicated on HJS-16A and B. Costs that are  
10 incurred to provide base service are allocated 100% to base. Costs that are incurred to  
11 provide base and max day service are split in proportionally between base and max day,  
12 proportionate to each component's share of the total capacity in question. Specifically, the  
13 calculation for the base max day allocator is:

- 14 • Total Maximum Day Demand: 112,398 HCF/d
- 15 • **Base Share: 65,720 HCF/d divided by 112,398 HCF/d = 58.47%**
- 16 • Max Day Extra Capacity: 112,398 HCF/d less 65,720 HCF/d = 46,678 HCF/d
- 17 • **Max Day Share: 46,678 HCF/d divided by 112,398 HCF/d = 41.53%**

18

19 The allocator for base, max day and max hour costs is calculated in a similar fashion.

- 20 • Total Maximum Hour Demand: 189,479 HCF/d
- 21 • **Base Share: 65,720 HCF/d divided by 189,479 HCF/d = 34.68%**
- 22 • Total Maximum Day Demand: 112,398 HCF/d
- 23 • Max Day Extra Capacity: 112,398 HCF/d less 65,720 HCF/d = 46,678 HCF/d
- 24 • **Max Day Share: 46,678 HCF/d divided by 189,479 HCF/d = 24.63%**
- 25 • Max Hour Extra Capacity: 189,479 HCF/d less 112,398 HCF/d = 77,081 HCF/d
- 26 • **Max Hour Share: 77,081 HCF/d divided by 189,479 HCF/d = 40.68%**

27

28 Note that the allocators are repeated to factor in the common to all and retail only  
29 distinction. Factors 1 through 3 are used to allocate common to all costs and factors 4  
30 through 6 are used to allocate retail only costs.



1 **Factors 7 through 10** allocate costs directly to meters & service, billing and collection,  
2 direct fire. Direct fire costs are those which are incurred to maintain public fire hydrants.

3

4 **Factor 11** is not used, because the only direct East Smithfield cost is related to the East  
5 Smithfield debt service, which is already recovered directly from these customers via the  
6 East Smithfield Debt Surcharge (\$0.35/HCF).

7

8 **Finally, Factors 12 through 25** are proportional factors, which are developed in Schedules  
9 HJS-13B through 14B. These are based on detailed information regarding Providence  
10 Water's pump stations, work and service order data, net plant in service and central  
11 operations facility floor plan. In general, these proportional factors are a function of the  
12 direct allocation of expenses using Factors 1 through 11, in instances where an expense is  
13 more general and not directly related to any one individual cost component.

14

15 **Q. Mr. Smith, could you please overview the next cost allocation schedule, Schedule**  
16 **HJS-13B?**

17 A. Yes. HJS-13B develops Factors 12 and 18. Factor 12 is used to allocate pump station  
18 electric costs to the cost components. The electric costs of each pump station are allocated  
19 as common to all or retail only using Factor 6. The total allocation is then used to develop  
20 Factor 12. Factor 18 is used to allocate pumping net plant in service and follows a similar  
21 approach but using the capacity of each pump station.

22

23 **Q. Mr. Smith, what is the purpose of HJS-13C?**

24 A. HJS-13C includes a breakdown of Providence Water's transmission and distribution  
25 mains by length and diameter. Mains 12" and below are considered distribution mains and  
26 mains above 12" are considered transmission mains. This breakdown is used to split  
27 transmission and distribution system costs between common to all and retail only as well  
28 as assign responsibility for non-revenue water (NRW). Inch-miles, which represents the  
29 length of pipe at each size multiplied by its diameter is used to split transmission and  
30 distribution costs between common to all (39.84%) and retail only (60.16%). For NRW,



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1 length of pipe is used to split losses (discussed in greater detail below) between common  
2 to all (10.82%) and retail only (89.18%).

3

4 **Q. Mr. Smith, could you please overview HJS-13D and E?**

5 A. These schedules develop Factors 13 and 14 which are used to allocate transmission and  
6 distribution labor and contract services costs to the cost components. Both Factors assign  
7 work and service order costs associated with the performance of specific tasks to the cost  
8 components with a 3-year average of that assignment forming the basis for the allocator.  
9 Work and service orders relating to the transmission and distribution system are split  
10 between common to all and retail only based on inch-miles, then assigned to cost  
11 components using Factor 3 (common to all base, max day, max hour) and Factor 6 (retail  
12 only base, max day, max hour). Other costs such as those related to meters or hydrants are  
13 directly assigned. Any costs which cannot be directly assigned are allocated in proportion  
14 to the directly assigned costs.

15

16 **Q. What is the purposed of HJS-13F?**

17 A. This schedule develops Factors 19, 20 and 21, which are used to allocate rate year capital  
18 costs to cost components. Providence Water's net plant in service is allocated, by NARUC  
19 account, to the cost components. The sum of these allocations is used to develop Factors  
20 19, 20 and 21. Factor 19 is based on the allocation of transmission and distribution net  
21 plant (excluding meters and service, land and structures) and is used to allocate the net  
22 plant in service associated with T&D land, land rights and structures. Factor 20 is based  
23 on net plant in service excluding general plant and is used to allocate general plant, with  
24 the exception of Laboratory Equipment (Factor 1, 100% base) and the new Central  
25 Operations Facility (discussed in further detail below). Factor 21 is based on total plant  
26 (excluding land and the Central Operations Facility) and is used to allocate rate year  
27 funding for the Capital Fund, IFR Fund and the Vehicle and Equipment Fund.

28

29

1 **Q. How did you allocate the net plant in service associated with the new Central**  
2 **Operations Facility?**

3 A. As of 6/30/2019 the net plant in service for the Central Operations Facility was  
4 \$28,641,882. Factor 22, which is developed on Schedule HJS-13G, is used to allocate the  
5 Central Operations Facility net plant in service. Factor 22 is based on the use of the  
6 building by square footage. Each space that can be directly assigned is allocated based on  
7 factors indicated on HJS-13A. Any space which cannot be directly assigned has been  
8 allocated in proportion to the directly assignable space.

9

10 **Q. Mr. Smith, what is indicated on Schedules HJS-14A and B?**

11 A. These schedules represent the allocation of the rate year FY 2021 revenue requirement  
12 from Schedule HJS-12 to cost components using the allocators from Schedule HJS-13A.

13

14 **Q. What is the purpose of Factors 15, 16, 17, 23, 24 and 25 which are developed using**  
15 **the allocated costs on HJS-14A?**

16 A. Some components of the revenue requirement are general in nature and do not relate to  
17 any one specific function (e.g., source of supply, pumping, treatment, etc.) and are not  
18 driven by just one cost component. These factors represent indirect allocations based on  
19 directly allocated costs.

20

21 **Factor 15** is used to allocate Administrative and General Labor costs, which are incurred  
22 to supervise all the functions performed by Providence Water to deliver water to customers.

23

24 **Factor 16** is used to allocate non-labor related Administrative and General costs which are  
25 incurred to support all the functions performed by Providence Water to deliver water to  
26 customers.

27

28 **Factor 17** is used to allocate City Services Expense, which represents a reimbursement to  
29 the City of Providence for services provided to Providence Water.

30

1 **Factor 23** is used to allocate the funding adjustment to the Insurance Fund to achieve the  
2 required funding level in the rate year.

3  
4 **Factor 24** is used to allocate the funding adjustment to the Chemicals and Sludge  
5 Maintenance fund to achieve the required funding level in the rate year.

6  
7 **Factor 25** is based on the total revenue requirement, excluding reserve funding, and is used  
8 to allocate funding for the restricted revenue reserve and the unrestricted operating reserve.

9  
10 **Q. Of the total rate year FY 2021 net revenue requirement, what proportion is related**  
11 **to providing service to all customers (common to all) and what proportion is related**  
12 **to providing retail service only?**

13 A. Approximately 52% of the revenue requirement is related to providing service to all  
14 customers, leaving 48% related to providing retail service only.

15  
16 **Q. How is the revenue requirement distributed between the various customer classes?**

17 A. Schedules HJS-15A through HJS-18 indicate the steps involved in distributing costs to  
18 the various customer classes. Those are:

- 19 • Determine customer class units for service (HJS-15A through 16C)
- 20 • Develop unit costs of service (HJS-17)
- 21 • Distribute Costs to Customer Classes (HJS-18)

22  
23 **Q. How is HJS-15A used in the determination of customer class units of service?**

24 A. HJS-15A is used primarily for the development of pro-forma revenue under existing  
25 rates. In addition, the pro-forma volumes, plus an allocation of non-revenue water, are the  
26 basis for customer class base demand in Schedules HJS-16A and C.

27  
28 **Q. Please provide an overview of your assignment of non-revenue water in HJS-15B.**

29 A. HJS-15B begins with total plant production and subtracts pro-forma sales to arrive at a  
30 total for water which is produced, but not ultimately billed to customers. HJS-15B then



1 identifies the proportion of non-revenue water which relates to usage which is simply not  
2 billed. Subtracting those volumes leaves a reasonable approximation of actual leakage  
3 within the transmission and distribution system. The remaining calculations are used to  
4 assign the non-billed water and leakage to retail and wholesale customers.

5

6 **Q. What proportion of non-revenue water do you propose to assign to wholesale**  
7 **customers?**

8 A. Wholesale customer share of non-revenue water includes only a proportionate share of  
9 leakage on transmission mains and flushing on transmission mains, which represents  
10 2.42% of non-revenue water. The remaining sources, including unauthorized  
11 consumption, customer metering inaccuracy, firefighting allowance, water quality and  
12 testing, distribution main flushing, and distribution main leakage, were all allocated 100%  
13 to retail customers.

14

15 **Q. How did you determine the wholesale share of leakage and transmission flushing?**

16 A. Both leakage and flushing were split between transmission and distribution based on  
17 length of pipe and then allocated to wholesale based on pro-forma sales.

18

19 **Q. Please identify the categories of units of service that form the basis for the**  
20 **distribution of costs to customer classes on HJS-16A through C?**

21 A. Costs are distributed on the basis of base demand, maximum day extra capacity demand,  
22 maximum hour extra capacity demand, 5/8-inch equivalent meters, bills, and 6-inch  
23 equivalent fire connections. These are calculated on HJS-16A and B and summarized on  
24 HJS-16C.

25

26 **Q. How did you determine base demand by customer class?**

27 A. Base demand represents average customer demand through the year, without regard to  
28 maximum day or hour peak usage. Base demand was calculated by adding the allocation  
29 of non-revenue water determined on HJS-15B to pro-forma sales on HJS-15A.

30

1 **Q. What does maximum day extra capacity demand represent?**

2 A. Maximum day extra capacity demand represents the maximum day usage in excess of,  
3 or excluding, average day demand. Average day demand is annual sales divided by 365  
4 days.

5

6 **Q. How did you determine maximum day extra capacity demand for wholesale  
7 customers?**

8 A. I developed a peaking factor which represents the ratio of wholesale demand on the  
9 highest day of the year, divided by the average day demand for the year. The average ratio  
10 for FY 2018 and FY 2019 was 1.74. I then applied this factor to wholesale average day  
11 usage to determine total maximum day capacity. Extra capacity, or the usage in excess of  
12 average day, is total maximum day capacity, less average day. The calculation was as  
13 follows:

- 14 • Average Day: Rate Year Sales (11,362,760 HCF) / 365 = 31,131 HCF/d
- 15 • Max Day Total Capacity: 31,131 HCF/d multiplied by 1.74 = 54,168 HCF/d
- 16 • **Max Day Extra: 54,168 HCF/d less 31,131 HCF/d = 23,037**

17

18 **Q. How did you determine maximum day extra capacity demand for retail  
19 customers?**

20 A. Daily demand data are not available for retail customers. I estimated retail daily demand  
21 by subtracting wholesale daily demand from daily plant production. I then followed the  
22 same approach as I used for wholesale, dividing the highest usage day by the average usage  
23 for the year. The two-year average (FY 2018 and FY 2019) ratio for retail was 1.60. Using  
24 this factor, I performed the same calculation for retail as was used for wholesale:

- 25 • Average Day: Rate Year Sales (12,625,027 HCF) / 365 = 34,589 HCF/d
- 26 • Max Day Total Capacity: 34,589 HCF/d multiplied by 1.60 = 55,343 HCF/d
- 27 • **Max Day Extra: 55,343 HCF/d less 34,589 HCF/d = 20,753 HCF/d**

28

1 **Q. How did you determine the daily demand for each retail customer class**  
2 **(residential, commercial, industrial) given that daily demand information was not**  
3 **available?**

4 A. I estimated the maximum day demand for each retail customer class using monthly  
5 billing information. I then distributed the total maximum day demand calculated above  
6 (55,343 HCF/d) to each customer class in proportion to the total maximum day demand  
7 from the monthly estimate. The extra capacity portion is the total maximum day for each  
8 class, estimated as I just described, less average day demand for each class.

9

10 **Q. Does the monthly approach you just described impact the allocation of costs to**  
11 **wholesale customers?**

12 A. It does not. The monthly approach only distributes the total maximum day demand for  
13 the retail class between residential, commercial and industrial customers. Only the total,  
14 determined in the same fashion for retail and wholesale, impacts the allocation of costs  
15 between retail and wholesale.

16

17 **Q. How did you determine maximum day extra capacity costs for fire protection?**

18 A. Consistent with prior Dockets, I assumed a theoretical fire flow of 6,000 gallons per  
19 minute for 6 hours. This equates to 2,160,000 gallons per day or 2,888 HCF/d. I distributed  
20 this to private fire lines and public fire hydrants based on equivalent 6-inch connections.

21

22 **Q. How did you determine maximum hour extra capacity demand for wholesale**  
23 **customers?**

24 A. I developed a peaking factor which represents the ratio of wholesale demand on the  
25 highest day of the year, divided by the average day demand for the year. The average ratio  
26 for FY 2018 and FY 2019 was 2.16. I then applied this factor to wholesale average day  
27 usage to determine total maximum hour capacity. Maximum hour extra capacity, or the  
28 usage in excess of maximum day is total maximum hour capacity, less total maximum day  
29 capacity. The calculation was as follows:

30



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- 1 • Average Day: Rate Year Sales (11,362,760 HCF) / 365 = 31,131 HCF/d
- 2 • Max Hour Total Capacity: 31,131 HCF/d multiplied by 2.16 = 67,243 HCF/d
- 3 • Max Day Total Capacity (determined above): 54,168 HCF/d
- 4 • **Max Hour Extra: 67,243 HCF/d less 54,168 HCF/d = 13,075 HCF/d**

5

6 **Q. How did you determine maximum hour extra capacity demand for retail**  
7 **customers?**

8 A. Hourly demand data are not available for retail customers. Instead, I estimated retail  
9 maximum hour demand by assuming maximum hour peaking factors which are 2 times the  
10 maximum day factor for each customer class. Using these factors, I performed the same  
11 calculation for retail for each individual customer class. This results in a maximum hour  
12 extra capacity determination as follows:

- 13 • Average Day: Rate Year Sales (12,625,027 HCF) / 365 = 34,589 HCF/d
- 14 • Max Hour Total Capacity: 34,589 HCF/d multiplied by 3.20 = 110,685 HCF/d
- 15 • Max Day Total Capacity (determined above): 55,343 HCF/d
- 16 • **Max Hour Extra: 110,685 HCF/d less 55,343 HCF/d = 55,343 HCF/d**

17

18 **Q. How did you determine maximum hour extra capacity costs for fire protection?**

19 A. Consistent with prior Dockets, I assumed a theoretical fire flow of 6,000 gallons per  
20 minute. Expressed on a 24-hour basis this equates to 8,640,000 gallons per day or 11,551  
21 HCF/d. To determine the maximum hour extra capacity in excess of maximum day I  
22 subtracted the maximum day I attributed to fire protection (2,888 HCF/d), or 8,663 HCF/d.  
23 I distributed this to private fire lines and public fire hydrants based on equivalent 6-inch  
24 connections.

25

26 **Q. What is the basis for the remaining units of service: meters & services and bills?**

27 A. Meter & services units are based on the number of 5/8-inch equivalent meters. A 5/8-  
28 inch meter represents 1 unit, with the remaining sizes scaled up based on the cost ratios,  
29 which represent the increased cost to install, maintain and replace the larger meters, relative  
30 to a 5/8-inch meter. Bills represent the number of monthly bills, by customer class.

1 **Q. Please explain the development of unit cost of service on Schedule HJS-17.**

2 A. Schedule HJS-16 divides the FY 2021 revenue requirement, by cost component, by the  
3 respective units of service for that component. The result is the unit cost for the level of  
4 service provided. For example, the cost to provide maximum day extra capacity service to  
5 all customers is \$222.32 per HCF/d, which represents the costs allocated to maximum day  
6 (\$10,377,558) divided by the total maximum day extra capacity usage (46,678 HCF/d).  
7 These unit costs are the same for all customers, with the difference in the ultimate cost  
8 allocation on HJS-18 being driven by the level of service received (e.g., common to all vs.  
9 retail only) and usage of each customer class.

10

11 **Q. How is the FY 2021 revenue requirement distributed to customer classes on**  
12 **Schedule HJS-18?**

13 A. The unit cost of service is multiplied by the units of service for each customer class.  
14 For example, the wholesale class is allocated a total cost of service of \$18,521,958 which  
15 represents the unit of cost of service for common to all base, max day and max hour,  
16 multiplied by the wholesale units for each respective category.

17

18 **RATE DESIGN**

19 **Q. How did you calculate the volume charge on Schedule HJS-19?**

20 A. For retail, the volume charge recovers common to all and retail only base, maximum  
21 day and maximum hour costs. It also recovers any under-recovery from other retail  
22 charges, whose increase is being limited to avoid rate shock. The wholesale volume charge  
23 recovers the cost of common to all base, maximum day and maximum hour costs. The  
24 wholesale volume rate does not include any retail costs, or any under-recovery from the  
25 other retail charges, but solely represents the cost of service to this class. In both cases, the  
26 volume rate represents the total allocated costs divided by pro-forma sales to arrive at a  
27 rate per HCF.

28

29

30

1 **Q. How did you calculate the service charges on Schedule HJS-20A and B?**

2 A. The meter service charge includes meter and services costs and billing costs. Meters  
3 and services costs are recovered on a per equivalent meter basis, which is scaled up from  
4 the 5/8-inch meter to recognize the additional cost associated with installing, maintaining  
5 and replacing the larger meters. The billing cost is recovered on a per bill basis, regardless  
6 of size. As indicated, the calculated cost for the charge is much higher than the existing  
7 rate. For example, the calculated 5/8-inch charge would more than double under a pure  
8 cost of service approach. To avoid rate shock, I limited the increase to 40%, which equates  
9 to around \$3 per bill for a 5/8-inch customer and I have allocated the under-recovery to the  
10 residential, commercial and industrial rates in proportion to their volumetric (i.e., base,  
11 max day, max hour) cost of service.

12

13 The Providence Retail Fire Protection Service Charge recovers the direct fire costs for  
14 hydrants within the City of Providence. This cost is recovered on a 5/8-inch equivalent  
15 meter basis, but uses ratios based on the relative capacity of the meter, rather than the  
16 relative cost, as is used in the meter service charge. This charge would increase by more  
17 than 50%, under a pure cost of service approach. Like the meter service charge, I limited  
18 the increase to 40% to avoid rate shock and have allocated the under-recovery to the  
19 residential, commercial and industrial rates in proportion to their volumetric (i.e., base,  
20 max day, max hour) cost of service.

21

22 **Q. How did you calculate the fire protection charges on Schedule HJS-21A and B?**

23 A. The private fire service charges recover the cost of meters and services, billing costs  
24 and demand costs. The demand costs represent the private service customers share of the  
25 theoretical fire flow I discussed above based on 6-inch equivalent connections. This charge  
26 would more than double under a pure cost of service approach. To avoid rate shock, I  
27 limited the increase to 20% and have allocated the under-recovery to the residential,  
28 commercial and industrial rates in proportion to their volumetric (i.e., base, max day, max  
29 hour) cost of service.

30



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1 The hydrant charge recovers the direct costs associated with hydrant maintenance as well  
2 as demand costs associated with the capacity needed for fire flow. A pure cost of service  
3 charge would represent an increase of more than 50% over the current charges. I limited  
4 the increase to 20% to avoid rate shock and have allocated the under-recovery to the  
5 residential, commercial and industrial rates in proportion to their volumetric (i.e., base,  
6 max day, max hour) cost of service.

7

8 **Q. Have you created a schedule which shows all of the charges, both for rate year FY**  
9 **2021 and the proposed FY 2022 and FY 2023 rates?**

10 A. Yes, Schedule HJS-22 indicates the existing rates and the proposed rates for all three  
11 years. As noted above, FY 2021 rates are based on the cost of service analysis. Rates in  
12 FY 2022 and FY 2023 are increased in an across the board fashion based on the overall  
13 increase in the revenue requirement, which is 7.26% in FY 2022 and 3.94% in FY 2023.

14

15 **Q. Why is the East Smithfield Debt Surcharge constant at \$0.35 per HCF?**

16 A. This rate is contractual and cannot be adjusted. That said, the costs associated with the  
17 charge are recovered solely through the surcharge and do not impact the retail or wholesale  
18 rates.

19

20 **Q. Have you created a schedule which compares the revenues generated under**  
21 **existing rates to the proposed revenues in FY 2021, FY 2022 and FY 2023?**

22 A. Yes, Schedule HJS-23 shows a comparison of existing and proposed revenues.

23

24 **Q. What consideration has been given as to whether the revenues from the rates and**  
25 **charges are sufficient to cover revenue requirements for Providence Water?**

26 A. HJS-24 serves as a revenue proof to determine revenue sufficiency of the proposed rates  
27 and charges. The revenues that would be generated under the proposed rate structure are  
28 shown for commodity rates, service charges, and fire protection charges.

29

1 **Q. According to the rate model, are the rates and charges calculated sufficient to meet**  
2 **revenue requirements in each year?**

3 A. Yes. As shown in HJS-24, the revenues projected to be recovered from the proposed  
4 rates are approximately \$13,000 to \$14,000 greater than the revenue requirements in each  
5 year, due to rounding.

6  
7 **Q. Have you created a schedule which shows all of the charges, both for rate year FY**  
8 **2021 and the proposed FY 2022 and FY 2023 rates?**

9 A. Yes. Schedule HJS-25 shows bills under existing and proposed rates and the percentage  
10 impacts that are likely to occur for typical residential, commercial, and industrial  
11 customers. For a typical residential customer using 100 HCF per year the annual increases  
12 are as follows:

- 13 • FY 2021 – 15.8% or \$68.26 per year
- 14 • FY 2022 – 7.3% or \$36.23 per year
- 15 • FY 2023 – 3.9% or \$21.13 per year

16  
17 **CITY SERVICES ANALYSIS**

18 **Q. What are City Services?**

19 A. City Services are services provided by the City of Providence (City) to Providence  
20 Water and are critical to the provision of safe and reliable water service to Providence  
21 Water customers. Currently, the cost associated with providing these services is recovered  
22 via a reimbursement (City Services Expense) paid by Providence Water to the City.

23  
24 **Q. Mr. Smith, couldn't Providence Water perform these same administrative**  
25 **functions, in-house, eliminating the need for the expense?**

26 A. Providence Water could perform some of the functions currently performed by the City;  
27 however, since the employees that make up Providence Water's workforce are legally  
28 employees of the City, many functions such as payroll processing, pension administration  
29 and other employment related functions must be performed by the City. Regardless,

1 performing these services in-house would almost certainly increase costs to Providence  
2 Water customers.

3

4 **Q. Why?**

5 A. As described below, Providence Water only uses a portion of the overall cost of each  
6 service provided by the City. If Providence Water was required to perform all the same  
7 functions in-house, it would be required to either hire more full-time employees or  
8 contractors. Instead, Providence Water contributes a proportionate share of the cost of the  
9 departments already serving the City. Providence Water customers benefit from the  
10 economies of scale which result from participating in a portion of the fixed cost of City  
11 Services, rather than having to pay the full cost to perform the functions in-house.

12

13 **Q. Please briefly overview the process you used to develop the City Services**

14 **Analysis.**

15 A. The basis for the City Services Expense reimbursement is the City's Budget for the  
16 fiscal year ending June 30, 2020 (FY 2020). My analysis allocates the cost of each relevant  
17 department to Providence Water based on Providence Water's share of the service being  
18 rendered.

19

20 **Q. How did you determine an appropriate allocation basis for each City**  
21 **department?**

22 A. Members of Raftelis' staff interviewed staff from the Mayor's Office, City Council,  
23 City Council Administration, City Clerk, Law Department, Finance Department,  
24 Controller's Office, Retirement Department, Treasurer's Office, Purchasing Department,  
25 Personnel Department and Data Processing Department. Based on these interviews,  
26 Raftelis developed the measures which are used to allocate a proportion of the cost of each  
27 department to Providence Water. Each allocator is based on the Providence Water's share  
28 of each metric, as compared to the total for the City and Providence Water combined.

29

30



1 **Q. How did you allocate costs for the services rendered by the Mayor's Office?**

2 A. To determine which allocation method that would be used for the Mayor's Office  
3 expenses, Nicole Pollock, Chief of Staff was interviewed. The Mayor's Office provides  
4 executive office oversight and staff support to both City and Providence Water employees.  
5 Accordingly, the cost of this department was allocated using the percentage of Providence  
6 Water employees to all City Employees, which is 7.64% (236 Providence Water  
7 Employees to 3,089 total employees). Applying this percentage to the Mayor's Office  
8 budget (\$3,538,778) results in an allocation of **\$270,363** for the services provided by the  
9 Mayor's Office.

10

11 **Q. How did you allocate costs for services rendered by the City Council?**

12 A. To determine the allocation method to be used for City Council expenses, an interview  
13 was held with Erlin Rogel, Chief of Staff. The City Council addresses issues brought by  
14 constituents of Providence Water along with any items that are included in the meeting  
15 minutes for the council to address, such as ordinances, laws and budget approval.  
16 Accordingly, the percentage of City Council agenda items which related to Providence  
17 Water (8.05%) was used to allocate the costs of this department. Applying this percentage  
18 to the City Council budget (\$789,557) results in an allocation of **\$63,537** for services  
19 rendered by the City Council.

20

21 **Q. How did you allocate costs for services rendered by City Council Administration?**

22 A. A similar process was used to allocate expenses from the City Council Administration.  
23 Erlin Rogel was the point of contact for both the City Council and City Council  
24 Administration. The City Council Administration provides support to the City Council with  
25 research, drafting ordinances and other functions and request from the City Council. Due  
26 to the supporting role played by the department, the percentage of agenda items related to  
27 Providence Water (8.05%) was used. Applying this percentage to the City Council  
28 Administration budget (\$1,395,571) results in an allocation of **\$112,305** for services  
29 rendered by the City Council Administration.

30

1 **Q. How did you allocate costs for services rendered by the City Clerk?**

2 A. An interview was conducted with City Clerk, Shawn Selleck. Mr. Selleck indicated that  
3 85% of his work is directly supporting legislative matters. The remaining 15% of his time  
4 is spent on other tasks which do not involved Providence Water. Accordingly, the starting  
5 point for the City Clerk allocation was 85% of the total budget of \$1,287,905 (i.e.,  
6 \$1,094,719). This is shown in HJS-CS2. Mr. Selleck was then able to provide the number  
7 of Providence Water items addressed from the past fiscal year, along with the total of all  
8 City items addressed For FY19. The City Clerk addressed 2,563 items, 170 of which were  
9 items for Providence Water. Accordingly, 6.63% of the department's items were related to  
10 Providence Water. Applying this percentage to the relevant portion of the City Clerk  
11 budget (\$1,094,719) results in an allocation of **\$72,611** for services provided by the City  
12 Clerk.

13  
14 **Q. How did you allocate costs for services rendered by the Law Department?**

15 A. Adrienne Southgate, the Deputy City Solicitor was interviewed in order to determine  
16 the type of support provided by the solicitor. Ms. Southgate indicated that all Providence  
17 Water contracts require approval from this department. Ms. Southgate indicated that most  
18 of these contracts were standardized and—as a result—required minimal time to review  
19 prior to approval. She estimated that approximately 1% of the Law Department's time was  
20 spent reviewing Providence Water contracts. Applying this percentage to the Law  
21 Department's budget (\$6,308,412) results in an allocation of **\$63,084** for services provided  
22 by the Law Department.

23  
24 **Q. How did you allocate costs for services rendered by the Finance Department?**

25 A. Raftelis staff interviewed Lawrence Mancini, the City's Finance Director. The Finance  
26 Department provides oversight and approval on financial transactions, reviews and  
27 monitors budgets, reviews and approves purchase orders and helps prepare bond issues for  
28 Providence Water. Given that the role of this department is to provide financial support  
29 and oversight, audited FY 2018 fiscal year expenditures were used as the basis for the  
30 allocation. In FY 2018 Providence Water expenditures represented 9.89% of total City

Providence Water Supply Board  
Harold J. Smith Testimony

1 expenditures. Applying this percentage to the Finance Department budget (\$956,234)  
2 results in an allocation of **\$94,584** for services provided by the Finance Department.

3  
4 **Q. How did you allocate costs for services rendered by the Controller's Office?**

5 A. Raftelis staff interviewed Krystle Lindberg of the Controller's Office. The Controller's  
6 Office performs three primary functions: accounts payable, payroll and fiscal.  
7 Accordingly, for the purposes of developing this allocation, the Controller's office budget  
8 was divided among these three categories. Ms. Lindberg indicated that each function  
9 requires approximately the same amount of time, so it was divided equally as shown on  
10 exhibit HJS-CS2. After dividing the budget among the three functions a distinct allocator  
11 was developed for each function. Accounts payable runs all of Providence Water's checks  
12 to pay vendors and other service providers. Payroll runs all of Providence Water's payroll  
13 checks as well as preparing any tax reporting and W2 tasks that need to be completed.  
14 Fiscal processes all inter-account transfers and completes monthly bank reconciliations.  
15 For each one of these functions, a unique allocator was developed.

16  
17 *For the accounts payable function*, a percentage of Providence Water checks to total City  
18 checks was used. In the most recent fiscal year, there were 51,978 Providence Water checks  
19 and 397,966 City checks in total, meaning that 13.06% of all checks were for Providence  
20 Water. Applying this percentage to the accounts payable portion of the budget (\$449,016)  
21 results in an allocation of \$58,646 for services rendered by accounts payable.

22  
23 *For the payroll function*, the percentage of Providence Water employees to City employees  
24 (in total) was used (7.64%). Applying this percentage to the payroll portion of the budget  
25 (\$449,016) results in an allocation of \$34,035 for services rendered by payroll.

26  
27 *For the fiscal function*, a percentage of account transfers and bank reconciliations for the  
28 most recent fiscal year was used. The Providence Water Supply Board had 47 transfers and  
29 reconciliations as compared to 357 in total, leading to an allocator of 13.17%. Applying



1 this percentage to the fiscal portion of the budget (\$449,016) results in an allocation of  
2 \$59,114 for services rendered by fiscal.

3

4 This leads to a total of **\$151,795** for the services provided by the Controller's Office.

5

6 **Q. How did you allocate costs for services rendered by the Retirement Department?**

7 A. Jill Reese, from the Retirement Department, described how her department helps both  
8 active and retired employees in various ways, by assisting with pensions, keeping history  
9 on retirement contributions and assisting on retirement loans. Based off these services, the  
10 percentage of Providence Water active and retired employees compared to City active and  
11 retired employees (6.25%) was used. Applying this percentage to the Retirement  
12 Departments budget (\$501,485) results in an allocation of **\$31,358** for services rendered  
13 by the Retirement Department.

14

15 **Q. How did you allocate costs for services rendered by the Treasurer's Office?**

16 A. To determine what services are provided by the Treasurer's Office to Providence Water,  
17 an interview with the Treasurer, James Lombardi, was held. Mr. Lombardi described how  
18 the Treasurer's Office processes and distributes checks for Providence Water. Accordingly,  
19 the percentage of Providence Water checks to City checks in total (13.06%) was used to  
20 allocate these costs. Applying this percentage to the Treasurer's budget (\$719,585) results  
21 in an allocation of **\$93,984** for services rendered by the Treasurer's Office.

22

23 **Q. How did you allocate costs for services rendered by the Purchasing Department?**

24 A. To determine Providence Water's share of Purchasing Department costs, an interview  
25 was held with Molly Hannon, the Associate Director of Purchasing. Ms. Hannon indicated  
26 that the supervisor and purchasing agent worked on matters for Providence Water. Instead  
27 of using the department's budget, only the Salary and FICA budgeted for the necessary  
28 employees was used, which is \$149,681. The Purchasing Department handles purchases  
29 over \$5,000 and oversees the Board of Contract and Supply. It is the Board of Contract and  
30 Supply that deals with Providence Water matter, so Ms. Hannon provided the percentage

Providence Water Supply Board  
Harold J. Smith Testimony

1 of Board of Contract and Supply work related to Providence Water. For the most recent  
2 fiscal year, the Board of Contract and Supply had 195 Providence Water items out of a  
3 total of 1,646 items, or 11.85%. Applying this percentage to the appropriate portion of the  
4 Purchasing Department's budget (\$149,681) results in an allocation of **\$17,733** for services  
5 rendered by the Purchasing Department.

6

7 **Q. How did you allocate costs for services rendered by the Personnel Department?**

8 A. An interview was conducted with Emmanuel Echevarria, the Director of Human  
9 Resources. Mr. Echevarria described how this department helps administer all onboarding,  
10 offboarding and tasks associated with benefits for both active and retired employees.  
11 Accordingly, these costs were allocated based on the percentage of active and retired  
12 employees of Providence Water as a proportion of all City employees (6.25%). Applying  
13 this percentage to the Personnel Department's budget (\$2,208,848) results in an allocation  
14 of **\$138,118** for services rendered by the Personnel Department.

15

16 **Q. How did you allocate costs for services rendered by the Data Processing  
17 Department?**

18 A. An interview was conducted with Jim Silveria, the Chief Information Officer. Mr.  
19 Silveria described how his department provides network services to all city departments  
20 and hosts the ERP (enterprise resource planning) system for the City. Additionally, direct  
21 deposits are handled by this department as well. Mr. Silveria also stated that the cost for  
22 these services is roughly equal for all employees, meaning all departments require similar  
23 functions for each employee. This means that the most effective allocation method would  
24 be allocating a portion of the department's budget based off the percentage of employees  
25 that work for Providence Water. As previously mentioned, Providence Water has 236  
26 employees as compared to 3,089 for the City in total, or 7.64%. Applying this percentage  
27 to the Data Processing Department's budget (\$3,972,270) results in an allocation of for  
28 **\$303,482** for services rendered by the Data Processing Department.

29

1 **Q. Are there any additional, non-departmental, expenses that Providence Water is**  
2 **being allocated?**

3 A. Yes, there are two non-departmental expenses from the Stop Loss Insurance Annual  
4 Premium and the Mercer Annual Consulting Fee.

5

6 **Q. How were these non-departmental expenses allocated to Providence Water Supply**  
7 **Board?**

8 A. Costs from the Stop Loss Insurance Annual Premium and the Mercer Annual Consulting  
9 Fee were both allocated to Providence Water by the percentage of employees that work for  
10 Providence Water (7.64%). Since both have roughly the same cost per-employee, the  
11 percentage of Providence Water employees to total City employees was used to allocate  
12 these costs. The cost of the Stop Loss Insurance Annual Premium is \$789,000 and the cost  
13 of the Mercer Annual Consulting Fee is \$225,000. Applying the allocation factor to both  
14 expenses, Providence Water is responsible for \$60,280 and \$17,190 respectively, or  
15 **\$77,470** in total.

16

17 **Q. Mr. Smith, given the allocations above, what would be an appropriate City**  
18 **Services reimbursement for services rendered by the City to Providence Water?**

19 A. Based on interviews with City staff regarding the services provided by the various  
20 departments, an appropriate City Services Expense reimbursement is **\$1,490,693**.

21

22 **Q. Mr. Smith, does that conclude your testimony?**

23 A. Yes, it does.



**Schedule HJS-1: Cost of Service Summary**

Providence Water Supply Board

Docket #

Request for General Rate Relief  
 Direct Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

	Test Year		Rate Year 1		Rate Year 2		Rate Year 3	
	Test Year FY 2019	Test Year FY 19 Adj.	Rate Year FY 21 Adj.	Rate Year FY 2021	Rate Year FY 22 Adj.	Rate Year FY 2022	Rate Year FY 23 Adj.	Rate Year FY 2023
<b>Revenue</b>								
Service Charge	\$ 7,388,277	\$ 274,718	\$ 7,662,995	\$ 10,732,613	\$ 778,900	\$ 11,511,512	\$ 454,122	\$ 11,965,635
East Smithfield Debt Surcharge	\$ 69,152	\$ 13,299	\$ 82,451	\$ 82,451	\$ -	\$ 82,451	\$ -	\$ 82,451
Retail Sales	\$ 40,048,230	\$ 2,143,436	\$ 42,191,666	\$ 47,777,226	\$ 3,487,345	\$ 51,244,570	\$ 2,021,568	\$ 53,266,138
Wholesale Sales	\$ 15,852,358	\$ (502,883)	\$ 15,349,475	\$ 18,521,968	\$ 1,344,198	\$ 19,866,166	\$ 783,708	\$ 20,649,875
Private Fire Protection	\$ 3,138,560	\$ (110,450)	\$ 3,028,110	\$ 3,633,806	\$ 263,717	\$ 3,897,522	\$ 153,755	\$ 4,051,277
Retail FPSC	\$ 1,348,721	\$ 86,197	\$ 1,434,918	\$ 576,875	\$ 145,988	\$ 2,157,580	\$ 85,115	\$ 2,242,696
Public Fire Protection	\$ 1,370,588	\$ 135,850	\$ 1,506,438	\$ 1,807,746	\$ 131,194	\$ 1,938,940	\$ 76,490	\$ 2,015,430
Miscellaneous Revenue	\$ 1,693,375	\$ (328,629)	\$ 1,364,746	\$ 1,364,746	\$ -	\$ 1,364,746	\$ -	\$ 1,364,746
<b>TOTAL REVENUE</b>	<b>\$ 70,909,261</b>	<b>\$ 1,711,538</b>	<b>\$ 72,620,799</b>	<b>\$ 86,932,149</b>	<b>\$ 6,131,341</b>	<b>\$ 92,063,489</b>	<b>\$ 3,574,759</b>	<b>\$ 95,638,248</b>
Total Rate Revenues	\$ 69,215,886	\$ 2,040,167	\$ 71,256,053	\$ 84,567,403	\$ 6,131,341	\$ 90,698,743	\$ 3,574,759	\$ 94,273,502
<b>Expenses</b>								
<b>Operations</b>								
Operations and Maintenance	\$ 31,849,748	\$ 1,381,889	\$ 33,231,637	\$ 36,530,853	\$ 1,011,730.66	\$ 37,542,583	\$ 1,235,414	\$ 38,777,998
Insurance	\$ 2,027,425	\$ 274,688	\$ 2,302,113	\$ 2,302,113	\$ -	\$ 2,302,113	\$ -	\$ 2,302,113
Chemical & Sludge	\$ 3,420,946	\$ (620,946)	\$ 2,800,000	\$ 3,800,000	\$ -	\$ 3,800,000	\$ -	\$ 3,800,000
City Service	\$ 839,167	\$ -	\$ 839,167	\$ 1,490,693	\$ -	\$ 1,490,693	\$ -	\$ 1,490,693
Property Taxes	\$ 7,094,018	\$ -	\$ 7,094,018	\$ 7,629,145	\$ 305,166	\$ 7,934,311	\$ 317,372	\$ 8,251,684
Capital Reimbursement	\$ (1,815,587)	\$ -	\$ (1,815,587)	\$ (1,888,937)	\$ (56,666)	\$ (1,945,605)	\$ (48,640)	\$ (1,994,245)
Net Operations	\$ 43,415,716	\$ 1,035,631	\$ 44,451,347	\$ 49,863,867	\$ 1,260,228	\$ 51,124,096	\$ 1,504,147	\$ 52,628,242
<b>Capital</b>								
Capital Fund	\$ 2,127,000	\$ -	\$ 2,127,000	\$ 2,127,000	\$ -	\$ 2,127,000	\$ -	\$ 2,127,000
Western Cranston Fund	\$ 40,000	\$ -	\$ 40,000	\$ 40,000	\$ -	\$ 40,000	\$ -	\$ 40,000
IFR Fund	\$ 27,300,000	\$ -	\$ 27,300,000	\$ 29,300,000	\$ 2,000,000	\$ 31,300,000	\$ 2,000,000	\$ 33,300,000
Meter Replacement Fund	\$ 500,000	\$ -	\$ 500,000	\$ 1,000,000	\$ -	\$ 1,000,000	\$ -	\$ 1,000,000
Vehicle/Equipment Fund	\$ 600,000	\$ -	\$ 600,000	\$ 1,600,000	\$ -	\$ 1,600,000	\$ -	\$ 1,600,000
Lead Service Replacement Fund	\$ 250,000	\$ -	\$ 250,000	\$ 250,000	\$ 2,750,000	\$ 3,000,000	\$ -	\$ 3,000,000
E. Smithfield Debt Service	\$ 69,152	\$ 13,289	\$ 82,451	\$ 82,451	\$ -	\$ 82,451	\$ -	\$ 82,451
Revenue Reserve Fund <sup>(1)</sup>	\$ 362,119	\$ 7,399	\$ 369,518	\$ 44,563	\$ 30,051	\$ 444,132	\$ 17,521	\$ 461,652
Capital	\$ 31,248,271	\$ 20,699	\$ 31,268,969	\$ 34,813,532	\$ 4,780,051	\$ 39,593,583	\$ 2,017,521	\$ 41,611,104
<b>TOTAL EXPENSES</b>	<b>\$ 74,663,987</b>	<b>\$ 1,056,330</b>	<b>\$ 75,720,317</b>	<b>\$ 84,677,400</b>	<b>\$ 6,040,280</b>	<b>\$ 90,717,679</b>	<b>\$ 3,521,667</b>	<b>\$ 94,239,346</b>
Operating Reserve (Unrestricted) <sup>(2)</sup>	\$ 1,088,090	\$ 20,484	\$ 1,108,554	\$ 1,242,242	\$ 90,153	\$ 1,332,395	\$ 52,562	\$ 1,384,957
Total Incl. Reserves	\$ 75,752,077	\$ 1,076,794	\$ 76,828,871	\$ 85,919,641	\$ 6,130,433	\$ 92,050,074	\$ 3,574,230	\$ 95,624,304
<b>Net Revenue Requirement</b>	<b>\$ (4,842,816)</b>	<b>\$ (4,208,072)</b>	<b>\$ (4,099,518)</b>	<b>\$ 12,507</b>	<b>\$ 13,415</b>	<b>\$ 13,415</b>	<b>\$ 13,415</b>	<b>\$ 13,944</b>
Revenues Over (Under) Expenses <sup>(3)</sup>	\$ (4,842,816)	\$ (4,208,072)	\$ (4,099,518)	\$ 12,507	\$ 13,415	\$ 13,415	\$ 13,415	\$ 13,944
Total Increase to Break-Even <sup>(4)</sup>				18.31%	7.14%	7.14%	3.88%	3.88%
Rate Revenue Increase to Break-Even <sup>(5)</sup>				19.07%	7.26%	7.26%	3.94%	3.94%

Notes:  
 (1) Revenue Reserve is ((A+B)-C)-(D))\* .005  
 (2) Operating Reserve is ((A+B)-C)-(D))\* .015  
 (3) Slight revenue surplus due to rounding  
 (4) Based on Total Revenues  
 (5) Rate Revenues Only, Excludes East Smithfield

## Schedule HJS-2: Pro-Forma Revenue Under Existing Rates

Providence Water Supply Board  
Docket # \_\_\_\_\_  
Request for General Rate Relief  
Direct Testimony of Harold J. Smith  
Test Year Ending June 30, 2019  
Rate Years Ending June 30, 2021 through 2023

Description	Units of Service Service	Adjustment	Adjusted Units of Service	Existing Rates	Existing Revenue
<b>Service Charges</b>					
5/8"	56,181	1,631	57,812	\$ 7.56	\$ 5,244,705
3/4"	11,323	3	11,326	\$ 8.05	\$ 1,094,092
1"	5,292	43	5,335	\$ 9.50	\$ 608,190
1.5"	1,537	10	1,547	\$ 11.43	\$ 212,187
2"	1,344	13	1,357	\$ 16.76	\$ 272,920
3"	73	-	73	\$ 56.01	\$ 49,065
4"	35	-	35	\$ 70.55	\$ 29,631
6"	57	-	57	\$ 104.47	\$ 71,457
8"	42	-	42	\$ 143.23	\$ 72,188
10"	4	-	4	\$ 178.36	\$ 8,561
12"	0	-	0	\$ 213.49	\$ -
Total Retail Service Charges	75,888	1,700	77,588		\$ 7,662,995
<b>Fire Protection Service Charge (Providence Only)</b>					
5/8"	25,954	-	25,954	\$ 1.38	\$ 429,798
3/4"	4,580	-	4,580	\$ 2.07	\$ 113,767
1"	2,091	-	2,091	\$ 5.15	\$ 129,224
1.5"	902	-	902	\$ 13.74	\$ 148,722
2"	792	-	792	\$ 32.96	\$ 313,252
3"	55	-	55	\$ 89.26	\$ 58,912
4"	20	-	20	\$ 151.05	\$ 36,252
6"	28	-	28	\$ 308.97	\$ 103,814
8"	15	-	15	\$ 466.89	\$ 84,040
10"	2	-	2	\$ 714.07	\$ 17,138
12"	-	-	-	\$ 1,180.95	\$ -
Total Retail FPSC (Providence Only)	34,439	-	34,439		\$ 1,434,918
Total Retail Service Charge Revenue					\$ 9,097,913

Description	Units of Service Service	Adjustment	Adjusted Units of Service	Existing Rates	Existing Revenue
<b>Retail Consumption Charges</b>					
Residential (HCF)	8,103,732	292,444	8,396,176	\$ 3.403	\$ 28,572,187
Commercial (HCF)	4,031,169	10,496	4,041,665	\$ 3.223	\$ 13,026,286
Industrial (HCF)	164,973	22,213	187,186	\$ 3.169	\$ 593,192
Total	12,299,874	325,153	12,625,027		\$ 42,191,666
East Smithfield Debt Surcharge	235,576	-	235,576	\$ 0.350	\$ 82,451
Total Retail Consumption Charge					\$ 42,274,117
<b>Total Retail Revenue</b>					<b>\$ 51,372,030</b>

## Schedule HJS-2: Pro-Forma Revenue Under Existing Rates

Providence Water Supply Board  
Docket # \_\_\_\_\_  
Request for General Rate Relief  
Direct Testimony of Harold J. Smith  
Test Year Ending June 30, 2019  
Rate Years Ending June 30, 2021 through 2023

Description	Units of Service Service	Adjustment	Adjusted Units of Service	Existing Rates	Existing Revenue
<b>Wholesale Consumption Charges</b>					
Bristol County	1,494,845	-	1,494,845	\$ 1.350858	\$ 2,019,323.22
East Providence	1,822,773	-	1,822,773	\$ 1.350858	\$ 2,462,307.12
Greenville	421,521	-	421,521	\$ 1.350858	\$ 569,415.37
Johnston	385,925	(385,925)	-	\$ 1.350858	\$ -
Kent County	2,727,147	-	2,727,147	\$ 1.350858	\$ 3,683,988.95
Lincoln	1,038,229	-	1,038,229	\$ 1.350858	\$ 1,402,499.42
Smithfield	391,600	-	391,600	\$ 1.350858	\$ 528,996.36
Warwick	3,466,644	-	3,466,644	\$ 1.350858	\$ 4,682,944.19
<b>Total Wholesale Revenue</b>	<b>11,748,684</b>	<b>(385,925)</b>	<b>11,362,760</b>		<b>\$ 15,349,475</b>
Wholesale (per million gallons)	8,788	(289)	8,499	\$ 1,805.96	\$ 15,349,474.63
<b>Private Fire Service Charges</b>					
3/4"	2	-	2	\$ 8.64	\$ 207
1"	9	-	9	\$ 10.21	\$ 1,103
1.5"	2	-	2	\$ 12.57	\$ 302
2"	68	-	68	\$ 18.64	\$ 15,210
4"	391	-	391	\$ 79.67	\$ 373,812
6"	1,245	-	1,245	\$ 129.89	\$ 1,940,557
8"	256	-	256	\$ 196.73	\$ 604,355
10"	4	-	4	\$ 274.06	\$ 13,155
12"	18	-	18	\$ 367.64	\$ 79,410
16"	-	-	-	\$ 611.43	\$ -
<b>Total</b>	<b>1,995</b>	<b>-</b>	<b>1,995</b>		<b>\$ 3,028,110</b>
Hydrants (Excluding Providence)	3007	311	3318	\$ 454.02	\$ 1,506,438
<b>Total Fire Protection Charge Revenue</b>					<b>\$4,534,548</b>
<b>Total Rate Revenues</b>					<b>\$ 71,256,053.28</b>
Miscellaneous Revenues					\$ 1,364,745.88
<b>Total Revenues</b>					<b>\$72,620,799</b>



## Schedule HJS-3a: Adjustments to Salaries and Wages

Providence Water Supply Board  
Docket # \_\_\_\_\_  
Request for General Rate Relief  
Direct Testimony of Harold J. Smith  
Test Year Ending June 30, 2019  
Rate Years Ending June 30, 2021 through 2023

### TEST YEAR FY 2019

Pay Periods 1 through 26 for FY2019	\$	15,158,073
ADD: Workers Comp	\$	252,893
ADD: Unpaid Time - Nopay, FMLA, LOA, Suspension	\$	115,873
ADD: Normalizing Adjustments vacant positions filled after 6/30/19	\$	193,689
ADD: Normalizing Adjustments vacant positions to be filled after 6/30/19	\$	511,178
LESS:848 payroll not charged to operations	\$	(523,851)
<b>TOTAL ANNUALIZED SALARIES FY2019</b>	\$	<b>15,707,854</b>

### RATE YEAR FY 2021

Estimated Step Increases FY2020	\$	91,474
2% Contractual Raise 7/1/19 FY2020	\$	314,157
Total Annualized Salaries FY2020	\$	16,113,485
Estimated Step Increases FY2021	\$	93,303
2% Contractual Raise 7/1/20 FY2021	\$	322,270
<b>Total Annualized Salaries FY2021</b>	\$	<b>16,529,058</b>

### Rate Year Adjustments (FY 2021)

\$ 821,203

### RATE YEAR FY 2022

Estimated Step Increases FY2022	\$	96,102
3% Contractual Raise 7/1/21	\$	495,872
<b>Total Annualized Salaries FY2022</b>	\$	<b>17,121,032</b>

### Rate Year Adjustments (FY 2022)

\$ 591,974

### RATE YEAR FY 2023

Estimated Step Increases FY2023	\$	98,505
Estimated 2.5% Contractual Raise 7/1/22 FY2023	\$	428,026
<b>Total Annualized Salaries FY2023</b>	\$	<b>17,647,562</b>

### Rate Year Adjustments (FY 2023)

\$ 526,531

## Schedule HJS-3b: Adjustments to Salaries and Wages

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Account	Description	Adjusted Test Year			Pro-Forma Rate Year (Year 1)			Pro-Forma Rate Year (Year 2)			Pro-Forma Rate Year (Year 3)			
		Test Year FY 2019	Test Year FY 19 Adj. 1	Note	Test Year FY 19 Adj.	Rate Year FY 21 Adj. 1	Note	Rate Year FY 2021	Rate Year FY 22 Adj. 1	Note	Rate Year FY 2022	Rate Year FY 23 Adj. 1	Note	Rate Year FY 2023
<b>Source of Supply</b>														
60110	Salaries & Wages - Emp	\$ 777,108	\$ 53,952	1	\$ 831,060	\$ 33,575	2	\$ 864,635	\$ 25,939	3	\$ 890,574	\$ 22,264	4	\$ 912,838
60120	Salaries & Wages - Emp	\$ 391,728	\$ 162,996	1	\$ 554,724	\$ 22,411	2	\$ 577,135	\$ 17,314	3	\$ 594,449	\$ 14,861	4	\$ 609,311
60210	Payroll Clearing -SOSO	\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -
60220	Payroll Clearing -SOSM	\$ (454)	\$ 454	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -
60520	Overhead Rate Applied -SOSM	\$ (883)	\$ 883	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -
	<b>Total Source of Supply</b>	<b>\$ 1,167,499</b>	<b>\$ 218,286</b>		<b>\$ 1,385,784</b>	<b>\$ 55,986</b>		<b>\$ 1,441,770</b>	<b>\$ 43,253</b>		<b>\$ 1,485,023</b>	<b>\$ 37,126</b>		<b>\$ 1,522,149</b>
<b>Water Treatment</b>														
60130	Salaries & Wages - Emp	\$ 2,303,651	\$ 204,395	1	\$ 2,508,045	\$ 101,325	2	\$ 2,609,370	\$ 78,281	3	\$ 2,687,651	\$ 67,191	4	\$ 2,754,843
60140	Salaries & Wages - Emp	\$ 287,963	\$ -	1	\$ 287,963	\$ 11,634	2	\$ 299,596	\$ 8,988	3	\$ 308,584	\$ 7,715	4	\$ 316,299
	<b>Total Water Treatment</b>	<b>\$ 2,591,613</b>	<b>\$ 204,395</b>		<b>\$ 2,796,008</b>	<b>\$ 112,959</b>		<b>\$ 2,908,966</b>	<b>\$ 87,269</b>		<b>\$ 2,996,235</b>	<b>\$ 74,906</b>		<b>\$ 3,071,141</b>
<b>Transmission + Dist. Expense:</b>														
60150	Salaries & Wages - Emp	\$ 557,922	\$ -	1	\$ 557,922	\$ 22,540	2	\$ 580,462	\$ 17,414	3	\$ 597,876	\$ 14,947	4	\$ 612,822
60160	Salaries & Wages - Emp	\$ 2,880,826	\$ 126,941	1	\$ 3,007,767	\$ 121,514	2	\$ 3,129,281	\$ 93,878	3	\$ 3,223,160	\$ 80,579	4	\$ 3,303,739
60250	Payroll Clearing-T&DO	\$ (206,396)	\$ 206,396	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -
60260	Payroll Clearing -T&DM	\$ (9,815)	\$ 9,815	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -
60550	Overhead Rate Applied-T&DO	\$ (485,940)	\$ 485,940	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -
60560	Overhead Rate Applied -T&DM	\$ (19,007)	\$ 19,007	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -
	<b>Total Transmission + Dist. Expense</b>	<b>\$ 2,717,590</b>	<b>\$ 848,099</b>		<b>\$ 3,565,689</b>	<b>\$ 144,054</b>		<b>\$ 3,709,743</b>	<b>\$ 111,292</b>		<b>\$ 3,821,035</b>	<b>\$ 95,526</b>		<b>\$ 3,916,561</b>
<b>Customer Accounts Expense:</b>														
60170	Salaries & Wages - Emp	\$ 1,945,516	\$ 147,456	1	\$ 2,092,972	\$ 84,556	2	\$ 2,177,528	\$ 65,326	3	\$ 2,242,854	\$ 56,071	4	\$ 2,298,925
60270	Payroll Clearing -CAO	\$ (70,038)	\$ 70,038	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -
60570	Overhead Rate Applied-CAO	\$ (260,823)	\$ 260,823	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -
	<b>Total Customer Accounts Expense</b>	<b>\$ 1,614,655</b>	<b>\$ 478,317</b>		<b>\$ 2,092,972</b>	<b>\$ 84,556</b>		<b>\$ 2,177,528</b>	<b>\$ 65,326</b>		<b>\$ 2,242,854</b>	<b>\$ 56,071</b>		<b>\$ 2,298,925</b>
<b>Administrative and General</b>														
60180	Salaries & Wages - Emp	\$ 5,489,507	\$ 377,888	1	\$ 5,867,394	\$ 423,649	2	\$ 6,291,044	\$ 284,833	3	\$ 6,575,877	\$ 262,902	4	\$ 6,838,779
60280	Payroll Clearing -A&GO	\$ (477,050)	\$ 477,050	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -
60580	Overhead Rate Applied-A&GO	\$ (285,181)	\$ 285,181	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	-	\$ -
	<b>Total Administrative and General</b>	<b>\$ 4,727,276</b>	<b>\$ 1,140,118</b>		<b>\$ 5,867,394</b>	<b>\$ 423,649</b>		<b>\$ 6,291,044</b>	<b>\$ 284,833</b>		<b>\$ 6,575,877</b>	<b>\$ 262,902</b>		<b>\$ 6,838,779</b>
	<b>Total Salaries and Wages</b>	<b>\$ 12,818,633</b>	<b>\$ 2,889,215</b>		<b>\$ 15,707,847</b>	<b>\$ 821,204</b>		<b>\$ 16,529,051</b>	<b>\$ 591,974</b>		<b>\$ 17,121,024</b>	<b>\$ 526,531</b>		<b>\$ 17,647,555</b>
	<b>Capital Reimbursement</b>	<b>\$ (1,815,587)</b>	<b>\$ -</b>	1	<b>\$ (1,815,587)</b>	<b>\$ (73,350)</b>	2	<b>\$ (1,888,937)</b>	<b>\$ (56,668)</b>	3	<b>\$ (1,945,605)</b>	<b>\$ (48,640)</b>	4	<b>\$ (1,994,245)</b>

(1) Normalizing Adjustments. See Schedule HJS-3a.

(2) Estimated Step Increases, 2.0% Contractual Increases on 7/1/2019 and 7/1/2020. See Schedule HJS-3a

(3) Estimated Step Increases, 3.0% Contractual Increases on 7/1/2021. See Schedule HJS-3a

(4) Estimated Step Increases, 2.5% Contractual Increases on 7/1/2022. See Schedule HJS-3a

### Schedule HJS-4a: Adjustments to Pensions and Other Benefits

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Description	Adjusted Test Year			Pro-Forma Rate Year (Year 1)			Pro-Forma Rate Year (Year 2)			Pro-Forma Rate Year (Year 3)						
	Test Year FY 2019	Test Year FY 19 Adj. 1	Note	Test Year FY 19 Adj.	Rate Year FY 21 Adj. 1	Note	FY 21 CPI	Rate Year FY 21	Rate Year FY 22 Adj. 1	Note	FY 22 CPI	Rate Year FY 22	Rate Year FY 23 Adj. 1	Note	FY 23 CPI	Rate Year FY 2023
1033 Union Combined Benefits	\$ 623,310	\$ 23,698	1	\$ 647,008	\$ 13,005	2	\$ -	\$ 660,013	\$ 6,666	2	\$ -	\$ 666,613	\$ 6,666	2	\$ -	\$ 673,279
Union Pension	\$ 755,320	\$ 28,717	1	\$ 784,037	\$ 164,648	3	\$ -	\$ 948,684	\$ 94,868	3	\$ -	\$ 1,043,553	\$ 104,355	3	\$ -	\$ 1,147,908
Death Benefit Insurance	\$ -	\$ -	1	\$ -	\$ -		\$ -	\$ -	\$ -		\$ -	\$ -	\$ -		\$ -	\$ -
Educational Classes/Certification	\$ 1,560	\$ 59	1	\$ 1,619	\$ -		\$ 69	\$ 1,688	\$ -		\$ 36	\$ 1,724	\$ -		\$ 36	\$ 1,760
FICA & Medicare	\$ 1,080,005	\$ 41,061	1	\$ 1,121,066	\$ 184,468	5	\$ -	\$ 1,305,534	\$ 39,166	5	\$ -	\$ 1,344,700	\$ 33,618	5	\$ -	\$ 1,378,318
State Unemployment Compensation	\$ -	\$ -	1	\$ -	\$ 10,404	5	\$ -	\$ 10,404	\$ 312	5	\$ -	\$ 10,716	\$ 268	5	\$ -	\$ 10,984
Healthcare EE Cash Payment	\$ -	\$ -	1	\$ -	\$ 14,250		\$ -	\$ 14,250	\$ -		\$ -	\$ 14,250	\$ -		\$ -	\$ 14,250
1/2% Wage Assignment	\$ 43,687	\$ 1,661	1	\$ 45,348	\$ 1,832	5	\$ -	\$ 47,180	\$ 1,415	5	\$ -	\$ 48,596	\$ 1,215	5	\$ -	\$ 49,810
Healthcare	\$ 2,347,067	\$ 89,234	1	\$ 2,436,301	\$ 224,201	6	\$ -	\$ 2,660,502	\$ 119,723	6	\$ -	\$ 2,780,224	\$ 125,110	6	\$ -	\$ 2,905,334
Delta Dental	\$ 209,697	\$ 7,973	1	\$ 217,670	\$ 20,031	6	\$ -	\$ 237,701	\$ 10,697	6	\$ -	\$ 248,397	\$ 11,178	6	\$ -	\$ 259,575
GASB 43/45 Reserve Required	\$ 579,256	\$ 22,023	1	\$ 601,279	\$ 100,053	7	\$ -	\$ 701,332	\$ 56,107	7	\$ -	\$ 757,438	\$ 60,595	7	\$ -	\$ 818,033
City Retirement	\$ 4,024,817	\$ 153,021	1	\$ 4,177,838	\$ 428,228	8	\$ -	\$ 4,606,066	\$ 230,303	8	\$ -	\$ 4,836,370	\$ 241,818	8	\$ -	\$ 5,078,188
<b>Total</b>	<b>\$ 9,664,718</b>	<b>\$ 367,447</b>		<b>\$ 10,032,166</b>	<b>\$ 1,161,120</b>		<b>\$ 69</b>	<b>\$ 11,193,354</b>	<b>\$ 559,191</b>		<b>\$ 36</b>	<b>\$ 11,752,581</b>	<b>\$ 584,823</b>		<b>\$ 36</b>	<b>\$ 12,337,441</b>

(1) Fringe Benefits on Additional Positions

(2) Per Union Contract - 1% per year

(3) Per Union Contract - 10% per year

(4) Inflation - See HJS-11

(5) Increased Per Union Contract: FY20 and 21 - 2%/yr, FY22 - 3.0%, FY23 Estimate - 2.5%

(6) 4.5%/yr estimate

(7) Increase from FY18 to FY19 - 8% used

(8) 3-Year Average Increase - 5%



## Schedule HJS-4b: Adjustment to Pension and Other Benefits

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Account	Description	Adjusted Test Year			Pro-Forma Rate Year (Year 1)			Pro-Forma Rate Year (Year 2)			Pro-Forma Rate Year (Year 3)			Adjustment <sup>(1)</sup> Distribution %
		Test Year FY 2019	Test Year FY 19 Adj. 1	Test Year FY 19 Adj.	Rate Year FY 21 Adj. 1	Rate Year FY 2021	Rate Year FY 22 Adj. 1	Rate Year FY 2022	Rate Year FY 23 Adj. 1	Rate Year FY 2023	Rate Year FY 23 Adj. 1	Rate Year FY 2023		
<b>Source of Supply</b>														
60410	Employee Pension +Ben -SOSO	\$ 464,481	\$ 17,659	\$ 482,140	\$ 55,803	\$ 537,946	\$ 26,874	\$ 564,822	\$ 28,106	\$ 592,930				4.8%
60420	Employee Pension + Ben -SOSM	\$ 289,896	\$ 11,022	\$ 300,918	\$ 34,828	\$ 335,748	\$ 16,773	\$ 352,522	\$ 17,542	\$ 370,066				3.0%
<b>Water Treatment Expenses</b>														
60430	Employee Pension+Benefit-WTO	\$ 1,299,196	\$ 49,395	\$ 1,348,591	\$ 156,085	\$ 1,504,685	\$ 75,170	\$ 1,579,860	\$ 78,616	\$ 1,658,481				13.4%
60440	Employee Pension+Benefit-WTM	\$ 215,343	\$ 8,187	\$ 223,530	\$ 25,871	\$ 249,403	\$ 12,460	\$ 261,863	\$ 13,031	\$ 274,895				2.2%
<b>Transmission + Dist. Expense:</b>														
60450	Employee Pension+Benefit-T&DO	\$ 349,795	\$ 13,299	\$ 363,094	\$ 42,024	\$ 405,121	\$ 20,239	\$ 425,361	\$ 21,167	\$ 446,529				3.6%
60460	Employee Pension+Benefit-T&DM	\$ 1,760,203	\$ 66,922	\$ 1,827,125	\$ 211,471	\$ 2,038,608	\$ 101,844	\$ 2,140,458	\$ 106,512	\$ 2,246,977				18.2%
<b>Customer Accounts Expense:</b>														
60470	Employee Pension+Benefit-CAO	\$ 1,356,960	\$ 51,591	\$ 1,408,550	\$ 163,025	\$ 1,571,585	\$ 78,512	\$ 1,650,103	\$ 82,111	\$ 1,732,219				14.0%
<b>Administrative and General</b>														
60480	Employee Pension+Ben-A&GO	\$ 3,928,845	\$ 149,373	\$ 4,078,218	\$ 472,012	\$ 4,550,257	\$ 227,319	\$ 4,777,591	\$ 237,739	\$ 5,015,345				40.7%
<b>Total</b>		\$ 9,664,719	\$ 367,447	\$ 10,032,166	\$ 1,161,120	\$ 11,193,355	\$ 559,191	\$ 11,752,581	\$ 584,823	\$ 12,337,441				100.0%

(1) Total annual adjustment distributed to NARUC accounts in proportion to Test Year FY 2019 values.



## Schedule HJS-5: Adjustments to Purchased Power Expense

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Account	Description	Adjusted Test Year			Pro-Forma Rate Year (Year 1)			Pro-Forma Rate Year (Year 2)			Pro-Forma Rate Year (Year 3)		
		Test Year FY 2019	Test Year FY 19 Adj. 1 Note	Test Year FY 19 Adj.	Rate Year FY 21 Adj. 1 Note	Rate Year FY 21 CPI	Rate Year FY 2021	Rate Year FY 22 Adj. 1 Note	Rate Year FY 22 CPI	Rate Year FY 2022	Rate Year FY 23 Adj. 1 Note	Rate Year FY 23 CPI	Rate Year FY 2023
<b>Source of Supply</b>													
61010	Purchased Power	\$ 1,475		\$ 1,475	\$ (574)	1	\$ 900	\$ (5)	1	\$ 896	\$ (4)	1	\$ 891
	<b>Total Source of Supply</b>	<b>\$ 1,475</b>		<b>\$ 1,475</b>	<b>\$ (574)</b>		<b>\$ 900</b>	<b>\$ (5)</b>		<b>\$ 896</b>	<b>\$ (4)</b>		<b>\$ 891</b>
<b>Pumping</b>													
61523	Fuel or Power Purchase -PPO	\$ 858,210		\$ 858,210	\$ (331,568)	1	\$ 526,642	\$ (2,599)	1	\$ 524,043	\$ (2,586)	1	\$ 521,458
	<b>Total Water Treatment</b>	<b>\$ 858,210</b>		<b>\$ 858,210</b>	<b>\$ (331,568)</b>		<b>\$ 526,642</b>	<b>\$ (2,599)</b>		<b>\$ 524,043</b>	<b>\$ (2,586)</b>		<b>\$ 521,458</b>
<b>Water Treatment</b>													
61530	Purchased Power-WTO	\$ 251,952		\$ 251,952	\$ (98,129)	1	\$ 153,823	\$ (769)	1	\$ 153,053	\$ (765)	1	\$ 152,288
61540	Power Purchased -WTM	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -
61630	Fuel for Purchased Power-WTO	\$ 200,347		\$ 200,347	\$ 8,521		\$ 208,869	\$ 4,396		\$ 213,264	\$ 4,488		\$ 217,752
	<b>Total Water Treatment</b>	<b>\$ 452,299</b>		<b>\$ 452,299</b>	<b>\$ (98,129)</b>		<b>\$ 362,691</b>	<b>\$ (769)</b>		<b>\$ 366,318</b>	<b>\$ (765)</b>		<b>\$ 370,040</b>
<b>Transmission + Dist. Expense:</b>													
61550	Power Purchased-T&DO	\$ 19,556		\$ 19,556	\$ (7,617)	1	\$ 11,939	\$ (60)	1	\$ 11,880	\$ (59)	1	\$ 11,820
	<b>Total Transmission + Dist. Expense</b>	<b>\$ 19,556</b>		<b>\$ 19,556</b>	<b>\$ (7,617)</b>		<b>\$ 11,939</b>	<b>\$ (60)</b>		<b>\$ 11,880</b>	<b>\$ (59)</b>		<b>\$ 11,820</b>
<b>Administrative and General</b>													
61580	Purchased Power-A&GO	\$ 262,680		\$ 262,680	\$ (55,218)	1	\$ 207,461	\$ (433)	1	\$ 207,029	\$ (431)	1	\$ 206,598
61680	Fuel Or Power Purchased-A&GO	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -		\$ -
	<b>Total Administrative and General</b>	<b>\$ 262,680</b>		<b>\$ 262,680</b>	<b>\$ (55,218)</b>		<b>\$ 207,461</b>	<b>\$ (433)</b>		<b>\$ 207,029</b>	<b>\$ (431)</b>		<b>\$ 206,598</b>
	<b>Total Power Expense</b>	<b>\$ 1,594,220</b>		<b>\$ 1,594,220</b>	<b>\$ (493,106)</b>		<b>\$ 1,109,534</b>	<b>\$ (3,866)</b>		<b>\$ 1,110,165</b>	<b>\$ (3,846)</b>		<b>\$ 1,110,808</b>

(1) Anticipated Reductions in Electric Costs Associated with Solar Generation

**Schedule HJS-6: Adjustment to Materials, Supplies and Services**

Providence Water Supply Board  
 Docket # \_\_\_\_\_  
 Request for General Rate Relief  
 Direct Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Account	Description	Adjusted Test Year		Test Year		Pre-Forma Rate Year (Year 1)		Pre-Forma Rate Year (Year 2)		Pre-Forma Rate Year (Year 3)					
		FY 2019	FY 19 Adj.	FY 19 Adj.	Note	FY 21 CPI	FY 2021	FY 22 Adj. 1	Note	FY 22 CPI	FY 2022	FY 23 Adj. 1	Note	FY 23 CPI	FY 2023
<b>Source of Supply</b>															
62010	Material and Supplies -SOSO	\$ 5,866	\$ -	\$ 5,866	\$ -	\$ 250	\$ 6,116	\$ -	\$ 129	\$ 6,245	\$ -	\$ 131	\$ 6,376		
62020	Material and Supplies - SOSM	\$ 18,893	\$ -	\$ 18,893	\$ -	\$ 804	\$ 19,696	\$ -	\$ 414	\$ 20,111	\$ -	\$ 423	\$ 20,534		
63110	Contractual Service-Eng-SOSO	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
63120	Contractual Service-Eng-SOSM	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
63620	Contractual Service Other-SOSO	\$ 13,827	\$ -	\$ 13,827	\$ -	\$ 588	\$ 14,415	\$ -	\$ 303	\$ 14,719	\$ -	\$ 310	\$ 15,028		
64210	Rental of Equipment-SOSO	\$ 12,278	\$ -	\$ 12,278	\$ -	\$ 522	\$ 12,801	\$ -	\$ 269	\$ 13,070	\$ -	\$ 275	\$ 13,345		
64220	Rental of Equipment-SOSM	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
65010	Transportation Expense-SOSO	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
65020	Transportation Expense-SOSM	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
67510	Miscellaneous Expenses-SOSO	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
67520	Miscellaneous Expenses-SOSM	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
67550	Miscellaneous	\$ 50,864	\$ -	\$ 50,864	\$ -	\$ 2,163	\$ 53,028	\$ -	\$ 1,116	\$ 54,144	\$ -	\$ 1,139	\$ 55,283		
<b>Pumping</b>															
63523	Contractual Service Other-PPO	\$ 13,816	\$ -	\$ 13,816	\$ -	\$ 588	\$ 14,403	\$ -	\$ 303	\$ 14,706	\$ -	\$ 309	\$ 15,016		
62030	Material and Supplies -WTO	\$ 217,299	\$ -	\$ 217,299	\$ -	\$ 9,242	\$ 226,542	\$ -	\$ 4,767	\$ 231,309	\$ -	\$ 4,868	\$ 236,177		
62040	Material and Supplies -WTM	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
63130	Contractual Service Eng-WTO	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
63140	Contractual Service Eng-WTM	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
63630	Contractual Service Other-WTO	\$ 209,400	\$ -	\$ 209,400	\$ 132,000	\$ -	\$ 341,400	\$ -	\$ 7,185	\$ 348,585	\$ -	\$ 7,336	\$ 355,920		
63640	Contractual Service Other-WTM	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
64230	Rental of Equipment -WTO	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
64240	Rental of Equipment -WTM	\$ 3,799	\$ -	\$ 3,799	\$ -	\$ 162	\$ 3,960	\$ -	\$ 83	\$ 4,043	\$ -	\$ 85	\$ 4,129		
65030	Transportation Expense-WTO	\$ 1,333	\$ -	\$ 1,333	\$ -	\$ 57	\$ 1,389	\$ -	\$ 29	\$ 1,419	\$ -	\$ 30	\$ 1,449		
67540	Miscellaneous Expenses-WTO	\$ 204,372	\$ -	\$ 204,372	\$ -	\$ 8,692	\$ 213,064	\$ -	\$ 4,484	\$ 217,548	\$ -	\$ 4,578	\$ 222,126		
67550	Miscellaneous Expenses - WTM	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
63620	Contractual Service -T&DO	\$ 636,202	\$ -	\$ 636,202	\$ 132,000	\$ 18,153	\$ 786,355	\$ -	\$ 16,548	\$ 802,904	\$ -	\$ 16,897	\$ 819,800		
62050	Material and Supplies -T&DO	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
62060	Material and Supplies-T&DM	\$ 319,595	\$ -	\$ 319,595	\$ 107,769	\$ -	\$ 427,364	\$ -	\$ -	\$ 449,613	\$ -	\$ -	\$ 499,866		
63150	Contractual Services Eng-T&DO	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
63160	Contractual Services Eng-T&DM	\$ 47,278	\$ -	\$ 47,278	\$ -	\$ 2,011	\$ 49,288	\$ -	\$ 1,037	\$ 50,326	\$ -	\$ 1,059	\$ 51,385		
63650	Contractual Service Other-T&DO	\$ 17,310	\$ -	\$ 17,310	\$ 5,288	\$ -	\$ 22,598	\$ 1,970	\$ -	\$ 24,568	\$ 2,069	\$ -	\$ 26,636		
63660	Contractual Service Other-T&DM	\$ 891,828	\$ -	\$ 891,828	\$ 106,311	\$ -	\$ 998,139	\$ 4,696	\$ -	\$ 1,002,834	\$ 41,240	\$ -	\$ 1,044,074		
65060	Transportation Expense -T&DM	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
67550	Miscellaneous Exp. -T&DO	\$ 44,079	\$ -	\$ 44,079	\$ -	\$ 1,875	\$ 45,953	\$ -	\$ 967	\$ 46,921	\$ -	\$ 987	\$ 47,908		
67560	Miscellaneous Exp-T&DM	\$ 1,320,090	\$ -	\$ 1,320,090	\$ 219,367	\$ 3,886	\$ 1,543,343	\$ 28,914	\$ 2,004	\$ 1,574,261	\$ 93,682	\$ 2,047	\$ 1,669,990		
<b>Customer Accounts Expense:</b>															
62070	Material and Supplies-CAO	\$ 4,043	\$ -	\$ 4,043	\$ -	\$ 172	\$ 4,214	\$ -	\$ 89	\$ 4,303	\$ -	\$ 91	\$ 4,394		
63670	Contractual Services Other -CAO	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
65070	Transportation Expenses -CAO	\$ 3,002	\$ -	\$ 3,002	\$ -	\$ 128	\$ 3,129	\$ -	\$ 66	\$ 3,195	\$ -	\$ 67	\$ 3,262		
67070	Bad Debt Expense	\$ 207,146	\$ -	\$ 207,146	\$ -	\$ 8,810	\$ 215,956	\$ -	\$ 4,545	\$ 220,501	\$ -	\$ 4,640	\$ 225,141		
67570	Miscellaneous Expenses-CAO	\$ 578,923	\$ -	\$ 578,923	\$ 61,984	\$ -	\$ 640,908	\$ -	\$ 13,487	\$ 654,373	\$ -	\$ 13,771	\$ 668,144		
67593,113		\$ 793,113	\$ -	\$ 793,113	\$ 61,964	\$ 9,110	\$ 854,186	\$ -	\$ 18,186	\$ 882,372	\$ -	\$ 18,569	\$ 900,942		
<b>Administrative and General</b>															
62080	Material and Supplies -A&GO	\$ 716,310	\$ -	\$ 716,310	\$ -	\$ 30,466	\$ 746,776	\$ -	\$ 15,716	\$ 762,492	\$ -	\$ 16,046	\$ 778,538		
63180	Contractual Service Eng-A&GO	\$ 60,951	\$ -	\$ 60,951	\$ 75,000	\$ -	\$ 135,951	\$ -	\$ 2,851	\$ 138,812	\$ -	\$ 2,921	\$ 141,733		
63280	Contractual Service Acct-A&GO	\$ 51,615	\$ -	\$ 51,615	\$ -	\$ 2,195	\$ 53,810	\$ -	\$ 1,132	\$ 54,942	\$ -	\$ 1,156	\$ 56,098		
63380	Contractual Service Legal-A&GO	\$ 73,963	\$ -	\$ 73,963	\$ -	\$ 3,146	\$ 77,109	\$ -	\$ 1,623	\$ 78,732	\$ -	\$ 1,657	\$ 80,389		
63480	Contractual Service Mgmt fees-A&GO	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
63680	Contractual Service Other-A&GO	\$ 1,383,724	\$ (59,186)	\$ 1,324,538	\$ 971,972	\$ -	\$ 2,296,510	\$ (142,622)	\$ -	\$ 2,153,888	\$ (56,161)	\$ -	\$ 2,097,727		
64280	Rental of Equipment-A&GO	\$ 2,686	\$ -	\$ 2,686	\$ -	\$ 114	\$ 2,800	\$ -	\$ 59	\$ 2,859	\$ -	\$ 60	\$ 2,920		
65080	Transportation Expenses-A&GO	\$ 9,564	\$ -	\$ 9,564	\$ 1,380	\$ -	\$ 10,944	\$ -	\$ 230	\$ 11,174	\$ -	\$ 235	\$ 11,409		
67580	Miscellaneous Expenses-A&GO	\$ 357,305	\$ -	\$ 357,305	\$ 238,087	\$ -	\$ 595,362	\$ (137,200)	\$ -	\$ 458,162	\$ (14,500)	\$ -	\$ 443,662		
67593,118		\$ 2,685,118	\$ (59,186)	\$ 2,625,932	\$ 1,286,409	\$ 35,921	\$ 3,919,263	\$ (279,822)	\$ 21,621	\$ 3,919,061	\$ (70,661)	\$ 22,076	\$ 3,812,477		
67593,203		\$ 5,411,018	\$ -	\$ 5,411,018	\$ 1,695,740	\$ 69,821	\$ 7,180,578	\$ (250,908)	\$ 59,779	\$ 6,989,448	\$ 23,022	\$ 61,037	\$ 7,073,507		

## Schedule HJS-7: Adjustment to Regulatory and Rate Case Expense

Providence Water Supply Board  
Docket # \_\_\_\_\_  
Request for General Rate Relief  
Direct Testimony of Harold J. Smith  
Test Year Ending June 30, 2019  
Rate Years Ending June 30, 2021 through 2023

Description	Actuals FY 2019	Note	Rate Year FY 2021	Note	Rate Year FY 2022	Note	Rate Year FY 2023
<b>Regulatory Commission Expense:</b>							
PUC Assessment	\$ 353,599	1	\$ 385,422	1	\$ 420,110	1	\$ 457,920
Legal Matters	63,608	2	25,567	2	26,845	2	28,188
Financial Consultant	56,260	3	-	3	15,000	3	15,000
Other	12,919	4	3,250	4	3,413	4	3,583
Total	\$ 486,386		\$ 414,239		\$ 465,368		\$ 504,691
<b>Rate Case Expense:</b>							
Rate Filing Consultant		5	\$ 98,750	4	\$ 32,917	4	\$ 32,917
Legal		6	133,549	5	44,516	5	44,516
Division		7	79,687	6	26,562	6	26,562
Sub-Total Rate Case Expense			311,986		-		-
<b>Three Year Amortization</b>			<b>\$ 103,995</b>		<b>\$ 103,995</b>		<b>\$ 103,995</b>
Rate Year Expenses			\$ 518,235		\$ 569,364		\$ 608,686
Test Year			\$ 486,386		\$ 518,235		\$ 569,364
<b>Rate Year Adjustment</b>			<b>\$ 31,848</b>		<b>\$ 51,129</b>		<b>\$ 39,323</b>

- (1) Average Historical % Increase 2017 to 2019 (9%)
- (2) Average Historical % Increase 2017 to 2019 (5%)
- (3) Estimated Cost of Compliance Filing for FY 22 and 23
- (4) 5% annual increase
- (5) Rate Filing and New Cost of Service Model
- (6) Legal Assistance for Rate Filing
- (7) 2018 + 5% Estimated Increase



### Schedule HJS-8a: Adjustment to Chemicals and Sludge Maintenance Fund

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

878-878-53305<sup>4</sup> 878-878-53401<sup>5</sup> 878-878-53500<sup>6</sup>

Description	Ferric (gal)	Lime (ton)	Chlorine (ton)	Fluoride (gal)	Ascorbic Acid (25kg box)	Sodium Hydroxide (gal)*	Orthophosphate Pilot (gal)*	Orthophosphate Full Scale (gal)*	Professional Engineering	Sludge Maintenance	Project Insp. Pump Rentals
	gpg	gpg	lbs	mg/L	kg	mg/L	mg/L	mg/L			
Dosing Unit	1.20	1.02	2.16	0.55							
Avg Dose	674,356	1,622	200	54,522	3,125	5,600	1,350	57,794			
Estimated Chemical Usage	\$1.41	\$235.00	\$2,000.00	\$1.40	\$16.75	\$2.34	\$8.31	\$6.80			
Unit Price	\$950,842.5	\$381,208.6	\$400,770.0	\$76,331.5	\$52,343.8	\$20,000.0	\$11,221.2	\$382,999.2			
Approx. Cost	\$950,000.0	\$390,000.0	\$400,000.0	\$84,000.0	\$52,350.0	\$15,000.0	\$15,000.0	\$140,000.0			
FY2019 Budget	\$960,000.0	\$390,000.0	\$425,000.0	\$84,000.0	\$52,350.0	\$15,000.0	\$15,000.0	\$140,000.0			
FY2020 Budget	\$960,000.0	\$390,000.0	\$425,000.0	\$84,000.0	\$52,350.0	\$15,000.0	\$15,000.0	\$140,000.0			
Project Chemical QTY FY20:	673,759	1,660	200	60,000	3,125	8,547	1,805	20,588			
Project Chemical QTY FY21-23:								58,824			
(FY19 Budget/Unit Price)	\$ 1.41	\$ 235.00	\$ 2,000.00	\$ 1.40	\$ 16.75	\$ 2.34	\$ 8.31	\$ -			
(FY20 Budget/Unit Price)	\$ 1.46	\$ 235.00	\$ 2,000.00	\$ 1.55	\$ 17.25	\$ 2.34	\$ 8.31	\$ 6.80			
FY2020 spending ****	\$ 983,687.94	\$ 390,000.00	\$ 400,000.00	\$ 93,000.00	\$ 53,912.69	\$ 11,700.00	\$ 15,000.00	\$ 140,000.00	\$ 75,000.00	\$ 1,608,918.00	\$ 200,000.00
(FY21 Budget/Unit Price)	\$ 1.50	\$ 235.00	\$ 2,000.00	\$ 1.55	\$ 17.75	\$ -	\$ -	\$ 6.80			
FY2021 spending ****	\$ 1,010,638.30	\$ 390,000.00	\$ 400,000.00	\$ 93,000.00	\$ 55,475.37	\$ -	\$ -	\$ 400,003.20	\$ 1,608,918.00	\$ 80,000.00	
(FY22 Budget/Unit Price)***	\$ 1.55	\$ 240.00	\$ 2,000.00	\$ 1.60	\$ 18.25	\$ -	\$ -	\$ 6.90			
FY2022 spending ****	\$ 1,044,326.24	\$ 398,297.87	\$ 400,000.00	\$ 96,000.00	\$ 57,038.06	\$ -	\$ -	\$ 405,885.60	\$ 1,608,918.00		
(FY23 Budget/Unit Price)***	\$ 1.60	\$ 240.00	\$ 2,000.00	\$ 1.60	\$ 18.75	\$ -	\$ -	\$ 7.00			
FY2023 spending ****	\$ 1,076,014.18	\$ 398,297.87	\$ 400,000.00	\$ 96,000.00	\$ 58,600.75	\$ -	\$ -	\$ 411,768.00	\$ 1,608,918.00		

\* Pilot scale. Average day = 1.41 MGD. Chemical projection and budget increased slightly to allow for increased demonstration area, if needed.

\*\* Full scale orthophosphate at treatment plant tentatively scheduled for fall 2019. Budget pricing included herein based on initial dose (3 mg/L) at average day (61 MGD).

\*\*\* Estimated

\*\*\*\* Estimated - based on FY2019 quantities being constant

4 Engineering costs required to complete current study along with estimated engineering costs for future studies

5 Conservative estimated of 10,000 dry tons removed from south sedimentation basin at \$200/dry ton

6 FY20: Estimated \$13K/month for project inspection & \$7K/month for pump rental for 12 months. FY21: Estimated \$13K/month for project inspection & \$7K/month for pump rental for 4 months.



## Schedule HJS-8b: Adjustment to Chemicals and Sludge Maintenance Fund

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Year	Total Chemicals	Professional Engineering	Sludge Maintenance	Project Insp Pump Rentals	Total C&S Maint
FY 2020	\$ 2,087,301	\$ 75,000	\$ 1,608,918	\$ 200,000	\$ 3,971,219
FY 2021	\$ 2,349,117	-	\$ 1,608,918	\$ 80,000	\$ 4,038,035
FY 2022	\$ 2,401,548	-	\$ 1,608,918	-	\$ 4,010,466
FY 2023	\$ 2,442,681	-	\$ 1,608,918	-	\$ 4,051,599

Year	Funding Level	Total Uses	Funding Adjustment	Rate Year Funding
FY 2021	\$ 3,800,000	\$ 4,038,035	\$ (238,035)	\$ 3,800,000
FY 2022	\$ 3,800,000	\$ 4,010,466	\$ (210,466)	\$ 3,800,000
FY 2023	\$ 3,800,000	\$ 4,051,599	\$ (251,599)	\$ 3,800,000

## Schedule HJS-9: Adjustment to Property Taxes

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Account	Description	Adjusted Test Year			Pro-Forma Rate Year (Year 1)			Pro-Forma Rate Year (Year 2)			Pro-Forma Rate Year (Year 3)					
		Test Year FY 2019	Test Year FY 19 Adj. 1	Test Year FY 19 Adj. 2	Rate Year FY 21 Adj. 1	Rate Year FY 21 Adj. 2	Rate Year FY 21 Note	Rate Year FY 22 Adj. 1	Rate Year FY 22 Note	Rate Year FY 23 Adj. 1	Rate Year FY 23 Note	Rate Year FY 23 Adj. 1	Rate Year FY 23 Note			
40820	North Providence	\$ 285,488	\$ -	\$ 285,488	\$ 6,406	1	\$ 11,676	2	\$ 303,569	\$ 12,143	2	\$ 315,712	2	\$ 328,340	2	\$ 291,893
40821	Glocester	\$ 67,742	\$ -	\$ 67,742	\$ 8,500	1	\$ 3,050	2	\$ 79,292	\$ 3,172	2	\$ 82,463	2	\$ 85,762	2	\$ 76,242
40822	West Glocester Fire	\$ 3,708	\$ -	\$ 3,708	\$ 701	1	\$ 176	2	\$ 4,585	\$ 183	2	\$ 4,769	2	\$ 4,959	2	\$ 4,409
40823	Harmony Fire Dist.	\$ 200	\$ -	\$ 200	\$ -	1	\$ 8	2	\$ 208	\$ 8	2	\$ 217	2	\$ 225	2	\$ 200
40824	Chepachet Fire Dist.	\$ 129	\$ -	\$ 129	\$ -	1	\$ 5	2	\$ 134	\$ 5	2	\$ 139	2	\$ 145	2	\$ 129
40825	Scituate	\$ 6,252,460	\$ -	\$ 6,252,460	\$ 248,223	1	\$ 259,993	2	\$ 6,760,676	\$ 270,427	2	\$ 7,031,103	2	\$ 7,312,347	2	\$ 6,500,683
40827	Johnston	\$ 89,354	\$ -	\$ 89,354	\$ 7,049	1	\$ 3,856	2	\$ 100,258	\$ 4,010	2	\$ 104,269	2	\$ 108,439	2	\$ 96,402
40828	Foster	\$ 289,570	\$ -	\$ 289,570	\$ 10,776	1	\$ 12,014	2	\$ 312,360	\$ 12,494	2	\$ 324,855	2	\$ 337,849	2	\$ 300,347
40829	Cranston	\$ 101,868	\$ -	\$ 101,868	\$ 2,395	1	\$ (43,198)	2,3	\$ 61,065	\$ 2,443	2	\$ 63,507	2	\$ 66,047	2	\$ 104,262
40830	West Warwick	\$ 3,500	\$ -	\$ 3,500	\$ 3,229	1	\$ 269	2	\$ 6,998	\$ 280	2	\$ 7,278	2	\$ 7,569	2	\$ 6,729
<b>Total</b>		\$ 7,094,018	\$ -	\$ 7,094,018	\$ 287,278		\$ 247,850		\$ 7,629,145	\$ 305,166		\$ 7,934,311	\$ 317,372	\$ 8,251,684	\$ 7,381,296	

(1) Increase to FY 2020 Actual

(2) 4% Maximum Statutory Increase

(3) Remove Property Taxes for Demolished Cranston Operations Center

## Schedule HJS-10a: Restricted Funds - Capital Fund

Providence Water Supply Board  
 Docket # \_\_\_\_\_  
 Request for General Rate Relief  
 Direct Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Description	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
<b>Source of Funds</b>					
D4618 (effective 2/17/2017)	\$ 2,127,000	\$ 2,127,000	\$ 2,127,000	\$ 2,127,000	\$ 2,127,000
Bond RIIB 2015	\$ 14,239	\$ -	\$ -	\$ -	\$ -
Interest earnings	\$ 122,407	\$ 110,000	\$ 20,000	\$ 20,000	\$ 20,000
Carryover funds from prior year estimated	\$ 5,081,531	\$ 3,540,347	\$ (159,520)	\$ 39,642	\$ 240,681
<b>Total Sources</b>	<b>\$ 7,345,177</b>	<b>\$ 5,777,347</b>	<b>\$ 1,987,480</b>	<b>\$ 2,186,642</b>	<b>\$ 2,387,681</b>
<b>Less obligated uses of funds:</b>					
RIIB Debt (P&I)	\$ 1,948,871	\$ 1,948,174	\$ 1,947,838	\$ 1,945,960	\$ 1,944,371
RIIB Debt 2015 (P&I)	<b>\$ 1,948,871</b>	<b>\$ 1,948,174</b>	<b>\$ 1,947,838</b>	<b>\$ 1,945,960</b>	<b>\$ 1,944,371</b>
Sub-total Debt Service					
125 Dupont Drive	\$ -	\$ -	\$ -	\$ -	\$ -
Cash Funded Projects*	\$ 1,855,959	\$ 3,988,693	\$ -	\$ -	\$ -
<b>Total Uses</b>	<b>\$ 3,804,830</b>	<b>\$ 5,936,867</b>	<b>\$ 1,947,838</b>	<b>\$ 1,945,960</b>	<b>\$ 1,944,371</b>
<b>End of Year Balance</b>	<b>\$ 3,540,347</b>	<b>\$ (159,520)</b>	<b>\$ 39,642</b>	<b>\$ 240,681</b>	<b>\$ 443,310</b>



## Schedule HJS-10b: Restricted Funds - Western Cranston Fund

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Description	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
<b>Source of Funds</b>					
D4618 (effective 2/17/2017)	\$ 40,000	\$ 46,667	\$ 40,000	\$ 40,000	\$ 40,000
Impact Fees estimated	\$ 87,087	\$ 25,000	\$ 25,000	\$ 15,000	\$ 10,000
Carryover funds from prior year estimated	\$ 331,157	\$ 289,247	\$ 190,258	\$ 84,696	\$ (30,769)
<b>Total Sources</b>	<b>\$ 458,244</b>	<b>\$ 360,914</b>	<b>\$ 255,258</b>	<b>\$ 139,696</b>	<b>\$ 19,231</b>
<b>Less obligated uses of funds</b>					
RIIB 2002B (P)	\$ 151,253	\$ 156,503	\$ 161,936	\$ 167,556	\$ -
RIIB 2002 (Pippin Main & WilburPS) (I)	\$ 17,744	\$ 14,153	\$ 8,626	\$ 2,908	\$ -
Sub-total Debt Service	<b>\$ 168,997</b>	<b>\$ 170,656</b>	<b>\$ 170,562</b>	<b>\$ 170,464</b>	<b>\$ -</b>
Miscellaneous Expense	\$ -	\$ -	\$ -	\$ -	\$ -
Cash Funded Projects	<b>\$ 168,997</b>	<b>\$ 170,656</b>	<b>\$ 170,562</b>	<b>\$ 170,464</b>	<b>\$ -</b>
<b>Total Uses</b>					
<b>End of Year Balance</b>	<b>\$ 289,247</b>	<b>\$ 190,258</b>	<b>\$ 84,696</b>	<b>\$ (30,769)</b>	<b>\$ 19,231</b>

## Schedule HJS-10c: Restricted Funds - IFR Fund

Providence Water Supply Board  
 Docket # \_\_\_\_\_  
 Request for General Rate Relief  
 Direct Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Description	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
<b>Source of Funds</b>					
D4618 (effective 2/17/2017)	\$ 27,300,000	\$ 27,300,000	\$ 27,300,000	\$ 27,300,000	\$ 27,300,000
New Rate Funding			\$ 2,000,000	\$ 4,000,000	\$ 6,000,000
Miscellaneous Revenue (incl. Transfer for ESWD DS)	\$ 53,800	\$ 52,853	\$ 52,802	\$ 52,689	\$ 52,513
Interest Income	\$ 348,660	\$ 42,000	\$ 25,000	\$ 10,000	\$ 1,000
Carryover funds from prior year estimated	\$ 12,914,333	\$ 8,312,576	\$ 1,327,631	\$ 12,588,203	\$ 1,009,505
<b>Total Sources</b>	<b>\$ 40,616,793</b>	<b>\$ 35,707,429</b>	<b>\$ 30,705,434</b>	<b>\$ 43,950,892</b>	<b>\$ 34,363,017</b>
<b>Less obligated uses of funds:</b>					
RIIB (Arra) \$9.3M 2009 (P&I)	\$ 491,080	\$ 491,005	\$ 491,074	\$ 490,542	\$ 490,220
RIIB \$35M 2008 (P&I)	\$ 2,374,237	\$ 2,268,505	\$ 2,372,011	\$ 2,369,391	\$ 2,367,812
RIIB \$25M 2013 (P&I)	\$ 1,545,394	\$ 1,545,575	\$ 1,544,360	\$ 1,542,870	\$ 1,542,106
RIIB \$8M 2014 (P&I)	\$ 501,911	\$ 500,873	\$ 500,850	\$ 500,896	\$ 500,127
RIIB \$16.3M 2017 (P&I)	\$ 1,035,775	\$ 1,036,028	\$ 1,036,743	\$ 1,035,388	\$ 1,034,854
RIIB \$14.7M 2019 (P&I)		\$ 176,864	\$ 934,390	\$ 935,151	\$ 935,636
East Smithfield RIIB 2013 (P&I)	\$ 39,775	\$ 39,177	\$ 39,477	\$ 39,174	\$ 39,888
East Smithfield RIIB 2008 (P&I)	\$ 14,025	\$ 13,675	\$ 13,325	\$ 12,975	\$ 12,625
Est. New Debt Service	\$ -	\$ -	\$ -	\$ 950,000	\$ 2,850,000
Sub-total Debt Service			\$ 6,932,231	\$ 7,876,387	\$ 9,773,267
<b>Cash Funded Projects</b>	<b>\$ 26,302,020</b>	<b>\$ 28,308,095</b>	<b>\$ 11,185,000</b>	<b>\$ 35,065,000</b>	<b>\$ 17,955,000</b>
<b>Total Uses</b>	<b>\$ 32,304,217</b>	<b>\$ 34,379,798</b>	<b>\$ 18,117,231</b>	<b>\$ 42,941,387</b>	<b>\$ 27,728,267</b>
<b>End of Year Balance - Cash Balance Carry Fwd.</b>	<b>\$ 8,312,576</b>	<b>\$ 1,327,631</b>	<b>\$ 12,588,203</b>	<b>\$ 1,009,505</b>	<b>\$ 6,634,750</b>
<b>Bond Funding Activity</b>					
Bond Proceeds	\$ 15,458,735	\$ 13,490,000	\$ 19,100,000	\$ 19,100,000	\$ 19,100,000
Bond Funded Projects	\$ 1,840,830	\$ 13,617,905	\$ 19,100,000	\$ 19,100,000	\$ 19,100,000
<b>Net Bond funding</b>	<b>\$ 13,617,905</b>	<b>\$ (127,905)</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

## Schedule HJS-10d: Restricted Funds - AMR/Meter Replacement Fund

Providence Water Supply Board  
 Docket # \_\_\_\_\_  
 Request for General Rate Relief  
 Direct Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Description	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
<b>Source of Funds</b>					
D4618 (effective 2/17/2017)	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000
New Rate Funding		\$	\$ 500,000	\$ 500,000	\$ 500,000
East Smithfield Surcharge	\$ 69,152	\$ 83,000	\$ 83,000	\$ 83,000	\$ 83,000
Interest/Miscellaneous Revenue	\$ 28,276	\$ 25,000	\$ 10,000	\$ 10,000	\$ 10,000
Carryover funds from prior year estimated	\$ 2,260,279	\$ 1,276,808	\$ 597,760	\$ 403,121	\$ 208,767
<b>Total Sources</b>	<b>\$ 2,857,707</b>	<b>\$ 1,884,808</b>	<b>\$ 1,690,760</b>	<b>\$ 1,496,121</b>	<b>\$ 1,301,767</b>
<b>Less obligated uses of funds</b>					
East Smithfield RIIB (Arra) \$400,000	\$ 27,011	\$ 26,931	\$ 27,573	\$ 27,401	\$ 27,198
Transfer to IFR for ESWD Debt Service	\$ 53,800	\$ 52,853	\$ 52,802	\$ 52,689	\$ 52,513
Meter Replacement, Test & Repair	\$ 1,500,087	\$ 1,207,264	\$ 1,207,264	\$ 1,207,264	\$ 1,207,264
<b>Total Uses</b>	<b>\$ 1,580,898</b>	<b>\$ 1,287,048</b>	<b>\$ 1,287,640</b>	<b>\$ 1,287,354</b>	<b>\$ 1,286,974</b>
<b>End of Year Balance</b>	<b>\$ 1,276,808</b>	<b>\$ 597,760</b>	<b>\$ 403,121</b>	<b>\$ 208,767</b>	<b>\$ 14,793</b>



## Schedule HJS-10e: Restricted Funds - Equipment/Vehicle Replacement Fund

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Description	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
<b>Source of Funds</b>					
D4618 (effective 2/17/2017)	\$ 600,000	\$ 600,000	\$ 600,000	\$ 600,000	\$ 600,000
New Rate Funding		\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000
Miscellaneous Revenue	\$ 6,756	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000
Interest	\$ 6,461	\$ 18,000	\$ 15,000	\$ 15,000	\$ 15,000
Carryover funds from prior year estimated	\$ 1,648,796	\$ 683,072	\$ (308,628)	\$ 131,145	\$ 470,781
<b>Total Sources</b>	<b>\$ 2,262,013</b>	<b>\$ 1,306,072</b>	<b>\$ 1,311,372</b>	<b>\$ 1,751,145</b>	<b>\$ 2,090,781</b>
<b>Less obligated uses of funds</b>					
Vehicle and Equipment purchases	\$ 375,418	\$ 741,200	\$ 735,227	\$ 567,614	\$ 495,000
Computer Equipment purchases	\$ 991,999	\$ 325,000	\$ 260,000	\$ 527,750	\$ 470,600
Office Furniture purchases	\$ 7,533	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000
Security Equipment	-	\$ 223,500	\$ 60,000	\$ 60,000	\$ 60,000
Shop & Plant Equipment	\$ 203,991	\$ 300,000	\$ 100,000	\$ 100,000	\$ 100,000
<b>Total Uses</b>	<b>\$ 1,578,941</b>	<b>\$ 1,614,700</b>	<b>\$ 1,180,227</b>	<b>\$ 1,280,364</b>	<b>\$ 1,150,600</b>
<b>End of Year Balance</b>	<b>\$ 683,072</b>	<b>\$ (308,628)</b>	<b>\$ 131,145</b>	<b>\$ 470,781</b>	<b>\$ 940,181</b>

## Schedule HJS-10f: Restricted Funds - Insurance Fund

Providence Water Supply Board

Docket # \_\_\_\_\_  
 Request for General Rate Relief  
 Direct Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Description	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
<b>Source of Funds</b>					
D4618 (effective 2/17/2017)	\$ 2,302,113	\$ 2,302,113	\$ 2,302,113	\$ 2,302,113	\$ 2,302,113
Reimbursements	\$ 7,407	\$ -	\$ -	\$ -	\$ -
Interest	\$ 12,953	\$ 9,000	\$ 9,100	\$ 9,250	\$ 9,500
Carryover funds from prior year estimated	\$ 2,005,575	\$ 2,300,623	\$ 2,597,116	\$ 2,475,116	\$ 2,460,862
<b>Total Sources</b>	<b>\$ 4,328,048</b>	<b>\$ 4,611,736</b>	<b>\$ 4,908,329</b>	<b>\$ 4,786,479</b>	<b>\$ 4,772,475</b>
<b>Less obligated uses of funds</b>					
Property & Casualty	\$ 1,119,941	\$ 1,129,479	\$ 1,151,934	\$ 1,174,839	\$ 1,198,201
Workers Compensation	\$ 774,580	\$ 779,142	\$ 785,125	\$ 794,279	\$ 800,564
Injuries & Damages *	\$ 113,412	\$ 85,000	\$ 224,654	\$ 85,000	\$ 85,000
Safety Supplies & Other	\$ 15,041	\$ 16,000	\$ 16,500	\$ 16,500	\$ 16,500
Program Expense	\$ 4,452	\$ 5,000	\$ 255,000	\$ 255,000	\$ 5,000
<b>Total Uses</b>	<b>\$ 2,027,425</b>	<b>\$ 2,014,621</b>	<b>\$ 2,433,213</b>	<b>\$ 2,325,617</b>	<b>\$ 2,105,266</b>
<b>End of Year Balance</b>	<b>\$ 2,300,623</b>	<b>\$ 2,597,116</b>	<b>\$ 2,475,116</b>	<b>\$ 2,460,862</b>	<b>\$ 2,667,209</b>

\* Injuries and Claims for FY2021 includes 5 property damage claims that are in excess of \$5,000 and 2 pending claims of approximately \$50,000 each from flooding incidents in Cranston & Providence.

## Schedule HJS-10g: Restricted Funds - Chemicals and Sludge Maintenance Fund

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Description	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
<b>Source of Funds</b>					
D4618 (effective 2/17/2017)	\$ 2,800,000	\$ 2,800,000	\$ 2,800,000	\$ 2,800,000	\$ 2,800,000
New Rate Funding			\$ 1,000,000	\$ 1,000,000	\$ 1,000,000
Interest/Misc. Revenue	\$ 11,747	\$ 8,000	\$ 8,000	\$ 8,000	\$ 8,000
Carryover funds from prior year estimated	\$ 3,344,882	\$ 2,735,683	\$ 1,572,464	\$ 1,342,430	\$ 1,139,964
<b>Total Sources</b>	<b>\$ 6,156,629</b>	<b>\$ 5,543,683</b>	<b>\$ 5,380,464</b>	<b>\$ 5,150,430</b>	<b>\$ 4,947,964</b>
<b>Less obligated uses of funds</b>					
Chemicals	\$ 1,761,764	\$ 2,087,301	\$ 2,349,117	\$ 2,401,548	\$ 2,442,681
Professional Engineering/Contractors	\$ 50,264	\$ 75,000	-	-	-
Miscellaneous Expenses - Project inspections, pump rentals	\$ 200,000	\$ 200,000	\$ 80,000	-	-
Sludge Maintenance	\$ 1,608,918	\$ 1,608,918	\$ 1,608,918	\$ 1,608,918	\$ 1,608,918
<b>Total Uses</b>	<b>\$ 3,420,946</b>	<b>\$ 3,971,219</b>	<b>\$ 4,038,035</b>	<b>\$ 4,010,466</b>	<b>\$ 4,051,599</b>
<b>End of Year Balance</b>	<b>\$ 2,735,683</b>	<b>\$ 1,572,464</b>	<b>\$ 1,342,430</b>	<b>\$ 1,139,964</b>	<b>\$ 896,365</b>



## Schedule HJS-10h: Restricted Funds - Property Tax Refund Fund

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Description	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
<b>Source of Funds</b>					
Foster Tax Refund	\$ 190,000	\$ 190,000	\$ 190,000	\$ 190,000	\$ 190,000
Carryover funds from prior year estimated	\$ 501,231	\$ 384,840	\$ 394,840	\$ 404,840	\$ 414,840
<b>Total Sources</b>	<b>\$ 691,231</b>	<b>\$ 574,840</b>	<b>\$ 584,840</b>	<b>\$ 594,840</b>	<b>\$ 604,840</b>
<b>Less obligated uses of funds</b>					
Reimbursement to operations from Foster refund	\$ 291,667	\$ 175,000	\$ 175,000	\$ 175,000	\$ 175,000
Transfer to Operations - Legal Fees	\$ 14,724	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000
<b>Total Uses</b>	<b>\$ 306,391</b>	<b>\$ 180,000</b>	<b>\$ 180,000</b>	<b>\$ 180,000</b>	<b>\$ 180,000</b>
<b>End of Year Balance</b>	<b>\$ 384,840</b>	<b>\$ 394,840</b>	<b>\$ 404,840</b>	<b>\$ 414,840</b>	<b>\$ 424,840</b>

## Schedule HJS-10i: Restricted Funds - Private Side Lead Service Replacement

Providence Water Supply Board  
 Docket # \_\_\_\_\_  
 Request for General Rate Relief  
 Direct Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Description	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
<b>Source of Funds</b>					
D4618 (effective 2/17/2017)	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000
New Rate Funding				\$ 2,750,000	\$ 2,750,000
Loan Proceeds	\$ 430,326	\$ 569,674	\$ 500,000		
Repayments	\$ 171,159	\$ 250,000	\$ 295,000	\$ 295,000	\$ 295,000
Carryover funds from prior year estimated	\$ 215,533	\$ 445,279	\$ 788,852	\$ 958,852	\$ 678,852
<b>Total Sources</b>	<b>\$ 1,067,018</b>	<b>\$ 1,514,953</b>	<b>\$ 1,833,852</b>	<b>\$ 4,253,852</b>	<b>\$ 3,973,852</b>
<b>Less obligated uses of funds</b>					
Project expenditures	\$ 542,028	\$ 500,000	\$ 600,000	\$ 3,000,000	\$ 3,000,000
New debt Service				\$ 300,000	\$ 300,000
RIIB \$1M 2018A (P&I)	\$ 79,711	\$ 226,101	\$ 275,000	\$ 275,000	\$ 144,188
<b>Total Uses</b>	<b>\$ 621,739</b>	<b>\$ 726,101</b>	<b>\$ 875,000</b>	<b>\$ 3,575,000</b>	<b>\$ 3,444,188</b>
<b>End of Year Balance</b>	<b>\$ 445,279</b>	<b>\$ 788,852</b>	<b>\$ 958,852</b>	<b>\$ 678,852</b>	<b>\$ 529,664</b>

## Schedule HJS-10j: Restricted Funds - Revenue Reserve Fund

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Description	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
<b>Source of Funds</b>					
D4618 (effective 2/17/2017)	\$ 362,119	\$ 362,119	\$ 362,119	\$ 362,119	\$ 362,119
New Rate Funding		\$ -	\$ 51,962	\$ 82,013	\$ 99,533
Interest Revenue	40,706	-	-	-	-
Carryover funds from prior year estimated	\$ 5,147,770	\$ 271,784	\$ 386,024	\$ 800,105	\$ 1,244,236
<b>Total Sources</b>	<b>\$ 5,550,596</b>	<b>\$ 633,903</b>	<b>\$ 800,105</b>	<b>\$ 1,244,236</b>	<b>\$ 1,705,889</b>
<b>Less obligated uses of funds</b>					
Transfer to Restricted Funds*	\$ 5,278,812	\$ 247,879	\$ -	\$ -	\$ -
<b>Total Uses</b>	<b>\$ 5,278,812</b>	<b>\$ 247,879</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>End of Year Balance</b>	<b>\$ 271,784</b>	<b>\$ 386,024</b>	<b>\$ 800,105</b>	<b>\$ 1,244,236</b>	<b>\$ 1,705,889</b>

Note:

\* Commission approved to transfer funds from the Revenue Reserve Fund to Operations to fully fund IFR not funded in FY2017 and FY2018 due to revenue shortfalls on 1/14/2019.



## Schedule HJS-11: Inflation Adjustment

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Description	Historical <sup>1</sup> FY 16	Historical <sup>1</sup> FY 17	Historical <sup>1</sup> FY 18	Historical <sup>1</sup> FY 19	CPI Adj. <sup>2</sup> 3 Yr. CAGR	Rate Year <sup>3</sup> FY 21 CPI	Rate Year <sup>4</sup> FY 22 CPI	Rate Year <sup>4</sup> FY 23 CPI
CPI-U	239.842	243.79	251.134	255.305				
% Change		1.646%	3.012%	1.661%	2.10%	4.25%	2.10%	2.10%

(1) Consumer Price Index (CPI-U), All Items as of June 30. <https://www.bls.gov/cpi/tables/supplemental-files/home.htm>

(2) Adjustments Based on Compounded Average Growth Rate from FY 16 to FY 19

(3) Adjustment from Test Year FY 19 to Rate Year FY 21. 2 Years at CAGR of 2.10%

(4) Annual Adjustment of 2.10%



**Schedule HJS-12: Rate Year Revenue Requirements**

Providence Water Supply Board

Docket # \_\_\_\_\_  
 Request for General Rate Relief  
 Direct Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Account	Description	Adjusted Test Year			Pro-Forma Rate Year (Year 1)			Pro-Forma Rate Year (Year 2)			Pro-Forma Rate Year (Year 3)				
		Test Year FY 19 Adj. 1	Test Year FY 19 Adj.	Rate Year FY 21 Adj. 1 Note	Rate Year FY 21 CPI	Rate Year FY 2021	Rate Year FY 22 Adj. 1 Note	Rate Year FY 22 CPI	Rate Year FY 2022	Rate Year FY 23 Adj. 1 Note	Rate Year FY 23 CPI	Rate Year FY 2023			
<b>Water Treatment Expenses</b>															
60130	Salary + Wages -WTO	204,395	\$ 2,303,651	\$ 101,325	3	\$ -	\$ 2,609,370	\$ 78,281	3	\$ -	\$ 2,687,651	\$ 67,191	3	\$ -	\$ 2,754,843
60140	Salary + Wages -WTM	-	\$ 287,963	\$ 11,634	3	\$ -	\$ 299,596	\$ 8,988	3	\$ -	\$ 308,584	\$ 7,715	3	\$ -	\$ 316,299
60430	Employee Pension+Benefit-WTO	49,395	\$ 1,299,196	\$ 156,085	4	\$ 9	\$ 1,504,685	\$ 75,170	4	\$ 5	\$ 1,579,860	\$ 78,616	4	\$ 5	\$ 1,658,481
60440	Employee Pension+Benefit-WTM	8,187	\$ 215,343	\$ 25,871	4	\$ 2	\$ 249,403	\$ 12,460	4	\$ 1	\$ 261,863	\$ 13,031	4	\$ 1	\$ 274,895
61530	Purchased Power-WTO	-	\$ 251,952	\$ (98,129)	5	\$ -	\$ 153,823	\$ (769)	5	\$ -	\$ 153,063	\$ (765)	5	\$ -	\$ 152,288
61540	Power Purchased -WTM	-	\$ -	\$ -	5	\$ -	\$ -	\$ -	5	\$ -	\$ -	\$ -	5	\$ -	\$ -
61630	Fuel for Purchased Power-WTO	-	\$ 200,347	\$ -	5	\$ 8,521	\$ 208,869	\$ -	5	\$ 4,396	\$ 213,264	\$ -	5	\$ 4,488	\$ 217,752
62030	Material and Supplies -WTO	-	\$ 217,289	\$ -	6	\$ 9,242	\$ 226,542	\$ -	6	\$ 4,767	\$ 231,309	\$ -	6	\$ 4,868	\$ 236,177
62040	Material and Supplies -WTM	-	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -
63130	Contractual Service Eng-WTO	-	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -
63140	Contractual Service Eng-WTM	-	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -
63630	Contractual Service Other-WTO	-	\$ 209,400	\$ 132,000	6	\$ -	\$ 341,400	\$ -	6	\$ 7,185	\$ 348,585	\$ -	6	\$ 7,336	\$ 355,920
63640	Contractual Service Other-WTM	-	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -
64230	Rental of Equipment -WTO	-	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -
64240	Rental of Equipment -WTM	-	\$ 3,799	\$ -	6	\$ 162	\$ 3,960	\$ -	6	\$ 83	\$ 4,043	\$ -	6	\$ 85	\$ 4,129
65030	Transportation Expense-WTO	-	\$ 1,333	\$ -	6	\$ 57	\$ 1,389	\$ -	6	\$ 29	\$ 1,419	\$ -	6	\$ 30	\$ 1,449
67530	Miscellaneous Expenses-WTO	-	\$ 204,372	\$ -	6	\$ 8,652	\$ 213,064	\$ -	6	\$ 4,484	\$ 217,548	\$ -	6	\$ 4,578	\$ 222,126
67540	Miscellaneous Expenses - WTM	-	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -
	Total Treatment Expense	261,976	\$ 5,194,654	\$ 328,786	6	\$ 26,665	\$ 5,812,101	\$ 174,130	6	\$ 20,950	\$ 6,007,180	\$ 165,787	6	\$ 21,390	\$ 6,194,358
<b>Transmission + Dist. Expense:</b>															
60150	Salary + Wages -T&DO	-	\$ 557,922	\$ 22,540	3	\$ -	\$ 580,462	\$ 17,414	3	\$ -	\$ 597,876	\$ 14,847	3	\$ -	\$ 612,822
60160	Salary + Wages -T&DM	126,941	\$ 2,680,826	\$ 121,514	3	\$ -	\$ 3,129,281	\$ 93,878	3	\$ -	\$ 3,223,160	\$ 80,579	3	\$ -	\$ 3,303,739
60250	Payroll Clearing-T&DO	206,396	\$ (206,396)	\$ -	3	\$ -	\$ -	\$ -	3	\$ -	\$ -	\$ -	3	\$ -	\$ -
60260	Payroll Clearing -T&DM	9,815	\$ (9,815)	\$ -	3	\$ -	\$ -	\$ -	3	\$ -	\$ -	\$ -	3	\$ -	\$ -
60450	Employee Pension+Benefit-T&DO	13,299	\$ 349,795	\$ 42,024	4	\$ 2	\$ 405,121	\$ 20,239	4	\$ 1	\$ 425,361	\$ 21,167	4	\$ 1	\$ 446,529
60460	Employee Pension+Benefit-T&DM	66,922	\$ 1,760,203	\$ 211,471	4	\$ 13	\$ 2,038,608	\$ 101,844	4	\$ 6	\$ 2,140,458	\$ 106,512	4	\$ 7	\$ 2,246,977
60550	Overhead Rate Applied-T&DO	485,940	\$ (485,940)	\$ -	3	\$ -	\$ -	\$ -	3	\$ -	\$ -	\$ -	3	\$ -	\$ -
60560	Overhead Rate Applied -T&DM	19,007	\$ (19,007)	\$ -	3	\$ -	\$ -	\$ -	3	\$ -	\$ -	\$ -	3	\$ -	\$ -
61550	Power Purchased-T&DO	-	\$ 19,656	\$ (7,617)	5	\$ -	\$ 11,939	\$ (60)	5	\$ -	\$ 11,880	\$ (59)	5	\$ -	\$ 11,820
62050	Material and Supplies -T&DO	-	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -
62060	Material and Supplies -T&DM	-	\$ 319,595	\$ 107,769	6	\$ -	\$ 427,364	\$ 22,248	6	\$ -	\$ 449,613	\$ 50,374	6	\$ -	\$ 499,986
62060	Contractual Services Eng-T&DO	-	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -
63160	Contractual Services Eng-T&DM	-	\$ 47,278	\$ -	6	\$ 2,011	\$ 49,288	\$ -	6	\$ 1,037	\$ 50,326	\$ -	6	\$ 1,059	\$ 51,385
63650	Contractual Service Other-T&DO	-	\$ 17,310	\$ 5,288	6	\$ -	\$ 22,598	\$ 1,970	6	\$ -	\$ 24,568	\$ 2,069	6	\$ -	\$ 26,636
63660	Contractual Service Other-T&DM	-	\$ 891,828	\$ 106,311	6	\$ -	\$ 998,139	\$ 4,696	6	\$ -	\$ 1,002,834	\$ 41,240	6	\$ -	\$ 1,044,074
65060	Transportation Expense -T&DM	-	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -
67550	Miscellaneous Exp -T&DO	-	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -
67560	Miscellaneous Exp-T&DM	-	\$ 44,079	\$ -	6	\$ 1,875	\$ 45,953	\$ -	6	\$ 967	\$ 46,921	\$ -	6	\$ 987	\$ 47,908
	Total Transmission & Distribution	928,320	\$ 6,167,234	\$ 609,300	6	\$ 3,901	\$ 7,708,754	\$ 262,229	6	\$ 2,012	\$ 7,972,966	\$ 316,827	6	\$ 2,054	\$ 8,291,877



**Schedule HJS-12: Rate Year Revenue Requirements**

Providence Water Supply Board  
 Docket # \_\_\_\_\_  
 Request for General Rate Relief  
 Direct Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Account	Description	Adjusted Test Year			Pro-Forma Rate Year (Year 1)			Pro-Forma Rate Year (Year 2)			Pro-Forma Rate Year (Year 3)						
		Test Year FY 2019	Test Year FY 19 Adj. 1	Note	Test Year FY 19 Adj.	Rate Year FY 21 Adj. 1	Note	Rate Year FY 21 CPI	Rate Year FY 2021	Rate Year FY 22 Adj. 1	Note	Rate Year FY 22 CPI	Rate Year FY 2022	Rate Year FY 23 Adj. 1	Note	Rate Year FY 23 CPI	Rate Year FY 2023
<b>Customer Accounts Expense:</b>																	
60170	Salary+Wages-CAO	\$ 1,945,516	\$ 147,456	3	\$ 2,092,972	\$ 84,556	3	\$ -	\$ 2,177,528	\$ 65,326	3	\$ -	\$ 2,242,854	\$ 56,071	3	\$ -	\$ 2,298,925
60270	Payroll Cleaning -CAO	\$ (70,038)	\$ 70,038	3	\$ -	\$ -	3	\$ -	\$ -	\$ -	3	\$ -	\$ -	\$ -	3	\$ -	\$ -
60470	Employee Pension+Benefit-CAO	\$ 1,356,960	\$ 51,591	4	\$ 1,408,550	\$ 163,025	4	\$ 10	\$ 1,571,585	\$ 78,512	4	\$ 5	\$ 1,650,103	\$ 82,111	4	\$ 5	\$ 1,732,219
60570	Overhead Rate Applied-CAO	\$ (260,823)	\$ 260,823	3	\$ -	\$ -	3	\$ -	\$ -	\$ -	3	\$ -	\$ -	\$ -	3	\$ -	\$ -
62070	Material and Supplies-CAO	\$ 4,043	\$ -	6	\$ 4,043	\$ -	6	\$ 172	\$ 4,214	\$ -	6	\$ 89	\$ 4,303	\$ -	6	\$ 91	\$ 4,394
63670	Contractual Services Other -CAO	\$ -	\$ -	6	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -
65070	Transportation Expenses -CAO	\$ 3,002	\$ -	6	\$ 3,002	\$ -	6	\$ 128	\$ 3,129	\$ -	6	\$ 66	\$ 3,195	\$ -	6	\$ 67	\$ 3,262
67070	Bad Debt Expense	\$ 207,146	\$ -	6	\$ 207,146	\$ -	6	\$ 8,810	\$ 215,956	\$ -	6	\$ 4,545	\$ 220,501	\$ -	6	\$ 4,640	\$ 225,141
67570	Miscellaneous Expenses-CAO	\$ 578,923	\$ -	6	\$ 578,923	\$ 61,964	6	\$ -	\$ 640,886	\$ -	6	\$ 13,487	\$ 654,373	\$ -	6	\$ 13,771	\$ 668,144
	<i>Total Customer Accounts</i>	\$ 3,764,727	\$ 629,908		\$ 4,294,635	\$ 308,545		\$ 9,120	\$ 4,613,299	\$ 143,838		\$ 18,191	\$ 4,775,329	\$ 138,183		\$ 18,574	\$ 4,932,085
<b>Administrative and General</b>																	
60180	Salary+Wages -A&GO	\$ 5,489,507	\$ 377,888	3	\$ 5,867,394	\$ 423,649	3	\$ -	\$ 6,291,044	\$ 284,833	3	\$ -	\$ 6,575,877	\$ 262,902	3	\$ -	\$ 6,838,779
60280	Payroll Cleaning -A&GO	\$ (477,050)	\$ 477,050	3	\$ -	\$ -	3	\$ -	\$ -	\$ -	3	\$ -	\$ -	\$ -	3	\$ -	\$ -
60480	Employee Pension+Ben-A&GO	\$ 3,928,845	\$ 149,373	4	\$ 4,078,218	\$ 472,012	4	\$ 28	\$ 4,550,257	\$ 227,319	4	\$ 14	\$ 4,777,591	\$ 237,739	4	\$ 15	\$ 5,015,345
60580	Overhead Rate Applied-A&GO	\$ (285,181)	\$ 285,181	3	\$ -	\$ -	3	\$ -	\$ -	\$ -	3	\$ -	\$ -	\$ -	3	\$ -	\$ -
61580	Purchased Power-A&GO	\$ 262,680	\$ -	5	\$ 262,680	\$ (55,218)	5	\$ -	\$ 207,461	\$ (433)	5	\$ -	\$ 207,029	\$ (431)	5	\$ -	\$ 206,598
61680	Fuel Or Power Purchased-A&GO	\$ -	\$ -	5	\$ -	\$ -	5	\$ -	\$ -	\$ -	5	\$ -	\$ -	\$ -	5	\$ -	\$ -
62080	Material and Supplies -A&GO	\$ 716,310	\$ -	6	\$ 716,310	\$ -	6	\$ 30,496	\$ 746,776	\$ -	6	\$ 15,716	\$ 762,492	\$ -	6	\$ 16,046	\$ 778,538
63180	Contractual Service Eng-A&GO	\$ 60,951	\$ -	6	\$ 60,951	\$ 75,000	6	\$ 2,195	\$ 135,951	\$ -	6	\$ 2,861	\$ 138,812	\$ -	6	\$ 2,921	\$ 141,733
63280	Contractual Service Acctg-A&GO	\$ 51,615	\$ -	6	\$ 51,615	\$ -	6	\$ -	\$ 53,810	\$ -	6	\$ 1,132	\$ 54,942	\$ -	6	\$ 1,156	\$ 56,098
63380	Contractual Service Legal-A&GO	\$ 73,963	\$ -	6	\$ 73,963	\$ -	6	\$ 3,146	\$ 77,109	\$ -	6	\$ 1,623	\$ 78,732	\$ -	6	\$ 1,657	\$ 80,389
63480	Contractual Service Mgmt fees-A&GO	\$ -	\$ -	6	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -	\$ -	6	\$ -	\$ -
63680	Contractual Service Other-A&GO	\$ 1,363,724	\$ (59,186)	6	\$ 1,324,538	\$ 971,972	6	\$ -	\$ 2,296,510	\$ (142,622)	6	\$ -	\$ 2,153,888	\$ (56,161)	6	\$ -	\$ 2,097,727
64280	Rental of Equipment-A&GO	\$ 2,686	\$ -	6	\$ 2,686	\$ -	6	\$ 114	\$ 2,800	\$ -	6	\$ 59	\$ 2,859	\$ -	6	\$ 60	\$ 2,920
65080	Transportation Expenses-A&GO	\$ 9,564	\$ -	6	\$ 9,564	\$ 1,380	6	\$ -	\$ 10,944	\$ -	6	\$ 230	\$ 11,174	\$ -	6	\$ 235	\$ 11,409
66780	Regulatory Commission Expense	\$ 486,386	\$ -	7	\$ 486,386	\$ 31,848	7	\$ -	\$ 518,235	\$ 51,129	7	\$ -	\$ 569,364	\$ 39,323	7	\$ -	\$ 608,686
67580	Miscellaneous Expenses-A&GO	\$ 357,305	\$ -	6	\$ 357,305	\$ 238,057	6	\$ -	\$ 595,362	\$ (137,200)	6	\$ -	\$ 458,162	\$ (14,500)	6	\$ -	\$ 443,662
	<i>Total Administration + General</i>	\$ 12,061,305	\$ 1,230,305		\$ 13,291,611	\$ 2,158,700		\$ 35,949	\$ 15,486,260	\$ 283,026		\$ 21,635	\$ 15,790,922	\$ 468,873		\$ 22,091	\$ 16,261,885
	<b>Total Operation &amp; Maintenance</b>	\$ 30,034,161	\$ 3,197,476		\$ 33,231,637	\$ 3,220,805		\$ 78,411	\$ 36,530,853	\$ 947,520		\$ 64,210	\$ 37,542,583	\$ 1,169,853		\$ 65,562	\$ 38,777,998



**Schedule HJS-12: Rate Year Revenue Requirements**

Providence Water Supply Board  
 Docket # \_\_\_\_\_  
 Request for General Rate Relief  
 Direct Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Account	Description	Adjusted Test Year			Pro-Forma Rate Year (Year 1)			Pro-Forma Rate Year (Year 2)			Pro-Forma Rate Year (Year 3)						
		Test Year FY 2019	Test Year FY 19 Adj. 1	Note	Test Year FY 19 Adj.	Rate Year FY 21 Adj. 1	Note	Rate Year FY 21 CPI	Rate Year FY 2021	Rate Year FY 22 Adj. 1	Note	Rate Year FY 22 CPI	Rate Year FY 2022	Rate Year FY 23 Adj. 1	Note	Rate Year FY 23 CPI	Rate Year FY 2023
	<b>Source of Supply</b>																
	Pumping	\$ 1,974,215	\$ 246,967		\$ 2,221,181	\$ 146,042		\$ 2,369,392	\$ 86,896		\$ 1,119	\$ 2,457,407	\$ 82,769		\$ 1,142	\$ 2,541,319	
	Treatment	\$ 872,026	-		\$ 872,026	\$ (331,568)		\$ 541,045	\$ (2,599)		\$ 303	\$ 538,750	\$ (2,586)		\$ 309	\$ 536,474	
	Transmission & Distrib.	\$ 5,194,654	\$ 261,976		\$ 5,456,630	\$ 328,786		\$ 5,812,101	\$ 174,130		\$ 20,950	\$ 6,007,180	\$ 165,787		\$ 21,380	\$ 6,194,358	
	Customer Accounts	\$ 6,167,234	\$ 928,320		\$ 7,095,554	\$ 609,300		\$ 7,708,754	\$ 262,229		\$ 2,012	\$ 7,972,996	\$ 316,827		\$ 2,054	\$ 8,291,877	
	Administration & General	\$ 3,764,727	\$ 529,908		\$ 4,294,635	\$ 309,545		\$ 4,613,299	\$ 143,838		\$ 18,191	\$ 4,775,329	\$ 138,183		\$ 18,574	\$ 4,932,085	
	<b>Total Operation &amp; Maintenance</b>	\$ 12,061,305	\$ 1,230,305		\$ 13,291,611	\$ 2,158,700		\$ 15,486,260	\$ 283,026		\$ 21,635	\$ 15,790,922	\$ 468,873		\$ 22,091	\$ 16,281,885	
		\$ 30,034,161	\$ 3,197,476		\$ 33,231,637	\$ 3,220,805		\$ 36,530,853	\$ 947,520		\$ 64,210	\$ 37,542,583	\$ 1,169,853		\$ 65,562	\$ 38,777,998	
	<b>Capitalized Overheads</b>																
	Full Operation & Maint. Operating Fund	\$ 1,815,587	\$ (1,815,587)		\$ -	\$ -		\$ -	\$ -		\$ -	\$ -	\$ -		\$ -	\$ -	
		\$ 31,849,748	\$ 1,381,889		\$ 33,231,637	\$ 3,220,805		\$ 36,530,853	\$ 947,520		\$ 64,210	\$ 37,542,583	\$ 1,169,853		\$ 65,562	\$ 38,777,998	
	<b>957 Insurance Fund</b>																
	Material and Supplies -A&GO	\$ 15,041	-	10	\$ 15,041	\$ 1,459	10	\$ 16,500	\$ -	10	\$ -	\$ 16,500	\$ -	10	\$ -	\$ 16,500	
	Injuries and Damages	\$ 113,412	-	10	\$ 113,412	\$ 111,242	10	\$ 224,654	\$ (139,654)	10	\$ 10	\$ 85,000	\$ -	10	\$ -	\$ 85,000	
	Contract Services - Other A&GO		-	10			10			10				10			
	65780 + Ins. Gen. Liability																
	65980 Insurance- Other A&GO	\$ 1,119,941	-	10	\$ 1,119,941	\$ 31,993	10	\$ 1,151,934	\$ 22,905	10	\$ 10	\$ 1,174,839	\$ 23,363	10	\$ 1,198,201		
	65880 Insurance - W/C	\$ 774,580	-	10	\$ 774,580	\$ 10,545	10	\$ 785,125	\$ 9,154	10	\$ 10	\$ 794,279	\$ 6,286	10	\$ 800,664		
	67580 Misc. Expense	\$ 4,452	-	10	\$ 4,452	\$ 250,548	10	\$ 255,000	\$ -	10	\$ 10	\$ 255,000	\$ (250,000)	10	\$ 5,000		
	Funding Adjustment	\$ 0	\$ 274,688	10	\$ 274,688	\$ (405,788)	10	\$ (131,100)	\$ 107,596	10	\$ 10	\$ (23,504)	\$ 220,352	10	\$ 196,847		
	Total Insurance Fund	\$ 2,027,425	\$ 274,688		\$ 2,302,113	\$ 0		\$ 2,302,113	\$ (0)		\$ -	\$ 2,302,113	\$ 0		\$ -	\$ 2,302,113	
	<b>878 Chemical and Sludge Maintenance Fund</b>																
	Chemicals - WTO	\$ 1,761,764	-	8	\$ 1,761,764	\$ 567,353	8	\$ 2,349,117	\$ 52,431	8	\$ 8	\$ 2,401,548	\$ 41,133	8	\$ 2,442,681		
	Contract Services - Eng WTM	\$ 50,264	-	8	\$ 50,264	\$ (50,264)	8	\$ -	\$ -	8	\$ -	\$ -	\$ -	8	\$ -		
	Contract Services - Other WTM	\$ 1,608,918	-	8	\$ 1,608,918	\$ (0)	8	\$ 1,608,918	\$ -	8	\$ 8	\$ 1,608,918	\$ -	8	\$ 1,608,918		
	Miscellaneous Expenses - WTM	\$ -	-	8	\$ -	\$ 80,000	8	\$ 80,000	\$ (80,000)	8	\$ 8	\$ -	\$ -	8	\$ -		
	Funding Adjustment	\$ -	\$ (620,946)	8	\$ -	\$ 382,911	8	\$ (238,035)	\$ 27,569.10	8	\$ 8	\$ (210,466)	\$ (41,133)	8	\$ (251,589)		
	Total Chemical and Sludge Maintenance Fund	\$ 3,420,946	\$ (620,946)		\$ 2,800,000	\$ 1,000,000		\$ 3,800,000	\$ 27,569.10		\$ -	\$ 3,600,000	\$ -		\$ 3,800,000		
	<b>Total O&amp;M</b>	\$ 37,298,119	\$ 1,035,631		\$ 38,333,750	\$ 4,220,805		\$ 42,632,966	\$ 947,520		\$ 64,210	\$ 43,644,696	\$ 1,169,853		\$ 65,562	\$ 44,880,111	

# Schedule HJS-12: Rate Year Revenue Requirements

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Account	Description	Adjusted Test Year			Pro-Forma Rate Year (Year 1)			Pro-Forma Rate Year (Year 2)			Pro-Forma Rate Year (Year 3)					
		Test Year FY 2019	Test Year FY 19 Adj. 1	Note	Test Year FY 21 Adj. 1	Note	Rate Year FY 21 CPI	Rate Year FY 2021	Rate Year FY 22 Adj. 1	Note	Rate Year FY 22 CPI	Rate Year FY 2022	Rate Year FY 23 Adj. 1	Note	Rate Year FY 23 CPI	Rate Year FY 2023
<b>Property Taxes- Other Local Govern.</b>																
40820	Town of North Providence	\$ 285,488	\$ -	9	\$ 285,488	\$ 6,406	9	\$ 303,569	\$ 12,143	9	\$ 315,712	\$ 12,628	9	\$ 328,340		
40821	Town of Glocester	\$ 67,742	\$ -	9	\$ 67,742	\$ 8,500	9	\$ 79,292	\$ 3,172	9	\$ 82,463	\$ 3,299	9	\$ 85,762		
40822	Town of West, Glocester	\$ 3,708	\$ -	9	\$ 3,708	\$ 701	9	\$ 4,585	\$ 183	9	\$ 4,769	\$ 191	9	\$ 4,959		
40823	Town Harmony	\$ 200	\$ -	9	\$ 200	\$ -	9	\$ 208	\$ 8	9	\$ 217	\$ 9	9	\$ 225		
40824	Town Chepachet	\$ 129	\$ -	9	\$ 129	\$ -	9	\$ 134	\$ 5	9	\$ 139	\$ 6	9	\$ 145		
40825	Town Scituate	\$ 6,252,460	\$ -	9	\$ 6,252,460	\$ 248,223	9	\$ 6,760,676	\$ 270,427	9	\$ 7,031,103	\$ 281,244	9	\$ 7,312,347		
40827	Town of Johnston	\$ 89,354	\$ -	9	\$ 89,354	\$ 7,049	9	\$ 100,258	\$ 4,010	9	\$ 104,269	\$ 4,171	9	\$ 108,439		
40828	Town of Foster	\$ 289,570	\$ -	9	\$ 289,570	\$ 10,776	9	\$ 312,360	\$ 12,494	9	\$ 324,855	\$ 12,994	9	\$ 337,849		
40829	City of Cranston	\$ 101,868	\$ -	9	\$ 101,868	\$ 2,395	9	\$ 61,065	\$ 2,443	9	\$ 63,507	\$ 2,540	9	\$ 66,047		
40830	City of West, Warwick	\$ 3,500	\$ -	9	\$ 3,500	\$ 3,229	9	\$ 6,998	\$ 280	9	\$ 7,278	\$ 291	9	\$ 7,569		
	Total Property Taxes	\$ 7,094,018	\$ -		\$ 7,094,018	\$ 287,278		\$ 7,829,145	\$ 305,166		\$ 7,934,311	\$ 317,372		\$ 8,251,684		
	Full Operation & Maint.	\$ 37,298,119	\$ 1,035,631		\$ 38,333,750	\$ 4,220,805		\$ 42,632,966	\$ 947,520		\$ 43,644,696	\$ 1,169,853		\$ 44,880,111		
	City Services	\$ 839,167	\$ -		\$ 839,167	\$ 651,527		\$ 1,490,693	\$ -		\$ 1,490,693	\$ -		\$ 1,490,693		
	Total Property Taxes	\$ 7,094,018	\$ -		\$ 7,094,018	\$ 287,278		\$ 7,829,145	\$ 305,166		\$ 7,934,311	\$ 317,372		\$ 8,251,684		
	Capital Reimbursement	\$ (1,815,587)	\$ -	3	\$ (1,815,587)	\$ (73,350)	3	\$ (1,888,937)	\$ (56,688)	3	\$ (1,945,605)	\$ (48,640)	3	\$ (1,994,245)		
	Total Other Expenditures	\$ 43,415,716	\$ 1,035,631		\$ 44,451,347	\$ 5,086,260		\$ 49,863,967	\$ 1,196,018		\$ 51,124,096	\$ 1,438,565		\$ 52,628,242		
<b>Restricted Expenditures</b>																
	Capital Fund	\$ 2,127,000	\$ -	10	\$ 2,127,000	\$ -	10	\$ 2,127,000	\$ -	10	\$ 2,127,000	\$ -	10	\$ 2,127,000		
	Western Cranston Fund	\$ 40,000	\$ -	10	\$ 40,000	\$ -	10	\$ 40,000	\$ -	10	\$ 40,000	\$ -	10	\$ 40,000		
	IFR Fund	\$ 27,300,000	\$ -	10	\$ 27,300,000	\$ 2,000,000	10	\$ 29,300,000	\$ 2,000,000	10	\$ 31,300,000	\$ 2,000,000	10	\$ 33,300,000		
	Miler Replacement Fund (Excl. ES Debt)	\$ 500,000	\$ -	10	\$ 500,000	\$ 500,000	10	\$ 1,000,000	\$ -	10	\$ 1,000,000	\$ -	10	\$ 1,000,000		
	Vehicle/Equipment Fund	\$ 600,000	\$ -	10	\$ 600,000	\$ 1,000,000	10	\$ 1,600,000	\$ -	10	\$ 1,600,000	\$ -	10	\$ 1,600,000		
	Lead Service Replacement Fund	\$ 250,000	\$ -	10	\$ 250,000	\$ -	10	\$ 250,000	\$ 2,750,000	10	\$ 3,000,000	\$ -	10	\$ 3,000,000		
	Revenue Reserve Fund	\$ 362,119	\$ 7,399	1	\$ 369,518	\$ 44,563	1	\$ 414,081	\$ 30,051	1	\$ 444,132	\$ 17,521	1	\$ 461,652		
	Total Restricted Expenditures	\$ 31,179,119	\$ 7,399		\$ 31,186,518	\$ 3,544,563		\$ 34,731,081	\$ 4,780,051		\$ 36,511,132	\$ 2,017,521		\$ 41,528,652		
<b>Grand Total</b>		\$ 74,594,835	\$ 1,043,030		\$ 75,637,865	\$ 8,630,823		\$ 84,594,948	\$ 5,976,069		\$ 90,635,228	\$ 3,456,106		\$ 94,156,895		

Note	1	2	3	4	5	6	7	8	9	10	11
	See HJS-1 Cost of Service Summary	See HJS-2 Revenue Under Existing Rates	See HJS-3 Adjustments to Salaries and Wages	See HJS-4 Adjustments to Pensions and Other Benefits	See HJS-5 Adjustments to Utilities	See HJS-6 Adjustments to Supplies, Materials and Services	See HJS-7 Adjustments to Regulatory and Rate Case Expense	See HJS-8 Adjustments to Chemicals and Sludge Maintenance	See HJS-9 Adjustments to Property Taxes	See HJS-10 Restricted Funds	See HJS-11 Inflation Adjustment

**Schedule HJS-13a: Allocation Factors**

Providence Water Supply Board

Docket #

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Factor	Description	Common To All				Retail Only				Billing & Collection	Meters & Services	Direct Fire	
		Base	Max Day	Max Hour	Base	Max Day	Max Hour	Max Hour					
1	100% CTA Base	100.00%											100.00%
2	CTA Base, Max Day	58.47%	41.53%										100.00%
3	CTA Base, Max Day, Max Hour	34.68%	24.63%	40.68%									100.00%
4	100% Retail Base				100.00%								100.00%
5	Retail Base, Max Day				58.47%	41.53%							100.00%
6	Retail Base, Max Day, Max Hour				34.68%	24.63%	40.68%						100.00%
7	100% M&S										100.00%		100.00%
8	100% Billing											100.00%	100.00%
9	50% M&S, 50% Billing											50.00%	100.00%
10	100% Public Fire												100.00%
11	100% E. Smithfield												0.00%
12	As Pump Station Electric Costs	29.46%	20.93%	34.55%	5.22%	3.71%	6.13%						100.00%
13	As T&D Work/Service Orders	4.46%	3.17%	5.24%	6.79%	4.82%	7.96%						100.00%
14	As T&D Contract Services	12.69%	9.01%	14.88%	19.15%	13.60%	22.47%						100.00%
15	As Labor O&M Excl. A&G	31.50%	12.63%	1.91%	2.47%	1.76%	2.90%						100.00%
16	As Non-Labor O&M Excl. A&G	25.04%	16.87%	8.92%	6.39%	4.54%	7.50%						100.00%
17	As Total O&M Excl. A&G	30.22%	13.47%	3.30%	3.25%	2.31%	3.81%						100.00%
18	As Pump Station Capacity	70.78%	7.98%	13.18%	2.79%	1.98%	3.28%						100.00%
19	As T&D Plant Excl. M&S, Land, Structures	22.86%	16.24%	1.43%	19.38%	13.76%	22.73%						100.00%
20	As Total Plant Excl. Gen. Plant	36.53%	11.36%	0.82%	10.86%	7.71%	12.73%						100.00%
21	As Total Plant Excl. Land, COF	28.46%	12.80%	0.92%	12.23%	8.68%	14.34%						100.00%
22	As Central Operations Facility Square Footage	14.20%	6.64%	4.61%	12.47%	6.69%	11.05%						100.00%
23	As Total Insurance Before Adjustment	27.72%	15.11%	6.01%	4.77%	3.39%	5.59%						100.00%
24	As Total Chemicals Before Adjustment	82.63%	17.37%										100.00%
25	As Total Revenue Requirement Before Reserve	37.92%	12.29%	2.16%	6.29%	4.47%	7.38%						100.00%

Factor	Description	Base	MDEC	MHEC	Total
1	100% CTA Base	100.00%			100.00%
2	CTA Base, Max Day System Demand (Ccf/Day) Allocation Factor (%)	65,720	46,678	-	112,398
		58,47%	41,53%	0.00%	100.00%
3	CTA Base, Max Day, Max Hour System Demand (Ccf/Day) Allocation Factor (%)	65,720	46,678	77,081	189,479
		34,68%	24,63%	40,68%	100.00%
4	100% Retail Base	100.00%			100.00%
5	Retail Base, Max Day	58.47%	41.53%	0.00%	100.00%
6	Retail Base, Max Day, Max Hour	34.68%	24.63%	40.68%	100.00%







## Schedule HJS-13c: Pipe Length/Inch-Miles

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Pipe Size	Length	Inch-Miles
Services	225.0	
6	446.7	2,680
8	343.6	2,749
10	1.3	13
12	97.2	1,166
16	46.9	750
20	8.2	164
24	27.0	648
30	18.6	558
36	1.9	68
42	9.2	386
48	3.2	154
60	4.4	264
66	1.6	106
78	4.4	343
90	4.5	405
102	5.2	530
	1,248.9	10,985
<b>Totals</b>		
	<b>Length</b>	<b>Inch-Miles</b>
Distribution (<=12 inches)	1,114	6,608
Transmission (>12 inches)	135	4,377
	1,249	10,985
	<b>Length %</b>	<b>Inch-Miles %</b>
Distribution (<=12 inches)	89.18%	60.16%
Transmission (>12 inches)	10.82%	39.84%
	100.00%	100.00%









**Schedule HJS-13d: T&D Labor Allocation (Factor 13)**

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Description	Year	Total	CTA	Retail Only	Total CTA	Total Retail Only	CTA Factor	Retail Only Factor	Commitment To All				Retail Only						
									Base	Max Day	Max Hour	Base	Max Day	Max Hour	Meters & Services	Billing & Collection	Direct Fire		
Service - Curb Stop - Locate	2019	\$ 13,968	0.00%	100.00%	\$ -	\$ 13,968	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service - Curb Stop - Open	2019	\$ 56,932	0.00%	100.00%	\$ -	\$ 56,932	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service - Curb Stop - Repair	2019	\$ -	0.00%	100.00%	\$ -	\$ -	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service - Curb Stop - Replace	2019	\$ -	0.00%	100.00%	\$ -	\$ -	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service - Curb Stop - Replace / Repair	2019	\$ 25,813	0.00%	100.00%	\$ -	\$ 25,813	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service - Dig Up For Meter	2019	\$ -	0.00%	100.00%	\$ -	\$ -	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service - Field Asset Measurement	2019	\$ 10,028	0.00%	100.00%	\$ -	\$ 10,028	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service - Install - IFR	2019	\$ -	0.00%	100.00%	\$ -	\$ -	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service - Install - T&D	2019	\$ 473,668	0.00%	100.00%	\$ -	\$ 473,668	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service - Meter - Bypass Meter	2019	\$ 1,554	0.00%	100.00%	\$ -	\$ 1,554	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service - MLOG Leak Investigation	2019	\$ 276	0.00%	100.00%	\$ -	\$ 276	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service - Reconnect	2019	\$ 2,096	0.00%	100.00%	\$ -	\$ 2,096	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service - Remove	2019	\$ 42,450	0.00%	100.00%	\$ -	\$ 42,450	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service - Remove Lead - CS Apps	2019	\$ -	0.00%	100.00%	\$ -	\$ -	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service - Remove Lead - TD	2019	\$ 116,483	0.00%	100.00%	\$ -	\$ 116,483	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Service - Repair Leak	2019	\$ 136,350	0.00%	100.00%	\$ -	\$ 136,350	n/a	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TD Misc - Miscellaneous Maint	2019	\$ 226	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	10	\$ 7	\$ 12	\$ 15	\$ 11	\$ 18	\$ 113	\$ 0	\$ 40	\$ -	\$ -
TD Misc - Pre-Mark for Digup	2019	\$ -	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TD Misc - Pre-Mark for Saw Cut	2019	\$ -	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TD Misc - Trench Repair	2019	\$ 17,844	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	797	\$ 566	\$ 934	\$ 1,211	\$ 860	\$ 1,420	\$ 8,867	\$ 1	\$ 3,187	\$ -	\$ -
Trench - Check For Failure	2019	\$ 39,84%	39.84%	60.16%	\$ -	\$ -	3	6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Trench Restoration	2019	\$ 747,233	39.84%	60.16%	\$ 297,726	\$ 449,507	3	6	\$ 103,265	\$ 73,345	\$ 121,116	\$ 155,910	\$ 110,736	\$ 182,861	\$ -	\$ -	\$ -	\$ -	\$ -
Valve - Adjust Gate Box	2019	\$ 5,989	39.84%	60.16%	\$ 2,386	\$ 3,603	3	6	\$ 828	\$ 568	\$ 971	\$ 1,250	\$ 888	\$ 1,466	\$ -	\$ -	\$ -	\$ -	\$ -
Valve - Check / Inspect	2019	\$ 5,836	39.84%	60.16%	\$ 2,325	\$ 3,511	3	6	\$ 806	\$ 573	\$ 946	\$ 1,218	\$ 865	\$ 1,428	\$ -	\$ -	\$ -	\$ -	\$ -
Valve - Install	2019	\$ 17,734	39.84%	60.16%	\$ 7,066	\$ 10,668	3	6	\$ 2,451	\$ 1,741	\$ 2,874	\$ 3,700	\$ 2,628	\$ 4,340	\$ -	\$ -	\$ -	\$ -	\$ -
Valve - Install - TD	2019	\$ 13,701	39.84%	60.16%	\$ 5,459	\$ 8,242	3	6	\$ 1,893	\$ 1,345	\$ 2,221	\$ 2,859	\$ 2,030	\$ 3,353	\$ -	\$ -	\$ -	\$ -	\$ -
Valve - Locate	2019	\$ 741	39.84%	60.16%	\$ 295	\$ 446	3	6	\$ 102	\$ 73	\$ 120	\$ 155	\$ 110	\$ 181	\$ -	\$ -	\$ -	\$ -	\$ -
Valve - Raise Gate Box To Grade	2019	\$ -	39.84%	60.16%	\$ -	\$ -	3	6	\$ 936	\$ 665	\$ 1,098	\$ 1,413	\$ 1,004	\$ 1,658	\$ -	\$ -	\$ -	\$ -	\$ -
Valve - Remove	2019	\$ 6,774	39.84%	60.16%	\$ 2,699	\$ 4,075	3	6	\$ 104	\$ 74	\$ 122	\$ 158	\$ 112	\$ 185	\$ -	\$ -	\$ -	\$ -	\$ -
Valve - Repair / Repack	2019	\$ 755	39.84%	60.16%	\$ 301	\$ 454	3	6	\$ 3871	\$ 2,749	\$ 4,540	\$ 5,844	\$ 4,151	\$ 6,854	\$ -	\$ -	\$ -	\$ -	\$ -
Valve - Repair / Replace	2019	\$ 28,008	39.84%	60.16%	\$ 11,160	\$ 16,849	3	6	\$ 322	\$ 229	\$ 377	\$ 486	\$ 345	\$ 570	\$ -	\$ -	\$ -	\$ -	\$ -
Valve - Replace Box Cover	2019	\$ 2,329	39.84%	60.16%	\$ 928	\$ 1,401	3	6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Water Main - Install	2019	\$ -	39.84%	60.16%	\$ -	\$ -	3	6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Water Main - Remove	2019	\$ -	39.84%	60.16%	\$ -	\$ -	3	6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Water Main - Repair Leak	2019	\$ 115,527	39.84%	60.16%	\$ 46,030	\$ 69,496	3	6	\$ 15,965	\$ 11,340	\$ 18,725	\$ 24,105	\$ 17,120	\$ 28,271	\$ -	\$ -	\$ -	\$ -	\$ -
DigSafe - Pre-Mark	2019	\$ 398	39.84%	60.16%	\$ 158	\$ 239	3	6	\$ 55	\$ 39	\$ 64	\$ 83	\$ 59	\$ 97	\$ -	\$ -	\$ -	\$ -	\$ -
Leak Detection	2019	\$ 477	39.84%	60.16%	\$ 180	\$ 287	3	6	\$ 66	\$ 47	\$ 77	\$ 100	\$ 71	\$ 117	\$ -	\$ -	\$ -	\$ -	\$ -
Miscellaneous Work	2019	\$ 2,630	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	117	\$ 83	\$ 138	\$ 178	\$ 127	\$ 209	\$ 1,307	\$ 0	\$ 470	\$ -	\$ -
Report Leak	2019	\$ 9,774	39.84%	60.16%	\$ 3,895	\$ 5,880	3	6	\$ 1,351	\$ 959	\$ 1,584	\$ 2,039	\$ 1,449	\$ 2,392	\$ -	\$ -	\$ -	\$ -	\$ -
Shut Down Not	2019	\$ 22	0.00%	100.00%	\$ -	\$ 22	n/a	8	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TD Collect Sample	2019	\$ 142	39.84%	60.16%	\$ 57	\$ 85	3	6	\$ 20	\$ 14	\$ 23	\$ 30	\$ 21	\$ 35	\$ -	\$ -	\$ -	\$ -	\$ -
Trench - Check	2019	\$ 5,914	39.84%	60.16%	\$ 2,356	\$ 3,558	3	6	\$ 817	\$ 581	\$ 959	\$ 1,234	\$ 876	\$ 1,447	\$ -	\$ -	\$ -	\$ -	\$ -
Water Pressure	2019	\$ 47	39.84%	60.16%	\$ 19	\$ 28	3	6	\$ 39	\$ 27	\$ 45	\$ 58	\$ 41	\$ 68	\$ -	\$ -	\$ -	\$ -	\$ -
Water Quality Issue	2019	\$ 279	39.84%	60.16%	\$ 111	\$ 168	3	6	\$ 7	\$ 5	\$ 8	\$ 10	\$ 7	\$ 12	\$ -	\$ -	\$ -	\$ -	\$ -
DigSafe - Blasting	2019	\$ 5,209	39.84%	60.16%	\$ 2,075	\$ 3,134	3	6	\$ 720	\$ 511	\$ 844	\$ 1,087	\$ 772	\$ 1,275	\$ -	\$ -	\$ -	\$ -	\$ -
DigSafe - Freeform	2019	\$ 107	39.84%	60.16%	\$ 43	\$ 65	3	6	\$ 15	\$ 11	\$ 17	\$ 22	\$ 16	\$ 26	\$ -	\$ -	\$ -	\$ -	\$ -
DigSafe - Regular	2019	\$ 1,128	39.84%	60.16%	\$ 449	\$ 678	3	6	\$ 155	\$ 111	\$ 183	\$ 235	\$ 167	\$ 276	\$ -	\$ -	\$ -	\$ -	\$ -
DigSafe - Violation	2019	\$ -	39.84%	60.16%	\$ -	\$ -	3	6	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>3-Year Total (Direct Allocations)</b>									\$ 277,866	\$ 197,356	\$ 325,899	\$ 422,348	\$ 299,975	\$ 485,357	\$ 3,092,737	\$ 321	\$ 1,111,735	\$ -	\$ -
<b>Indirect Allocation %</b>									4.46%	3.17%	5.24%	6.79%	4.82%	7.96%	0.01%	17.86%	\$ -	\$ -	
<b>3-Year Total (All Allocations)</b>									\$ 6,255,138	\$ 4,988,556	\$ 8,275,551	\$ 11,424,489	\$ 8,001,486	\$ 11,497,868	\$ 3,108,412	\$ 323	\$ 1,117,370	\$ -	\$ -
<b>Factor 13 - As T&amp;D Work/Service Orders</b>									<b>100.00%</b>	<b>3.17%</b>	<b>6.24%</b>	<b>6.79%</b>	<b>4.82%</b>	<b>7.96%</b>	<b>0.01%</b>	<b>17.86%</b>	\$ -	\$ -	





**Schedule HJS-13f: Net Plant in Service (Factors 19, 20 and 21)**

Providence Water Supply Board  
 Docket # \_\_\_\_\_  
 Request for General Rate Relief  
 Direct Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Allocation Factor	Plant in Service	Accumulated Depreciation	Net Book Value	Retail Only																
				Base	Max Day	Max Hour	Base	Max Day	Max Hour	Meters & Services	Billing & Collection	Direct Fire								
<b>Source of Supply &amp; Pumping</b>																				
1	\$ 38,927,814	\$ -	\$ 38,927,814	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1	Land and Land Rights																			
1	Structures and Improvements	16,642,333	5,759,082	10,883,251																
1	Collecting & Impounding Reservoirs	8,994,270	4,378,962	4,615,308																
1	Land & Impounding Reservoirs	0	4,306,409	4,306,409																
1	Supply Mains	6,939,341	15,410,856	18,350,197																
1	Other Power Production Equipment	459,318	50,407	408,911																
18	Electric Pumping Equipment	1,709,401	313,965	1,395,436	25,061	41,383	8,772	6,230	10,288											
18	Hydraulic Pumping Equipment	107,721	62,678	45,043	31,883	5,937	1,258	894	1,476											
18	Other Plant & Miscellaneous Equipm	1,150,739		1,150,739																
	<b>Total Source of Supply &amp; Pumping Plant</b>		\$ 69,192,558	\$ 69,087,663	\$ 28,656	\$ 47,320	\$ 10,030	\$ 7,124	\$ 11,764	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Water Treatment Plant</b>																				
2	Land and Land Rights																			
2	Structures and Improvements	29,984	17,538	12,446																
2	Water Treatment Equipment	64,787,943	6,024,816	58,763,127																
2	Other Plant & Miscellaneous Equipm	13,116,332	362,447	12,753,885																
	<b>Total Water Treatment Plant</b>		\$ 87,961,113	\$ 65,150,376	\$ 7,598,359	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Transmission &amp; Distribution Plant</b>																				
19	Land and Land Rights																			
19	Structures and Improvements	614,902	140,558	474,344	99,832	8,821	119,149	84,626	139,746											
3	Distribution Reservoirs & Standpipes	18,722,912	6,618,531	12,104,381	1,630,473	2,692,444														
2	Transmission Mains <sup>(1)</sup>	82,274,598	69,449,569	12,825,029	40,607,704	28,841,865														
6	Distribution Mains <sup>(1)</sup>	124,218,289	19,383,244	104,835,045																
7	T&D Services	73,240,742	19,796,961	53,443,781																
7	Meters & Meter Installation	31,296,939	24,361,180	7,935,759																
10	Hydrants	11,546,412	4,779,609	6,766,803																
2	Other Plant & Miscellaneous Equipm	7,834,658		7,834,658																
	<b>Total Transmission &amp; Distribution Plant</b>		\$ 349,954,113	\$ 248,724,392	\$ 43,043,876	\$ 30,572,170	\$ 2,707,265	\$ 36,487,740	\$ 25,915,636	\$ 42,795,192	\$ 60,419,541	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>General Plant</b>																				
20	Land and Land Rights																			
20	Structures and Improvements <sup>(2)</sup>	23,380	8,541	14,839	2,656	191	2,538	1,803	2,977											
22	Central Operations Facility	5,648,798	42,129	5,690,927	15,390	4,785	4,574	3,249	5,364	7,571										
20	Office Furniture & Equipment	29,637,233	995,951	28,641,282	4,066,114	1,901,651	3,572,061	1,915,927	3,163,822	8,414,754	2,676,824	1,610,302								
20	Transportation Equipment	820,767	595,641	225,126																
20	Computer Equipment	8,897,146	7,966,240	930,906	117,101	8,429	111,920	79,492	131,267	185,276										
20	Tools, Shop & Garage Equipment	11,699,744	4,799,235	6,900,509	2,539,479	789,622	56,834	754,686	536,022	885,148	1,249,335	140,390								
1	Laboratory Equipment	846,649	189,417	657,232	69,196	21,516	1,549	20,564	14,606	34,042										
20	Power Operated Equipment	199,137	1,589	200,726																
20	Communications Equipment	487,025	384,436	102,589	41,130	12,789	12,223	8,682	14,336	20,235										
20	Miscellaneous Equipment	1,138,195	4,648	1,142,843	1,698	528	38	505	358	835										
20	Other Tangible Plant	697,209	1,077	698,286	393	122	9	83	137	193										
	<b>Total General Plant</b>		\$ 117,627	\$ 36,989	\$ 80,638	\$ 4,202	\$ 4,016	\$ 2,852	\$ 4,710	\$ 6,648	\$ 747	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	<b>Total Plant</b>		\$ 621,024,052	\$ 428,965,536	\$ 114,045,013	\$ 4,137,838	\$ 40,983,706	\$ 28,487,772	\$ 47,042,830	\$ 70,347,151	\$ 2,676,824	\$ 9,569,265	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Construction Work in Progress</b>																				
20	Construction Work in Progress		\$ 53,316,917	\$ 19,477,020	\$ 6,056,154	\$ 435,902	\$ 5,788,227	\$ 4,111,123	\$ 6,798,809	\$ 9,582,011	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	<b>Total Plant Investment</b>		\$ 674,340,969	\$ 448,442,556	\$ 120,101,167	\$ 8,573,737	\$ 46,771,933	\$ 32,598,895	\$ 53,831,439	\$ 79,929,162	\$ 2,676,824	\$ 9,569,265	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Factor 19 - As T&amp;D Plant Excl. M&amp;S, Land, Structures</b>																				
	T&D Plant Excl. M&S, Land, Structures		\$ 187,689,949.04	\$ 47,903,316	\$ 30,472,338	\$ 2,692,444	\$ 36,368,591	\$ 25,831,009	\$ 42,665,446	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	<b>Factor 19 - As T&amp;D Plant Excl. M&amp;S, Land, Structures</b>		100.00%	22.86%	16.24%	1.43%	19.38%	13.76%	22.73%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.61%
<b>Total Plant Excl. General Plant</b>																				
	Total Plant Excl. General Plant		\$ 336,184,470	\$ 122,812,700	\$ 38,187,185	\$ 2,748,585	\$ 36,497,770	\$ 25,922,760	\$ 42,806,956	\$ 60,419,541	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	<b>Factor 20 - As Total Plant Excl. General Plant</b>		100.00%	36.53%	11.36%	0.82%	10.86%	7.71%	12.75%	17.97%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.02%
<b>Total Plant Excl. Land, COF</b>																				
	Total Plant Excl. Land, COF		\$ 305,007,760	\$ 86,794,970	\$ 39,026,418	\$ 2,808,396	\$ 37,289,558	\$ 26,485,416	\$ 43,736,085	\$ 61,928,196	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	<b>Factor 21 - As Total Plant Excl. Land, COF</b>		100.00%	28.48%	12.80%	0.92%	12.23%	8.68%	14.34%	20.30%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.27%

(1) Split based on Inch-Miles  
 -39.84%  
 160.16%  
 (2) Net of Central Operations Facility



**Schedule HJS-13g: Central Operations Facility Square Footage for Allocation of COF Net Plant in Service (Factor 22)**

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Description	Total Square Feet	Common to All Share	Retail Only Share	Common to All Sq. Feet	Retail Only Sq. Feet	Common to All Factor	Retail Only Factor	Common To All						Retail Only					
								Base	Max Day	Max Hour	Base	Max Day	Max Hour	Base	Max Day	Max Hour	Meters & Services	Billing & Collection	Direct Fire
1ST FLOOR / COMMON SPACE / Area 516 SF	516	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	73	34	24	64	35	57	152	48	29			
1ST FLOOR / COMMON SPACE / Area 731 SF	731	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	104	49	34	91	49	81	215	68	41			
1ST FLOOR / COMMON SPACE / Area 1637 SF	1,637	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	232	109	75	204	110	181	481	153	92			
1ST FLOOR / COMMON SPACE / Area 10280 SF	10,280	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	1,459	683	474	1,282	688	1,136	3,020	961	578			
1ST FLOOR / MUSEUM / Area 1632 SF	1,632	0.00%	100.00%	0	1,632	N/A	4	-	-	-	1,632	-	-	-	-	-			
1ST FLOOR / AUTOMOTIVE / Area 7680 SF	7,680	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	1,090	510	354	958	514	848	2,256	718	432			
1ST FLOOR / BOARD ROOM / Area 1041 SF	1,041	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	148	69	48	130	70	115	306	97	59			
1ST FLOOR / COMMERCIAL SERVICES / Area 9989 SF	9,989	0.00%	100.00%	0	9,989	N/A	9	-	-	-	-	-	-	4,995	4,995	-			
1ST FLOOR / ENGINEERING / Area 16804 SF	16,804	100.00%	100.00%	16,804	16,804	21	21	4,782	2,150	155	2,054	1,459	2,410	3,412	-	382			
1ST FLOOR / FINANCE / Area 7232 SF	7,232	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	1,027	480	333	902	484	799	2,125	676	407			
1ST FLOOR / IT / Area 6771 SF	6,771	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	961	450	312	844	453	748	1,989	633	381			
1ST FLOOR / SECURITY / Area 5731 SF	5,731	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	814	381	264	715	383	633	1,684	536	322			
1ST FLOOR / T&D / Area 14683 SF	14,683	100.00%	100.00%	14,683	14,683	13	13	656	466	381	769	708	1,169	7,297	1	2,623			
1ST FLOOR / CENTRAL RECORDS / Area 5731 SF	5,731	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	814	381	264	715	383	633	1,684	536	322			
1ST FLOOR / PARKING GARAGE / Area 43924 SF	43,924	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	6,236	2,916	2,025	5,478	2,938	4,852	12,905	4,105	2,469			
1ST FLOOR / WAREHOUSE & STORAGE / Area 1177 SF	1,177	39.84%	60.16%	469	708	3	6	163	116	191	246	174	288	-	-	-			
1ST FLOOR / WAREHOUSE & STORAGE / Area 2777 SF	2,777	39.84%	60.16%	1,106	1,671	3	6	384	273	450	579	412	680	-	-	-			
1ST FLOOR / WAREHOUSE & STORAGE / Area 5550 SF	5,550	39.84%	60.16%	2,211	3,339	3	6	767	545	900	1,158	822	1,358	-	-	-			
2ND FLOOR - AREA 'H' COMMON SPACE / Area 1177 SF	772	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	110	51	36	96	52	85	227	72	43			
2ND FLOOR - AREA 'H' COMMON SPACE / Area 772 SF	3,019	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	429	200	139	377	202	333	887	282	170			
2ND FLOOR - AREA 'H' COMMON SPACE / Area 3019 SF	3,946	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	560	262	182	492	264	436	1,159	369	222			
2ND FLOOR - AREA 'H' COMMON SPACE / Area 3946 SF	4,575	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	649	304	211	571	306	505	1,344	428	257			
2ND FLOOR - AREA 'H' DINING/CAFETERIA / Area 4575 SF	237	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	34	16	11	30	16	26	70	22	13			
2ND FLOOR - AREA 'H' FUTURE SPACE / Area 237 SF	540	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	77	36	25	67	36	60	159	50	30			
2ND FLOOR - AREA 'H' FUTURE SPACE / Area 540 SF	981	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	139	65	45	122	66	108	288	92	55			
2ND FLOOR - AREA 'H' FUTURE SPACE / Area 981 SF	2,491	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	359	165	115	311	167	275	732	233	140			
2ND FLOOR - GM/EXECUTIVE MANAGEMENT / Area 2491 SF	1,169	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	166	78	54	146	78	109	343	109	66			
2ND FLOOR - HUMAN RESOURCES (1) / Area 1169 SF	2,632	Indirect	Indirect	Indirect	Indirect	Indirect	Indirect	374	175	121	328	176	291	773	246	148			
2ND FLOOR - LABORATORY / Area 837 SF	837	100.00%	100.00%	837	837	1	1	837	-	-	-	-	-	-	-	-			
				Total (Direct Allocations)				53,449	7,588	2,464	6,666	3,575	5,904	15,703	4,995	3,005			
				Indirect Allocation %				100.00%	14.20%	6.64%	12.47%	6.69%	11.05%	29.38%	9.35%	5.62%			
				Total (Direct Allocations)				165,085	23,436	10,961	20,589	11,043	18,236	48,501	15,429	9,281			
				Total (Direct Allocations)				100.00%	14.20%	6.64%	12.47%	6.69%	11.05%	29.38%	9.35%	5.62%			

**Factor 22 - As Central Operations Facility Square Footage**

**Schedule HJS-14a: Allocation of Rate Year FY 2021 Revenue Requirement**

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Account	Description	Allocation Factor	Pro-Forma Rate Year	Common To All				Retail Only				
				Base	Max Day	Max Hour	Base	Max Day	Max Hour	Meters & Services	Billing & Collection	Direct Fire
<b>Operation and Maintenance</b>												
<b>Source of Supply</b>												
60110	Salary + Wages -SOSO	1	\$ 864,635	\$ 864,635	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
60120	Salary + Wages -SOSM	1	\$ 577,135	\$ 577,135	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
60210	Payroll Clearing -SOSO	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
60220	Payroll Clearing -SOSM	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
60410	Employee Pension +Ben -SOSO	1	\$ 537,946	\$ 537,946	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
60420	Employee Pension + Ben -SOSM	1	\$ 335,748	\$ 335,748	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
60560	Overhead Rate Applied -SOSM	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
61010	Purchased Power	1	\$ 900	\$ 900	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
62010	Material and Supplies -SOSO	1	\$ 6,116	\$ 6,116	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
62020	Material and Supplies - SOSM	1	\$ 19,696	\$ 19,696	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
63110	Contractual Service -Eng-SOSO	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
63120	Contractual Service -Eng-SOSM	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
63610	Contractual Service Other-SOSO	1	\$ 14,415	\$ 14,415	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
63620	Contractual Service Other-SOSM	1	\$ 12,801	\$ 12,801	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
64210	Rental of Equipment-SOSO	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
64220	Rental of Equipment-SOSM	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
65010	Transportation Expense-SOSO	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
65020	Transportation Expense-SOSM	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	<b>Total Source of Supply Expense</b>		\$ 2,369,392	\$ 2,369,392	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		Check	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Pumping Expenses</b>												
61523	Fuel or Power Purchase -PPO	12	\$ 526,642	\$ 155,159	\$ 110,203	\$ 181,981	\$ 27,505	\$ 19,535	\$ 32,259	\$ -	\$ -	\$ -
63523	Contractual Service Other-PPO	12	\$ 14,403	\$ 4,243	\$ 3,014	\$ 4,977	\$ 752	\$ 534	\$ 882	\$ -	\$ -	\$ -
	<b>Total Pumping Expenses</b>		\$ 541,045	\$ 159,403	\$ 113,217	\$ 186,958	\$ 28,257	\$ 20,070	\$ 33,142	\$ -	\$ -	\$ -

**Schedule HJS-14a: Allocation of Rate Year FY 2021 Revenue Requirement**

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Account	Description	Allocation Factor	Common To All				Retail Only													
			Base	Max Day	Max Hour	Base	Max Day	Max Hour	Meters & Services	Billing & Collection	Direct Fire									
<b>Water Treatment Expenses</b>																				
60130	Salary + Wages -WTO	2	\$ 2,609,370	\$ 1,525,719	\$ 1,083,651	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
60140	Salary + Wages - WTM	2	\$ 299,596	\$ 175,176	\$ 124,420	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
60430	Employee Pension+Benefit-WTO	2	\$ 1,504,685	\$ 879,801	\$ 624,884	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
60440	Employee Pension+Benefit-WTM	2	\$ 249,403	\$ 145,828	\$ 103,575	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
61530	Purchased Power-WTO	2	\$ 153,823	\$ 89,941	\$ 63,881	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
61540	Power Purchased -WTM	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
61630	Fuel for Purchased Power-WTO	2	\$ 208,869	\$ 122,127	\$ 86,741	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
62030	Material and Supplies -WTO	2	\$ 226,542	\$ 132,461	\$ 94,081	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
62040	Material and Supplies -WTM	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
63130	Contractual Service Eng-WTO	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
63140	Contractual Service Eng-WTM	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
63630	Contractual Service Other-WTO	2	\$ 341,400	\$ 199,619	\$ 141,781	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
63640	Contractual Service Other-WTM	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
64230	Rental of Equipment -WTO	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
64240	Rental of Equipment -WTM	2	\$ 3,960	\$ 2,315	\$ 1,645	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
65030	Transportation Expense-WTO	2	\$ 1,389	\$ 812	\$ 577	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
67530	Miscellaneous Expenses-WTO	2	\$ 213,064	\$ 124,580	\$ 88,484	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
67540	Miscellaneous Expenses - WTM	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Total Treatment Expense		\$ 5,812,101	\$ 3,398,381	\$ 2,413,720	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		Check	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Transmission + Dist. Expense:</b>																				
60150	Salary + Wages -T&DO	13	\$ 580,462	\$ 25,916	\$ 18,407	\$ 30,396	\$ 35,392	\$ 27,978	\$ 46,201	\$ 288,453	\$ 30	\$ 103,689								
60160	Salary + Wages -T&DM	13	\$ 3,129,281	\$ 139,714	\$ 99,232	\$ 163,865	\$ 212,360	\$ 150,830	\$ 249,070	\$ 1,555,057	\$ 162	\$ 558,991								
60250	Payroll Clearing-T&DO	13	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -								
60260	Payroll Clearing -T&DM	13	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -								
60450	Employee Pension+Benefit-T&DO	13	\$ 405,121	\$ 18,088	\$ 12,847	\$ 21,214	\$ 27,492	\$ 19,527	\$ 32,245	\$ 201,320	\$ 21	\$ 72,368								
60460	Employee Pension+Benefit-T&DM	13	\$ 2,038,608	\$ 91,018	\$ 64,646	\$ 106,752	\$ 138,345	\$ 98,260	\$ 162,260	\$ 1,013,061	\$ 105	\$ 364,161								
60550	Overhead Rate Applied-T&DO	13	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -								
60560	Overhead Rate Applied -T&DM	13	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -								
61550	Power Purchased-T&DO	13	\$ 11,939	\$ 533	\$ 379	\$ 625	\$ 810	\$ 575	\$ 950	\$ 5,933	\$ 1	\$ 2,133								
62050	Material and Supplies -T&DO	13	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -								
62060	Material and Supplies-T&DM	13	\$ 427,364	\$ 19,081	\$ 13,552	\$ 22,379	\$ 29,002	\$ 20,599	\$ 34,015	\$ 212,373	\$ 22	\$ 76,341								
63150	Contractual Services Eng-T&DO	14	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -								
63160	Contractual Services Eng-T&DM	14	\$ 49,288	\$ 6,253	\$ 4,441	\$ 7,334	\$ 9,441	\$ 6,705	\$ 11,073	\$ 4,041	\$ -	\$ -								
63650	Contractual Service Other-T&DO	14	\$ 22,598	\$ 2,867	\$ 2,036	\$ 3,362	\$ 4,328	\$ 3,074	\$ 5,077	\$ 1,853	\$ -	\$ -								
63660	Contractual Service Other-T&DM	14	\$ 998,139	\$ 126,629	\$ 89,939	\$ 148,519	\$ 191,185	\$ 135,790	\$ 224,234	\$ 81,842	\$ -	\$ -								
65060	Transportation Expense -T&DM	13	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -								
67550	Miscellaneous Exp -T&DO	13	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -								
67560	Miscellaneous Exp-T&DM	13	\$ 45,953	\$ 2,052	\$ 1,457	\$ 2,406	\$ 3,119	\$ 2,215	\$ 3,658	\$ 22,836	\$ 2	\$ 8,209								
	Total Transmission + Distribution		\$ 7,708,754	\$ 432,150	\$ 306,937	\$ 506,853	\$ 655,474	\$ 465,554	\$ 768,783	\$ 3,386,769	\$ 343	\$ 1,185,892								



**Schedule HJS-14a: Allocation of Rate Year FY 2021 Revenue Requirement**

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Account	Description	Allocation Factor	Common To All				Retail Only						
			Pro-Forma Rate Year	Base	Max Day	Max Hour	Base	Max Day	Max Hour	Meters & Services	Billing & Collection	Direct Fire	
<b>Customer Accounts Expense:</b>													
60170	Salary+Wages-CAO	8	\$ 2,177,528	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,177,528	\$ -
60270	Payroll Clearing -CAO	8	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
60470	Employee Pension+Benefit-CAO	8	\$ 1,571,585	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,571,585	\$ -
60570	Overhead Rate Applied-CAO	8	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
62070	Material and Supplies-CAO	8	\$ 4,214	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,214	\$ -
63670	Contractual Services Other -CAO	8	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
65070	Transportation Expenses -CAO	8	\$ 3,129	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,129	\$ -
67070	Bad Debt Expense	8	\$ 215,956	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 215,956	\$ -
67570	Miscellaneous Expenses-CAO	8	\$ 640,886	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 640,886	\$ -
	<b>Total Customer Accounts</b>		\$ 4,613,299	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,613,299	\$ -
	<i>Check</i>		\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Administrative and General</b>													
60180	Salary+Wages -A&GO	15	\$ 6,291,044	\$ 1,981,372	\$ 794,402	\$ 120,084	\$ 155,622	\$ 110,532	\$ 182,524	\$ 1,139,577	\$ 1,397,292	\$ 409,640	\$ -
60280	Payroll Clearing -A&GO	15	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
60480	Employee Pension+Ben-A&GO	15	\$ 4,550,257	\$ 1,433,109	\$ 574,584	\$ 86,855	\$ 112,560	\$ 79,946	\$ 132,018	\$ 824,246	\$ 1,010,649	\$ 296,289	\$ -
60580	Overhead Rate Applied-A&GO	15	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
61580	Purchased Power-A&GO	16	\$ 207,461	\$ 51,952	\$ 34,990	\$ 18,516	\$ 13,262	\$ 9,419	\$ 15,554	\$ 16,388	\$ 43,063	\$ 4,319	\$ -
61680	Fuel Or Power Purchased-A&GO	16	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
62080	Material and Supplies -A&GO	16	\$ 746,776	\$ 187,004	\$ 125,951	\$ 66,648	\$ 47,736	\$ 33,905	\$ 55,988	\$ 58,989	\$ 155,008	\$ 15,548	\$ -
63180	Contractual Service Eng-A&GO	16	\$ 135,951	\$ 34,044	\$ 22,929	\$ 12,133	\$ 8,690	\$ 5,172	\$ 10,193	\$ 10,739	\$ 28,219	\$ 2,830	\$ -
63280	Contractual Service Acctg-A&GO	16	\$ 53,810	\$ 13,475	\$ 9,076	\$ 4,802	\$ 3,440	\$ 2,443	\$ 4,034	\$ 4,250	\$ 11,169	\$ 1,120	\$ -
63380	Contractual Service Legal-A&GO	16	\$ 77,109	\$ 19,309	\$ 13,005	\$ 6,882	\$ 4,929	\$ 3,501	\$ 5,781	\$ 6,091	\$ 16,005	\$ 1,605	\$ -
63480	Contractual Service Mgmt fees-A&GO	16	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
63680	Contractual Service Other-A&GO	16	\$ 2,296,510	\$ 575,082	\$ 387,328	\$ 204,959	\$ 146,799	\$ 104,265	\$ 172,176	\$ 181,404	\$ 476,684	\$ 47,813	\$ -
64280	Rental of Equipment-A&GO	16	\$ 2,800	\$ 701	\$ 472	\$ 250	\$ 179	\$ 127	\$ 210	\$ 221	\$ 581	\$ 58	\$ -
65080	Transportation Expenses-A&GO	16	\$ 10,944	\$ 2,741	\$ 1,846	\$ 977	\$ 700	\$ 497	\$ 820	\$ 864	\$ 2,272	\$ 228	\$ -
66780	Regulatory Commission Expense	16	\$ 518,235	\$ 129,774	\$ 87,405	\$ 46,252	\$ 33,127	\$ 23,529	\$ 38,854	\$ 40,936	\$ 107,569	\$ 10,789	\$ -
67580	Miscellaneous Expenses-A&GO	16	\$ 595,362	\$ 149,088	\$ 100,413	\$ 53,135	\$ 38,057	\$ 27,030	\$ 44,636	\$ 47,028	\$ 123,579	\$ 12,395	\$ -
	<b>Total Administration + General</b>		\$ 15,486,260	\$ 4,577,650	\$ 2,152,402	\$ 621,493	\$ 565,101	\$ 401,366	\$ 662,787	\$ 2,330,734	\$ 3,372,091	\$ 802,635	\$ -

**Schedule HJS-14a: Allocation of Rate Year FY 2021 Revenue Requirement**

Providence Water Supply Board  
 Docket # \_\_\_\_\_  
 Request for General Rate Relief  
 Direct Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Account	Description	Allocation Factor	Pro-Forma Rate Year	Common To All				Retail Only				
				Base	Max Day	Max Hour	Base	Max Day	Max Hour	Meters & Services	Billing & Collection	Direct Fire
<b>Insurance Fund (857)</b>												
62080	Material and Supplies --A&GO	16	\$ 16,500	\$ 4,132	\$ 2,783	\$ 1,473	\$ 1,055	\$ 749	\$ 1,237	\$ 1,303	\$ 3,425	\$ 344
62080	Injuries and Damages	15	\$ 224,654	\$ 70,755	\$ 28,368	\$ 4,288	\$ 5,557	\$ 3,947	\$ 6,518	\$ 40,694	\$ 49,897	\$ 14,628
63680	Contract Services - Other A&GO	16	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
65780	Ins. Gen. Liability	16	\$ 1,151,934	\$ 288,462	\$ 194,284	\$ 102,808	\$ 73,635	\$ 52,300	\$ 86,364	\$ 90,992	\$ 239,106	\$ 23,983
65880	Insurance - W/C	15	\$ 785,125	\$ 247,276	\$ 99,142	\$ 14,986	\$ 19,422	\$ 13,794	\$ 22,779	\$ 142,220	\$ 174,383	\$ 51,123
67580	Misc. Expense	16	\$ 255,000	\$ 63,856	\$ 43,008	\$ 22,758	\$ 16,300	\$ 11,577	\$ 19,118	\$ 20,143	\$ 52,930	\$ 5,309
	Funding Adjustment	23	\$ (131,100)	\$ (36,341)	\$ (19,805)	\$ (7,883)	\$ (6,248)	\$ (4,438)	\$ (7,328)	\$ (15,913)	\$ (28,003)	\$ (5,139)
	Total Insurance Fund		\$ 2,302,113	\$ 638,140	\$ 347,780	\$ 138,430	\$ 109,721	\$ 77,930	\$ 128,687	\$ 279,439	\$ 491,738	\$ 90,248
		Check	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Chemical and Sludge Maintenance Fund (878)</b>												
61830	Chemicals - W/O	1	\$ 2,349,117	\$ 2,349,117	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
63130	Contract Services - Eng WTM	2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
63640	Contract Services - Other WTM	2	\$ 1,608,918	\$ 940,747	\$ 668,171	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
67540	Miscellaneous Expenses - WTM	2	\$ 80,000	\$ 46,777	\$ 33,223	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Funding Adjustment	24	\$ (238,035)	\$ (196,689)	\$ (41,346)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Total Chemical and Sludge Maintenance Fund		\$ 3,800,000	\$ 3,139,951	\$ 660,049	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		Check	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>TOTAL O&amp;M</b>			\$ 42,632,966	\$ 14,715,067	\$ 5,994,104	\$ 1,453,734	\$ 1,358,553	\$ 964,920	\$ 1,593,399	\$ 5,996,942	\$ 8,477,470	\$ 2,078,775

**Schedule HJS-14a: Allocation of Rate Year FY 2021 Revenue Requirement**

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Account	Description	Allocation Factor	Pro-Forma Rate Year	Common To All				Retail Only				
				Base	Max Hour	Max Day	Base	Max Hour	Max Day	Meters & Services	Billing & Collection	Direct Fire
<b>Other Expenditures</b>												
<b>Property Taxes - Other Local Govern.</b>												
40820	Town of North Providence	1	\$ 303,569	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
40821	Town of Gloucester	1	\$ 79,292	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
40822	Town of West, Gloucester	1	\$ 4,585	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
40823	Town Harmony	1	\$ 208	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
40824	Town Chepachet	1	\$ 134	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
40825	Town Scituate	1	\$ 6,760,676	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
40827	Town of Johnston	1	\$ 100,258	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
40828	Town of Foster	1	\$ 312,360	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
40829	City of Cranston	1	\$ 61,065	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
40830	City of West, Warwick	1	\$ 6,998	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	Total Property Taxes		\$ 7,629,145	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
		Check	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Restricted Funds</b>												
	Capital Fund	21	\$ 2,127,000	\$ 605,273	\$ 272,168	\$ 19,585	\$ 260,045	\$ 184,699	\$ 304,998	\$ 431,862	\$ -	\$ 48,371
	Western Cranston Fund	6	\$ 40,000	\$ -	\$ -	\$ -	\$ 13,874	\$ 9,854	\$ 16,272	\$ -	\$ -	\$ -
	IFR Fund	21	\$ 29,300,000	\$ 8,337,796	\$ 3,749,192	\$ 269,783	\$ 3,582,190	\$ 2,544,272	\$ 4,201,425	\$ 5,949,016	\$ -	\$ 666,325
	Meter Replacement Fund	7	\$ 1,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,000,000	\$ -	\$ -
	Vehicle/Equipment Fund	21	\$ 1,600,000	\$ 455,306	\$ 204,734	\$ 14,732	\$ 195,614	\$ 138,936	\$ 229,429	\$ 324,861	\$ -	\$ 36,386
	Lead Service Replacement Fund	8	\$ 250,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 250,000	\$ -
	Revenue Reserve Fund	25	\$ 414,081	\$ 157,012	\$ 50,870	\$ 8,942	\$ 26,051	\$ 18,503	\$ 30,554	\$ 64,723	\$ 43,080	\$ 14,345
	Total Restricted Expenditures	Check	\$ 34,731,081	\$ 9,555,388	\$ 4,276,965	\$ 313,042	\$ 4,077,774	\$ 2,896,264	\$ 4,782,679	\$ 7,770,462	\$ 293,080	\$ 765,427
<b>City Services Expense</b>												
	Capital Reimbursement	17	\$ 1,490,693	\$ 450,463	\$ 200,737	\$ 49,146	\$ 48,432	\$ 34,399	\$ 56,804	\$ 239,902	\$ 326,807	\$ 84,003
		21	\$ (1,888,937)	\$ (537,528)	\$ (241,706)	\$ (17,393)	\$ (230,940)	\$ (164,026)	\$ (270,861)	\$ (383,526)	\$ -	\$ (42,957)
	<b>TOTAL OTHER EXPENDITURES</b>		\$ 41,961,983	\$ 17,097,468	\$ 4,235,996	\$ 344,796	\$ 3,895,267	\$ 2,766,637	\$ 4,568,622	\$ 7,626,838	\$ 619,888	\$ 806,472
<b>Gross Revenue Requirements</b>												
			\$ 84,594,948	\$ 31,812,535	\$ 10,230,100	\$ 1,798,530	\$ 5,253,820	\$ 3,731,557	\$ 6,162,021	\$ 13,623,780	\$ 9,097,358	\$ 2,885,247



**Schedule HJS-14a: Allocation of Rate Year FY 2021 Revenue Requirement**

Providence Water Supply Board  
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 Direct Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Account	Description	Allocation Factor	Pro-Forma Rate Year	Common To All			Retail Only							
				Base	Max Day	Max Hour	Base	Max Day	Max Hour	Meters & Services	Billing & Collection	Direct Fire		
<b>Non-Rate Revenues</b>														
7	New Meters		\$ 63,017	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ 63,017	\$ -	\$ -
7	Lost or Stolen Meters		\$ 17,862	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ 17,862	\$ -	\$ -
2	Abandonment		\$ 965	\$ 564	401	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
9	Admin Fee from NBC		\$ 32,180	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ 16,090	\$ 16,090	\$ -
1	Misc. Accounts		\$ 4,486	\$ 4,486	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
9	Narragansett Shut-Off		\$ 62,124	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ 31,062	\$ 31,062	\$ -
6	Road Restoration		\$ 47,400	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
9	Shut Off Service Charge		\$ 144,413	\$ -	-	\$ -	\$ 16,440	11,677	\$ 19,282	\$ -	\$ -	\$ 72,206	\$ 72,206	\$ -
9	Shut Off For Seasonal		\$ 1,071	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ 535	\$ 535	\$ -
9	Shut Off Service Charge		\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1	Subpoena		\$ 42	\$ 42	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
9	Title Search Charge		\$ 28,954	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ 14,477	\$ 14,477	\$ -
2	\$ Transaction at Closing		\$ (31)	\$ (18)	(13)	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
7	Turn On Meter		\$ 97,459	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ 97,459	\$ -	\$ -
7	Scrap Meter Fees Garbage Pick-Up		\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1	Other Misc.		\$ 9,179	\$ 9,179	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
17	Rental Income		\$ 35,387	\$ 10,893	4,765	\$ -	\$ 1,167	817	\$ 1,348	\$ -	\$ -	\$ 5,695	\$ 7,758	\$ 1,994
9	Interest on Delinquent Accounts		\$ 411,817	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ 205,909	\$ 205,909	\$ -
1	Forest Product Sales		\$ 40,482	\$ 40,482	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1	Bad Checks		\$ 14,005	\$ 14,005	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1	Federal Grants		\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1	Net Loss Disposal Fixed Assets		\$ -	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1	Misc. Revenue Water Lien		\$ (1,356)	\$ (1,356)	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
9	State 1 Surcharge		\$ 180,290	\$ -	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ 90,145	\$ 90,145	\$ -
9	Foster Property Tax Refund		\$ 175,000	\$ 175,000	-	\$ -	\$ -	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1	<b>TOTAL NON-RATE REVENUES</b>		\$ 1,364,746	\$ 253,078	5,153	\$ 1,167	\$ 17,590	12,484	\$ 20,631	\$ 438,182	\$ 1,994	\$ 614,457	\$ 438,182	\$ 1,994
<b>TOTAL NET REVENUE REQUIREMENT</b>														
			\$ 83,230,202	\$ 31,559,457	10,224,947	\$ 1,797,363	\$ 5,236,230	\$ 3,719,063	\$ 6,141,390	\$ 13,009,323	\$ 8,659,176	\$ 2,883,253	\$ 8,659,176	\$ 2,883,253
	Labor Related O&M Excl. A&G		\$ 16,881,104	\$ 5,316,724	2,131,662	\$ 322,227	\$ 417,589	\$ 296,595	\$ 489,776	\$ 3,057,891	\$ 3,749,431	\$ 1,099,209	\$ 3,749,431	\$ 1,099,209
	<b>Factor 15 - As Labor O&amp;M Excl. A&amp;G</b>		100.00%	31.50%	12.63%	1.91%	2.47%	1.76%	2.90%	18.11%	22.21%	6.51%	22.21%	6.51%
	Non-Labor Related O&M Excl. A&G		\$ 4,163,488	\$ 1,042,602	702,211	\$ 371,584	\$ 266,142	\$ 189,029	\$ 312,149	\$ 328,878	\$ 864,211	\$ 86,683	\$ 328,878	\$ 86,683
	<b>Factor 16 - As Non-Labor O&amp;M Excl. A&amp;G</b>		100.00%	25.04%	16.87%	8.92%	6.39%	4.54%	7.50%	7.90%	20.76%	2.08%	20.76%	2.08%
	Total O&M Excl. A&G		\$ 21,044,592	\$ 6,359,325	2,833,874	\$ 693,811	\$ 683,731	\$ 485,624	\$ 801,924	\$ 3,386,769	\$ 4,613,642	\$ 1,185,892	\$ 4,613,642	\$ 1,185,892
	<b>Factor 17 - As Total O&amp;M Excl. A&amp;G</b>		100.00%	30.22%	13.47%	3.30%	3.25%	2.31%	3.81%	16.09%	21.92%	5.84%	21.92%	5.84%
	Total Insurance Excluding Funding Adjustment		\$ 2,433,213	\$ 674,481	\$ 367,585	\$ 146,314	\$ 115,969	\$ 82,368	\$ 136,016	\$ 295,353	\$ 519,741	\$ 95,387	\$ 295,353	\$ 519,741
	<b>Factor 23 - As Total Ins. Excl Adj.</b>		100.00%	27.72%	15.11%	6.01%	4.77%	3.39%	5.59%	12.14%	21.36%	3.92%	21.36%	3.92%
	Total Chemicals Excluding Funding Adjustment		\$ 4,038,035	\$ 3,336,640	\$ 701,394	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	<b>Factor 24 - As Total Chemicals Excl Adj.</b>		100.00%	82.63%	17.37%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	Total Net Revenue Requirement (Excl. Reserves)		\$ 82,816,122	\$ 31,402,445	\$ 10,174,076	\$ 1,788,421	\$ 5,210,179	\$ 3,700,561	\$ 6,110,836	\$ 12,944,600	\$ 8,616,095	\$ 2,868,908	\$ 12,944,600	\$ 8,616,095
	<b>Factor 25 - As Net Revenue Requirement</b>		100.00%	37.92%	12.29%	2.16%	6.29%	4.47%	7.38%	15.63%	10.40%	3.46%	10.40%	3.46%

## Schedule HJS-14b: Allocation of Rate Year Revenue Requirement (Summary)

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

	Common To All				Retail Only					
	Pro-Forma Rate Year	Base	Max Day	Max Hour	Base	Max Day	Max Hour	Meters & Services	Billing & Collection	Public Fire
Net Operations and Maintenance Expense	\$ 40,744,029	\$ 14,177,539	\$ 5,752,398	\$ 1,436,342	\$ 1,127,613	\$ 800,894	\$ 1,322,538	\$ 5,613,416	\$ 8,477,470	\$ 2,035,818
Restricted Funds (Excluding Revenue Reserve)	\$ 34,317,000	\$ 9,398,376	\$ 4,226,094	\$ 304,100	\$ 4,051,723	\$ 2,877,761	\$ 4,752,124	\$ 7,705,739	\$ 250,000	\$ 751,082
City Services Expense	\$ 1,490,693	\$ 450,463	\$ 200,737	\$ 49,146	\$ 48,432	\$ 34,399	\$ 56,804	\$ 239,902	\$ 326,807	\$ 84,003
Property Taxes Expense	\$ 7,629,145	\$ 7,629,145	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Expenses Allocated</b>	<b>\$ 84,180,867</b>	<b>\$ 31,655,523</b>	<b>\$ 10,179,230</b>	<b>\$ 1,789,588</b>	<b>\$ 5,227,769</b>	<b>\$ 3,713,054</b>	<b>\$ 6,131,467</b>	<b>\$ 13,559,057</b>	<b>\$ 9,054,278</b>	<b>\$ 2,870,902</b>
Less: Miscellaneous Revenues	\$ (1,364,746)	\$ (253,078)	\$ (5,153)	\$ (1,167)	\$ (17,590)	\$ (12,494)	\$ (20,631)	\$ (614,457)	\$ (438,182)	\$ (1,994)
Plus: Net Operating Revenue Allowance	\$ 1,656,322	\$ 628,049	\$ 203,482	\$ 35,768	\$ 104,204	\$ 74,011	\$ 122,217	\$ 258,892	\$ 172,322	\$ 57,378
<b>Net Revenue Requirement</b>	<b>\$ 84,472,444</b>	<b>\$ 32,030,494</b>	<b>\$ 10,377,558</b>	<b>\$ 1,824,190</b>	<b>\$ 5,314,382</b>	<b>\$ 3,774,572</b>	<b>\$ 6,233,053</b>	<b>\$ 13,203,492</b>	<b>\$ 8,788,417</b>	<b>\$ 2,926,286</b>

## Schedule HJS-15a: Pro-Forma Water Sales

Providence Water Supply Board  
 Docket # \_\_\_\_\_  
 Request for General Rate Relief  
 Direct Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Customer Class	FY 2014	FY 2015	FY 2016	FY 2017 (1)	FY 2018	FY 2019	Adjustment (2)	Pro Forma Rate Year
<b>Retail</b>								
Residential	8,627,628	8,347,957	8,269,834	8,269,270	8,030,974	8,103,732	292,444	8,396,176
Commercial	3,903,139	4,230,647	4,251,054	3,927,540	4,043,827	4,031,169	10,496	4,041,665
Industrial	185,888	171,644	164,367	182,199	189,997	164,973	22,213	187,186
<b>Sub-total Retail</b>	12,716,655 49.17%	12,750,248 48.22%	12,685,256 49.25%	12,379,009 49.12%	12,264,797 50.62%	12,299,874 51.15%	325,153	12,625,027 52.63%
<b>Wholesale</b>								
Bristol County	1,608,984	1,663,045	1,579,991	1,637,658	1,602,670	1,494,845	-	1,494,845
East Providence	2,201,598	2,010,940	1,869,775	1,904,517	1,776,786	1,822,773	-	1,822,773
East Smithfield	278,534	318,959	280,994	-	-	-	-	-
Greenville	431,647	443,841	477,556	443,680	417,847	421,521	-	421,521
Johnston	337,577	433,844	421,362	392,953	386,849	385,925	(385,925)	-
Kent County	2,561,361	2,561,821	2,381,066	2,500,971	2,470,436	2,727,147	-	2,727,147
Lincoln	1,025,337	1,119,193	1,082,008	1,155,628	1,057,830	1,038,229	-	1,038,229
Smithfield	497,433	477,254	427,370	435,321	435,955	391,600	-	391,600
Warwick	4,202,875	4,665,329	4,553,730	4,349,674	3,817,571	3,466,644	-	3,466,644
<b>Sub-total Wholesale</b>	13,145,345 50.83%	13,694,224 51.78%	13,073,851 50.75%	12,820,403 50.88%	11,965,943 49.38%	11,748,684 48.85%	(385,925)	11,362,760 47.37%
<b>Grand Total</b>	<b>25,862,000</b>	<b>26,444,473</b>	<b>25,759,107</b>	<b>25,199,412</b>	<b>24,230,740</b>	<b>24,048,558</b>	<b>(60,772)</b>	<b>23,987,787</b>
<b>(1) East Smithfield Retail</b>								
Residential	228,489	219,570	210,360	79,063	214,949	183,987	-	214,949
Commercial	3,409	5,763	11,446	3,562	7,362	5,418	-	7,362
Industrial	8,049	12,469	26,012	6,503	13,265	7,592	-	13,265
Total East Smithfield Retail	239,948	237,802	247,818	89,128	235,576	196,997	-	235,576
<b>(2) Johnston Retail</b>								
Residential	276,924	298,656	315,444	310,607	293,145	292,444	-	292,444
Commercial	4,132	7,839	17,163	13,993	10,521	10,496	-	10,496
Industrial	9,756	16,961	39,006	25,548	22,266	22,213	-	22,213
Total Johnston Retail	290,811	323,456	371,613	350,148	325,932	325,153	-	325,153



## Schedule HJS-15b: Assignment of Non-Revenue Water (NRW)

Providence Water Supply Board  
Docket # \_\_\_\_\_  
Request for General Rate Relief  
Direct Testimony of Harold J. Smith  
Test Year Ending June 30, 2019  
Rate Years Ending June 30, 2021 through 2023

Line	Description	Allocation (HCF)
1	<b>Start: Annual Water Production</b>	<b>28,042,451</b>
2	Less: Annual Sales	23,987,787
3	<b>Equals: Non-Revenue Water</b>	<b>4,054,664</b>
4	Less: Non-Billed Water Use	
5	Unauthorized Consumption <sup>(1)</sup>	70,106
6	Customer Metering Inaccuracy <sup>(2)</sup>	741,890
7	Firefighting Allowance <sup>(3)</sup>	133,690
8	Water Quality and Other Testing <sup>(3)</sup>	1,178,162
9	Main Flushing/System Maintenance <sup>(3)</sup>	66,845
10	Other Authorized Unbilled <sup>(3)</sup>	13,501
	Total Non-Billed Use	2,204,194
11	<b>Equals: Real Losses (Leakage)</b>	<b>1,850,470</b>
12	Leakage on Distribution Mains and Services <sup>(4)</sup>	1,650,295
13	Leakage on Transmission Mains <sup>(4)</sup>	200,175
14	Retail Transmission Leakage <sup>(5)</sup>	105,354
15	Wholesale Transmission Leakage <sup>(5)</sup>	94,821
16	Flushing on Distribution Mains and Services <sup>(4)</sup>	59,614
17	Flushing on Transmission Mains <sup>(4)</sup>	7,231
18	Retail Transmission Flushing	3,806
19	Wholesale Transmission Flushing	3,425
20	<b>Retail Non-Revenue Water</b>	
21	100% of Unauthorized Consumption	70,106
22	100% of Customer Metering Inaccuracy	741,890
23	100% of Firefighting Allowance	133,690
24	100% of Water Quality and Testing	1,178,162
25	100% of Flushing on Distribution Mains	59,614
26	52.6% of Flushing on Transmission Mains	3,806
27	100% of Leakage on Distribution Mains	1,650,295
28	52.6% of Leakage on Transmission Mains	105,354
29	100% of Other Authorized Unbilled	13,501
30	<b>Total Retail NRW</b>	<b>3,956,418</b>
31	<b>%</b>	<b>97.58%</b>
32	<b>Wholesale Non-Revenue Water</b>	
33	0% of Unauthorized Consumption	-
34	0% of Customer Metering Inaccuracy	-
35	0% of Firefighting Allowance	-
36	0% of Water Quality and Testing	-
37	0% of Flushing on Distribution Mains	-
38	47.4% of Flushing on Transmission Mains	3,425
39	0% of Leakage on Distribution Mains	-
40	47.4% of Leakage on Transmission Mains	94,821
41	0% of Other Authorized Unbilled	-
42	<b>Total Wholesale NRW</b>	<b>98,246</b>
43	<b>%</b>	<b>2.42%</b>

(1) Estimated at 0.25% of Production

(2) Estimated at 3%. Calculated as: (Sales / 0.97) - Sales

(3) Per Providence Water FY 2019

(4) Based on Length of Pipe

(5) Based on Pro-Forma Sales

## Schedule HJS-16a: Customer Class Units of Service

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Customer Class	Rate Year Sales HCF		Base Demand HCF		Maximum Day Extra Capacity			Maximum Hour Extra Capacity			Billing		Direct Fire 6" Eq.
	HCF	Plus NRW	Base HCF	Average Day HCF/d	Peaking Factor	Maximum Day HCF/d	Average Day HCF/d	Peaking Factor	Maximum Hour HCF/d	Meters & Services 5/8" Eq.	Monthly Bills		
<b>Retail</b>													
Residential	8,396,176	2,631,185	11,027,361	23,003	1.56	35,958	23,003	3.13	71,915	35,958			
Commercial	4,041,665	1,266,573	5,308,238	11,073	1.68	18,644	11,073	3.37	37,289	18,644			
Industrial	187,186	58,660	245,846	513	1.44	741	513	2.89	1,481	741			
Sub-total Retail	12,625,027	3,956,418	16,581,445	34,589	1.60	55,343	34,589	3.20	110,685	55,343	88,313	931,056	
<b>Fire Protection</b>													
Private						690			2,759	2,070	40,187	23,940	
Public (Providence)						1,085			4,338	3,254		3,232	
Public (All Other)						1,113			4,453	3,340		3,318	
Subtotal Fire Protection						2,888			11,551	8,663	40,187	23,940	
Wholesale	11,362,760	98,246	11,461,006	31,131	1.74	54,168	23,037	2.16	67,243	13,075			
<b>Grand Total</b>	<b>23,987,787</b>	<b>4,054,664</b>	<b>28,042,451</b>	<b>65,720</b>	<b>1.71</b>	<b>112,398</b>	<b>46,678</b>	<b>2.88</b>	<b>189,479</b>	<b>77,081</b>	<b>128,499</b>	<b>954,996</b>	

Intraclass Distribution of Retail Max Day Based on Monthly Analysis

	Max Day	%
Residential	36,616	64.97%
Commercial	18,986	33.69%
Industrial	754	1.34%
	56,357	100.00%

## Schedule HJS-16b: Customer Class Units of Service

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

### 6" Equivalent Connections

Fire Connection Size	Accounts	Demand Factor	6" Eq. Factor	6" Eq. Connr.
5/8"	-	0.0	0.000	0.00
3/4"	2	0.5	0.004	0.01
1"	9	1.0	0.009	0.08
1-1/2"	2	2.9	0.026	0.05
2"	68	6.2	0.056	3.78
3"	-	18.0	0.162	0.00
4"	391	38.3	0.344	134.60
6"	1,245	111.3	1.000	1,245.00
8"	256	237.2	2.131	545.54
10"	4	426.6	3.832	15.33
12"	18	689.0	6.190	111.42
16"	-	1,468.4	13.192	0.00
<b>Subtotal Private</b>	<b>1,995</b>			<b>2,056</b>

### 5/8" Equivalent Connections

Meter Size	Providence Accounts	All Accounts	Fire Accounts	5/8" Eq. M&S Factor	5/8" Eq. Prov FP
5/8"	25,954	57,812	-	1	1
3/4"	4,580	11,326	2	1.1	1.5
1"	2,091	5,335	9	1.4	3.75
1-1/2"	902	1,547	2	1.8	10
2"	792	1,357	68	2.9	24
3"	55	73	-	11	65
4"	20	35	391	14	110
6"	28	57	1,245	21	225
8"	15	42	256	29	340
10"	2	4	4	36.25	520
12"	-	-	18	43.5	860
16"	-	-	-	58	-
	34,439	77,588	1,995		

	5/8" M&S	5/8" FP	Bills
Providence	39,820	86,908	413,268
All	88,313	n/a	931,056
Fire	40,187	n/a	23,940

Public Fire Hydrants (Providence Only)	3232
Public Fire Hydrants (All Other)	3318
Total Hydrants	6550

Equivalent 6" Connections	#	%
Private Firelines	2,056	23.89%
Providence Hydrants	3,232	37.56%
All Other Hydrants	3,318	38.56%
	8,606	100.00%



## Schedule HJS-16c: Customer Class Units of Service

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Customer Class	Base HCF	Extra Capacity		Billing		Direct Fire 6" Eq.
		Maximum Day Extra HCF/d	Maximum Hour Extra HCF/d	Meters & Services 5/8" Eq.	Monthly Bills 6" Eq.	
<b><u>Retail</u></b>						
Residential	11,027,361	12,954	35,958			
Commercial	5,308,238	7,571	18,644			
Industrial	245,846	228	741			
Sub-total Retail	16,581,445	20,753	55,343	88,313	931,056	
<b><u>Fire Protection</u></b>						
Private		690	2,070	40,187	23,940	3,232
Public (Providence)		1,085	3,254			3,318
Public (All Other)		1,113	3,340			3,318
Subtotal Fire Protection		2,888	8,663	40,187	23,940	6,550
<b><u>Wholesale</u></b>						
	11,461,006	23,037	13,075			
<b>Grand Total</b>	<b>28,042,451</b>	<b>46,678</b>	<b>77,081</b>	<b>128,499</b>	<b>954,996</b>	<b>6,550</b>

**Schedule HJS-17: Unit Cost of Service**

Providence Water Supply Board  
 Docket # \_\_\_\_\_  
 Request for General Rate Relief  
 Direct Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

	Common To All				Retail Only					
	Total	Base HCF	Max Day HCF/d	Max Hour HCF/d	Base HCF	Max Day HCF/d	Max Hour HCF/d	Meters & Services Eq. 5/8" Mtrs.	Billing & Collection Bills	Direct Fire Eq. 6" Conn.
<b>Total Units of Service</b>										
Retail	16,581,445	16,581,445	20,753	55,343	16,581,445	20,753	55,343	88,313	931,056	-
Fire Protection	-	-	2,888	8,663	-	2,888	8,663	40,187	23,940	6,550
Wholesale	11,461,006	11,461,006	23,037	13,075	-	-	-	-	-	-
<b>Total</b>	<b>28,042,451</b>	<b>28,042,451</b>	<b>46,678</b>	<b>77,081</b>	<b>16,581,445</b>	<b>23,641</b>	<b>64,006</b>	<b>128,499</b>	<b>954,996</b>	<b>6,550</b>
<b>Unit Cost of Service</b>										
O&M Expense	\$ 39,379,283	\$ 13,924,461	\$ 5,747,245	\$ 1,435,175	\$ 1,110,023	\$ 788,401	\$ 1,301,907	\$ 4,998,959	\$ 8,039,288	\$ 2,033,823
Unit Cost (\$/Unit)	\$	\$ 0.50	\$ 123.13	\$ 18.62	\$ 0.07	\$ 33.35	\$ 20.34	\$ 38.90	\$ 8.42	\$ 310.51
Capital Expense	\$ 34,317,000	\$ 9,398,376	\$ 4,226,094	\$ 304,100	\$ 4,051,723	\$ 2,877,761	\$ 4,752,124	\$ 7,705,739	\$ 250,000	\$ 751,082
Unit Cost (\$/Unit)	\$	\$ 0.34	\$ 90.54	\$ 3.95	\$ 0.24	\$ 121.73	\$ 74.25	\$ 59.97	\$ 0.26	\$ 114.67
City Services Expense	\$ 1,490,693	\$ 450,463	\$ 200,737	\$ 49,146	\$ 48,432	\$ 34,399	\$ 56,804	\$ 239,902	\$ 326,807	\$ 84,003
Unit Cost (\$/Unit)	\$	\$ 0.02	\$ 4.30	\$ 0.64	\$ 0.00	\$ 1.46	\$ 0.89	\$ 1.87	\$ 0.34	\$ 12.82
Property Tax Expense	\$ 7,629,145	\$ 7,629,145	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Unit Cost (\$/Unit)	\$	\$ 0.27	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Operating Revenue Allowance	\$ 1,656,322	\$ 628,049	\$ 203,482	\$ 35,768	\$ 104,204	\$ 74,011	\$ 122,217	\$ 258,892	\$ 172,322	\$ 57,378
Unit Cost (\$/Unit)	\$	\$ 0.02	\$ 4.36	\$ 0.46	\$ 0.01	\$ 3.13	\$ 1.91	\$ 2.01	\$ 0.18	\$ 8.76
Total Cost of Service	\$ 84,472,444	\$ 32,030,494	\$ 10,377,558	\$ 1,824,190	\$ 5,314,382	\$ 3,774,572	\$ 6,233,053	\$ 13,203,492	\$ 8,788,417	\$ 2,926,286
Unit Cost (\$/Unit)	\$	\$ 1.14	\$ 222.32	\$ 23.67	\$ 0.32	\$ 159.66	\$ 97.38	\$ 102.75	\$ 9.20	\$ 446.76

## Schedule HJS-18: Customer Class Cost of Service

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

	Common To All				Retail Only					
	Base	Max Day	Max Hour	Total	Base	Max Day	Max Hour	Meters & Services	Billing & Collection	Direct Fire
Unit Cost of Service (\$/Unit)	\$1.14	\$222.32	\$23.67	\$0.32	\$159.66	\$97.38	\$102.75	\$9.20	\$446.76	
<b>Retail Service:</b>										
Residential Volume										
Units of Service	11,027,361	12,954	35,958	11,027,361	12,954	35,958				
Cost of Service	\$ 12,595,612	\$ 2,880,038	\$ 850,971	\$ 3,534,289	\$ 2,068,302	\$ 3,501,648	\$ -	\$ -	\$ -	\$ -
Commercial Volume										
Units of Service	5,308,238	7,571	18,644	5,308,238	7,571	18,644				
Cost of Service	\$ 6,063,146	\$ 1,683,272	\$ 441,237	\$ 1,701,300	\$ 1,208,843	\$ 1,815,641	\$ -	\$ -	\$ -	\$ -
Industrial Volume Charge										
Units of Service	245,846	228	741	245,846	228	741				
Cost of Service	\$ 280,809	\$ 50,648	\$ 17,528	\$ 78,794	\$ 36,373	\$ 72,127	\$ -	\$ -	\$ -	\$ -
Meter Service Charge										
Units of Service	-	-	-	-	-	-	88,313	931,056		
Cost of Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 9,074,253	\$ 8,568,108	\$ -	\$ -
<b>Fire Protection:</b>										
Private Fire Lines										
Units of Service	-	690	2,070	-	690	2,070	40,187	23,940		
Cost of Service	\$ -	\$ 153,366	\$ 48,977	\$ -	\$ 110,140	\$ 201,534	\$ 4,129,239	\$ 220,310	\$ -	\$ -
Public Fire (Providence)										
Units of Service	-	1,085	3,254	-	1,085	3,254				3,232
Cost of Service	\$ -	\$ 241,109	\$ 76,998	\$ -	\$ 173,153	\$ 316,836	\$ -	\$ -	\$ -	\$ 1,443,932
Public Fire (All Other)										
Units of Service	-	1,113	3,340	-	1,113	3,340				3,318
Cost of Service	\$ -	\$ 247,525	\$ 79,046	\$ -	\$ 177,760	\$ 325,267	\$ -	\$ -	\$ -	\$ 1,482,354
East Smithfield Surcharge										
Units of Service	-	-	-	-	-	-	-	-	-	-
Cost of Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Wholesale Service:</b>										
Units of Service	11,461,006	23,037	13,075							
Cost of Service	\$ 18,521,958	\$ 5,121,600	\$ 309,432	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Allocated Cost of Service	\$ 84,472,444	\$ 32,030,494	\$ 10,377,558	\$ 1,824,190	\$ 5,314,382	\$ 3,774,572	\$ 6,233,053	\$ 13,203,492	\$ 8,788,417	\$ 2,926,286



## Schedule HJS-19: Development of Volumetric Rates

Providence Water Supply Board  
Docket # \_\_\_\_\_  
Request for General Rate Relief  
Direct Testimony of Harold J. Smith  
Test Year Ending June 30, 2019  
Rate Years Ending June 30, 2021 through 2023

	Units	Residential	Commercial	Industrial	Wholesale
<b>Unit Cost</b>					
CTA Base	\$/HCF	1.14	1.14	1.14	1.14
CTA Maximum Day	\$/HCF/d	222.32	222.32	222.32	222.32
CTA Maximum Hour	\$/HCF/d	23.67	23.67	23.67	23.67
Retail Only Base	\$/HCF	0.32	0.32	0.32	0.32
Retail Only Maximum Day	\$/HCF/d	159.66	159.66	159.66	159.66
Retail Only Maximum Hour	\$/HCF/d	97.38	97.38	97.38	97.38
<b>Units</b>					
Base	HCF	11,027,361	5,308,238	245,846	11,461,006
Maximum Day	HCF/d	12,954	7,571	228	23,037
Maximum Hour	HCF/d	35,958	18,644	741	13,075
<b>Total Cost</b>					
CTA Base		\$ 12,595,612	\$ 6,063,146	\$ 280,809	\$ 13,090,927
CTA Maximum Day		\$ 2,880,038	\$ 1,683,272	\$ 50,648	\$ 5,121,600
CTA Maximum Hour		\$ 850,971	\$ 441,237	\$ 17,528	\$ 309,432
Retail Only Base		\$ 3,534,289	\$ 1,701,300	\$ 78,794	\$ -
Retail Only Maximum Day		\$ 2,068,302	\$ 1,208,843	\$ 36,373	\$ -
Retail Only Maximum Hour		\$ 3,501,648	\$ 1,815,641	\$ 72,127	\$ -
PLUS:					
Retail Service Charge Costs		\$ 4,522,392	\$ 2,296,408	\$ 95,367	\$ -
Retail Fire Protection Costs		\$ 159,034	\$ 80,755	\$ 3,354	\$ -
Private Fire Line Costs		\$ 804,356	\$ 408,441	\$ 16,962	\$ -
Public Fire Costs		\$ 329,789	\$ 167,462	\$ 6,955	\$ -
<b>Total Rate Year Revenue Requirement</b>		<b>\$ 31,246,433</b>	<b>\$ 15,866,506</b>	<b>\$ 658,917</b>	<b>\$ 18,521,958</b>
<b>Rate Year Sales</b>	HCF	8,396,176	4,041,665	187,186	11,362,760
<b>Volumetric Rate Build-Up</b>					
Base	\$/HCF	\$ 1.921101	\$ 1.921101	\$ 1.921101	\$ 1.152090
Maximum Day	\$/HCF	\$ 0.589356	\$ 0.715575	\$ 0.464892	\$ 0.450736
Maximum Hour	\$/HCF	\$ 0.518405	\$ 0.558403	\$ 0.478963	\$ 0.027232
Service Charge	\$/HCF	\$ 0.538625	\$ 0.568184	\$ 0.509478	\$ -
Retail Fire	\$/HCF	\$ 0.018941	\$ 0.019981	\$ 0.017916	\$ -
Private Fire	\$/HCF	\$ 0.095800	\$ 0.101058	\$ 0.090616	\$ -
Public Fire	\$/HCF	\$ 0.039279	\$ 0.041434	\$ 0.037153	\$ -
Total	\$/HCF	\$ 3.721508	\$ 3.925735	\$ 3.520118	\$ 1.630058
Rounded	\$/HCF	\$ 3.722000	\$ 3.926000	\$ 3.521000	\$ 1.630059
Revenues		\$ 31,250,567	\$ 15,867,577	\$ 659,082	\$ 18,521,968
COS		\$ 31,246,433	\$ 15,866,506	\$ 658,917	\$ 18,521,958
Variance due to Rounding		\$ 4,134	\$ 1,071	\$ 165	\$ 10

## Schedule HJS-20a: Development of Meter Service Charge

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Meter Size	Meter Equivalency	M&S Cost Per Month	Billing Cost Per Bill	Total Cost Per Month	Existing Charge	Proposed Charge	Rounded Charge	Accounts	Revenues
5/8"	1	\$ 8.56	\$ 9.20	\$ 17.77	\$ 7.56	\$ 10.58	\$ 10.59	57,812	\$ 7,346,749
3/4"	1.1	\$ 9.42	\$ 9.20	\$ 18.62	\$ 8.05	\$ 11.27	\$ 11.27	11,326	\$ 1,531,728
1"	1.4	\$ 11.99	\$ 9.20	\$ 21.19	\$ 9.50	\$ 13.30	\$ 13.30	5,335	\$ 851,466
1.5"	1.8	\$ 15.41	\$ 9.20	\$ 24.62	\$ 11.43	\$ 16.00	\$ 16.01	1,547	\$ 297,210
2"	2.9	\$ 24.83	\$ 9.20	\$ 34.03	\$ 16.76	\$ 23.46	\$ 23.47	1,357	\$ 382,185
3"	11	\$ 94.19	\$ 9.20	\$ 103.39	\$ 56.01	\$ 78.41	\$ 78.42	73	\$ 68,696
4"	14	\$ 119.88	\$ 9.20	\$ 129.08	\$ 70.55	\$ 98.77	\$ 98.77	35	\$ 41,483
6"	21	\$ 179.82	\$ 9.20	\$ 189.02	\$ 104.47	\$ 146.26	\$ 146.26	57	\$ 100,042
8"	29	\$ 248.32	\$ 9.20	\$ 257.52	\$ 143.23	\$ 200.52	\$ 200.53	42	\$ 101,067
10"	36.25	\$ 310.40	\$ 9.20	\$ 319.60	\$ 178.36	\$ 249.70	\$ 249.71	4	\$ 11,986
12"	43.5	\$ 372.47	\$ 9.20	\$ 381.68	\$ 213.49	\$ 298.89	\$ 298.89	0	\$ -
Total Revenue Generated									77,588 \$ 10,732,613

### Costs Allocated to Customer Service

Meters & Services	\$ 9,074,253
Billing & Collection	\$ 8,568,108
LESS Shift to Retail Volume Charge	\$ (6,914,168)
Total Customer Service Costs	\$ 10,728,193

Variance Due to Rounding \$ 4,420

## Schedule HJS-20b: Development of Providence Retail Fire Protection Service Charge

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Meter Size	Meter Equivalency	Accounts	5/8" Equivalents	Fire Cost Per Month	Existing Charge	Proposed Charge	Rounded Charge	Revenues
5/8"	1	25,954	25,954	\$ 2.16	\$ 1.38	\$ 1.93	\$ 1.94	\$ 604,209
3/4"	1.5	4,580	6,870	\$ 3.24	\$ 2.07	\$ 2.90	\$ 2.90	\$ 159,384
1"	3.75	2,091	7,841	\$ 8.10	\$ 5.15	\$ 7.21	\$ 7.21	\$ 180,913
1.5"	10	902	9,020	\$ 21.59	\$ 13.74	\$ 19.24	\$ 19.24	\$ 208,254
2"	24	792	19,008	\$ 51.83	\$ 32.96	\$ 46.14	\$ 46.15	\$ 438,610
3"	65	55	3,575	\$ 140.36	\$ 89.26	\$ 124.96	\$ 124.97	\$ 82,480
4"	110	20	2,200	\$ 237.53	\$ 151.05	\$ 211.47	\$ 211.47	\$ 50,753
6"	225	28	6,300	\$ 485.86	\$ 308.97	\$ 432.56	\$ 432.56	\$ 145,340
8"	340	15	5,100	\$ 734.19	\$ 466.89	\$ 653.65	\$ 653.65	\$ 117,657
10"	520	2	1,040	\$ 1,122.88	\$ 714.07	\$ 999.70	\$ 999.70	\$ 23,993
12"	860	-	-	\$ 1,857.08	\$ 1,180.95	\$ 1,653.33	\$ 1,653.33	\$ -
<b>Total Revenue Generated</b>								<b>\$2,011,593</b>
<b>Total FPSC Costs</b>								<b>\$ 2,252,028</b>
<b>LESS Shift to Retail Volume Charge</b>								<b>\$ (243,143)</b>
<b>Adjusted FPSC Costs</b>								<b>\$ 2,008,886</b>
Variance Due to Rounding								<b>\$2,707</b>



## Schedule HJS-21a: Development of Private Fireline Charges

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Fire Connection Size	Accounts	Demand Factor	6" Eq. Factor	6" Eq. Conn.	5/8" Eq. Factor	M&S Cost Per Month	Cost Per Bill	Demand Cost Per Month	Total Cost Per Month	Existing Charge	Proposed Charge	Rounded Charge	Revenues
3/4"	2	0.5	0.004	0.01	1.10	\$9.42	\$ 9.20	\$ 0.09	\$ 18.71	\$ 8.64	\$ 10.37	\$ 10.37	\$ 249
1"	9	1.0	0.009	0.08	1.40	\$11.99	\$ 9.20	\$ 0.19	\$ 21.38	\$ 10.21	\$ 12.26	\$ 12.26	\$ 1,324
1-1/2"	2	2.9	0.026	0.05	1.80	\$15.41	\$ 9.20	\$ 0.54	\$ 25.16	\$ 12.57	\$ 15.09	\$ 15.09	\$ 362
2"	68	6.2	0.056	3.78	2.90	\$24.83	\$ 9.20	\$ 1.16	\$ 35.19	\$ 18.64	\$ 22.37	\$ 22.37	\$ 18,254
4"	391	38.3	0.344	134.60	14.00	\$119.88	\$ 9.20	\$ 7.17	\$ 136.25	\$ 79.67	\$ 95.61	\$ 95.61	\$ 448,602
6"	1,245	111.3	1.000	1,245.00	21.00	\$179.82	\$ 9.20	\$ 20.84	\$ 209.85	\$ 129.89	\$ 155.87	\$ 155.87	\$ 2,328,698
8"	256	237.2	2.131	545.54	29.00	\$248.32	\$ 9.20	\$ 44.40	\$ 301.92	\$ 196.73	\$ 236.08	\$ 236.08	\$ 725,238
10"	4	426.6	3.832	15.33	36.25	\$310.40	\$ 9.20	\$ 79.85	\$ 399.45	\$ 274.06	\$ 328.88	\$ 328.88	\$ 15,786
12"	18	689.0	6.190	111.42	43.50	\$372.47	\$ 9.20	\$ 128.98	\$ 510.66	\$ 367.64	\$ 441.17	\$ 441.17	\$ 95,293
16"	-	1,468.4	13.192	0.00	58.00	\$496.63	\$ 9.20	\$ 274.86	\$ 780.69	\$ 611.43	\$ 733.72	\$ 733.72	\$ -
	1,995			2,055.82									\$ 3,633,806

### Costs Allocated to Private Fire Service

Meters & Services	\$ 4,129,239
Billing & Collection	\$ 220,310
Demand Costs	\$ 514,017
Less Costs Recovered from Retail Volume Charge	\$ (1,229,759)
<b>Total Private Fire Protection Costs</b>	<b>\$ 3,633,806</b>

## **Schedule HJS-21b: Development of Hydrant Charges**

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Demand Costs (Hydrants Excluding Providence)	\$	829,598
Hydrants (Excluding Providence)		3,318
Annual Demand Costs per Hydrant	\$	250.03
Annual Direct Fire Cost per Hydrant	\$	446.76
Existing Annual Cost per Hydrant	\$	454.02
Total Annual Cost per Hydrant	\$	696.79
Proposed Annual Charge per Hydrant	\$	544.83
Rounded Annual Charge per Hydrant	\$	544.83
Hydrant Revenues	\$	1,807,746
<b>Costs Allocated to Hydrant Charge</b>		
Demand	\$	829,598
Direct Fire	\$	1,482,354
LESS Shift to Retail Volume Charge	\$	(504,206)
Total Public Fire Costs (Excluding Providence)	\$	1,807,746

## Schedule HJS-22: Proposed Rates

Providence Water Supply Board  
 Docket # \_\_\_\_\_  
 Request for General Rate Relief  
 Direct Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Description	Existing Rates			Proposed FY 2021			Proposed FY 2022			Proposed FY 2023		
	Units	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue
<b>Service Charges</b>												
5/8"	57,812	\$ 7.56	\$ 5,244,705	40.08%	\$ 10.59	\$ 7,346,749	7.26%	\$ 11.36	\$ 7,879,926	3.94%	\$ 11.81	\$ 8,190,784
3/4"	11,326	\$ 8.05	\$ 1,094,092	40.00%	\$ 11.27	\$ 1,531,728	7.26%	\$ 12.09	\$ 1,642,891	3.94%	\$ 12.56	\$ 1,707,702
1"	5,335	\$ 9.50	\$ 608,190	40.00%	\$ 13.30	\$ 851,466	7.26%	\$ 14.27	\$ 913,260	3.94%	\$ 14.83	\$ 949,287
1.5"	1,547	\$ 11.43	\$ 212,187	40.07%	\$ 16.01	\$ 297,210	7.26%	\$ 17.17	\$ 318,779	3.94%	\$ 17.85	\$ 331,355
2"	1,357	\$ 16.76	\$ 272,920	40.04%	\$ 23.47	\$ 382,185	7.26%	\$ 25.17	\$ 409,922	3.94%	\$ 26.17	\$ 426,093
3"	73	\$ 56.01	\$ 49,065	40.01%	\$ 78.42	\$ 68,696	7.26%	\$ 84.11	\$ 73,681	3.94%	\$ 87.43	\$ 76,588
4"	35	\$ 70.55	\$ 29,631	40.00%	\$ 98.77	\$ 41,483	7.26%	\$ 105.94	\$ 44,494	3.94%	\$ 110.12	\$ 46,249
6"	57	\$ 104.47	\$ 71,457	40.00%	\$ 146.26	\$ 100,042	7.26%	\$ 156.87	\$ 107,302	3.94%	\$ 163.06	\$ 111,535
8"	42	\$ 143.23	\$ 72,188	40.01%	\$ 200.53	\$ 101,067	7.26%	\$ 215.08	\$ 108,402	3.94%	\$ 223.57	\$ 112,678
10"	4	\$ 178.36	\$ 8,561	40.00%	\$ 249.71	\$ 11,986	7.26%	\$ 267.83	\$ 12,856	3.94%	\$ 278.40	\$ 13,363
12"	-	\$ 213.49	\$ -	40.00%	\$ 298.89	\$ -	7.26%	\$ 320.58	\$ -	3.94%	\$ 333.23	\$ -
Total Service Charge	77,588	\$ -	\$ 7,662,995	40.06%	\$ -	\$ 10,732,613	7.26%	\$ -	\$ 11,511,512	3.94%	\$ -	\$ 11,965,635
<b>Retail Fire Protection Service Charges (Providence Only)</b>												
5/8"	25,954	\$ 1.38	\$ 429,798	40.58%	\$ 1.94	\$ 604,209	7.26%	\$ 2.08	\$ 648,058	3.94%	\$ 2.16	\$ 673,624
3/4"	4,580	\$ 2.07	\$ 113,767	40.10%	\$ 2.90	\$ 159,384	7.26%	\$ 3.11	\$ 170,951	3.94%	\$ 3.23	\$ 177,695
1"	2,091	\$ 5.15	\$ 129,224	40.00%	\$ 7.21	\$ 180,913	7.26%	\$ 7.73	\$ 194,043	3.94%	\$ 8.04	\$ 201,698
1.5"	902	\$ 13.74	\$ 148,722	40.03%	\$ 19.24	\$ 208,254	7.26%	\$ 20.64	\$ 223,367	3.94%	\$ 21.45	\$ 232,179
2"	792	\$ 32.96	\$ 313,252	40.02%	\$ 46.15	\$ 438,610	7.26%	\$ 49.50	\$ 470,441	3.94%	\$ 51.45	\$ 489,000
3"	55	\$ 89.26	\$ 58,912	40.01%	\$ 124.97	\$ 82,480	7.26%	\$ 134.04	\$ 88,466	3.94%	\$ 139.33	\$ 91,956
4"	20	\$ 151.05	\$ 36,252	40.00%	\$ 211.47	\$ 50,753	7.26%	\$ 226.82	\$ 54,436	3.94%	\$ 235.76	\$ 56,584
6"	28	\$ 308.97	\$ 103,814	40.00%	\$ 432.56	\$ 145,340	7.26%	\$ 463.95	\$ 155,888	3.94%	\$ 482.25	\$ 162,038
8"	15	\$ 466.89	\$ 84,040	40.00%	\$ 653.65	\$ 117,657	7.26%	\$ 701.09	\$ 126,196	3.94%	\$ 728.74	\$ 131,174
10"	2	\$ 714.07	\$ 17,138	40.00%	\$ 999.70	\$ 23,993	7.26%	\$ 1,072.25	\$ 25,734	3.94%	\$ 1,114.55	\$ 26,749
12"	-	\$ 1,180.95	\$ -	40.00%	\$ 1,653.33	\$ -	7.26%	\$ 1,773.32	\$ -	3.94%	\$ 1,843.27	\$ -
Total Retail FPSC (Providence Only)	34,439	\$ -	\$ 1,434,918	40.19%	\$ -	\$ 2,011,593	7.26%	\$ -	\$ 2,157,580	3.94%	\$ -	\$ 2,242,696
Total Retail Service Charge Revenue		\$ -	\$ 9,097,913	40.08%	\$ -	\$ 12,744,205	7.26%	\$ -	\$ 13,669,093	3.94%	\$ -	\$ 14,208,330

Description	Existing Rates			Proposed FY 2021			Proposed FY 2022			Proposed FY 2023		
	Units	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue
<b>Retail Consumption Charges</b>												
Residential	8,396,176	\$ 3.403	\$ 28,572,187	9.37%	\$ 3.722	\$ 31,250,567	7.26%	\$ 3.992	\$ 33,518,520	3.94%	\$ 4.150	\$ 34,840,805
Commercial	4,041,665	\$ 3.223	\$ 13,026,286	21.81%	\$ 3.926	\$ 15,867,577	7.26%	\$ 4.211	\$ 17,019,137	3.94%	\$ 4.377	\$ 17,690,532
Industrial	187,186	\$ 3.169	\$ 593,192	11.11%	\$ 3.521	\$ 659,082	7.26%	\$ 3.777	\$ 706,914	3.94%	\$ 3.926	\$ 734,801
Total Retail Consumption Charge	12,625,027	\$ -	\$ 42,191,666	13.24%	\$ -	\$ 47,777,226	7.26%	\$ -	\$ 51,244,570	3.94%	\$ -	\$ 53,266,138
East Smithfield Debt Surcharge	235,576	\$ 0.35	\$ 82,451	0.00%	\$ 0.350	\$ 82,451	0.00%	\$ 0.350	\$ 82,451	0.00%	\$ 0.350	\$ 82,451
Total Retail Volume Charge Revenue		\$ -	\$ 42,274,117	13.21%	\$ -	\$ 47,859,677	7.24%	\$ -	\$ 51,327,022	3.94%	\$ -	\$ 53,348,590
<b>Total Retail Revenue</b>		\$ -	\$ 51,372,030	17.97%	\$ -	\$ 60,603,883	7.25%	\$ -	\$ 64,996,115	3.94%	\$ -	\$ 67,556,920



## Schedule HJS-22: Proposed Rates

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Description	Existing Rates			Proposed FY 2021			Proposed FY 2022			Proposed FY 2023		
	Units	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue
<b>Wholesale Charges</b>												
Bristol County	1,494,845	\$ 1.350858	\$ 2,019,323	20.67%	\$ 1.630059	\$ 2,436,685	7.26%	\$ 1.748358	\$ 2,613,523	3.94%	\$ 1.817329	\$ 2,716,625
East Providence	1,822,773	\$ 1.350858	\$ 2,462,307	20.67%	\$ 1.630059	\$ 2,971,227	7.26%	\$ 1.748358	\$ 3,186,858	3.94%	\$ 1.817329	\$ 3,312,578
Greenville	421,521	\$ 1.350858	\$ 569,415	20.67%	\$ 1.630059	\$ 687,105	7.26%	\$ 1.748358	\$ 736,970	3.94%	\$ 1.817329	\$ 766,043
Kent County	2,727,147	\$ 1.350858	\$ 3,683,989	20.67%	\$ 1.630059	\$ 4,445,411	7.26%	\$ 1.748358	\$ 4,768,029	3.94%	\$ 1.817329	\$ 4,956,125
Lincoln	1,038,229	\$ 1.350858	\$ 1,402,499	20.67%	\$ 1.630059	\$ 1,692,374	7.26%	\$ 1.748358	\$ 1,815,195	3.94%	\$ 1.817329	\$ 1,886,803
Smithfield	391,600	\$ 1.350858	\$ 528,996	20.67%	\$ 1.630059	\$ 638,332	7.26%	\$ 1.748358	\$ 684,657	3.94%	\$ 1.817329	\$ 711,667
Warwick	3,466,644	\$ 1.350858	\$ 4,682,944	20.67%	\$ 1.630059	\$ 5,650,835	7.26%	\$ 1.748358	\$ 6,060,934	3.94%	\$ 1.817329	\$ 6,300,034
<b>Total Wholesale Revenue</b>	<b>11,362,760</b>		<b>15,349,475</b>	<b>20.67%</b>		<b>18,521,968</b>	<b>7.26%</b>		<b>19,866,166</b>	<b>3.94%</b>		<b>20,649,875</b>
Wholesale (per million gallons)	8,499	\$ 1,805.96	\$ 15,349,475	20.67%	\$ 2,179.22	\$ 18,521,968	7.26%	\$ 2,337.38	\$ 19,866,166	3.94%	\$ 2,429.58	\$ 20,649,875

Description	Existing Rates			Proposed FY 2021			Proposed FY 2022			Proposed FY 2023		
	Units	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue	% Change	Rates	Revenue
<b>Private Fire Service Charges</b>												
3/4"	2	\$ 8.64	\$ 207	20.02%	\$ 10.37	\$ 249	7.26%	\$ 11.12	\$ 267	3.94%	\$ 11.56	\$ 277
1"	9	\$ 10.21	\$ 1,103	20.08%	\$ 12.26	\$ 1,324	7.26%	\$ 13.15	\$ 1,420	3.94%	\$ 13.67	\$ 1,476
1-1/2"	2	\$ 12.57	\$ 302	20.05%	\$ 15.09	\$ 362	7.26%	\$ 16.19	\$ 388	3.94%	\$ 16.82	\$ 404
2"	68	\$ 18.64	\$ 15,210	20.01%	\$ 22.37	\$ 18,254	7.26%	\$ 23.99	\$ 19,579	3.94%	\$ 24.94	\$ 20,351
4"	391	\$ 79.67	\$ 373,812	20.01%	\$ 95.61	\$ 448,602	7.26%	\$ 102.55	\$ 481,159	3.94%	\$ 106.59	\$ 500,140
6"	1,245	\$ 129.89	\$ 1,940,557	20.00%	\$ 155.87	\$ 2,328,698	7.26%	\$ 167.18	\$ 2,497,699	3.94%	\$ 173.78	\$ 2,596,232
8"	256	\$ 196.73	\$ 604,355	20.00%	\$ 236.08	\$ 725,238	7.26%	\$ 253.21	\$ 777,871	3.94%	\$ 263.20	\$ 808,557
10"	4	\$ 274.06	\$ 13,155	20.00%	\$ 328.88	\$ 15,786	7.26%	\$ 352.75	\$ 16,932	3.94%	\$ 366.66	\$ 17,600
12"	18	\$ 367.64	\$ 79,410	20.00%	\$ 441.17	\$ 95,293	7.26%	\$ 473.19	\$ 102,208	3.94%	\$ 491.85	\$ 106,240
16"	-	\$ 611.43	\$ -	20.00%	\$ 733.72	\$ -	7.26%	\$ 786.97	\$ -	3.94%	\$ 818.01	\$ -
Total		\$ 3,028,110	\$ 3,028,110	20.00%	\$ 3,633,806	\$ 3,633,806	7.26%	\$ 3,897,522	\$ 3,897,522	3.94%	\$ 4,051,277	\$ 4,051,277
Hydrants (Excluding Providence)	3,318	\$ 454.02	\$ 1,506,438	20.00%	\$ 544.83	\$ 1,807,746	7.26%	\$ 584.37	\$ 1,938,940	3.94%	\$ 607.42	\$ 2,015,430
<b>Total Fire Protection Charge Revenue</b>			<b>\$4,534,548.24</b>			<b>\$5,441,551.62</b>			<b>\$5,836,462.26</b>			<b>\$6,066,707.22</b>

<b>Total Rate Revenues</b>		\$ 71,256,053	\$ 84,567,403		\$ 90,698,743	\$ 94,273,502
Miscellaneous Revenues		\$ 1,364,746	\$ 1,364,746		\$ 1,364,746	\$ 1,364,746
<b>Total Revenues</b>		\$ 72,620,799	\$ 85,932,149	18.33%	\$ 92,063,489	\$ 95,638,248
				7.14%		3.88%

## Schedule HJS-23: Comparison of Revenues by Customer Class

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

	FY 2021			FY 2022			FY 2023		
	Existing Rates	Proposed Rates	% Change	Existing Rates	Proposed Rates	% Change	Existing Rates	Proposed Rates	% Change
<b>Retail</b>									
Monthly Service Charge	\$ 7,662,995	\$ 10,732,613	40.1%	\$ 10,732,613	\$ 11,511,512	7.3%	\$ 11,511,512	\$ 11,965,635	3.9%
East Smithfield Debt Surcharge	\$ 82,451	\$ 82,451	0.0%	\$ 82,451	\$ 82,451	0.0%	\$ 82,451	\$ 82,451	0.0%
Periodic FPSC	\$ 1,434,918	\$ 2,011,593	40.2%	\$ 2,011,593	\$ 2,157,580	7.3%	\$ 2,157,580	\$ 2,242,696	3.9%
Volume Charge									
Residential	\$ 28,572,187	\$ 31,250,567	9.4%	\$ 31,250,567	\$ 33,518,520	7.3%	\$ 33,518,520	\$ 34,840,805	3.9%
Commercial	\$ 13,026,286	\$ 15,867,577	21.8%	\$ 15,867,577	\$ 17,019,137	7.3%	\$ 17,019,137	\$ 17,690,532	3.9%
Industrial	\$ 593,192	\$ 659,082	11.1%	\$ 659,082	\$ 706,914	7.3%	\$ 706,914	\$ 734,801	3.9%
<b>Total Retail</b>	<b>\$ 51,372,030</b>	<b>\$ 60,603,883</b>	<b>18.0%</b>	<b>\$ 60,603,883</b>	<b>\$ 64,996,115</b>	<b>7.2%</b>	<b>\$ 64,996,115</b>	<b>\$ 67,556,920</b>	<b>3.9%</b>
<b>Wholesale</b>									
Bristol County	\$ 2,019,323	\$ 2,436,685	20.7%	\$ 2,436,685	\$ 2,613,523	7.3%	\$ 2,613,523	\$ 2,716,625	3.9%
East Providence	\$ 2,462,307	\$ 2,971,227	20.7%	\$ 2,971,227	\$ 3,186,858	7.3%	\$ 3,186,858	\$ 3,312,578	3.9%
Greenville	\$ 569,415	\$ 687,105	20.7%	\$ 687,105	\$ 736,970	7.3%	\$ 736,970	\$ 766,043	3.9%
Kent County	\$ 3,683,989	\$ 4,445,411	20.7%	\$ 4,445,411	\$ 4,768,029	7.3%	\$ 4,768,029	\$ 4,956,125	3.9%
Lincoln	\$ 1,402,499	\$ 1,692,374	20.7%	\$ 1,692,374	\$ 1,815,195	7.3%	\$ 1,815,195	\$ 1,886,803	3.9%
Smithfield	\$ 528,996	\$ 638,332	20.7%	\$ 638,332	\$ 684,657	7.3%	\$ 684,657	\$ 711,667	3.9%
Warwick	\$ 4,682,944	\$ 5,650,835	20.7%	\$ 5,650,835	\$ 6,060,934	7.3%	\$ 6,060,934	\$ 6,300,034	3.9%
<b>Total Wholesale</b>	<b>\$ 15,349,475</b>	<b>\$ 18,521,968</b>	<b>20.7%</b>	<b>\$ 18,521,968</b>	<b>\$ 19,866,166</b>	<b>7.3%</b>	<b>\$ 19,866,166</b>	<b>\$ 20,649,875</b>	<b>3.9%</b>
<b>Fire Protection</b>									
Private Fire Protection	\$ 3,028,110	\$ 3,633,806	20.0%	\$ 3,633,806	\$ 3,897,522	7.3%	\$ 3,897,522	\$ 4,051,277	3.9%
Public Fire Protection	\$ 1,506,438	\$ 1,807,746	20.0%	\$ 1,807,746	\$ 1,938,940	7.3%	\$ 1,938,940	\$ 2,015,430	3.9%
<b>Total Fire Protection</b>	<b>\$ 4,534,548</b>	<b>\$ 5,441,552</b>	<b>20.0%</b>	<b>\$ 5,441,552</b>	<b>\$ 5,836,462</b>	<b>7.3%</b>	<b>\$ 5,836,462</b>	<b>\$ 6,066,707</b>	<b>3.9%</b>
<b>Total Rate Revenues</b>	<b>\$ 71,256,053</b>	<b>\$ 84,567,403</b>	<b>18.7%</b>	<b>\$ 84,567,403</b>	<b>\$ 90,698,743</b>	<b>7.3%</b>	<b>\$ 90,698,743</b>	<b>\$ 94,273,502</b>	<b>3.9%</b>
Miscellaneous Revenues	\$ 1,364,746	\$ 1,364,746		\$ 1,364,746	\$ 1,364,746		\$ 1,364,746	\$ 1,364,746	
<b>Total Revenues</b>	<b>\$ 72,620,799</b>	<b>\$ 85,932,149</b>	<b>18.3%</b>	<b>\$ 85,932,149</b>	<b>\$ 92,063,489</b>	<b>7.1%</b>	<b>\$ 92,063,489</b>	<b>\$ 95,638,248</b>	<b>3.9%</b>

## Schedule HJS-24: Revenue Proof

Providence Water Supply Board  
Docket # \_\_\_\_\_  
Request for General Rate Relief  
Direct Testimony of Harold J. Smith  
Test Year Ending June 30, 2019  
Rate Years Ending June 30, 2021 through 2023

	FY 2021	FY 2022	FY 2023
Net Operations & Maintenance Expense	\$ 40,744,029	\$ 41,699,091	\$ 42,885,865
Capital Expense	\$ 34,317,000	\$ 39,067,000	\$ 41,067,000
City Services Expense	\$ 1,490,693	\$ 1,490,693	\$ 1,490,693
Property Taxes Expense	\$ 7,629,145	\$ 7,934,311	\$ 8,251,684
<b>Total Expenses Allocated</b>	<b>\$ 84,180,867</b>	<b>\$ 90,191,096</b>	<b>\$ 93,695,242</b>
plus: Net Operating Revenue	\$ 1,656,322	\$ 1,776,527	\$ 1,846,610
<b>Net Revenue Requirement</b>	<b>\$ 85,837,190</b>	<b>\$ 91,967,623</b>	<b>\$ 95,541,852</b>
<b>Retail</b>			
Monthly Service Charge	\$ 10,732,613	\$ 11,511,512	\$ 11,965,635
East Smithfield Debt Surcharge	\$ 82,451	\$ 82,451	\$ 82,451
Retail FPSC	\$ 2,011,593	\$ 2,157,580	\$ 2,242,696
Volume Charge			
Residential	\$ 31,250,567	\$ 33,518,520	\$ 34,840,805
Commercial	\$ 15,867,577	\$ 17,019,137	\$ 17,690,532
Industrial	\$ 659,082	\$ 706,914	\$ 734,801
<b>Total Retail</b>	<b>\$ 60,603,883</b>	<b>\$ 64,996,115</b>	<b>\$ 67,556,920</b>
<b>Wholesale</b>			
Bristol County	\$ 2,436,685	\$ 2,613,523	\$ 2,716,625
East Providence	\$ 2,971,227	\$ 3,186,858	\$ 3,312,578
Greenville	\$ 687,105	\$ 736,970	\$ 766,043
Kent County	\$ 4,445,411	\$ 4,768,029	\$ 4,956,125
Lincoln	\$ 1,692,374	\$ 1,815,195	\$ 1,886,803
Smithfield	\$ 638,332	\$ 684,657	\$ 711,667
Warwick	\$ 5,650,835	\$ 6,060,934	\$ 6,300,034
<b>Total Wholesale</b>	<b>\$ 18,521,968</b>	<b>\$ 19,866,166</b>	<b>\$ 20,649,875</b>
<b>Fire Protection</b>			
Private Fire Protection	\$ 3,633,806	\$ 3,897,522	\$ 4,051,277
Public Fire Protection	\$ 1,807,746	\$ 1,938,940	\$ 2,015,430
<b>Total Fire Protection</b>	<b>\$ 5,441,552</b>	<b>\$ 5,836,462</b>	<b>\$ 6,066,707</b>
<b>Total Rate Revenues</b>	<b>\$ 84,567,403</b>	<b>\$ 90,698,743</b>	<b>\$ 94,273,502</b>
Miscellaneous Revenues	\$ 1,364,746	\$ 1,364,746	\$ 1,364,746
<b>Total Revenues</b>	<b>\$ 85,932,149</b>	<b>\$ 92,063,489</b>	<b>\$ 95,638,248</b>
<b>Variance Due to Rounding</b>	<b>\$ 12,507</b>	<b>\$ 13,415</b>	<b>\$ 13,944</b>



## Schedule HJS-25: Comparison of Typical Bill Impacts

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

	FY 2021			FY 2022			FY 2023		
	Existing	Proposed	% Change	Existing	Proposed	% Change	Existing	Proposed	Change
<b>Residential - (5/8" Meter, 100 HCF)</b>									
Service Charge	\$ 90.72	\$ 127.08	40.1%	\$ 127.08	\$ 136.30	7.3%	\$ 136.30	\$ 141.68	3.9%
Volume Charge	\$ 340.30	\$ 372.20	9.4%	\$ 372.20	\$ 399.21	7.3%	\$ 399.21	\$ 414.96	3.9%
<b>Total</b>	<b>\$ 431.02</b>	<b>\$ 499.28</b>	<b>15.8%</b>	<b>\$ 499.28</b>	<b>\$ 535.51</b>	<b>7.3%</b>	<b>\$ 535.51</b>	<b>\$ 556.64</b>	<b>3.9%</b>
<b>Commercial - (2" Meter, 2,000 HCF)</b>									
Service Charge	\$ 201.12	\$ 281.64	40.0%	\$ 281.64	\$ 302.08	7.3%	\$ 302.08	\$ 314.00	3.9%
Volume Charge	\$ 6,446.00	7,852.00	21.8%	7,852.00	8,421.84	7.3%	8,421.84	8,754.08	3.9%
<b>Total</b>	<b>\$ 6,647.12</b>	<b>\$ 8,133.64</b>	<b>22.4%</b>	<b>\$ 8,133.64</b>	<b>\$ 8,723.92</b>	<b>7.3%</b>	<b>\$ 8,723.92</b>	<b>\$ 9,068.08</b>	<b>3.9%</b>
<b>Industrial - (6" Meter, 10,000 HCF)</b>									
Service Charge	\$ 1,253.64	\$ 1,755.12	40.0%	\$ 1,755.12	\$ 1,882.49	7.3%	\$ 1,882.49	\$ 1,956.76	3.9%
Volume Charge	\$ 31,690.00	\$ 35,210.00	11.1%	\$ 35,210.00	\$ 37,765.30	7.3%	\$ 37,765.30	\$ 39,255.12	3.9%
<b>Total</b>	<b>\$ 32,943.64</b>	<b>\$ 36,965.12</b>	<b>12.2%</b>	<b>\$ 36,965.12</b>	<b>\$ 39,647.80</b>	<b>7.3%</b>	<b>\$ 39,647.80</b>	<b>\$ 41,211.88</b>	<b>3.9%</b>

## Schedule HJS-CS1: Allocation Factors

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Allocation Method	Total	Providence Water	Allocation Percentage
Percentage of Providence Water Actual to City Actual	\$ 566,934,804	\$ 56,077,267	9.89%
Percentage of Providence Water Checks to City Checks	397,966	51,978	13.06%
Percentage of Providence Water Emps to City Emps	3,089	236	7.64%
Percentage of Providence Water Retirees to City Retirees	3,244	160	4.93%
Percentage of Providence Water Active and Retirees to City Active and Retirees	6,333	396	6.25%
Percentage of Board of Contract and Supply Work	1,646	195	11.85%
Percentage of City Clerk work related to PWSB	2,563	170	6.63%
Percentage of Transfers and Recs	357	47	13.17%
Percentage of Council Agenda items related to PWSB	932	75	8.05%
Percentage of Legal work related to Providence Water			1.00%

## Schedule HJS-CS2: Controller and City Clerk

Providence Water Supply Board

Docket # \_\_\_\_\_

Request for General Rate Relief

Direct Testimony of Harold J. Smith

Test Year Ending June 30, 2019

Rate Years Ending June 30, 2021 through 2023

Department	Budget	Allocated Budget	Allocation Percentage
Controller's Office (Total)	\$ 1,347,047		
Controller's Office: Accounts Payable		\$ 449,016	33.33%
Controller's Office: Payroll		\$ 449,016	33.33%
Controller's Office: Fiscal		\$ 449,016	33.33%
City Clerk	\$ 1,287,905	\$1,094,719	85.00%



## Schedule HJS-CS3: City Services Expense Reimbursement

Providence Water Supply Board  
 Docket # \_\_\_\_\_  
 Request for General Rate Relief  
 Direct Testimony of Harold J. Smith  
 Test Year Ending June 30, 2019  
 Rate Years Ending June 30, 2021 through 2023

Description	Allocation Method	Allocation Percentage	City Expense	Providence Water Expense
<i>Mayor's Office</i>	Percentage of Providence Water Emps to City Emps	7.64%	\$ 3,538,778	\$ 270,363
<i>City Council</i>	Percentage of Council Agenda items related to PWSB	8.05%	\$ 789,557	\$ 63,537
<i>City Council Administration</i>	Percentage of Council Agenda items related to PWSB	8.05%	\$ 1,395,571	\$ 112,305
<i>City Clerk</i>	Percentage of City Clerk work related to PWSB	6.63%	\$ 1,094,719	\$ 72,611
<i>Law Department</i>	Percentage of Legal work related to Providence Water	1.00%	\$ 6,308,412	\$ 63,084
<i>Finance Department</i>	Percentage of Providence Water Actual to City Actual	9.89%	\$ 956,234	\$ 94,584
<i>Controller's Office: Accounts Payable</i>	Percentage of Providence Water Checks to City Checks	13.06%	\$ 449,016	\$ 58,646
<i>Controller's Office: Payroll</i>	Percentage of Providence Water Emps to City Emps	7.64%	\$ 449,016	\$ 34,305
<i>Controller's Office: Fiscal</i>	Percentage of Transfers and Reos	13.17%	\$ 449,016	\$ 59,114
<i>Retirement Department</i>	Percentage of Providence Water Active and Retirees to City Active and Retirees	6.25%	\$ 501,485	\$ 31,358
<i>Treasurer's Office</i>	Percentage of Providence Water Checks to City Checks	13.06%	\$ 719,585	\$ 93,984
<i>Purchasing Department</i>	Percentage of Board of Contract and Supply Work	11.85%	\$ 149,681	\$ 17,733
<i>Personnel Department</i>	Percentage of Providence Water Active and Retirees to City Active and Retirees	6.25%	\$ 2,208,848	\$ 138,118
<i>Data Processing Department/IT</i>	Percentage of Providence Water Emps to City Emps	7.64%	\$ 3,972,270	\$ 303,482
<i>Stop Loss Insurance Annual Premium</i>	Percentage of Providence Water Emps to City Emps	7.64%	\$ 789,000	\$ 60,280
<i>Mercer Annual Consulting Fee</i>	Percentage of Providence Water Emps to City Emps	7.64%	\$ 225,000	\$ 17,190
			<b>\$ 23,996,187</b>	<b>\$ 1,490,693</b>