

**WATER RESOURCES INC.  
DOCKET NO. W-1034, SUB 8**

**TESTIMONY OF JUNE CHIU  
ON BEHALF OF THE PUBLIC STAFF  
NORTH CAROLINA UTILITIES COMMISSION**

**August 29, 2018**

1 **Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND**  
2 **PRESENT POSITION.**

3 A. My name is June Chiu and my business address is 430 N. Salisbury  
4 Street, Raleigh, North Carolina. I am a Staff Accountant with the  
5 Accounting Division of the Public Staff – North Carolina Utilities  
6 Commission, and represent the using and consuming public.

7 **Q. HOW LONG HAVE YOU BEEN EMPLOYED BY THE PUBLIC**  
8 **STAFF?**

9 A. I have been employed by the Public Staff since October 17, 2017.

10 **Q. WILL YOU STATE BRIEFLY YOUR EDUCATION AND**  
11 **EXPERIENCE?**

12 A. I am a graduate of Drake University with a Masters of Business  
13 Administration degree. Prior to joining the Public Staff, I worked for  
14 the Iowa state government and Fortune 500 companies including  
15 Novo Nordisk and Rieter Textile. My duties there varied from  
16 performing audit engagement to supervision of the accounting and  
17 internal controls and preparing SEC filings.

1 Q. WHAT ARE YOUR DUTIES?

2 A. I am responsible for analyzing testimony, exhibits, and other data  
3 presented by parties before this Commission. I have the further  
4 responsibility of performing the examinations of books and records  
5 of utilities involved in proceedings before the Commission, and  
6 summarizing the results into testimony and exhibits for presentation  
7 to the Commission.

8 Q. MRS. CHIU, WHAT IS THE NATURE OF THE APPLICATION IN  
9 THIS PROCEEDING?

10 A. On April 18, 2018, Water Resources, Inc. (Water Resources or  
11 Company) filed an application with the Commission to increase its  
12 rates for providing water utility service in its Rocky River and River  
13 Walk services areas in Cabarrus and Mecklenburg Counties, North  
14 Carolina. My investigation included a review of the application filed  
15 by Water Resources, an examination of the Company's books and  
16 records for the test year, and a review of additional documentation  
17 provided by the Company in response to written data requests.

18 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS  
19 PROCEEDING?

20 A. The purpose of my testimony in this proceeding is to present the  
21 results of my investigation of the levels of revenue, expenses, and  
22 investment filed by Water Resources in support of its requested  
23 increase in operating revenues for water operations.

1 Q. WOULD YOU BRIEFLY DESCRIBE THE PRESENTATION OF  
2 YOUR TESTIMONY AND EXHIBITS?

3 A. Yes. My testimony contains a discussion of each issue resulting from  
4 my investigation, and my exhibit consists of schedules showing the  
5 calculation of my adjustments to revenues, expenses, and rate base.  
6 My schedules also reflect adjustments recommended by other Public  
7 Staff witnesses. Schedules 1(a) and 1(b) of my Exhibit I present the  
8 margin on operating revenue deductions requiring a return under  
9 present rates, Company proposed rates, and Public Staff  
10 recommended rates. Schedules 2(a) and 2(b) of my Exhibit I, along  
11 with their supporting schedules, present the original cost rate base  
12 for water operation. Schedules 3(a) and 3(b) of Exhibit I, along with  
13 their supporting schedules, present the calculation of net operating  
14 income for a return under present rates, Company proposed rates,  
15 and Public Staff recommended rates. Schedules 4(a) and 4(b) of  
16 Exhibit I present the Public Staff calculation of operating ratios.

17 Q. WHAT CONCLUSIONS HAVE YOU REACHED AS TO THE  
18 COMPANY'S RATE INCREASE REQUEST FOR ROCKY RIVER  
19 WATER OPERATIONS?

20 A. Based on my investigation, Rocky River's original cost rate base at  
21 December 31, 2017 is \$(1,176). The level of operating revenue  
22 deductions requiring a return (total operating expenses excluding  
23 regulatory fee and income taxes) is \$55,981. As allowed under N.C.

1 Gen. Stat. § 62-133.1, I have used the operating ratio method to  
2 evaluate the Company's proposed revenue requirement.

3 Based on the results of my investigation, I have concluded that the  
4 revenues generated by the Company's proposed water rates are not  
5 unreasonable and would not be unfair to its customers. Therefore, I  
6 recommend that the revenue requirement as proposed by the  
7 Company for water utility service in Rocky River be granted.

8 **Q. WHAT CONCLUSIONS HAVE YOU REACHED AS TO THE**  
9 **COMPANY'S RATE INCREASE REQUEST FOR RIVER WALK**  
10 **WATER OPERATIONS?**

11 A. Based on my investigation, River Walk's original cost rate base at  
12 December 31, 2017 is \$21,851. The level of operating revenue  
13 deductions requiring a return (total operating expenses excluding  
14 regulatory fee and income taxes) is \$29,646. As allowed under N.C.  
15 Gen. Stat. § 62-133.1, I have used the operating ratio method to  
16 evaluate the Company's proposed revenue requirement.

17 I have calculated a decrease in the gross revenue requirement using  
18 the overall rate of return of 7.5%, the reasonable rate recommended  
19 by Public Staff Financial Analyst Hinton. Use of this return on  
20 operating revenue deductions produces a decrease in the gross  
21 water revenue requirement of \$773. The resulting total revenue  
22 requirement will be \$32,593, of which \$32,696 is service revenues.

1 Therefore the Public Staff recommends that water service rates be  
2 set to reflect a \$773 decrease, resulting in an annual level of service  
3 revenues of \$32,696.

4 **Q. DOES CHIU EXHIBIT I REFLECT ADJUSTMENTS SUPPORTED**  
5 **BY OTHER PUBLIC STAFF WITNESSES?**

6 A. My exhibit reflects the following adjustments supported by other  
7 Public Staff witnesses:

8 1. The recommendation of Public Staff Financial Analyst Hinton  
9 regarding the margin on operating revenue deductions.

10 2. The recommendation made by Public Staff witness Furr for  
11 the following items:

- 12 (a) Service revenues at present rates
- 13 (b) Service revenues at Company proposed rates
- 14 (c) Maintenance and repairs
- 15 (e) Transportation
- 16 (f) Electric power
- 17 (g) Chemicals
- 18 (h) Testing
- 19 (i) Permit fees
- 20 (j) Purchased water treatment
- 21 (k) Property taxes
- 22 (l) Depreciation life
- 23 (m) Customers

24 **Q. WHAT ADJUSTMENTS WILL YOU DISCUSS?**

25 A. The Company provided consolidated financial information for the  
26 Rocky River and River Walk systems on its application. In response  
27 to a Public Staff data request, Water Resources provided the amount

1 of each revenue and expense item that should be directly assigned  
2 and/or allocated to Rocky River and River Walk. I agree with the  
3 amount of revenue and expense items that should be directly  
4 assigned to each system. The remaining indirect revenue and  
5 expenses I allocated between the two systems based on the  
6 percentage of customer provided by Public Staff witness Furr. My  
7 adjustment to allocate the consolidated revenues and expenses are  
8 reflected on Schedule 3-1 of Exhibit I.

9 In addition, the accounting and ratemaking adjustments that I will  
10 discuss relate to the following items:

- 11 (a) Plant in service
- 12 (b) Accumulated depreciation
- 13 (c) Contributions in aid of construction
- 14 (d) Cash working capital
- 15 (e) Average tax accruals
- 16 (f) Other revenue
- 17 (g) Bad debt expense
- 18 (h) Administrative and office expense
- 19 (i) Rate case expense
- 20 (j) Interest expense
- 21 (k) Depreciation expense
- 22 (l) Regulatory fee
- 23 (m) State income tax
- 24 (n) Federal income tax

25 **PLANT IN SERVICE**

26 **Q. IN WHAT AREAS HAVE YOU MADE ADJUSTMENTS TO PLANT**  
27 **IN SERVICE?**

28 A. My review of plant in service for Rocky River began with the amount  
29 listed on the application filed with the Commission. The total amount

1 for plant in service did not tie-in to the amount that was approved by  
2 the Commission in the last rate case, Docket No. W-1034, Sub 4  
3 (Sub 4), which had a test year ending December 31, 2001.  
4 Therefore, I calculated an amount for plant in service beginning with  
5 the amount approved by the Commission in Sub 4. To this amount,  
6 I capitalized \$2,509 for a well pump motor based on the  
7 recommendation of Public Staff witness Furr.

8 My calculation of plant in service for River Walk began with the  
9 amount approved by the Commission in the franchise proceeding,  
10 Docket No. W-1034, Sub 6 (Sub 6), which had a test year ending  
11 December 31, 2010. The Company stated in response to a Public  
12 Staff data request that there have not been any additions to plant in  
13 service since the Sub 6 proceeding. Therefore, plant in service for  
14 River Walk reflects the amount approved in the initial franchise  
15 proceeding.

16 **ACCUMULATED DEPRECIATION**

17 **Q. HOW HAVE YOU ADJUSTED ACCUMULATED DEPRECIATION?**

18 A. I have calculated accumulated depreciation based on my adjusted  
19 levels of plant in service and the service lives approved in Sub 4 for  
20 Rocky River and Sub 6 for River Walk. Accumulated depreciation  
21 also reflect the service lives recommended by Public Staff  
22 witness Furr.

1 Accumulated depreciation was also calculated based on the year  
2 each plant asset was placed in service, using the half-year  
3 convention in the first year of an asset's depreciable life.

4 **CONTRIBUTIONS IN AID OF CONSTRUCTION (CIAC)**

5 **Q. HOW HAVE YOU CALCULATED CIAC?**

6 A. I began my calculation of CIAC with the amount ordered by the  
7 Commission in the Sub 4 rate case for Rocky River, and Public Staff  
8 work papers used to establish CIAC in that proceeding. The Company  
9 has not collected any CIAC since that proceeding. Therefore, I  
10 updated CIAC to reflect the amount approved in Sub 4.

11 **CASH WORKING CAPITAL**

12 **Q. PLEASE DESCRIBE YOUR CALCULATION OF CASH WORKING**  
13 **CAPITAL.**

14 A. Cash working capital provides the Company with the funds  
15 necessary to carry on the day to day operations of the Company. In  
16 my calculation, I have included 1/8 of total O&M expenses, as a  
17 measure of cash working capital.

18 **AVERAGE TAX ACCRUAL**

19 **Q. HOW DID YOU CALCULATE AVERAGE TAX ACCRUAL?**

20 A. Average tax accruals, calculated as 1/5 of payroll tax plus 1/2 of  
21 property taxes, is a tax which the Company collects in rates but does  
22 not pay to the government agency every month. Since the Company

1 has the use of this money until it is paid to the government agency,  
2 this tax accrual should be deducted from rate base.

3 **OTHER REVENUES**

4 **Q. PLEASE EXPLAIN YOUR ADJUSTMENT TO OTHER REVENUES.**

5 A. Water Resources included \$26,741 of antenna lease revenue in  
6 other revenues. Based on the recommendation of Public Staff  
7 witness Furr, I removed the antenna lease revenues from other  
8 revenues.

9 **BAD DEBT EXPENSE**

10 **Q. PLEASE EXPLAIN YOUR ADJUSTMENT TO BAD DEBT**  
11 **EXPENSE.**

12 A. The adjustment to bad debt expense includes the reclassification of  
13 \$5,045 from administrative and office expenses. I amortized this  
14 amount over a five year period to yield an annualized level of bad  
15 debt to include in this proceeding. I allocated bad debt expense  
16 between the two systems based on the percentage of customer  
17 count provided by Public Staff witness Furr.

18 **ADMINISTRATIVE AND OFFICE EXPENSE**

19 **Q. PLEASE EXPLAIN YOUR ADJUSTMENT TO ADMINISTRATIVE**  
20 **AND OFFICE EXPENSE.**

21 A. As discussed above, I reclassified \$5,045 of bad debt expense as a  
22 component of total operating revenues.

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RATE CASE EXPENSE

**Q. PLEASE EXPLAIN YOUR ADJUSTMENT TO RATE CASE EXPENSE.**

A. The Company did not include an amount for rate case expense on its application. Therefore, I calculated an amount for rate case expense to include the cost to mail notices to customers and the filing fee. I allocated it between the two systems – Rocky River and River Walk based on the percentage of customer count provided by the Public Staff witness Furr.

INTEREST EXPENSE

**Q. PLEASE EXPLAIN YOUR ADJUSTMENT TO INTEREST EXPENSE.**

A. It has been the Public Staff position and North Carolina Utilities Commission’s continuing policy that a utility’s reasonable level of interest expense should be recovered as a component of net operating income for return. Therefore, I have removed the interest expense from operating revenue deductions included by the Company.

DEPRECIATION EXPENSE

**Q. PLEASE EXPLAIN YOUR ADJUSTMENT TO DEPRECIATION EXPENSE.**

1 A. Depreciation expense has been calculated based on my adjusted  
2 level of plant in services and the service lives recommended by  
3 Public Staff witness Furr.

4 **REGULATORY FEE**

5 **Q. PLEASE EXPLAIN YOUR ADJUSTMENT TO REGULATORY FEE.**

6 A. I have adjusted the regulatory fee to reflect the statutory rate of .14%  
7 applied to revenues under present rates, Company proposed rates  
8 and Public Staff recommended rates.

9 **STATE INCOME TAX**

10 **Q. PLEASE EXPLAIN YOUR ADJUSTMENT TO STATE INCOME**  
11 **TAX.**

12 A. State income tax was calculated based on the adjusted levels of  
13 revenues and expenses, and the State income tax rate of 3%,  
14 effective January 1, 2017.

15 **FEDERAL INCOME TAX**

16 **Q. WHAT ADJUSTMENT HAVE YOU MADE TO FEDERAL INCOME**  
17 **TAX?**

18 A. Federal income tax is based on the statutory corporate rate of 21%  
19 as prescribed in the Tax Cut and Jobs Act of 2017, effective January  
20 1, 2018.

21 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

22 A. Yes, it does.

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INDEX TO CHIU EXHIBIT I

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**Water Resources, Inc.**  
Docket No. W-1034, Sub 8  
**MARGIN ON OPERATING REVENUE DEDUCTIONS**  
**REQUIRING A RETURN**  
For the Test Year Ended December 31, 2017  
**Rocky River**

Public Staff  
Chiu Exhibit I  
Schedule 1(a)

<u>Line No.</u>	<u>Item</u>	<u>Present Rates</u> (a)	<u>Company Proposed Rates</u> (b)
1.	Net operating income for a return	(\$23,942) [1]	(\$17,174) [4]
2.	Operating revenue deductions requiring a return	<u>55,981</u> [2]	<u>55,981</u> [5]
3.	Return	<u>-42.77%</u> [3]	<u>-30.68%</u> [3]

- [1] Chiu Exhibit I, Schedule 3(a), Line 30, Column (c).
- [2] Chiu Exhibit I, Schedule 3(a), Line 19 + Line 20 + Line 21 + Line 22 + Line 23 + Line 24, Column (c).
- [3] Line 1 divided by Line 2.
- [4] Chiu Exhibit I, Schedule 3(a), Line 30, Column (e).
- [5] Chiu Exhibit I, Schedule 3(a), Line 19 + Line 20 + Line 21 + Line 22 + Line 23 + Line 24, Column (e).

**Water Resources, Inc.**  
Docket No. W-1034, Sub 8  
**MARGIN ON OPERATING REVENUE DEDUCTIONS  
REQUIRING A RETURN**  
For the Test Year Ended December 31, 2017  
**River Walk**

Public Staff  
Chiu Exhibit I  
Schedule 1(b)

Line No.	Item	Present Rates (a)	Company Proposed Rates (b)	Public Staff Recommended Rates (c)
1.	Net operating income for a return	\$2,815 [1]	\$4,872 [4]	\$2,223 [6]
2.	Operating revenue deductions requiring a return	<u>29,646 [2]</u>	<u>29,646 [5]</u>	<u>29,646 [7]</u>
3.	Return	<u>9.49% [3]</u>	<u>16.43% [3]</u>	<u>7.50% [8]</u>

- [1] Chiu Exhibit I, Schedule 3(b), Line 30, Column (c).
- [2] Chiu Exhibit I, Schedule 3(b), Line 19 + Line 20 + Line 21 + Line 22 + Line 23 + Line 24, Column (c).
- [3] Line 1 divided by Line 2.
- [4] Chiu Exhibit I, Schedule 3(b), Line 30, Column (e).
- [5] Chiu Exhibit I, Schedule 3(b), Line 19 + Line 20 + Line 21 + Line 22 + Line 23 + Line 24, Column (e).
- [6] Line 2 x Line 3.
- [7] Chiu Exhibit I, Schedule 3(b), Line 19 + Line 20 + Line 21 + Line 22 + Line 23 + Line 24, Column (g).
- [8] Provided by Public Staff Financial Analyst Hinton.

**Water Resources, Inc.**  
Docket No. W-1034, Sub 8  
ORIGINAL COST RATE BASE  
For the Test Year Ended December 31, 2017  
**Rocky River**

Public Staff  
Chiu Exhibit I  
Schedule 2(a)

Line No.	Item	Per Application (a)	Public Staff Adjustments [1] (b)	After Public Staff Adjustments (c)
1.	Plant in service	\$47,425	\$30,318	\$77,743 [2]
2.	Accumulated depreciation	(44,425)	(27,121)	(71,546) [3]
3.	Contributions in aid of construction	<u>0</u>	<u>(13,295)</u>	<u>(13,295) [4]</u>
4.	Net plant in service (L1 + L2 + L3)	3,000	(10,098)	(7,098)
5.	Cash working capital	0	6,498	6,498 [5]
6.	Average tax accruals	<u>0</u>	<u>(576)</u>	<u>(576) [6]</u>
7.	Original cost rate base (Sum of L5 thru L6)	<u>\$3,000</u>	<u>(\$4,176)</u>	<u>(\$1,176)</u>

- [1] Column (c) - Column (a).
- [2] Chiu Exhibit I, Schedule 2-1(a), Line 21, Column (a).
- [3] Chiu Exhibit I, Schedule 2-1(a), Line 21, Column (f).
- [4] CIAC from previous rate case
- [5] One-eighth of O&M expenses.
- [6] One-half of property tax plus one-fifth of payroll tax.

**Water Resources, Inc.**  
Docket No. W-1034, Sub 8  
**CALCULATION OF PLANT IN SERVICE, ACCUMULATED  
DEPRECIATION, AND DEPRECIATION EXPENSE**  
For the Test Year Ended December 31, 2017  
**Rocky River**

Public Staff  
Chiu Exhibit I  
Schedule 2-1(a)

Line No.	Item	Plant In Service [1] (a)	Year Placed In Service [1] (b)	Life [1] (c)	Years in Service [3] (d)	Annual Depreciation [4] (e)	Accumulated Depreciation [5] (f)
<b>Amounts In prior rate case:</b>							
1.	Land	\$3,000	1988	n/a	n/a	n/a	n/a
2.	Water system installed in 1988	14,600	1988	25	29.50	0	(14,600)
3.	Organizational costs	10,017	1993	25	24.50	401	(9,825)
4.	Meters, connections, etc.	4,425	1994	20	23.50	0	(4,425)
5.	Fence, storage tank	3,400	1994	25	23.50	136	(3,196)
6.	Meters, connections, etc.	5,321	1995	20	22.50	0	(5,321)
7.	McMillan Acres expansion	7,196	1995	25	22.50	288	(6,480)
8.	Meters, installation only	518	1996	20	21.50	0	(518)
9.	Pump	6,540	1996	10	21.50	0	(6,540)
10.	Meters, connections, etc.	874	1996	20	21.50	0	(874)
11.	Meters, installation only	390	1997	20	20.50	0	(390)
12.	Meters, connections, etc.	385	1998	20	19.50	19	(371)
13.	Meters, connections, etc.	206	2000	20	17.50	10	(175)
14.	Meters, connections, etc.	165	2001	20	16.50	8	(132)
15.	Clearing trees & stumps	2,360	2001	10	16.50	0	(2,360)
16.	Pumps	7,372	1999	10	18.50	0	(7,372)
17.	Pumps	6,508	2000	10	17.50	0	(6,508)
18.	Pumps	1,957	2001	10	16.50	0	(1,957)
19.	Total from prior rate case (Sum of Lines 1 - 18)	<u>75,234</u>				<u>862</u>	<u>(71,044)</u>
<b>Additions since last rate case:</b>							
20.	Well Pump Motor	<u>2,509</u> [2]	2017	5 [2]	1.00	<u>502</u>	<u>(502)</u>
21.	Total plant in service L19 + L20)	<u>\$77,743</u>				<u>\$1,364</u>	<u>(\$71,546)</u>

- [1] Amount approved in last general rate case, Docket No. W-1034, Sub 4.  
[2] Per Public Staff Engineer Furr.  
[3] Based on year placed in service using half year convention.  
[4] Column (a) divided by Column (c), unless fully depreciated.  
[5] Column (d) x Column (e), unless fully depreciated.

**Water Resources, Inc.**  
Docket No. W-1034, Sub 8  
ORIGINAL COST RATE BASE  
For the Test Year Ended December 31, 2017  
**River Walk**

Public Staff  
Chiu Exhibit I  
Schedule 2(b)

Line No.	Item	Per Application (a)	Public Staff Adjustments (b)	After Public Staff Adjustments (c)
1.	Plant in service	\$0	\$33,633	\$33,633 [2]
2.	Accumulated depreciation	0	(15,023)	(15,023) [3]
3.	Contributions in aid of construction	0	0	0
4.	Net plant in service (L1 + L2 + L3)	0	18,610	18,610
5.	Cash working capital	0	3,438	3,438 [4]
6.	Average tax accruals	0	(197)	(197) [5]
7.	Original cost rate base (Sum of L5 thru L6)	<u>\$0</u>	<u>\$21,851</u>	<u>\$21,851</u>

[1] Column (c) - Column (a).

[2] Chiu Exhibit I, Schedule 2-1(b), Line 9, Column (a).

[3] Chiu Exhibit I, Schedule 2-1(b), Line 9, Column (f).

[4] One-eighth of O&M expenses.

[5] One-half of property tax plus one-fifth of payroll tax.

**Water Resources, Inc.**  
Docket No. W-1034, Sub 8  
**CALCULATION OF PLANT IN SERVICE, ACCUMULATED  
DEPRECIATION, AND DEPRECIATION EXPENSE**  
For the Test Year Ended December 31, 2017  
**River Walk**

Public Staff  
Chiu Exhibit I  
Schedule 2-1(b)

Line No.	Item	Plant In Service [1] (a)	Year Placed In Service [1] (b)	Life [1] (c)	Years in Service [2] (d)	Annual Depreciation [3] (e)	Accumulated Depreciation [4] (f)
<b><u>Amounts In franchise proceeding:</u></b>							
1.	Water system installed in 2002	\$18,495	2002	30	15.50	\$617	(\$9,564)
2.	35 gallon poly solution tank	91	2007	5	10.50	0	(91)
3.	Chemical feed pump (installed)	665	2007	3	10.50	0	(665)
4.	Meter spuds and meters	243	2007	30	10.50	8	(84)
5.	Meter boxes	195	2010	30	7.50	7	(53)
6.	Cut-off vales	177	2010	15	7.50	12	(90)
7.	Meters	75	2010	30	7.50	3	(23)
8.	Organizational costs	<u>13,692</u>	2011	20	6.50	685	(4,453)
9.	Total from prior rate case (Sum of Lines 1 thru L8)	<u>\$33,633</u>				<u>\$1,332</u>	<u>(\$15,023)</u>

- [1] Amount approved in franchise proceeding Docket No. W-1034, Sub 6.  
[2] Based on year placed in service using half year convention.  
[3] Column (a) divided by Column (c), unless fully depreciated.  
[4] Column (d) x Column (e), unless fully depreciated.

**Water Resources, Inc.**  
Docket No. W-1034, Sub 8  
NET OPERATING INCOME FOR A RETURN  
For the Test Year Ended December 31, 2017  
**Rocky River**

Public Staff  
Chiu Exhibit I  
Schedule 3(a)  
Page 1 of 2

Line No.	Item	Present Rates			Company Proposed Rates		
		Per Application (a)	Public Staff Adjustments [1] (b)	Per Public Staff [2] (c)	Net Company Increase [12] (d)	Operations After Rate Increase [13] (e)	
1.	Operating Revenues:						
2.	Service revenues	\$31,926	\$903	\$32,829 [3]	\$6,778	\$39,607 [3]	
3.	Other revenues	20,922	(20,879)	43 [4]	0	43	
4.	Bad debt	0	(788)	(788) [5]	0	(788)	
5.	Total operating revenues	<u>52,848</u>	<u>(20,764)</u>	<u>32,084</u>	<u>6,778</u>	<u>38,862</u>	
6.	Operating Revenue Deductions:						
7.	Salaries	23,945	0	23,945	0	23,945	
8.	Administrative and office	11,949	(3,939)	8,010 [6]	0	8,010	
9.	Maintenance and repair	13,384	(3,235)	10,149 [3]	0	10,149	
10.	Transportation expenses	403	(403)	0 [3]	0	0	
11.	Electric power	6,210	0	6,210	0	6,210	
12.	Chemicals	553	243	796 [3]	0	796	
13.	Testing	2,130	(307)	1,823 [3]	0	1,823	
14.	Permit fees	350	0	350 [3]	0	350	
15.	Professional fees	0	0	0 [3]	0	0	
16.	Purchased water treatment	657	(30)	627 [3]	0	627	
17.	Rate case expense	0	77	77 [7]	0	77	
18.	Interest expense	1,667	(1,667)	0	0	0	
19.	Total O&M expenses	<u>61,248</u>	<u>(9,261)</u>	<u>51,987</u>	<u>0</u>	<u>51,987</u>	
20.	Depreciation expense	0	1,364	1,364 [8]	0	1,364	
21.	Amortization expense	0	0	0	0	0	
22.	Property taxes	967	(668)	299 [3]	0	299	
23.	Payroll taxes	2,130	0	2,130	0	2,130	
24.	Other taxes	201	0	201	0	201	
25.	Regulatory fee	0	45	45 [9]	9	54 [9]	
26.	Gross receipts tax	0	0	0	0	0	
27.	State income tax	0	0	0 [10]	0	0 [14]	
28.	Federal income tax	0	0	0 [11]	0	0 [15]	
29.	Total operating revenue deductions	<u>64,546</u>	<u>(8,520)</u>	<u>56,026</u>	<u>9</u>	<u>56,035</u>	
30.	Net operating income for return	<u>(\$11,698)</u>	<u>(\$12,244)</u>	<u>(\$23,942)</u>	<u>\$6,769</u>	<u>(\$17,174)</u>	

**Water Resources, Inc.**  
Docket No. W-1034, Sub 8  
FOOTNOTES TO SCHEDULE 3  
For the Test Year Ended December 31, 2017  
**Rocky River**

Public Staff  
Chiu Exhibit I  
Schedule 3(a)  
Page 2 of 2

- [1] Column (c) minus Column (a), unless otherwise footnoted.
- [2] Column (a) plus Column (b), unless otherwise footnoted.
- [3] Per Public Staff Engineer Furr.
- [4] Chiu Exhibit I, Schedule 3-2, Line 3, Column (a) .
- [5] Chiu Exhibit I, Schedule 3-3, Line 3, Column (a).
- [6] Chiu Exhibit I, Schedule 3-4, Line 3, Column (a).
- [7] Chiu Exhibit I, Schedule 3-5, Line 6, Column (b).
- [8] Chiu Exhibit I, Schedule 2-1(a), Line 21, Column (e).
- [9] Line 5 multiplied by 0.14%.
- [10] Chiu Exhibit I, Schedule 3-6(a), Line 14, Column (a).
- [11] Chiu Exhibit I, Schedule 3-6(a), Line 16, Column (a).
- [12] Column (e) minus Column (c), unless otherwise footnoted.
- [13] Column (c) plus Column (d), unless otherwise footnoted.
- [14] Chiu Exhibit I, Schedule 3-6(a), Line 14, Column (b).
- [15] Chiu Exhibit I, Schedule 3-6(a), Line 16, Column (b).

**Water Resources, Inc.**  
Docket No. W-1034, Sub 8  
NET OPERATING INCOME FOR A RETURN  
For the Test Year Ended December 31, 2017  
**River Walk**

Public Staff  
Chiu Exhibit I  
Schedule 3(b)  
Page 1 of 2

Line No.	Item	Present Rates			Company Proposed Rates			Public Staff Recommended Rates		
		Per Application (a)	Public Staff Adjustments [1] (b)	Per Public Staff [2] (c)	Net Company Increase [12] (d)	Operations After Rate Increase [13] (e)	Net Public Staff Decrease [16] (f)	Operations After Rate Decrease [17] (g)		
1.	Operating Revenues:									
2.	Service revenues	\$34,384	(\$916)	\$33,468 [3]	\$2,689	\$36,157 [3]	(\$773)	\$32,696 [18]		
3.	Other revenues	5,981	(5,862)	119 [4]	0	119	0	119		
4.	Bad debt	0	(221)	(221) [5]	0	(221)	0	(221)		
5.	Total operating revenues	40,365	(6,999)	33,366	2,689	36,055	(773)	32,593		
6.	Operating Revenue Deductions:									
7.	Salaries	6,722	0	6,722	0	6,722	0	6,722		
8.	Administrative and office	3,478	(1,106)	2,372 [6]	0	2,372	0	2,372		
9.	Maintenance and repair	10,584	(759)	9,825 [3]	0	9,825	0	9,825		
10.	Transportation expenses	113	(113)	0 [3]	0	0	0	0		
11.	Electric power	6,401	0	6,401	0	6,401	0	6,401		
12.	Chemicals	552	(328)	224 [3]	0	224	0	224		
13.	Testing	960	711	1,671 [3]	0	1,671	0	1,671		
14.	Permit fees	270	0	270 [3]	0	270	0	270		
15.	Professional fees	0	0	0	0	0	0	0		
16.	Purchased water treatment	0	0	0	0	0	0	0		
17.	Rate case expense	0	21	21 [7]	0	21	0	21		
18.	Interest expense	461	(461)	0	0	0	0	0		
19.	Total O&M expenses	29,541	(2,035)	27,506	0	27,506	0	27,506		
20.	Depreciation expense	0	1,332	1,332 [8]	0	1,332	0	1,332		
21.	Amortization expense	0	0	0	0	0	0	0		
22.	Property taxes	187	(34)	153 [3]	0	153	0	153		
23.	Payroll taxes	598	0	598	0	598	0	598		
24.	Other taxes	57	0	57	0	57	0	57		
25.	Regulatory fee	0	47	47 [9]	4	50 [9]	(1)	46 [9]		
26.	Gross receipts tax	0	0	0	0	0	0	0		
27.	State income tax	0	110	110 [10]	81	191 [14]	(23)	87 [19]		
28.	Federal income tax	0	748	748 [11]	547	1,295 [15]	(157)	591 [20]		
29.	Total operating revenue deductions	30,383	168	30,551	632	31,182	(181)	30,370		
30.	Net operating income for return	\$9,982	(\$7,167)	\$2,815	\$2,057	\$4,872	(\$591)	\$2,223		

**Water Resources, Inc.**  
Docket No. W-1034, Sub 8  
FOOTNOTES TO SCHEDULE 3  
For the Test Year Ended December 31, 2017  
**River Walk**

Public Staff  
Chiu Exhibit I  
Schedule 3(b)  
Page 2 of 2

- [1] Column (c) minus Column (a), unless otherwise footnoted.
- [2] Column (a) plus Column (b), unless otherwise footnoted.
- [3] Per Public Staff Engineer Furr.
- [4] Chiu Exhibit I, Schedule 3-2, Line 3, Column (b).
- [5] Chiu Exhibit I, Schedule 3-3, Line 3, Column (b).
- [6] Chiu Exhibit I, Schedule 3-4, Line 3, Column (b).
- [7] Chiu Exhibit I, Schedule 3-5, Line 6, Column (c).
- [8] Chiu Exhibit I, Schedule 2-1(b), Line 9, Column (e).
- [9] Line 5 multiplied by 0.14%.
- [10] Chiu Exhibit I, Schedule 3-6(b), Line 14, Column (a).
- [11] Chiu Exhibit I, Schedule 3-6(b), Line 16, Column (a).
- [12] Column (e) minus Column (c), unless otherwise footnoted.
- [13] Column (c) plus Column (d), unless otherwise footnoted.
- [14] Chiu Exhibit I, Schedule 3-6(b), Line 14, Column (b).
- [15] Chiu Exhibit I, Schedule 3-6(b), Line 16, Column (b).
- [16] Column (g) minus Column (c), unless otherwise footnoted.
- [17] Column (e) plus Column (f), unless otherwise footnoted.
- [18] Revenue requirement as calculated by the Public Staff.
- [19] Chiu Exhibit I, Schedule 3-6(b), Line 14, Column (c).
- [20] Chiu Exhibit I, Schedule 3-6(b), Line 16, Column (c).

**Water Resources, Inc.**  
Docket No. W-1034, Sub 8  
**CALCULATION OF ALLOCATION OF REVENUES AND EXPENSES**  
For the Test Year Ended December 31, 2017

Public Staff  
Chiu Exhibit I  
Schedule 3-1

Line No.	Item	Amount Per Application (a)	Rocky River (b)	River Walk (c)
1.	Service revenues	\$66,310	\$31,926 [1]	\$34,384 [1]
2.	Other revenues - allocated	26,741	20,879 [2]	5,862 [3]
3.	Other revenues - directly assigned	161	43 [1]	119 [1]
4.	<b>Total Revenues (L1 + L2)</b>	<b><u>\$93,212</u></b>	<b><u>\$52,848</u></b>	<b><u>\$40,365</u></b>
5.	Salaries and wages	30,667	23,945 [2]	6,722 [3]
6.	Administrative and office - allocated	15,304	11,949 [2]	3,355 [3]
7.	Administrative and office - directly assigned	123	0 [1]	123 [1]
8.	Maintenance and repair	23,968	13,384 [1]	10,584 [1]
9.	Transportation	516	403 [2]	113 [3]
10.	Purchased power	12,611	6,210 [1]	6,401 [1]
11.	Chemicals	1,105	553 [1]	552 [1]
12.	Testing	3,090	2,130 [1]	960 [1]
13.	Permit fees	620	350 [1]	270 [1]
14.	Purchased power treatment	657	657 [1]	0 [1]
15.	Property tax - allocated	854	667 [2]	187 [3]
16.	Property tax - directly assigned	300	300 [1]	0 [1]
17.	Payroll tax	2,728	2,130 [2]	598 [3]
18.	Other taxes	258	201 [2]	57 [3]
19.	Interest on debt - allocated	2,102	1,641 [2]	461 [3]
20.	Interest on debt - directly assigned	26	26 [1]	0 [1]
21.	<b>Total Expenses (Sum of L5 thru L20)</b>	<b><u>\$94,929</u></b>	<b><u>\$64,546</u></b>	<b><u>\$30,383</u></b>

[1] Column (a) amounts directly assigned.

[2] Column (a) multiplied by Rock River customer allocation factor of 78.08%.

[3] Column (a) multiplied by River Walk customer allocation factor of 21.92%.

**Water Resources, Inc.**  
Docket No. W-1034, Sub 8  
**CALCULATION OF OTHER REVENUE**  
For the Test Year Ended December 31, 2017

Public Staff  
Chiu Exhibit I  
Schedule 3-2

<u>Line No.</u>	<u>Item</u>	<u>Rocky River</u> (a)	<u>River Walk</u> (b)
1.	Other revenue per application	\$20,922	\$5,981
2.	Adjustment to remove non-utility antennae lease revenue	<u>(20,879) [1]</u>	<u>(5,862) [1]</u>
3.	Other revenue per Public Staff (L1 + L2)	<u>\$43</u>	<u>\$119</u>

[1] Per examination of Company's financial records.

**Water Resources, Inc.**  
Docket No. W-1034, Sub 8  
**CALCULATION OF BAD DEBT**  
For the Test Year Ended December 31, 2017

Public Staff  
Chiu Exhibit I  
Schedule 3-3

<u>Line No.</u>	<u>Item</u>	<u>Rocky River (a)</u>	<u>River Walk (b)</u>
1.	Bad debt reclassified from administrative & office	(\$3,939) [1]	(\$1,106) [2]
2.	Amortization period in years	<u>5</u>	<u>5</u>
3.	Bad debt per Public Staff (L1 / L2)	<u>(\$788)</u>	<u>(\$221)</u>

- [1] Chiu Exhibit I, Schedule 3-4, Line 2, Column (a).  
[2] Chiu Exhibit I, Schedule 3-4, Line 2, Column (b).

**Water Resources, Inc.**  
Docket No. W-1034, Sub 8  
**CALCULATION OF ADMINISTRATIVE AND OFFICE EXPENSES**  
For the Test Year Ended December 31, 2017

Public Staff  
Chiu Exhibit I  
Schedule 3-4

<u>Line No.</u>	<u>Item</u>	<u>Rocky River</u> (a)	<u>River Walk</u> (b)
1.	Administrative and office expense per application	\$11,949	\$3,478
2.	Adjustment to reclassify bad debt expense	<u>(3,939) [1]</u>	<u>(1,106) [1]</u>
3.	Administrative and office expense per Public Staff (L1 + L2)	<u>\$8,010</u>	<u>\$2,372</u>

[1] Per examination of Company's financial records.

**Water Resources, Inc.**  
Docket No. W-1034, Sub 8  
**CALCULATION OF RATE CASE EXPENSE**  
For the Test Year Ended December 31, 2017

Public Staff  
Chiu Exhibit I  
Schedule 3-5

<u>Line No.</u>	<u>Item</u>	<u>Amount</u> (a)	<u>Rocky River</u> (b)	<u>River Walk</u> (c)
1.	Cost to mail notices	\$193 [1]		
2.	NCUC filing fees	100 [2]		
3.	Legal expense	<u>0</u>		
4.	Total regulatory expense (Sum of L1 thru L3)	293		
5.	Amortization period in years	<u>3</u>		
6.	Annual regulatory expense (L4 / L5)	<u>\$98</u>	<u>\$77</u>	<u>\$21</u>

[1] Based on 146 customers times 2 (mailings) times \$.66 for stamps, envelopes, and copying.  
[2] Filing fee per application.

**Water Resources, Inc.**  
Docket No. W-1034, Sub 8  
**CALCULATION OF INCOME TAXES**  
For the Test Year Ended December 31, 2017  
**Rocky River**

Public Staff  
Chiu Exhibit I  
Schedule 3-6(a)

<u>Line No.</u>	<u>Item</u>	<u>Present Rates</u> [1] (a)	<u>Company Proposed Rates</u> [2] (b)
1.	Operating revenue	<u>\$32,084</u>	<u>\$38,862</u>
2.	Operating revenue deductions:		
3.	O & M expenses	51,987	51,987
4.	Depreciation expense	1,364	1,364
5.	Amortization expense	0	0
6.	Property taxes	299	299
7.	Payroll taxes	2,130	2,130
8.	Other taxes	201	201
9.	Regulatory fee	45	54
10.	Gross receipts tax	0	0
11.	Interest expense	<u>0</u>	<u>0</u>
12.	Total deductions (Sum of L3 thru L11)	<u>56,026</u>	<u>56,035</u>
13.	Taxable income (L1 - L12)	<u>(23,942)</u>	<u>(17,174)</u>
14.	State income tax (L13 x 3%)	<u>0</u>	<u>0</u>
15.	Federal taxable income (L13 - L14)	<u>(23,942)</u>	<u>(17,174)</u>
16.	Federal income tax (L15 x 21%)	<u>0</u>	<u>0</u>
17.	Net amount (L15 - L16)	<u>(23,942)</u>	<u>(17,174)</u>
18.	Add: Interest expense	<u>0</u>	<u>0</u>
19.	Net income for return (L17 + L18)	<u><u>(\$23,942)</u></u>	<u><u>(\$17,174)</u></u>

- [1] Chiu Exhibit I, Schedule 3(a), Column (c).  
[2] Chiu Exhibit I, Schedule 3(a), Column (e).

**Water Resources, Inc.**  
Docket No. W-1034, Sub 8  
**CALCULATION OF INCOME TAXES**  
For the Test Year Ended December 31, 2017  
**River Walk**

Public Staff  
Chiu Exhibit I  
Schedule 3-6(b)

Line No.	Item	Present Rates [1] (a)	Company Proposed Rates [2] (b)	Public Staff Recommended Rates [3] (c)
1.	Operating revenue	\$33,366	\$36,055	\$32,593
2.	Operating revenue deductions:			
3.	O & M expenses	27,506	27,506	27,506
4.	Depreciation expense	1,332	1,332	1,332
5.	Amortization expense	0	0	0
6.	Property taxes	153	153	153
7.	Payroll taxes	598	598	598
8.	Other taxes	57	57	57
9.	Regulatory fee	47	50	46
10.	Gross receipts tax	0	0	0
11.	Interest expense	0	0	0
12.	Total deductions (Sum of L3 thru L11)	29,693	29,696	29,692
13.	Taxable income (L1 - L12)	3,673	6,358	2,901
14.	State income tax (L13 x 3%)	110	191	87
15.	Federal taxable income (L13 - L14)	3,563	6,167	2,814
16.	Federal income tax (L15 x 21%)	748	1,295	591
17.	Net amount (L15 - L16)	2,815	4,872	2,223
18.	Add: Interest expense	0	0	0
19.	Net income for return (L17 + L18)	\$2,815	\$4,872	\$2,223

[1] Chiu Exhibit I, Schedule 3(b), Column (c).  
[2] Chiu Exhibit I, Schedule 3(b), Column (e).  
[3] Chiu Exhibit I, Schedule 3(b), Column (g).

**Water Resources, Inc.**  
Docket No. W-1034, Sub 8  
**CALCULATION OF OPERATING RATIOS**  
For the Test Year Ended December 31, 2017  
**Rocky River**

Public Staff  
Chiu Exhibit I  
Schedule 4(a)

<u>Line No.</u>	<u>Item</u>	<u>Present Rates</u> (a)	<u>Company Proposed Rates</u> (b)
<u>Interest expense, regulatory fee, gross receipts, and income taxes included:</u>			
1.	Gross operating revenues	\$32,084 [1]	\$38,862 [5]
2.	Operating expenses	<u>56,026 [2]</u>	<u>56,035 [6]</u>
3.	Operating ratios (L2 / L1)	<u>174.62%</u>	<u>144.19%</u>
 <u>Interest expense, regulatory fee, gross receipts,</u>			
4.	Gross operating revenues	\$32,039 [3]	\$38,807 [7]
5.	Operating expenses	<u>55,981 [4]</u>	<u>55,981 [8]</u>
6.	Operating ratios (L5 / L4)	<u>174.73%</u>	<u>144.25%</u>

- [1] Chiu Exhibit I, Schedule 3(a), Line 5, Column (c).
- [2] Chiu Exhibit I, Schedule 3(a), Line 29, Column (c).
- [3] Chiu Exhibit I, Schedule 3(a), Line 5 - Line 25 - Line 26 - Line 27 - Line 28, Column (c).
- [4] Chiu Exhibit I, Schedule 3(a), Line 29 - Line 25 - Line 26 - Line 27 - Line 28, Column (c).
- [5] Chiu Exhibit I, Schedule 3(a), Line 5, Column (e).
- [6] Chiu Exhibit I, Schedule 3(a), Line 29, Column (e).
- [7] Chiu Exhibit I, Schedule 3(a), Line 5 - Line 25 - Line 26 - Line 27 - Line 28, Column (e).
- [8] Chiu Exhibit I, Schedule 3(a), Line 29 - Line 25 - Line 26 - Line 27 - Line 28, Column (e).

**Water Resources, Inc.**  
Docket No. W-1034, Sub 8  
**CALCULATION OF OPERATING RATIOS**  
For the Test Year Ended December 31, 2017  
**River Walk**

Public Staff  
Chiu Exhibit I  
Schedule 4(b)

Line No.	Item	Present Rates (a)	Company Proposed Rates (b)	Public Staff Recommended Rates (c)
<u>Interest expense, regulatory fee, gross receipts, and income taxes included:</u>				
1.	Gross operating revenues	\$33,366 [1]	\$36,055 [5]	\$32,593 [9]
2.	Operating expenses	<u>30,551 [2]</u>	<u>31,182 [6]</u>	<u>30,370 [10]</u>
3.	Operating ratios (L2 / L1)	<u>91.56%</u>	<u>86.49%</u>	<u>93.18%</u>
 <u>Interest expense, regulatory fee, gross receipts,</u>				
4.	Gross operating revenues	\$33,321 [3]	\$34,518 [7]	\$31,869 [11]
5.	Operating expenses	<u>29,646 [4]</u>	<u>29,646 [8]</u>	<u>29,646 [12]</u>
6.	Operating ratios (L5 / L4)	<u>88.97%</u>	<u>85.89%</u>	<u>93.02%</u>

- [1] Chiu Exhibit I, Schedule 3(b), Line 5, Column (c).
- [2] Chiu Exhibit I, Schedule 3(b), Line 29, Column (c).
- [3] Chiu Exhibit I, Schedule 3(b), Line 5 - Line 25 - Line 26 - Line 27 - Line 28, Column (c).
- [4] Chiu Exhibit I, Schedule 3(b), Line 29 - Line 25 - Line 26 - Line 27 - Line 28, Column (c).
- [5] Chiu Exhibit I, Schedule 3(b), Line 5, Column (e).
- [6] Chiu Exhibit I, Schedule 3(b), Line 29, Column (e).
- [7] Chiu Exhibit I, Schedule 3(b), Line 5 - Line 25 - Line 26 - Line 27 - Line 28, Column (e).
- [8] Chiu Exhibit I, Schedule 3(b), Line 29 - Line 25 - Line 26 - Line 27 - Line 28, Column (e).
- [9] Chiu Exhibit I, Schedule 3(b), Line 5, Column (g).
- [10] Chiu Exhibit I, Schedule 3(b), Line 29, Column (g).
- [11] Chiu Exhibit I, Schedule 3(b), Line 5 - Line 25 - Line 26 - Line 27 - Line 28, Column (g).
- [12] Chiu Exhibit I, Schedule 3(b), Line 29 - Line 25 - Line 26 - Line 27 - Line 28, Column (g).