

INFORMATION SHEET

PRESIDING: Commissioner Brown-Bland; Chair Mitchell, and Commissioners Gray, Clodfelter, Duffley, Hughes, and McKissick
PLACE: Via WebEx Videoconference
DATE: Wednesday, July 8, 2020
TIME: 9:00 a.m. – 11:58 a.m.
DOCKET NO.: W-218, Sub 526
COMPANY: Aqua North Carolina, Inc.
DESCRIPTION: Application by Aqua North Carolina, Inc.,
202 MacKenan Court, Cary, North Carolina 27511, for Authority to Adjust and Increase Rates for
Water and Sewer Utility Service in All of Its Service Areas in North Carolina
VOLUME: 2

APPEARANCES

FOR AQUA NORTH CAROLINA, INC.:

Jo Anne Sanford, Esq.
Robert H. Bennink, Esq.

FOR THE USING AND CONSUMING PUBLIC AND ON BEHALF OF THE STATE AND ITS CITIZENS IN
THIS MATTER THAT AFFECTS THE PUBLIC INTEREST:

Teresa L. Townsend, Esq.
Margaret A. Force, Esq.

FOR THE USING AND CONSUMING PUBLIC:

William E. Grantmyre, Esq.
Megan Jost, Esq.
William E. H. Creech, Esq.

WITNESSES

Please see attached.

EXHIBITS

Please see attached.

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REPORTED BY: Joann Bunze

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TOTAL: 232

PLACE: Vi a WebEx Vi deoconference

DATE: Wednesday, Jul y 8, 2020

TIME: 9: 00 a.m. - 11: 58 p.m.

DOCKET NO.: W-218, Sub 526

BEFORE: Commi ssi oner ToNol a D. Brown-Bl and, Presi di ng

Chair Charl otte A. Mi tchel l

Commi ssi oner Lyons Gray

Commi ssi oner Dani el G. Cl odfel ter

Commi ssi oner Ki mberl y W. Duffl ey

Commi ssi oner Jeffrey A. Hughes

Commi ssi oner Fl oyd B. McKi ssi ck, Jr.

IN THE MATTER OF:

Application by Aqua North Carolina, Inc.,
202 MacKenan Court, Cary, North Carolina 27511,
for Authority to Adjust and Increase Rates
for Water and Sewer Utility Service in
All of Its Service Areas in North Carolina.

VOLUME: 2

1 A P P E A R A N C E S:

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13 FOR THE USING AND CONSUMING PUBLIC AND ON BEHALF OF THE
14 STATE AND ITS CITIZENS IN THIS MATTER THAT AFFECTS THE
15 PUBLIC INTEREST:

16 Teresa L. Townsend, Esq.

17 Special Deputy Attorney General

18 Margaret A. Force, Esq.

19 Assistant Attorney General

20 North Carolina Department of Justice

21 Post Office Box 629

22 Raleigh, North Carolina 27602

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William E. Grantmyre, Esq.

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Raleigh, North Carolina 27699-4300

T A B L E O F C O N T E N T S

E X A M I N A T I O N S

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SHANNON BECKER	PAGE
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E X H I B I T S

I D E N T I F I E D / A D M I T T E D

All Documents Submitted As Part	- /19
of Aqua's Application for General	
Rate Increase Filed on	
December 31, 2019, Including All	
NCUC Form 1 Items, Both Confidential	
and Nonconfidential	
All Documents Filed As Part of	- /19
Aqua's First Rule R1-17(F)	
Compliance Filing Made on	
January 24, 2020	
All Documents Filed As Part of	- /19
Aqua's Second Rule R1-17(F)	
Compliance Filing Made on	
January 29, 2020	
Revised Exhibit 0, Page 8 of 11	- /19
to the Company's Rate Case	
Application Filed on January 29, 2020	

1	Certificate of Service Filed on	- /19
2	March 10, 2020, Indicating That	
3	the Company Provided the	
4	Commission-Required Notices of	
5	Hearings to Its Customers	
6	Aqua's Updates to NCUC Form 1	- /19
7	Items 16, 18, and 19, Both	
8	Confidential and Nonconfidential ,	
9	Items Filed on April 21st and	
10	22nd, 2020	
11	Aqua's Verified Response to the	- /19
12	Public Staff's Motion to Compel	
13	Filed April 24, 2020	
14	Aqua's Notice of Withdrawal of	- /23
15	Application For Approval of Water	
16	and Sewer System Improvement Charge	
17	Rate Adjustments Pursuant to	
18	G.S. 62-133.12 Filed on May 8, 2020	
19	Aqua's Notice of Change of	- /23
20	Corporate Name From Aqua America,	
21	Inc. To Essential Utilities, Inc.	
22	Filed on May 13, 2020	
23	Aqua's Petition For Approval of an	- /23
24	Order Allowing Deferral of	
	Revenues in Lieu of Rates Under	
	Bond, Or, Alternatively, Notice of	
	Intent to Place Temporary Rates in	
	Effect Subject to an Undertaking to	
	Refund Pursuant to G.S. 62-135 Filed	
	June 11, 2020	
	Aqua's Motion For Approval of an	- /23
	Order Approving Form of Revised	
	Notices of Temporary Rates Subject	
	to an Undertaking to Refund Pursuant	
	to G.S. 62-135 Filed on July 1, 2020	
	Aqua's Undertaking to Refund Filed	- /23
	July 1, 2020	

1	Partial Settlement Agreement and - /23
2	Stipulation Filed By Aqua and the
3	Public Staff on July 1, 2020
4	Aqua's Confidential Filing Made At - /23
5	the Request of Presiding
6	Commissioner Brown-Bl and Which Was
7	Filed on July 7, 2020
8	D'Ascendis Direct Exhibit Number 1 - /25
9	with Schedules DWD 1 through DWD 9
10	Becker Direct Exhibits 1 through 3.103/ -
11	Becker Direct Revised Exhibit 3.103/ -
12	Public Staff Becker Direct Cross148/ -
13	Examination Exhibit 1
14	Public Staff Becker Direct Cross152/ -
15	Examination Exhibit 2
16	Public Staff Becker Direct Cross161/ -
17	Examination Exhibit Number 3
18	Public Staff Becker Direct Cross178/ -
19	Examination Exhibit 4
20	Public Staff Becker Direct Cross192/ -
21	Examination Exhibit Number 5
22	
23	
24	

CERTIFICATE OF SERVICE

I, Shannon V. Becker, President of Aqua North Carolina, Inc., mailed with sufficient postage or hand delivered to all affected customers the Notice to Customers issued by the North Carolina Utilities Commission in Docket No. W-218 Sub 526 and the Notice was mailed or hand delivered by the date specified in the Order.

This 10th day of March 2020.

By:

Shannon V. Becker
Shannon V. Becker
Aqua North Carolina, Inc.

The above-named applicant, Shannon V. Becker, President, Aqua North Carolina, Inc. personally appeared before me this day and, being first duly sworn, says that the required Notice to Customers was mailed or hand delivered to all affected customers, as required by the Commission Order dated February 14, 2020, in Docket No. W-218 Sub 526.

Witness my hand and notarial seal, this 10th day of March 2020.

Robyn E. Lambeth
Notary Public

Robyn E. Lambeth
Printed or Typed Name

My Commission Expires:

May 13, 2021
Date

(SEAL)



Aqua North Carolina, Inc.
Table of Contents
to D'Ascendis Exhibit No. 1

	<u>Schedule</u>
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Aqua North Carolina, Inc.
Recommended Capital Structure and Cost Rates
for Ratemaking Purposes
at March 31, 2019

<u>Type Of Capital</u>	<u>Ratios (1)</u>	<u>Cost Rate</u>	<u>Weighted Cost Rate</u>
Long-Term Debt	50.00%	4.25% (1)	2.13%
Common Equity	<u>50.00%</u>	10.10% (2)	<u>5.05%</u>
Total	<u>100.00%</u>		<u>7.18%</u>

Notes:

(1) Company-Provided.

(2) From page 2 of this Schedule.

Aqua North Carolina, Inc.
Brief Summary of Common Equity Cost Rate

<u>Line No.</u>	<u>Principal Methods</u>	<u>Proxy Group of Six Water Companies</u>
1.	Discounted Cash Flow Model (DCF) (1)	8.81%
2.	Risk Premium Model (RPM) (2)	10.12%
3.	Capital Asset Pricing Model (CAPM) (3)	9.35%
4.	Market Models Applied to Comparable Risk, Non-Price Regulated Companies (4)	<u>11.29%</u>
5.	Indicated Common Equity Cost Rate before Adjustment for Size Risk	9.80%
6.	Size Risk Adjustment (5)	0.20%
7.	Flotation Cost Adjustment (6)	<u>0.07%</u>
8.	Indicated Common Equity Cost Rate after Adjustment for Size Risk	<u><u>10.07%</u></u>
9.	Recommended Common Equity Cost Rate after Adjustment for Size Risk	<u><u>10.10%</u></u>

Notes: (1) From Schedule DWD-3.
(2) From page 1 of Schedule DWD-4.
(3) From page 1 of Schedule DWD-5.
(4) From page 1 of Schedule DWD-7.
(5) From Schedule DWD-8.
(6) From Schedule DWD-10.

Proxy Group of Six Water Companies
CAPITALIZATION AND FINANCIAL STATISTICS (1)
2014 - 2018, Inclusive

	2018	2017	2016	2015	2014	
	(MILLIONS OF DOLLARS)					
<u>CAPITALIZATION STATISTICS</u>						
<u>AMOUNT OF CAPITAL EMPLOYED</u>						
TOTAL PERMANENT CAPITAL	\$2,806.355	\$2,520.354	\$2,397.831	\$2,285.766	\$2,178.876	
SHORT-TERM DEBT	\$198.340	\$212.952	\$175.872	\$117.184	\$94.428	
TOTAL CAPITAL EMPLOYED	<u>\$3,004.695</u>	<u>\$2,733.306</u>	<u>\$2,573.703</u>	<u>\$2,402.950</u>	<u>\$2,273.304</u>	
<u>INDICATED AVERAGE CAPITAL COST RATES (2)</u>						
TOTAL DEBT	4.852 %	4.97 %	5.182 %	5.248 %	5.393 %	
PREFERRED STOCK	5.92 %	5.91 %	5.91 %	5.91 %	5.67 %	
						5 YEAR
<u>CAPITAL STRUCTURE RATIOS</u>						<u>AVERAGE</u>
BASED ON TOTAL PERMANENT CAPITAL:						
LONG-TERM DEBT	45.14 %	43.47 %	44.03 %	44.81 %	44.08 %	44.31 %
PREFERRED STOCK	0.11	0.12	0.13	0.13	0.14	0.12
COMMON EQUITY	54.75	56.41	55.84	55.06	55.78	55.57
TOTAL	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
BASED ON TOTAL CAPITAL:						
TOTAL DEBT, INCLUDING SHORT-TERM	48.62 %	47.48 %	46.82 %	46.30 %	46.28 %	47.10 %
PREFERRED STOCK	0.10	0.11	0.12	0.13	0.14	0.12
COMMON EQUITY	51.28	52.41	53.06	53.57	53.58	52.78
TOTAL	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>FINANCIAL STATISTICS</u>						
<u>FINANCIAL RATIOS - MARKET BASED</u>						
EARNINGS / PRICE RATIO	3.56 %	3.46 %	3.73 %	4.55 %	4.84 %	4.03 %
MARKET / AVERAGE BOOK RATIO	307.51	303.79	271.29	219.78	202.93	261.06
DIVIDEND YIELD	2.05	2.06	2.31	2.83	3.00	2.45
DIVIDEND PAYOUT RATIO	57.39	59.63	61.35	61.54	61.49	60.28
<u>RATE OF RETURN ON AVERAGE BOOK COMMON EQUITY</u>	10.83 %	10.43 %	9.97 %	9.90 %	9.74 %	10.17 %
<u>TOTAL DEBT / EBITDA (3)</u>	3.98 x	3.43 x	3.42 x	3.46 x	3.54 x	3.56 x
<u>FUNDS FROM OPERATIONS / TOTAL DEBT (4)</u>	23.84 %	25.57 %	23.90 %	26.23 %	26.00 %	25.11 %
TOTAL DEBT / TOTAL CAPITAL	48.62 %	47.48 %	46.82 %	46.30 %	46.28 %	47.10 %

Notes:

- (1) All capitalization and financial statistics for the group are the arithmetic average of the achieved results for each individual company in the group, and are based upon financial statements as originally reported in each year.
- (2) Computed by relating actual total debt interest or preferred stock dividends booked to average of beginning and ending total debt or preferred stock reported to be outstanding.
- (3) Total debt relative to EBITDA (Earnings before Interest, Income Taxes, Depreciation and Amortization).
- (4) Funds from operations (sum of net income, depreciation, amortization, net deferred income tax and investment tax credits, less total AFUDC) plus interest charges as a percentage of total debt.

Source of Information: Company Annual Forms 10-K

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Dec 31 2019

Capital Structure Based upon Total Permanent Capital for the
Proxy Group of Six Water Companies
2014 - 2018, Inclusive

	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>5 YEAR AVERAGE</u>
<u>American States Water Co.</u>						
Long-Term Debt	36.54 %	37.75 %	39.40 %	41.15 %	39.15 %	38.80 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	<u>63.46</u>	<u>62.25</u>	<u>60.60</u>	<u>58.85</u>	<u>60.85</u>	<u>61.20</u>
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>American Water Works Company Inc</u>						
Long-Term Debt	56.55 %	55.81 %	54.74 %	53.89 %	52.70 %	54.74 %
Preferred Stock	0.05	0.07	0.09	0.11	0.15	0.09
Common Equity	<u>43.40</u>	<u>44.12</u>	<u>45.17</u>	<u>46.00</u>	<u>47.15</u>	<u>45.17</u>
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Artesian Resources Corporation</u>						
Long-Term Debt	43.42 %	42.17 %	42.71 %	44.23 %	45.81 %	43.67 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	<u>56.58</u>	<u>57.83</u>	<u>57.29</u>	<u>55.77</u>	<u>54.19</u>	<u>56.33</u>
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>California Water Service Group</u>						
Long-Term Debt	52.74 %	43.40 %	45.83 %	44.69 %	40.46 %	45.42 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	<u>47.26</u>	<u>56.60</u>	<u>54.17</u>	<u>55.31</u>	<u>59.54</u>	<u>54.58</u>
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Middlesex Water Co.</u>						
Long-Term Debt	38.94 %	38.65 %	38.91 %	40.44 %	41.55 %	39.70 %
Preferred Stock	0.59	0.64	0.68	0.69	0.71	0.66
Common Equity	<u>60.47</u>	<u>60.71</u>	<u>60.41</u>	<u>58.87</u>	<u>57.74</u>	<u>59.64</u>
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>York Water Co.</u>						
Long-Term Debt	42.68 %	43.02 %	42.60 %	44.46 %	44.81 %	43.51 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	<u>57.32</u>	<u>56.98</u>	<u>57.40</u>	<u>55.54</u>	<u>55.19</u>	<u>56.49</u>
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
<u>Proxy Group of Six Water Companies</u>						
Long-Term Debt	45.14 %	43.47 %	44.03 %	44.81 %	44.08 %	44.31 %
Preferred Stock	0.11	0.12	0.13	0.13	0.14	0.12
Common Equity	<u>54.75</u>	<u>56.41</u>	<u>55.84</u>	<u>55.06</u>	<u>55.78</u>	<u>55.57</u>
Total Capital	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>

Source of Information
Annual Forms 10-K

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Dec 31 2019

Aqua North Carolina, Inc.
Indicated Common Equity Cost Rate Using the Discounted Cash Flow Model for
Proxy Group of Six Water Companies

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Proxy Group of Six Water Companies	Average Dividend Yield (1)	Value Line Projected Five Year Growth in EPS (2)	Zack's Five Year Projected Growth Rate in EPS (3)	Yahoo! Finance Projected Five Year Growth in EPS (4)	Average Projected Five Year Growth in EPS (3)	Adjusted Dividend Yield (4)	Indicated Common Equity Cost Rate (5)
American States Water Co.	1.38 %	8.00 %	8.00 %	6.00 %	7.33 %	1.43 %	8.76 %
American Water Works Company Inc	1.63	9.50	8.10	8.20	8.60	1.70	10.30
Artesian Resources Corporation	2.76	NA	NA	4.00	4.00	2.82	6.82
California Water Service Group	1.46	8.00	10.00	9.80	9.27	1.53	10.80
Middlesex Water Co.	1.55	7.50	NA	2.70	5.10	1.59	6.69
York Water Co.	1.74	9.50	NA	4.90	7.20	1.80	9.00
						Average	8.73 %
						Median	8.88 %
						Average of Mean and Median	8.81 %

NA= Not Available

Notes:

- (1) Indicated dividend at 10/18/2019 divided by the average closing price of the last 60 trading days ending 10/18/2019 for each company.
- (2) From pages 2 through 7 of this Schedule.
- (3) Average of columns 2 through 4 excluding negative growth rates.
- (4) This reflects a growth rate component equal to one-half the conclusion of growth rate (from column 5) x column 1 to reflect the periodic payment of dividends (Gordon Model) as opposed to the continuous payment. Thus, for American States Water Co. $1.38\% \times (1 + 1/2 \times 7.20\%) = 1.42\%$.
- (5) Column 5 + column 6.

Source of Information:

Value Line Investment Survey
www.zacks.com Downloaded on 10/18/2019
www.yahoo.com Downloaded on 10/18/2019

Dec 31 2019

ARTESIAN RES. CORP. NDQ--ARTNA				RECENT PRICE 36.31		TRAILING P/E RATIO 23.6		RELATIVE P/E RATIO 1.41		DIV'D YLD 2.7%		VALUE LINE	
RANKS				19.99	24.43	24.27	23.82	29.16	35.00	43.22	41.92	40.97	
				15.16	18.20	21.52	19.85	20.00	25.17	29.37	32.00	33.14	
PERFORMANCE 3 Average				<div>LEGENDS</div> <div>12 Mos Mov Avg</div> <div>Rel Price Strength</div> <div>Shaded area indicates recession</div>									
Technical 3 Average													
SAFETY 3 Average													
BETA .65 (1.00 = Market)													
Financial Strength B													
Price Stability 65													
Price Growth Persistence 50													
Earnings Predictability 85													
© VALUE LINE PUBLISHING LLC													
SALES PER SH				7.56	8.10	7.82	8.13	8.50	8.67	8.92	8.69	--	
"CASH FLOW" PER SH				1.64	2.04	1.87	2.04	2.22	2.43	2.55	2.66	--	
EARNINGS PER SH				.83	1.13	.94	1.07	1.26	1.41	1.51	1.54	NA	NA/NA
DIV'DS DECL'D PER SH				.76	.79	.82	.85	.87	.90	.93	.96	--	
CAP'L SPENDING PER SH				1.83	2.36	2.40	2.66	2.28	3.10	4.46	5.30	--	
BOOK VALUE PER SH				13.12	13.57	13.80	14.09	14.61	15.23	15.91	16.57	--	
COMMON SHS OUTST'G (MILL)				8.61	8.71	8.83	8.91	9.06	9.13	9.22	9.25	--	
AVG ANN'L P/E RATIO				22.5	18.3	23.9	20.5	18.0	20.9	24.2	23.9	NA	NA/NA
RELATIVE P/E RATIO				1.41	1.17	1.34	1.08	.93	1.14	1.21	1.35	--	
AVG ANN'L DIV'D YIELD				4.1%	3.8%	3.7%	3.9%	3.8%	3.1%	2.5%	2.6%	--	
SALES (\$MILL)				65.1	70.6	69.1	72.5	77.0	79.1	82.2	80.4	--	Bold figures are consensus earnings estimates and, using the recent prices, P/E ratios.
OPERATING MARGIN				45.5%	48.7%	47.0%	48.8%	43.0%	44.4%	44.6%	46.1%	--	
DEPRECIATION (\$MILL)				7.4	7.9	8.3	8.7	8.8	9.2	9.6	10.3	--	
NET PROFIT (\$MILL)				6.7	9.8	8.3	9.5	11.3	13.0	14.0	14.3	--	
INCOME TAX RATE				40.8%	40.2%	40.2%	40.1%	--	--	--	--	--	
NET PROFIT MARGIN				10.4%	14.0%	12.0%	13.1%	14.7%	16.4%	17.0%	17.8%	--	
WORKING CAP'L (\$MILL)				d11.4	d11.4	d12.3	d13.5	d8.8	d4.7	d9.5	d21.6	--	
LONG-TERM DEBT (\$MILL)				106.5	106.3	105.5	105.0	103.6	102.3	105.6	115.9	--	
SHR. EQUITY (\$MILL)				113.0	118.2	121.8	125.6	132.3	139.0	146.6	153.3	--	
RETURN ON TOTAL CAP'L				4.6%	5.9%	5.1%	5.5%	6.3%	6.7%	6.8%	6.5%	--	
RETURN ON SHR. EQUITY				6.0%	8.3%	6.8%	7.6%	8.5%	9.3%	9.5%	9.3%	--	
RETAINED TO COM EQ				.5%	2.5%	.9%	1.6%	2.6%	3.4%	3.7%	3.6%	--	
ALL DIV'DS TO NET PROF				92%	70%	87%	79%	69%	63%	61%	62%	--	
Note: No analyst estimates available.													
ANNUAL RATES													
of change (per share) 5 Yrs. 1 Yr.													
Sales 2.5% -2.5%													
"Cash Flow" 6.5% 4.0%													
Earnings 9.0% 2.0%													
Dividends 3.0% 3.0%													
Book Value 3.5% 4.0%													
ASSETS (\$mill.) 2017 2018 6/30/19													
Cash Assets 1.0 .3 .2													
Receivables 8.9 8.2 4.6													
Inventory 1.5 1.5 1.3													
Other 7.6 6.1 4.6													
Current Assets 19.0 16.1 10.7													
Property, Plant & Equip, at cost 582.0 629.4 --													
Accum Depreciation 117.6 126.9 --													
Net Property 464.4 502.5 516.0													
Other 11.2 11.2 11.8													
Total Assets 494.6 529.8 538.5													
LIABILITIES (\$mill.)													
Accts Payable 9.2 8.3 5.2													
Debt Due 11.0 17.7 27.5													
Other 8.3 11.7 11.0													
Current Liab 28.5 37.7 43.7													
LONG-TERM DEBT AND EQUITY as of 6/30/19													
Total Debt \$142.5 mill. Due in 5 Yrs. NA													
LT Debt \$115.0 mill.													
Including Cap. Leases NA (43% of Cap'l)													
Leases, Uncapitalized Annual rentals NA													
Pension Liability None in '18 vs. None in '17													
Pfd Stock None Pfd Div'd Paid None													
Common Stock 9,279,000 shares (57% of Cap'l)													
INDUSTRIAL DECISIONS													
4Q'18 1Q'19 2Q'19													
to Buy 38 39 38													
to Sell 27 32 35													
Hld's(000) 3846 3896 3949													
BUSINESS: Artesian Resources Corp. operates as the holding company of nine wholly-owned subsidiaries offering water, wastewater and other services in Delaware, Maryland and Pennsylvania. Artesian Water, its principal subsidiary, distributes and sells water to residential, commercial, industrial, governmental, municipal, and utility customers throughout Delaware. In addition, Artesian Water provides services to other water utilities, including operations and billing functions, and has contract operation agreements with private and municipal water providers. It also provides water for public and private fire protection to customers in service territories. Artesian supplies 7.9 billion gallons of water per year through 1,311 miles of main to nearly a third of Delaware residents. Artesian Wastewater Management, Inc. is a regulated entity that owns wastewater collection and treatment infrastructure and provides wastewater services to customers in Delaware. Has 241 employees. Chairman, C.E.O. & President: Dian C. Taylor Address: 664 Churchmans Rd., Newark, DE 19702. Tel.: (302) 453-6900. Internet: www.artesianresources.com. E.B.													
October 11, 2019													
TOTAL SHAREHOLDER RETURN													
Dividends plus appreciation as of 9/30/2019													
3 Mos. 6 Mos. 1 Yr. 3 Yrs. 5 Yrs.													
0.22% 0.63% 3.33% 40.53% 113.93%													
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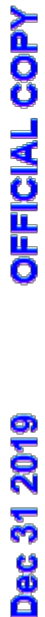
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Dec 31 2019

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Aqua North Carolina, Inc.
Summary of Risk Premium Models for the
Proxy Group of Six Water Companies

	<u>Proxy Group of Six Water Companies</u>
Predictive Risk Premium Model (PRPM) (1)	10.84 %
Risk Premium Using an Adjusted Total Market Approach (2)	<u>9.39 %</u>
Average	<u><u>10.12 %</u></u>

Notes:

(1) From page 2 of this Schedule.

(2) From page 3 of this Schedule.

Aqua North Carolina, Inc.
Indicated ROE
Derived by the Predictive Risk Premium Model (1)

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Proxy Group of Six Water Companies	LT Average Predicted Variance	Spot Predicted Variance	Recommended Variance	GARCH Coefficient	Predicted Risk Premium (2)	Risk-Free Rate (3)	Indicated ROE (4)
American States Water Co.	0.38%	0.44%	0.41%	1.98126	10.16%	2.64%	12.80%
American Water Works Company Inc	NMF	NMF	NMF	6.51236	NMF	2.64%	NMF
Artesian Resources Corporation	0.32%	0.27%	0.29%	2.11410	7.74%	2.64%	10.38%
California Water Service Group	0.32%	0.27%	0.29%	2.02252	7.39%	2.64%	10.03%
Middlesex Water Co.	0.30%	0.24%	0.27%	2.18875	7.39%	2.64%	10.03%
York Water Co.	0.45%	0.31%	0.38%	2.20343	10.61%	2.64%	13.25%
						Average	11.30%
						Median	10.38%
						Average of Mean and Median	10.84%

NMF = Not Meaningful Figure

Notes:

- (1) The Predictive Risk Premium Model uses historical data to generate a predicted variance and a GARCH coefficient. The historical data used are the equity risk premiums for the first available trading month as reported by Bloomberg Professional Service.
- (2) $(1 + (\text{Column [3]} * \text{Column [4]})^{12}) - 1$.
- (3) From note 2 on page 2 of Schedule DWD-5.
- (4) Column [5] + Column [6].

Aqua North Carolina, Inc.
Indicated Common Equity Cost Rate
Through Use of a Risk Premium Model
Using an Adjusted Total Market Approach

<u>Line No.</u>		<u>Proxy Group of Six Water Companies</u>
1.	Prospective Yield on Aaa Rated Corporate Bonds (1)	3.60 %
2.	Adjustment to Reflect Yield Spread Between Aaa Rated Corporate Bonds and A Rated Public Utility Bonds	<u>0.35 (2)</u>
3.	Adjusted Prospective Yield on A Rated Public Utility Bonds	3.95 %
4.	Adjustment to Reflect Bond Rating Difference of Proxy Group	<u>0.06 (3)</u>
5.	Adjusted Prospective Bond Yield	4.01 %
6.	Equity Risk Premium (4)	<u>5.38</u>
7.	Risk Premium Derived Common Equity Cost Rate	<u><u>9.39 %</u></u>

- Notes:
- (1) Consensus forecast of Moody's Aaa Rated Corporate bonds from Blue Chip Financial Forecasts (see pages 10-11 of this Schedule).
 - (2) The average yield spread of A rated public utility bonds over Aaa rated corporate bonds of 0.35% from page 4 of this Schedule.
 - (3) Adjustment to reflect the A2 / A3 Moody's LT issuer rating of the Proxy Group of Six Water Companies as shown on page 5 of this Schedule. The 0.06% upward adjustment is derived by taking 1/6 of the spread between A2 and Baa2 Public Utility Bonds ($1/6 * 0.37\% = 0.06\%$) as derived from page 4 of this Schedule.
 - (4) From page 7 of this Schedule.

Aqua North Carolina, Inc.
Interest Rates and Bond Spreads for
Moody's Corporate and Public Utility Bonds

Selected Bond Yields

	[1]	[2]	[3]
	<u>Aaa Rated Corporate Bond</u>	<u>A Rated Public Utility Bond</u>	<u>Baa Rated Public Utility Bond</u>
Sep-2019	3.03 %	3.37 %	3.71 %
Aug-2019	2.98	3.29	3.63
Jul-2019	<u>3.29</u>	<u>3.69</u>	<u>4.13</u>
Average	<u><u>3.10 %</u></u>	<u><u>3.45 %</u></u>	<u><u>3.82 %</u></u>

Selected Bond Spreads

A Rated Public Utility Bonds Over Aaa Rated Corporate Bonds:	<u><u>0.35 % (1)</u></u>
Baa Rated Public Utility Bonds Over A Rated Public Utility Bonds:	<u><u>0.37 % (2)</u></u>

Notes:

- (1) Column [2] - Column [1].
(2) Column [3] - Column [2].

Source of Information:

Bloomberg Professional Service

Aqua North Carolina, Inc.
Comparison of Long-Term Issuer Ratings for
Proxy Group of Six Water Companies

	Moody's		Standard & Poor's	
	Long-Term Issuer Rating		Long-Term Issuer Rating	
	October 2019		October 2019	
<u>Proxy Group of Six Water Companies</u>	<u>Long-Term Issuer Rating</u>	<u>Numerical Weighting (1)</u>	<u>Long-Term Issuer Rating</u>	<u>Numerical Weighting(1)</u>
American States Water Co. (2)	A2	6.0	A+	5.0
American Water Works Company Inc (3)	A3	7.0	A	6.0
Artesian Resources Corporation	NR	--	NR	--
California Water Service Group (4)	NR	--	A+	5.0
Middlesex Water Co.	NR	--	A	6.0
York Water Co.	NR	--	A-	7.0
Average	<u>A2 / A3</u>	<u>6.5</u>	<u>A</u>	<u>5.8</u>

Notes:

- (1) From page 6 of this Schedule.
- (2) Ratings that of Golden State Water Company.
- (3) Ratings that of New Jersey and Pennsylvania American Water Companies.
- (4) Ratings that of California Water Service Company.

Source Information: Moody's Investors Service
Standard & Poor's Global Utilities Rating Service

Numerical Assignment for
Moody's and Standard & Poor's Bond Ratings

<u>Moody's Bond Rating</u>	<u>Numerical Bond Weighting</u>	<u>Standard & Poor's Bond Rating</u>
Aaa	1	AAA
Aa1	2	AA+
Aa2	3	AA
Aa3	4	AA-
A1	5	A+
A2	6	A
A3	7	A-
Baa1	8	BBB+
Baa2	9	BBB
Baa3	10	BBB-
Ba1	11	BB+
Ba2	12	BB
Ba3	13	BB-
B1	14	B+
B2	15	B
B3	16	B-

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Aqua North Carolina, Inc.
Judgment of Equity Risk Premium for
Proxy Group of Six Water Companies

<u>Line No.</u>		<u>Proxy Group of Six Water Companies</u>
1.	Calculated equity risk premium based on the total market using the beta approach (1)	5.66 %
2.	Mean equity risk premium based on a study using the holding period returns of public utilities with A rated bonds (2)	<u>5.10</u>
3.	Average equity risk premium	<u><u>5.38 %</u></u>

Notes: (1) From page 8 of this Schedule.
(2) From page 12 of this Schedule.

Aqua North Carolina, Inc.
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for the
Proxy Group of Six Water Companies

<u>Line No.</u>	<u>Equity Risk Premium Measure</u>	<u>Proxy Group of Six Water Companies</u>
<u>Ibbotson-Based Equity Risk Premiums:</u>		
1.	Ibbotson Equity Risk Premium (1)	5.54 %
2.	Regression on Ibbotson Risk Premium Data (2)	8.70
3.	Ibbotson Equity Risk Premium based on PRPM (3)	8.12
4.	Equity Risk Premium Based on Value Line Summary and Index (4)	10.23
5.	Equity Risk Premium Based on Value Line S&P 500 Companies (5)	10.92
6.	Equity Risk Premium Based on Bloomberg S&P 500 Companies (6)	<u>9.56</u>
7.	Conclusion of Equity Risk Premium	8.85 %
8.	Adjusted Beta (7)	<u>0.64</u>
9.	Forecasted Equity Risk Premium	<u><u>5.66</u></u> %

Notes provided on page 9 of this Schedule.

Aqua North Carolina, Inc.
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for the
Proxy Group of Six Water Companies

Notes:

- (1) Based on the arithmetic mean historical monthly returns on large company common stocks from Ibbotson® S&P® 2019 Market Report minus the arithmetic mean monthly yield of Moody's average Aaa and Aa corporate bonds from 1926-2018.
- (2) This equity risk premium is based on a regression of the monthly equity risk premiums of large company common stocks relative to Moody's average Aaa and Aa rated corporate bond yields from 1928-2018 referenced in Note 1 above.
- (3) The Predictive Risk Premium Model (PRPM) is discussed in the accompanying direct testimony. The Ibbotson equity risk premium based on the PRPM is derived by applying the PRPM to the monthly risk premiums between Ibbotson large company common stock monthly returns and average Aaa and Aa corporate monthly bond yields, from January 1928 through September 2019.
- (4) The equity risk premium based on the Value Line Summary and Index is derived by subtracting the average consensus forecast of Aaa corporate bonds of 3.60% (from page 3 of this Schedule) from the projected 3-5 year total annual market return of 13.83% (described fully in note 1 on page 2 of Schedule DWD-5).
- (5) Using data from Value Line for the S&P 500, an expected total return of 14.52% was derived based upon expected dividend yields and long-term earnings growth estimates as a proxy for capital appreciation. Subtracting the average consensus forecast of Aaa corporate bonds of 3.60% results in an expected equity risk premium of 10.92%.
- (6) Using data from the Bloomberg Professional Service for the S&P 500, an expected total return of 13.16% was derived based upon expected dividend yields and long-term earnings growth estimates as a proxy for capital appreciation. Subtracting the average consensus forecast of Aaa corporate bonds of 3.60% results in an expected equity risk premium of 9.56%.
- (7) Average of mean and median beta from Schedule DWD-5.

Sources of Information:

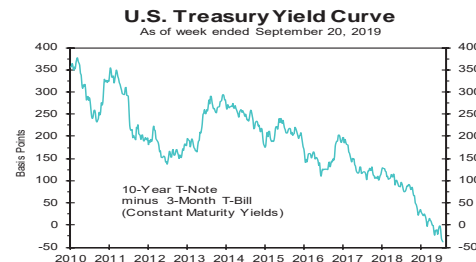
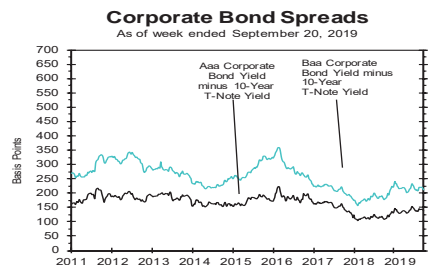
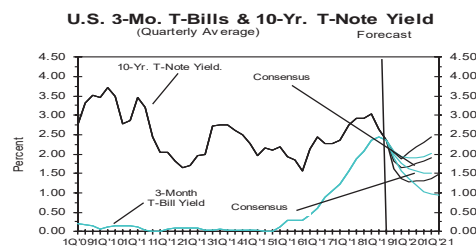
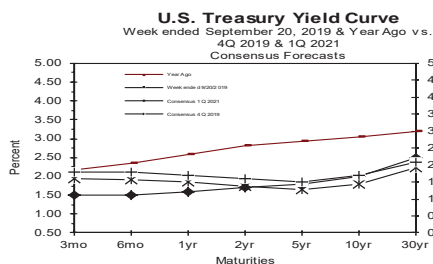
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Bloomberg Professional Service

2 ■ BLUE CHIP FINANCIAL FORECASTS ■ OCTOBER 1, 2019

Consensus Forecasts of U.S. Interest Rates and Key Assumptions

Interest Rates	History								Consensus Forecasts-Quarterly Avg.						
	Average For Week Ending				Average For Month				Latest Qtr	4Q 2019	1Q 2020	2Q 2020	3Q 2020	4Q 2020	1Q 2021
Federal Funds Rate	Sep 20	Sep 13	Sep 6	Aug 30	Aug	Jul	Jun	3Q 2019*		1.8	1.6	1.5	1.5	1.5	1.4
Prime Rate	2.19	2.13	2.13	2.12	2.13	2.40	2.38	2.25		4.9	4.8	4.7	4.7	4.6	4.6
LIBOR, 3-mo.	5.25	5.25	5.25	5.25	5.25	5.50	5.50	5.35		2.0	1.9	1.8	1.8	1.8	1.8
Commercial Paper, 1-mo.	2.15	2.13	2.12	2.13	2.16	2.29	2.40	2.21		1.9	1.7	1.6	1.6	1.6	1.5
Treasury bill, 3-mo.	2.07	2.04	2.03	2.06	2.08	2.25	2.35	2.14		1.8	1.6	1.6	1.5	1.5	1.5
Treasury bill, 6-mo.	1.95	1.96	1.97	1.99	1.99	2.15	2.22	2.04		1.8	1.7	1.6	1.5	1.6	1.5
Treasury bill, 1 yr.	1.92	1.89	1.88	1.90	1.93	2.08	2.17	1.98		1.7	1.6	1.6	1.6	1.6	1.6
Treasury note, 2 yr.	1.86	1.81	1.72	1.75	1.77	1.96	2.00	1.85		1.6	1.6	1.6	1.6	1.6	1.7
Treasury note, 5 yr.	1.73	1.69	1.50	1.52	1.57	1.84	1.81	1.69		1.5	1.6	1.6	1.7	1.7	1.8
Treasury note, 10 yr.	1.66	1.61	1.38	1.40	1.49	1.83	1.83	1.63		1.7	1.7	1.8	1.8	1.9	2.0
Treasury note, 30 yr.	1.80	1.76	1.52	1.50	1.63	2.06	2.07	1.81		2.1	2.2	2.2	2.3	2.4	2.5
Corporate Aaa bond	2.24	2.22	2.00	1.98	2.12	2.57	2.57	2.30		3.0	3.0	3.2	3.3	3.4	3.5
Corporate Baa bond	3.18	3.18	2.96	2.93	3.06	3.43	3.56	3.21		4.0	4.1	4.2	4.3	4.4	4.4
State & Local bonds	3.92	3.92	3.72	3.70	3.82	4.16	4.33	3.96		2.9	2.9	3.0	3.1	3.1	3.2
Home mortgage rate	3.21	3.14	3.06	3.05	3.08	3.24	3.29	3.15		3.6	3.6	3.7	3.7	3.8	3.8
	3.73	3.56	3.49	3.58	3.62	3.77	3.80	3.66							
Key Assumptions	History								Consensus Forecasts-Quarterly						
	4Q 2019	1Q 2020	2Q 2020	3Q 2020	4Q 2019	1Q 2020	2Q 2020	3Q 2020	4Q 2019	1Q 2020	2Q 2020	3Q 2020	4Q 2020	1Q 2021	2Q 2021
Fed's AFE \$ Index	2017	2018	2018	2018	2018	2019	2019	2019	110.2	110.4	110.3	110.0	109.2	108.9	108.9
Real GDP	3.5	2.5	3.5	2.9	1.1	3.1	2.0	2.0	1.8	1.7	1.7	1.6	1.8	1.9	1.9
GDP Price Index	2.6	2.3	3.2	2.0	1.6	1.1	2.4	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.0
Consumer Price Index	3.1	3.2	2.1	2.0	1.5	0.9	2.9	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0

Forecasts for interest rates and the Federal Reserve's Major Currency Index represent averages for the quarter. Forecasts for Real GDP, GDP Price Index and Consumer Price Index are seasonally-adjusted annual rates of change (saar). Individual panel members' forecasts are on pages 4 through 9. Historical data: Treasury rates from the Federal Reserve Board's H.15; AAA-AA and A-BBB corporate bond yields from Bank of America-Merrill Lynch and are 15+ years, yield to maturity; State and local bond yields from Bank of America-Merrill Lynch, A-rated, yield to maturity; Mortgage rates from Freddie Mac, 30-year, fixed; LIBOR quotes from Intercontinental Exchange. All interest rate data are sourced from Haver Analytics. Historical data for Fed's Major Currency Index are from FRSR H.10. Historical data for Real GDP and GDP Chained Price Index are from the Bureau of Economic Analysis (BEA). Consumer Price Index (CPI) history is from the Department of Labor's Bureau of Labor Statistics (BLS). *Interest rate data for 3Q 2019 are based on historical data through the week ended September 20. **Data for 3Q 2019 for the Fed's AFE \$ Index based on data through week ended September 20. Figures for 3Q 2019 Real GDP, GDP Chained Price Index and Consumer Price Index are consensus forecasts based on a special question asked of the panelists this month.



14 ■ BLUE CHIP FINANCIAL FORECASTS ■ JUNE 1, 2019

Long-Range Survey:

The table below contains the results of our twice-annual long-range CONSENSUS survey. There are also Top 10 and Bottom 10 averages for each variable. Shown are consensus estimates for the years 2021 through 2025 and averages for the five-year periods 2021-2025 and 2026-2030. Apply these projections cautiously. Few if any economic, demographic and political forces can be evaluated accurately over such long time spans.

		Average For The Year					Five-Year Averages	
		2021	2022	2023	2024	2025	2021-2025	2026-2030
1. Federal Funds Rate	CONSENSUS	2.4	2.4	2.6	2.7	2.8	2.6	2.8
	Top 10 Average	3.1	3.2	3.4	3.4	3.4	3.3	3.4
	Bottom 10 Average	1.5	1.6	1.7	2.1	2.2	1.8	2.1
2. Prime Rate	CONSENSUS	5.4	5.5	5.6	5.8	5.8	5.6	5.7
	Top 10 Average	6.1	6.2	6.4	6.4	6.4	6.3	6.2
	Bottom 10 Average	4.6	4.7	4.8	5.1	5.3	4.9	5.1
3. LIBOR, 3-Mo.	CONSENSUS	2.7	2.8	2.8	3.0	3.0	2.9	3.0
	Top 10 Average	3.3	3.4	3.6	3.6	3.6	3.5	3.6
	Bottom 10 Average	2.1	2.1	2.0	2.4	2.5	2.2	2.5
4. Commercial Paper, 1-Mo.	CONSENSUS	2.5	2.6	2.7	2.9	2.9	2.7	2.9
	Top 10 Average	3.1	3.2	3.4	3.4	3.5	3.3	3.4
	Bottom 10 Average	2.0	2.0	2.0	2.4	2.4	2.2	2.4
5. Treasury Bill Yield, 3-Mo.	CONSENSUS	2.4	2.4	2.5	2.7	2.8	2.6	2.8
	Top 10 Average	3.1	3.2	3.4	3.4	3.4	3.3	3.4
	Bottom 10 Average	1.5	1.6	1.7	2.0	2.2	1.8	2.1
6. Treasury Bill Yield, 6-Mo.	CONSENSUS	2.4	2.5	2.7	2.9	2.9	2.7	2.9
	Top 10 Average	3.1	3.3	3.5	3.5	3.5	3.4	3.5
	Bottom 10 Average	1.7	1.7	1.8	2.2	2.4	2.0	2.3
7. Treasury Bill Yield, 1-Yr.	CONSENSUS	2.5	2.6	2.8	3.0	3.0	2.8	3.0
	Top 10 Average	3.3	3.4	3.6	3.6	3.7	3.5	3.7
	Bottom 10 Average	1.8	1.8	2.0	2.3	2.4	2.0	2.3
8. Treasury Note Yield, 2-Yr.	CONSENSUS	2.6	2.7	2.9	3.0	3.1	2.9	3.1
	Top 10 Average	3.3	3.5	3.7	3.8	3.8	3.6	3.8
	Bottom 10 Average	1.8	1.9	2.0	2.3	2.4	2.1	2.3
10. Treasury Note Yield, 5-Yr.	CONSENSUS	2.8	2.9	3.1	3.2	3.3	3.0	3.3
	Top 10 Average	3.5	3.7	4.0	4.0	4.0	3.8	4.1
	Bottom 10 Average	2.0	2.1	2.2	2.3	2.5	2.2	2.4
11. Treasury Note Yield, 10-Yr.	CONSENSUS	3.0	3.1	3.3	3.3	3.4	3.2	3.4
	Top 10 Average	3.6	3.9	4.2	4.2	4.2	4.0	4.4
	Bottom 10 Average	2.3	2.4	2.4	2.5	2.6	2.4	2.6
12. Treasury Bond Yield, 30-Yr.	CONSENSUS	3.3	3.5	3.6	3.7	3.8	3.6	3.8
	Top 10 Average	4.0	4.3	4.5	4.6	4.6	4.4	4.8
	Bottom 10 Average	2.7	2.7	2.8	2.9	2.9	2.8	2.9
13. Corporate Aaa Bond Yield	CONSENSUS	4.4	4.6	4.7	4.7	4.8	4.6	4.8
	Top 10 Average	5.0	5.2	5.5	5.5	5.5	5.3	5.6
	Bottom 10 Average	3.8	3.9	3.9	4.0	4.0	3.9	4.0
13. Corporate Baa Bond Yield	CONSENSUS	5.3	5.6	5.7	5.7	5.7	5.6	5.8
	Top 10 Average	6.0	6.3	6.6	6.6	6.7	6.5	6.8
	Bottom 10 Average	4.7	4.8	4.7	4.8	4.8	4.7	4.8
14. State & Local Bonds Yield	CONSENSUS	4.1	4.2	4.3	4.3	4.3	4.2	4.4
	Top 10 Average	4.6	4.9	5.0	5.0	5.0	4.9	5.1
	Bottom 10 Average	3.5	3.6	3.6	3.6	3.6	3.6	3.6
15. Home Mortgage Rate	CONSENSUS	4.7	4.8	4.9	5.0	5.0	4.9	5.0
	Top 10 Average	5.3	5.5	5.8	5.8	5.8	5.6	5.9
	Bottom 10 Average	4.0	4.0	4.0	4.2	4.2	4.1	4.2
A. Fed's AFE Nominal \$ Index	CONSENSUS	108.5	108.2	108.0	107.6	106.9	107.8	106.7
	Top 10 Average	110.8	110.5	110.9	110.8	110.6	110.7	111.2
	Bottom 10 Average	106.6	105.8	104.9	104.6	103.6	105.1	102.9
		Year-Over-Year, % Change					Five-Year Averages	
		2021	2022	2023	2024	2025	2021-2025	2026-2030
B. Real GDP	CONSENSUS	1.9	1.9	2.0	2.1	2.1	2.0	2.1
	Top 10 Average	2.3	2.4	2.4	2.5	2.5	2.4	2.6
	Bottom 10 Average	1.5	1.4	1.6	1.8	1.8	1.6	1.8
C. GDP Chained Price Index	CONSENSUS	2.1	2.1	2.0	2.0	2.0	2.1	2.0
	Top 10 Average	2.4	2.4	2.2	2.2	2.2	2.3	2.2
	Bottom 10 Average	1.8	1.8	1.8	1.9	1.9	1.9	1.8
D. Consumer Price Index	CONSENSUS	2.1	2.2	2.2	2.1	2.1	2.1	2.1
	Top 10 Average	2.5	2.4	2.4	2.4	2.4	2.4	2.4
	Bottom 10 Average	1.7	1.8	1.9	1.9	1.9	1.8	1.8

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Aqua North Carolina, Inc.
Derivation of Mean Equity Risk Premium Based Studies
Using Holding Period Returns and
Projected Market Appreciation of the S&P Utility Index

<u>Line No.</u>		<u>Implied Equity Risk Premium</u>
	<u>Equity Risk Premium based on S&P Utility Index Holding Period Returns (1):</u>	
1.	Historical Equity Risk Premium	4.00 %
2.	Regression of Historical Equity Risk Premium (2)	6.30
3.	Forecasted Equity Risk Premium Based on PRPM (3)	3.92
4.	Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (Value Line Data) (4)	6.30
5.	Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (Bloomberg Data) (5)	<u>4.99</u>
6.	Average Equity Risk Premium (6)	<u><u>5.10 %</u></u>

Notes: (1) Based on S&P Public Utility Index monthly total returns and Moody's Public Utility Bond average monthly yields from 1928-2018. Holding period returns are calculated based upon income received (dividends and interest) plus the relative change in the market value of a security over a one-year holding period.

(2) This equity risk premium is based on a regression of the monthly equity risk premiums of the S&P Utility Index relative to Moody's A rated public utility bond yields from 1928 - 2018 referenced in note 1 above.

(3) The Predictive Risk Premium Model (PRPM) is applied to the risk premium of the monthly total returns of the S&P Utility Index and the monthly yields on Moody's A rated public utility bonds from January 1928 - September 2019.

(4) Using data from Value Line for the S&P Utilities Index, an expected return of 10.25% was derived based on expected dividend yields and long-term growth estimates as a proxy for market appreciation. Subtracting the expected A rated public utility bond yield of 3.95%, calculated on line 3 of page 3 of this Schedule results in an equity risk premium of 6.30%. $(10.25\% - 3.95\% = 6.30\%)$

(5) Using data from Bloomberg Professional Service for the S&P Utilities Index, an expected return of 8.94% was derived based on expected dividend yields and long-term growth estimates as a proxy for market appreciation. Subtracting the expected A rated public utility bond yield of 3.95%, calculated on line 3 of page 3 of this Schedule results in an equity risk premium of 4.99%. $(8.94\% - 3.95\% = 4.99\%)$

(6) Average of lines 1 through 5.

Aqua North Carolina, Inc.
Indicated Common Equity Cost Rate Through Use
of the Traditional Capital Asset Pricing Model (CAPM) and Empirical Capital Asset Pricing Model (ECAPM)

Proxy Group of Six Water Companies	[1] Value Line Adjusted Beta	[2] Bloomberg Adjusted Beta	[3] Average Beta	[4] Market Risk Premium (1)	[5] Risk-Free Rate (2)	[6] Traditional CAPM Cost Rate	[7] ECAPM Cost Rate	[8] Indicated Common Equity Cost Rate (3)
American States Water Co.	0.65	0.53	0.59	9.87 %	2.64 %	8.46 %	9.47 %	8.97 %
American Water Works Company Inc	0.60	0.57	0.59	9.87	2.64	8.46	9.47	8.97
Artesian Resources Corporation	0.65	0.55	0.60	9.87	2.64	8.56	9.55	9.05
California Water Service Group	0.70	0.61	0.66	9.87	2.64	9.15	9.99	9.57
Middlesex Water Co.	0.70	0.70	0.70	9.87	2.64	9.55	10.29	9.92
York Water Co.	0.75	0.62	0.69	9.87	2.64	9.45	10.21	9.83
Mean			0.64			8.94 %	9.83 %	9.39 %
Median			0.63			8.86 %	9.77 %	9.31 %
Average of Mean and Median			0.64			8.90	9.80	9.35 %

Notes on page 2 of this Schedule.

Aqua North Carolina, Inc.
Notes to Accompany the Application of the CAPM and ECAPM

Notes:

- (1) The market risk premium (MRP) is derived by using six different measures from three sources: Ibbotson, Value Line, and Bloomberg as illustrated below:

Historical Data MRP Estimates:

Measure 1: Ibbotson Arithmetic Mean MRP (1926-2018)

Arithmetic Mean Monthly Returns for Large Stocks 1926-2018:	11.89 %
Arithmetic Mean Income Returns on Long-Term Government Bonds:	5.12
MRP based on Ibbotson Historical Data:	<u>6.77 %</u>

Measure 2: Application of a Regression Analysis to Ibbotson Historical Data (1926-2018)

9.69 %

Measure 3: Application of the PRPM to Ibbotson Historical Data:
(January 1926 - September 2019)

9.14 %

Value Line MRP Estimates:

Measure 4: Value Line Projected MRP (Thirteen weeks ending October 18, 2019)

Total projected return on the market 3-5 years hence*:	13.83 %
Projected Risk-Free Rate (see note 2):	2.64
MRP based on Value Line Summary & Index:	<u>11.19 %</u>
*Forecasted 3-5 year capital appreciation plus expected dividend yield	

Measure 5: Value Line Projected Return on the Market based on the S&P 500

Total return on the Market based on the S&P 500:	14.52 %
Projected Risk-Free Rate (see note 2):	2.64
MRP based on Value Line data	<u>11.88 %</u>

Measure 6: Bloomberg Projected MRP

Total return on the Market based on the S&P 500:	13.16 %
Projected Risk-Free Rate (see note 2):	2.64
MRP based on Bloomberg data	<u>10.52 %</u>

Average of Value Line, Ibbotson, and Bloomberg MRP: 9.87 %

- (2) For reasons explained in the direct testimony, the appropriate risk-free rate for cost of capital purposes is the average forecast of 30 year Treasury Bonds per the consensus of nearly 50 economists reported in Blue Chip Financial Forecasts. (See pages 10-11 of Schedule DWD-4.) The projection of the risk-free rate is illustrated below:

Fourth Quarter 2019	2.10 %
First Quarter 2020	2.20
Second Quarter 2020	2.20
Third Quarter 2020	2.30
Fourth Quarter 2020	2.40
First Quarter 2021	2.50
2021-2025	3.60
2026-2030	3.80
	<u>2.64 %</u>

- (3) Average of Column 6 and Column 7.

Sources of Information:

Value Line Summary and Index
Blue Chip Financial Forecasts, October 1, 2019 and June 1, 2019
Stocks, Bonds, Bills, and Inflation - 2019 SBBI Yearbook, John Wiley & Sons, Inc.
Bloomberg Professional Services

Aqua North Carolina, Inc.
Basis of Selection of the Group of Non-Price Regulated Companies
Comparable in Total Risk to the Utility Proxy Group

The criteria for selection of the Non-Price Regulated Proxy Group was that the non-price regulated companies be domestic and reported in Value Line Investment Survey (Standard Edition).

The Non-Price Regulated Proxy Group was then selected based on the unadjusted beta range of 0.24 – 0.68 and residual standard error of the regression range of 2.7385 – 3.2661 of the Utility Proxy Group.

These ranges are based upon plus or minus two standard deviations of the unadjusted beta and standard error of the regression. Plus or minus two standard deviations captures 95.50% of the distribution of unadjusted betas and residual standard errors of the regression.

The standard deviation of the Utility Proxy Group's residual standard error of the regression is 0.1319. The standard deviation of the standard error of the regression is calculated as follows:

$$\text{Standard Deviation of the Std. Err. of the Regr.} = \frac{\text{Standard Error of the Regression}}{\sqrt{2N}}$$

where: N = number of observations. Since Value Line betas are derived from weekly price change observations over a period of five years, N = 259

$$\text{Thus, } 0.1070 = \frac{3.0023}{\sqrt{518}} = \frac{3.0023}{22.7596}$$

Source of Information: Value Line, Inc., September 2019
Value Line Investment Survey (Standard Edition)

Aqua North Carolina, Inc.
Basis of Selection of Comparable Risk
Domestic Non-Price Regulated Companies

	[1]	[2]	[3]	[4]
	Value Line Adjusted Beta	Unadjusted Beta	Residual Standard Error of the Regression	Standard Deviation of Beta
<u>Proxy Group of Six Water Companies</u>				
American States Water Co.	0.65	0.45	2.6675	0.0960
American Water Works Company Inc	0.60	0.34	2.1751	0.0783
Artesian Resources Corporation	0.65	0.41	3.4253	0.1233
California Water Service Group	0.70	0.48	2.9094	0.1047
Middlesex Water Co.	0.70	0.54	3.3409	0.1202
York Water Co.	0.75	0.55	3.4957	0.1258
Average	0.68	0.46	3.0023	0.1081
Beta Range (+/- 2 std. Devs. of Beta)	0.24	0.68		
2 std. Devs. of Beta	0.22			
Residual Std. Err. Range (+/- 2 std. Devs. of the Residual Std. Err.)	2.7385	3.2661		
Std. dev. of the Res. Std. Err.	0.1319			
2 std. devs. of the Res. Std. Err.	0.2638			

Source of Information: Valueline Proprietary Database, September 2019

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Aqua North Carolina, Inc.
Proxy Group of Non-Price Regulated Companies
Comparable in Total Risk to the
Proxy Group of Six Water Companies

	[1]	[2]	[3]	[4]
Proxy Group of Ten Non-Price Regulated Companies	VL Adjusted Beta	Unadjusted Beta	Residual Standard Error of the Regression	Standard Deviation of Beta
AutoZone Inc.	0.80	0.64	2.8861	0.1039
Cheesecake Factory	0.75	0.55	2.8814	0.1037
Casey's Gen'l Stores	0.75	0.56	3.0241	0.1088
Cracker Barrel	0.70	0.54	3.0683	0.1104
Campbell Soup	0.65	0.46	2.9384	0.1057
Dunkin' Brands Group	0.70	0.47	2.8395	0.1022
Darden Restaurants	0.80	0.63	2.9091	0.1047
Tyson Foods 'A'	0.75	0.59	3.2539	0.1171
Texas Roadhouse	0.80	0.67	3.1481	0.1133
Viad Corp.	0.80	0.64	3.0017	0.1080
Average	0.75	0.58	3.0000	0.1100
Proxy Group of Six Water Companies	0.68	0.46	3.0023	0.1081

Source of Information:

Valueline Proprietary Database, September 2019

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Aqua North Carolina, Inc.
Coefficients of Variation of the
Proxy Group of Six Water Companies
and the Proxy Group of Ten Non-Price Regulated Companies

Proxy Group of Six Water Companies	Net Profit (millions)										Standard Deviation	Mean	Coefficient of Variation
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018			
American States Water Co.	\$ 29.5	\$ 41.4	\$ 42.0	\$ 54.1	\$ 62.7	\$ 61.1	\$ 60.5	\$ 59.7	\$ 69.4	\$ 63.9	\$ 12.0	\$ 54.4	0.2203
American Water Works Company Inc	209.9	267.8	304.9	374.3	369.3	429.8	476.0	468.0	426.0	567.0	101.5	389.3	0.2607
Artesian Resources Corporation	7.3	7.6	6.7	9.8	8.3	9.5	11.3	13.0	14.0	14.3	2.7	10.2	0.2635
California Water Service Group	40.6	37.7	36.1	42.6	47.3	56.7	45.0	48.7	67.2	65.6	10.4	48.8	0.2142
Middlesex Water Co.	10.0	14.3	13.4	14.4	16.6	18.4	20.0	22.7	22.8	32.5	6.1	18.5	0.3289
York Water Co.	7.5	8.9	9.1	9.3	9.7	11.5	12.5	11.8	13.0	13.4	1.9	10.7	0.1794
												Mean	0.2445
												Median	0.2405

Proxy Group of Ten Non-Price Regulated Companies	Net Profit (millions)										Standard Deviation	Mean	Coefficient of Variation
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018			
AutoZone Inc.	\$ 657.1	\$ 738.3	\$ 849.0	\$ 930.4	\$ 1,016.5	\$ 1,069.7	\$ 1,160.2	\$ 1,241.0	\$ 1,280.9	\$ 1,406.3	\$ 231.2	\$ 1,034.9	0.2234
Cheesecake Factory	58.8	86.1	95.1	103.8	114.0	101.7	120.1	139.6	125.1	112.3	21.4	105.7	0.2021
Casey's Gen'l Stores	117.0	94.6	116.8	110.6	134.5	183.0	226.0	177.5	143.0	203.9	42.0	150.7	0.2786
Cracker Barrel	66.0	85.3	91.1	107.9	119.0	135.1	163.9	189.3	201.9	222.2	50.9	138.2	0.3684
Campbell Soup	771.0	844.0	846.0	783.0	786.0	800.0	831.0	914.0	932.0	868.0	52.3	837.5	0.0624
Dunkin' Brands Group	NA	95.9	101.7	149.7	165.8	186.4	188.0	208.7	223.8	246.3	48.6	174.0	0.2792
Darden Restaurants	381.5	414.2	478.7	476.5	412.6	183.2	342.9	456.6	504.5	606.2	106.3	425.7	0.2498
Tyson Foods 'A'	24.0	780.0	750.0	701.0	829.0	1,036.0	1,326.0	1,768.0	1,966.0	2,273.0	649.8	1,145.3	0.5673
Texas Roadhouse	47.5	58.3	64.0	74.2	80.4	87.0	96.9	120.1	140.7	158.2	34.6	92.7	0.3726
Viad Corp.	(2.2)	3.6	11.3	22.0	25.5	32.1	29.4	48.9	53.5	47.7	18.2	27.2	0.6699
												Mean	0.3274
												Median	0.2789

NA = Not Available
Bold figures indicate estimates

Source of Information:
Value Line Investment Survey

Aqua North Carolina, Inc.
Summary of Cost of Equity Models Applied to
Proxy Group of Ten Non-Price Regulated Companies
Comparable in Total Risk to the
Proxy Group of Six Water Companies

<u>Principal Methods</u>	<u>Proxy Group of Ten Non-Price Regulated Companies</u>
Discounted Cash Flow Model (DCF) (1)	11.63 %
Risk Premium Model (RPM) (2)	11.41
Capital Asset Pricing Model (CAPM) (3)	<u>10.44</u>
	Mean <u>11.16 %</u>
	Median <u>11.41 %</u>
	Average of Mean and Median <u>11.29 %</u>

Notes:

- (1) From page 2 of this Schedule.
- (2) From page 3 of this Schedule.
- (3) From page 6 of this Schedule.

Aqua North Carolina, Inc.
DCF Results for the Proxy Group of Non-Price-Regulated Companies Comparable in Total Risk to the
Proxy Group of Six Water Companies

	[1]	[2]	[4]	[5]	[6]	[7]	[8]
Proxy Group of Ten Non-Price Regulated Companies	Average Dividend Yield	Value Line Projected Five Year Growth in EPS	Zack's Five Year Projected Growth Rate in EPS	Yahoo! Finance Projected Five Year Growth in EPS	Average Projected Five Year Growth Rate in EPS	Adjusted Dividend Yield	Indicated Common Equity Cost Rate (1)
AutoZone Inc.	-	13.50	12.20	10.25	11.98	-	NA
Cheesecake Factory	3.60	7.50	11.80	6.98	8.76	3.76	12.52
Casey's Gen'l Stores	0.77	5.50	9.10	7.88	7.49	0.80	8.29
Cracker Barrel	3.16	10.00	10.00	NMF	10.00	3.32	13.32
Campbell Soup	3.13	1.00	6.00	NMF	3.50	3.18	6.68
Dunkin' Brands Group	1.87	10.00	9.80	7.58	9.13	1.96	11.09
Darden Restaurants	2.95	11.00	8.90	8.63	9.51	3.09	12.60
Tyson Foods 'A'	0.75	7.50	NA	6.25	6.88	0.78	7.66
Texas Roadhouse	2.30	12.50	11.30	8.55	10.78	2.42	13.20
Viad Corp.	0.60	9.50	NA	14.00	11.75	0.64	12.39
						Mean	10.86
						Median	12.39
					Average of Mean and Median		11.63

NA= Not Available
NMF= Not Meaningful Figure

(1) The application of the DCF model to the domestic, non-price regulated comparable risk companies is identical to the application of the DCF to the utility proxy group. The dividend yield is derived by using the 60 day average price and the spot indicated dividend as of October 18, 2019. The dividend yield is then adjusted by 1/2 the average projected growth rate in EPS, which is calculated by averaging the 5 year projected growth in EPS provided by Value Line, www.reuters.com, www.zacks.com, and www.yahoo.com (excluding any negative growth rates) and then adding that growth rate to the adjusted dividend yield.

Source of Information: Value Line Investment Survey
www.reuters.com Downloaded on 10/18/2019
www.zacks.com Downloaded on 10/18/2019
www.yahoo.com Downloaded on 10/18/2019

Aqua North Carolina, Inc.
Indicated Common Equity Cost Rate
Through Use of a Risk Premium Model
Using an Adjusted Total Market Approach

<u>Line No.</u>		<u>Proxy Group of Ten Non-Price Regulated Companies</u>
1.	Prospective Yield on Baa Rated Corporate Bonds (1)	4.60 %
2.	Equity Risk Premium (2)	<u>6.81</u>
3.	Risk Premium Derived Common Equity Cost Rate	<u><u>11.41 %</u></u>

Notes: (1) Average forecast of Baa corporate bonds based upon the consensus of nearly 50 economists reported in Blue Chip Financial Forecasts dated October 1, 2019 and June 1, 2019 (see pages 10 and 11 of Schedule DWD-4). The estimates are detailed below.

Fourth Quarter 2019	4.00 %
First Quarter 2020	4.10
Second Quarter 2020	4.20
Third Quarter 2020	4.30
Fourth Quarter 2020	4.40
First Quarter 2021	4.40
2021-2025	5.60
2026-2030	<u>5.80</u>
Average	<u><u>4.60 %</u></u>

(2) From page 5 of this Schedule.

Aqua North Carolina, Inc.
Comparison of Long-Term Issuer Ratings for the
Proxy Group of Ten Non-Price Regulated Companies of Comparable risk to the
Proxy Group of Six Water Companies

Proxy Group of Ten Non-Price Regulated Companies	Moody's Long-Term Issuer Rating October 2019		Standard & Poor's Long-Term Issuer Rating October 2019	
	Long- Term Issuer Rating	Numerical Weighting (1)	Long-Term Issuer Rating	Numerical Weighting (1)
AutoZone Inc.	Baa1	8.0	BBB	9.0
Cheesecake Factory	NR	--	NR	--
Casey's Gen'l Stores	NR	--	NR	--
Cracker Barrel	WR	--	NR	--
Campbell Soup	Baa2	9.0	BBB-	10.0
Dunkin' Brands Group	NR	--	NR	--
Darden Restaurants	Baa2	9.0	BBB	9.0
Tyson Foods 'A'	Baa2	9.0	BBB	9.0
Texas Roadhouse	NR	--	NR	--
Viad Corp.	WR	--	NR	--
Average	Baa2	8.8	BBB	9.3

Notes:

(1) From page 6 of Schedule DWD-4.

Source of Information:
Bloomberg Professional Services

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Aqua North Carolina, Inc.
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for
Proxy Group of Ten Non-Price Regulated Companies of Comparable risk to the
Proxy Group of Six Water Companies

<u>Line No.</u>	<u>Equity Risk Premium Measure</u>	<u>Proxy Group of Ten Non-Price Regulated Companies</u>
<u>Ibbotson-Based Equity Risk Premiums:</u>		
1.	Ibbotson Equity Risk Premium (1)	5.54 %
2.	Regression on Ibbotson Risk Premium Data (2)	8.70
3.	Ibbotson Equity Risk Premium based on PRPM (3)	8.12
4.	Equity Risk Premium Based on <u>Value Line</u> Summary and Index (4)	10.23
5	Equity Risk Premium Based on <u>Value Line</u> S&P 500 Companies (5)	10.92
6.	Equity Risk Premium Based on Bloomberg S&P 500 Companies (6)	<u>9.56</u>
7.	Conclusion of Equity Risk Premium	8.85 %
8.	Adjusted Beta (7)	<u>0.77</u>
9.	Forecasted Equity Risk Premium	<u><u>6.81 %</u></u>

Notes:

- (1) From note 1 of page 9 of Schedule DWD-4.
- (2) From note 2 of page 9 of Schedule DWD-4.
- (3) From note 3 of page 9 of Schedule DWD-4.
- (4) From note 4 of page 9 of Schedule DWD-4.
- (5) From note 5 of page 9 of Schedule DWD-4.
- (6) From note 6 of page 9 of Schedule DWD-4.
- (7) Average of mean and median beta from page 6 of this Schedule.

Sources of Information:

Stocks, Bonds, Bills, and Inflation - 2019 SBBI Yearbook, John Wiley & Sons, Inc.
Value Line Summary and Index
Blue Chip Financial Forecasts, October 1, 2019 and June 1, 2019
Bloomberg Professional Services

Aqua North Carolina, Inc.
Traditional CAPM and ECAPM Results for the Proxy Group of Non-Price-Regulated Companies Comparable in Total Risk to the
Proxy Group of Six Water Companies

Proxy Group of Ten Non-Price Regulated Companies	[1] Value Line Adjusted Beta	[2] Bloomberg Beta	[3] Average Beta	[4] Market Risk Premium (1)	[5] Risk-Free Rate (2)	[6] Traditional CAPM Cost Rate	[7] ECAPM Cost Rate	[8] Indicated Common Equity Cost Rate (3)
AutoZone Inc.	0.75	0.67	0.71	9.87 %	2.64 %	9.65 %	10.36 %	10.00 %
Cheesecake Factory	0.75	0.76	0.76	9.87	2.64	10.14	10.73	10.44
Casey's Gen'l Stores	0.75	0.78	0.77	9.87	2.64	10.24	10.81	10.52
Cracker Barrel	0.70	0.72	0.71	9.87	2.64	9.65	10.36	10.00
Campbell Soup	0.65	0.64	0.65	9.87	2.64	9.05	9.92	9.49
Dunkin' Brands Group	0.70	0.83	0.77	9.87	2.64	10.24	10.81	10.52
Darden Restaurants	0.80	0.78	0.79	9.87	2.64	10.44	10.95	10.69
Tyson Foods 'A'	0.75	0.77	0.76	9.87	2.64	10.14	10.73	10.44
Texas Roadhouse	0.80	0.86	0.83	9.87	2.64	10.83	11.25	11.04
Viad Corp.	0.80	0.82	0.81	9.87	2.64	10.63	11.10	10.87
Mean			<u>0.76</u>			<u>10.10 %</u>	<u>10.70 %</u>	<u>10.40 %</u>
Median			<u>0.77</u>			<u>10.19 %</u>	<u>10.77 %</u>	<u>10.48 %</u>
Average of Mean and Median			<u>0.77</u>			<u>10.15 %</u>	<u>10.74 %</u>	<u>10.44 %</u>

Notes:

- (1) From Schedule DWD-5, note 1.
- (2) From Schedule DWD-5, note 2.
- (3) Average of CAPM and ECAPM cost rates.

Aqua North Carolina, Inc.
Derivation of Investment Risk Adjustment Based upon
Ibbotson Associates' Size Premia for the Decile Portfolios of the NYSE/AMEX/NASDAQ

Line No.	[1]		[2]		[3]		[4]	
	Market Capitalization on October 18, 2019 (1)	(times larger)	Applicable Decile of the NYSE/AMEX/NASDAQ (2)		Applicable Size Premium (3)		Spread from Applicable Size Premium (4)	
1.	<u>Aqua North Carolina, Inc.</u>		9		2.46%			
2.	<u>Proxy Group of Six Water Companies</u>		4		0.85%			
		[A]	[B]		[C]		[D]	
		Decile	Market Capitalization of Smallest Company (millions)		Market Capitalization of Largest Company (millions)		Size Premium (Return in Excess of CAPM)*	
	Largest	1	\$ 29,428,909		\$ 1,073,390,566		-0.30%	
		2	13,512,960		29,022,867		0.52%	
		3	7,275,967		13,455,802		0.81%	
		4	4,504,066		7,524,230		0.85%	
		5	2,996,003		4,503,549		1.28%	
		6	1,961,831		2,992,251		1.50%	
		7	1,292,791		1,960,201		1.58%	
		8	730,047		1,292,224		1.80%	
		9	325,360		727,843		2.46%	
	Smallest	10	2455		321,578		5.22%	
			*From 2019 Duff & Phelps Cost of Capital Navigator					

Notes:

- (1) From page 2 of this Schedule.
- (2) Gleaned from Columns [B] and [C] on the bottom of this page. The appropriate decile (Column [A]) corresponds to the market capitalization of the proxy group, which is found in Column [1].
- (3) Corresponding risk premium to the decile is provided in Column [D] on the bottom of this page.
- (4) Line No. 1 Column [3] - Line No. 2 Column [3]. For example, the 1.61% in Column [4], Line No. 2 is derived as follows 1.61% = 2.46% - 0.85%.

Aqua North Carolina, Inc.
Market Capitalization of Aqua North Carolina, Inc. and the
Proxy Group of Six Water Companies

Company	Exchange	[1] Common Stock Shares Outstanding at Fiscal Year End 2018 (millions)	[2] Book Value per Share at Fiscal Year End 2018 (1)	[3] Total Common Equity at Fiscal Year End 2018 (millions)	[4] Closing Stock Market Price on October 18, 2019	[5] Market-to- Book Ratio on October 18, 2019 (2)	[6] Market Capitalization on October 18, 2019 (3) (millions)
Aqua North Carolina, Inc.		NA	NA	107,992 (4)	NA		
Based upon Proxy Group of Six Water Companies						409.9 (5)	\$ 442,658 (6)
Proxy Group of Six Water Companies							
American States Water Co.	NYSE	36,758	\$ 15.187	\$ 558,223	\$ 94,200	620.3 %	\$ 3,462,589
American Water Works Company Inc	NYSE	180,684	32,454	5,964,000	122,410	377.2	22,117,529
Artesian Resources Corporation	Nasdaq	9,250	16,568	153,251	37,240	224.8	344,470
California Water Service Group	NYSE	48,065	15,191	730,157	54,940	361.7	2,640,675
Middlesex Water Co.	Nasdaq	16,403	15,167	248,787	65,110	429.3	1,067,999
York Water Co.	Nasdaq	12,944	9,750	126,195	43,490	446.1	562,914
Average		50,684	\$ 17,386	\$ 1,280,102	\$ 69,565	409.9 %	\$ 5,032,696

NA= Not Available

Notes: (1) Column 3 / Column 1.

(2) Column 4 / Column 2.

(3) Column 1 * Column 4.

(4) Requested rate base multiplied by requested equity ratio.

(5) The market-to-book ratio of Aqua North Carolina, Inc. on October 18, 2019 is assumed to be equal to the market-to-book ratio of Proxy Group of Six Water Companies on October 18, 2019 as appropriate.

(6) Column [3] multiplied by Column [5].

Source of Information: 2018 Annual Forms 10K
yahoo.finance.com

Aqua North Carolina, Inc.
Derivation of the Flotation Cost Adjustment to the Cost of Common Equity

Equity Issuances and Flotation Costs of the Parent Since 2001

Date	Transaction (1)	[Column 1] Shares Issued	[Column 2] Market Price per Share	[Column 3] Offering Price per Share	[Column 4] Market Pressure (2)	[Column 5] Underwriting Discount	[Column 6] Net Proceeds per Share (3)	[Column 7] Gross Equity Issue before Costs (4)	[Column 8] Total Net Proceeds (5)	[Column 9] Total Flotation Costs (6)	[Column 10] Flotation Cost Percentage (7)
09/19/02	Equity Offering	8,595,875	\$ 18.7800	\$ 18.2500	\$ 0.5300	\$ 0.7800	\$ 17.4700	\$ 161,430,533	\$ 150,169,936	\$ 11,260,596	6.98%
05/13/03	Equity Offering	1,300,000	\$ 23.0800	\$ 23.0800	\$ -	\$ 0.8800	\$ 22.2000	\$ 30,004,000	\$ 28,860,000	\$ 1,144,000	3.81%
08/18/03	Equity Offering	4,000,000	\$ 23.8000	\$ 23.4000	\$ 0.4000	\$ 0.8190	\$ 22.5810	\$ 95,200,000	\$ 90,324,000	\$ 4,876,000	5.12%
11/09/04	Equity Offering	1,700,000	\$ 22.7400	\$ 22.7000	\$ 0.0400	\$ 0.8600	\$ 21.8400	\$ 38,658,000	\$ 37,128,000	\$ 1,530,000	3.96%
06/07/06	Equity Offering	1,750,000	\$ 22.3100	\$ 22.3100	\$ -	\$ 0.8140	\$ 21.4960	\$ 39,042,500	\$ 37,618,000	\$ 1,424,500	3.65%
08/10/06	Equity Offering	3,500,000	\$ 22.7500	\$ 22.6500	\$ 0.1000	\$ 0.7930	\$ 21.8570	\$ 79,625,000	\$ 76,499,500	\$ 3,125,500	3.93%
02/28/19	Equity Offering	32,495,667	\$ 34.8200	\$ 34.6200	\$ 0.2000	\$ 0.7790	\$ 33.8410	\$ 1,131,499,125	\$ 1,099,685,867	\$ 31,813,258	2.81%
								\$ 1,575,459,157	\$ 1,520,285,303	\$ 55,173,854	3.50%

Flotation Cost Adjustment

	Average Dividend Yield	Average Projected EPS Growth Rate	Adjusted Dividend Yield	Average DCF Cost Rate Unadjusted for Flotation (8)	DCF Cost Rate Adjusted for Flotation (9)	Flotation Cost Adjustment (10)
Proxy Group of Six Water Companies	1.75 %	6.92 %	1.81 %	8.73 %	8.80 %	0.07 %

See page 2 of this Schedule for notes.

Aqua North Carolina, Inc.
Notes to Accompany the
Derivation of the Flotation Cost Adjustment to the Cost of Common Equity

- (1) Company-provided.
- (2) Column 2 – Column 3.
- (3) Column 2 – the sum of columns 4 and 5.
- (4) Column 1 * Column 2.
- (5) Column 1 * Column 6.
- (6) Column 1 * (the sum of columns 4 and 5).
- (7) (Column 7 – Column 8) divided by Column 7.
- (8) Using the average growth rate from Schedule DWD-3.
- (9) Adjustment for flotation costs based on adjusting the average DCF constant growth cost rate in accordance with the following:

$$K = \frac{D(1 + 0.5g)}{P(1 - F)} + g ,$$

where g is the growth factor and F is the percentage of flotation costs.

- (10) Flotation cost adjustment of 0.07% equals the difference between the flotation adjusted average DCF cost rate of 8.80% and the unadjusted average DCF cost rate of 8.70% of the Utility Proxy Group.

Source of Information:

Company provided information

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. W-218, SUB 526

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

<p style="text-align: center;">In the Matter of</p> <p>Application by Aqua North Carolina, Inc., 202 MacKenan Court, Cary, North Carolina 27511, for Authority to Adjust and Increase Rates for Water and Sewer Utility Service in All Its Service Areas in North Carolina</p>	<p>)</p> <p>)</p> <p>)</p> <p>)</p> <p>)</p> <p>)</p> <p>)</p> <p>)</p>	<p>MOTION FOR APPROVAL OF AN ORDER APPROVING FORM OF REVISED NOTICES OF TEMPORARY RATES, SUBJECT TO AN UNDERTAKING TO REFUND PURSUANT TO G.S. 62-135</p>
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NOW COMES AQUA NORTH CAROLINA, INC. (“Aqua” or “Company”), by and through the undersigned counsel, and requests expedited approval of the attached revised Notices of Temporary Rates Subject to an Undertaking to Refund, which in combination enable Aqua to lower the level of temporary rates that it will implement under G.S. 62-135, effective for service rendered on and after July 30, 2020. The explanation follows.

On June 11, 2020, Aqua submitted for Commission approval an earlier version of two Notices to Customers of the Company’s intent to implement partial, temporary rates under bond pursuant to G.S. 62-135, and an Undertaking to Refund. By order of June 23, 2020, the Commission approved Customer Notices and required that they be mailed to customers within 20 days of the Commission order.

Due to the results of continued negotiations between Aqua and the parties to this case, the Company now provides notice of its intent to lower the level of temporary rates under bond, and requests the Commission’s approval of the attached, revised temporary rates to be implemented subject to an undertaking to refund. The revised

rates for the Aqua Water and Sewer Rate Divisions are attached hereto as Appendix A and the revised temporary rates for the Brookwood Water Rate Division are attached hereto as Appendix B. Aqua respectfully requests that the Commission issue the two revised Customer Notices for publication by the Company.

In support of its request for approval of revised Customer Notices, Aqua incorporates by reference the procedural history recited in its filing of June 11, 2020.

Should the Commission approve this request, Aqua intends to include in one mailing the Notice of Public Hearings, based on the Commission's order of June 29, 2020, as well as the requested revised Customer Notices regarding implementation of temporary rates subject to an undertaking to refund. In order to meet the timetables required for adequate customer notice, the Company respectfully requests expedited Commission approval of this request for revised Customer Notices of temporary rates to be implemented subject to an undertaking to refund. The printer deadline for beginning the mailing process, in order to meet deadlines, is Thursday, July 2, 2020.

By the proposed revised temporary rates to be implemented subject to an undertaking to refund, the Company will increase its current rates and charges for its Aqua Water, Aqua Sewer, and Brookwood Water Rate Divisions, as indicated in the attached notices. (Aqua will forego implementing temporary rates subject to refund for the Company's Fairways Water and Fairways Sewer Rate Divisions.)

The interim rates placed in effect will not result in an increase of twenty percent (20%) or more for any single rate classification. The proposed revised levels of temporary rates and charges planned to be made effective for water and sewer utility service for each customer class are attached hereto as Appendix A and Appendix B.

WHEREUPON, Aqua respectfully requests that the Commission approve the revised Proposed Notices to Customers (which include the temporary rates to be implemented effective for service rendered on and after July 30, 2020), attached hereto as Appendices A and B. Aqua does not believe that the Undertaking to Refund previously approved by the Commission by its order of June 23, 2020, needs to be amended, but will do so upon request by the Commission.

Aqua respectfully requests a decision from the Commission by Thursday, July 2, in order to allow sufficient time to provide customer notice prior to implementing the proposed temporary rates by July 30, 2020. The Company apologizes for the request for expedition but is against the deadline for timely preparation of mailing, and believes that the benefit of this revised approach is important and significant.

Aqua has sought the response of the Attorney General and the Public Staff in this matter, as it did prior to the June 11 filing. Neither supports the implementation of temporary rates under bond, but neither offers an objection to the form of the Notices to Customers.

Respectfully submitted this the 1st day of July 2020.

ATTORNEYS FOR AQUA NORTH CAROLINA, INC.

Electronically Submitted

/s/Jo Anne Sanford

North Carolina State Bar No. 6831

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**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. W-218, SUB 526

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of	)	NOTICE TO CUSTOMERS OF
Application by Aqua North Carolina,	)	TEMPORARY RATES EFFECTIVE
Inc., 202 MacKenan Court, Cary,	)	ON JULY 30, 2020, SUBJECT TO
North Carolina 27511, for Authority to	)	UNDERTAKING
Adjust and Increase Rates for Water	)	TO REFUND
and Sewer Utility Service in All Its)	
Service Areas in North Carolina)	

TEMPORARY RATES SUBJECT TO UNDERTAKING TO REFUND

NOTICE IS HEREBY GIVEN THAT Aqua North Carolina, Inc. (Aqua or Company), is authorized to increase its rates and charges effective July 30, 2020, on a temporary basis, subject to refund, pursuant to N.C. Gen. Stat. § 62-135. The July 30, 2020 rate changes are not final rates and remain subject to the North Carolina Utilities Commission's (Commission's) final determination of the just and reasonable rates to be charged by Aqua on a permanent basis pursuant to Aqua's pending general rate case application in Docket No. W-218, Sub 526.

Aqua's choice to implement temporary rates under bond effective for water and sewer utility service rendered on and after July 30, 2020, as allowed pursuant to N.C.G.S. § 62-135 is determined by the Company and is not a decision by the Commission. However, the Commission finds that Aqua in fact has satisfied the statutory requirements necessary to place new rates into effect, on a partial, temporary basis and subject to refund with interest at a rate of 10% per annum, effective July 30, 2020. In approving this Notice to Customers, the Commission takes no position on whether the Company should or should not invoke the temporary rates under bond authorized by statute and notes that the decision of whether to implement temporary rates under bond lies solely with Aqua.

On December 31, 2019, Aqua filed a rate case application with the Commission seeking authority to adjust and increase its rates for providing water and sewer utility service in all of its service areas in North Carolina effective for service rendered on and after January 30, 2020.

In its rate case application, Aqua notified the Commission that, pursuant to the provisions of N.C.G.S. § 62-135, the Company intended to implement its proposed rates on a temporary, interim basis subject to refund, effective for service rendered on and after

six months from January 30, 2020, assuming that the Commission: (a) suspended the operation of the Company's proposed rates as requested in the rate case application; and (b) had not entered a final order by that date. Consistent with the customer notice provisions of N.C.G.S. § 62-135(a), Aqua further requested that the Notices to Customers attached to the Commission's order scheduling hearings should include a specific provision which notified customers that the Company intended to implement temporary rates under bond effective for service rendered on and after six months from January 30, 2020.

In the Commission's Order Scheduling Hearings, Establishing Discovery Guidelines, and Requiring Customer Notice issued on February 14, 2020, in Docket No. W-218, Sub 526, the Commission required the Company to send notices to customers which contained notification of the dates, times, and locations of the public hearings scheduled in this case and, at Aqua's request, customers were also notified of the Company's intent to implement temporary rates under bond effective for water and sewer utility service rendered on and after July 30, 2020. The Notice to Customers stated that if ultimately found to be excessive by the Commission, these temporary rates are subject to refund to customers with interest at an interest rate to be ordered by the Commission. Thus, the present Notices to Customers is a second notice regarding the temporary rates which Aqua will place in effect on or after July 30, 2020, as specifically allowed by N.C.G.S. § 62-135.

Aqua's temporary rates for all its service areas, with the exception of the Brookwood and LaGrange service areas in Cumberland and Hoke Counties and the Fairways and Beau Rivage (The Cape) service areas in New Hanover County, are as follows:

WATER UTILITY SERVICE

<u>Monthly Metered Service (Residential and Commercial customers)</u>	<u>Existing Rates</u>	<u>Temporary Rates</u>
<u>Base facility charge (zero usage, based on meter size)</u>		
<1" meter	\$ 19.25	\$ 20.63
1" meter	\$ 48.13	\$ 51.58
1-1/2" meter	\$ 96.25	\$ 103.15
2" meter	\$154.00	\$ 165.04
3" meter	\$288.75	\$ 309.45
4" meter	\$481.25	\$ 515.75
6" meter	\$962.50	\$1,031.50

The base charges listed above apply to all Aqua North Carolina metered water systems except those in the Brookwood/LaGrange service areas in Cumberland and Hoke Counties and the Fairways/Beau Rivage (The Cape) service areas in New Hanover County.

<u>Usage charge, per 1,000 gallons</u>	<u>Existing Rates</u>	<u>Temporary Rates</u>
All service areas unless noted differently below	\$ 5.83	\$ 6.36

Bulk Purchased Water Systems

Temporary base monthly charge same as above

Temporary usage charge per 1,000 gallons based on bulk water provider are unchanged.

<u>Monthly Unmetered Service (flat rate)</u>	<u>Existing Rates</u>	<u>Temporary Rates</u>
All service areas unless noted differently below		
Residential customers	\$ 39.66	\$ 46.07
Commercial customers (per REU) (REU = Residential Equivalent Unit)	\$ 67.42	\$ 73.39

<u>Water System Improvement Charge</u>	<u>Existing Rates</u>	<u>Temporary Rates</u>
All service areas unless noted differently	2.69%	0.00%

The Water System Improvement Charge is applied to the total water utility bill of each customer under the Company's applicable rates and charges.

SEWER UTILITY SERVICE

<u>Monthly Unmetered Service (flat rate)</u>	<u>Existing Rates</u>	<u>Temporary Rates</u>
All service areas unless noted differently below		
Residential customers	\$ 72.04	\$ 75.53
Commercial customers (per REU) (REU = Residential Equivalent Unit)	\$100.86	\$105.72

Commercial Monthly Metered Service and all Parkway Crossing and Park South Station Service Areas (based on metered water usage)

Base facility charge (zero usage, based on water meter size)

All service areas unless noted differently below

	<u>Existing Rates</u>	<u>Temporary Rates</u>
<1" meter	\$ 26.11	\$ 26.58
1" meter	\$ 65.28	\$ 66.45
1-1/2" meter	\$ 130.55	\$ 132.90
2" meter	\$ 208.88	\$ 212.64
3" meter	\$ 391.65	\$ 398.70
4" meter	\$ 652.75	\$ 664.50
6" meter	\$1,305.50	\$1,329.00

<u>Usage charge, per 1,000 gallons</u>	<u>Existing Rates</u>	<u>Temporary Rates</u>
All service areas unless noted differently below	\$ 8.92	\$ 9.79

<u>Parkway Crossing and Park South Station Service Areas</u>	<u>Existing Rates</u>	<u>Temporary Rates</u>
Base facility charge (zero usage)	As shown above	As shown above
Usage charge, per 1,000 gallons	\$ 6.45	\$ 6.45

Hawthorne at the Greene Apartments, Woodland Farm Rocky Ridge and Beaver Farms Service Areas – Mecklenburg County:

	<u>Existing Rates</u>	<u>Temporary Rates</u>
Base facility charge (to be collected and delivered to Carolina Water Service, Inc. of North Carolina for treatment of the wastewater), per month (per REU)	\$ 47.94	\$ 47.94
Usage charge, per 1,000 gallons	\$ 6.11	\$ 6.73

<u>Sewer System Improvement Charge</u>	<u>Existing Rates</u>	<u>Temporary Rates</u>
All service areas unless noted differently	1.15%	0.00%

The Public Staff – North Carolina Utilities Commission (Public Staff) is authorized by statute to represent consumers in proceedings before the Commission. Written statements to the Public Staff should include the name of the subdivision where the customer is receiving service, contact information, and any information that the writer wishes to be considered by the Public Staff in its investigation of the matter; these statements should be addressed to Mr. Christopher J. Ayers, Executive Director, Public Staff, 4326 Mail Service Center, Raleigh, North Carolina 27699-4300. Written statements may also be faxed to 919-715-6704 or e-mailed to statements@ncuc.net.

The Attorney General is also authorized by statute to represent consumers in proceedings before the Commission. Statements to the Attorney General should be addressed to The Honorable Josh Stein, Attorney General, 9001 Mail Service Center, Raleigh, North Carolina 27699-9001. They may also be e-mailed to utilityAGO@ncdoj.gov.

Information regarding this proceeding can be accessed from the Commission's website at www.ncuc.net under the docket number of this proceeding (i.e., W-218 Sub 526).

**TEMPORARY MORATORIUM ON DISCONNECTION FOR NONPAYMENT AND
PROVISIONS FOR PAYMENT ARRANGEMENTS**

In response to the COVID-19 public health crisis and to Governor Roy Cooper's Declaration of a State of Emergency (Executive Order No.116, March 10, 2020), the North Carolina Utilities Commission issued an Order on March 19, 2020 in Docket No. M-100, Sub 158 which addressed disconnections for nonpayment, reconnections, waivers of certain fees, interest, and payment arrangements. As early as March 13, 2020, Aqua North Carolina initiated actions consistent with the ultimate Commission Order and the Company joins other regulated utilities in strict compliance with the customer protection provisions set forth by the Commission. A complete copy of the Order may be found on the Commission website home page - <https://www.ncuc.net>.

The Commission also provided that, at the end of the State of Emergency, customers having arrearages accrued during the emergency period shall be provided the opportunity to make a reasonable payment arrangement over no less than a six month period and shall not be charged any late fees for late payment for arrearages accrued during the State of Emergency. (The Order does not relieve a customer of their obligation to pay bills for receipt of any utility service covered by the Order).

ISSUED BY ORDER OF THE COMMISSION.

This the day of July, 2020.

NORTH CAROLINA UTILITIES COMMISSION

Janice H. Fulmore, Deputy Clerk

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. W-218, SUB 526

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of

Application by Aqua North Carolina, Inc.,	)	NOTICE TO CUSTOMERS OF
202 MacKenan Court, Cary, North Carolina	)	TEMPORARY RATE INCREASE
27511, for Authority to Adjust and Increase	)	EFFECTIVE ON JULY 30, 2020,
Rates for Water and Sewer Utility Service in	)	SUBJECT TO UNDERTAKING TO
All Its Service Areas in North Carolina	)	REFUND

TEMPORARY RATES SUBJECT TO UNDERTAKING TO REFUND

NOTICE IS HEREBY GIVEN THAT Aqua North Carolina, Inc. (Aqua or Company), is authorized to increase its rates and charges effective July 30, 2020, on a temporary basis, subject to refund, pursuant to N.C. Gen. Stat. § 62-135. The July 30, 2020 rate changes are not final rates and remain subject to the North Carolina Utilities Commission's (Commission's) final determination of the just and reasonable rates to be charged by Aqua on a permanent basis pursuant to Aqua's pending general rate case application in Docket No. W-218, Sub 526.

Aqua's choice to implement temporary rates under bond effective for water and sewer utility service rendered on and after July 30, 2020, as allowed pursuant to N.C.G.S. § 62-135 is determined by the Company and is not a decision by the Commission. However, the Commission finds that Aqua in fact has satisfied the statutory requirements necessary to place new rates into effect, on a partial, temporary basis and subject to refund with interest at a rate of 10% per annum, effective July 30, 2020. In approving this Notice to Customers, the Commission takes no position on whether the Company should or should not invoke the temporary rates under bond authorized by statute and notes that the decision of whether to implement temporary rates under bond lies solely with Aqua.

On December 31, 2019, Aqua filed a rate case application with the North Carolina Utilities Commission seeking authority to adjust and increase its rates for providing water and sewer utility service in all of its service areas in North Carolina effective for service rendered on and after January 30, 2020.

In its rate case application, Aqua notified the Commission that, pursuant to the provisions of N.C.G.S. § 62-135, the Company intended to implement its proposed rates on a temporary, interim basis subject to refund, effective for service rendered on and after six months from January 30, 2020, assuming that the Commission: (a) suspended the operation of the Company's proposed rates as requested in the Application; and (b) had not entered a final order by that date. Consistent with the customer notice provisions of

APPENDIX B
PAGE 2 of 4

N.C.G.S. 62-135(a), Aqua further requested that the Notices to Customers attached to the Commission's order scheduling hearings should include a specific provision which notified customers that the Company intended to implement temporary rates under bond effective for service rendered on and after six months from January 30, 2020.

In the Commission's Order Scheduling Hearings, Establishing Discovery Guidelines, and Requiring Customer Notice issued on February 14, 2020, in Docket No. W-218, Sub 526, the Commission required the Company to send Notices to Customers which contained notification of the dates, times, and locations of the public hearings scheduled in this case and, at Aqua's request, customers were also notified of the Company's intent to implement temporary rates under bond effective for water and sewer utility service rendered on and after July 30, 2020. The Notices to Customers stated that if ultimately found to be excessive by the Commission, these temporary rates are subject to refund to customers with interest at an interest rate to be ordered by the Commission. Thus, the present Notices to Customers is a second notice regarding the temporary rates which Aqua will place in effect on or after July 30, 2020, as specifically allowed by N.C.G.S. § 62-135.

Aqua's temporary water rates for its Brookwood/LaGrange service areas in Cumberland and Hoke Counties are as follows:

WATER UTILITY SERVICE

<u>Monthly Metered Service (Residential and Commercial customers)</u>		
Base charge, per month (zero usage, based on meter size)	<u>Existing Rates</u>	<u>Temporary Rates</u>
<1" meter	\$ 14.03	\$ 15.94
1" meter	\$ 35.08	\$ 39.85
1-1/2" meter	\$ 70.15	\$ 79.70
2" meter	\$ 112.24	\$ 127.52
3" meter	\$ 210.45	\$ 239.10
4" meter	\$ 350.75	\$ 398.50
6" meter	\$ 701.50	\$ 797.00
<u>Usage charge, per 1,000 gallons</u>	<u>Existing Rates</u>	<u>Temporary Rates</u>
All service areas unless noted differently below	\$ 3.76	\$ 4.54
<u>Bulk Purchased Water Systems</u>		
Temporary base monthly charge same as above		
Temporary usage charge, per 1,000 gallons based on bulk water provider are unchanged		
<u>Monthly Unmetered Service (flat rate)</u>	<u>Existing Rates</u>	<u>Temporary Rates</u>
All service areas unless noted differently below		
Residential customers	\$ 33.17	\$ 37.03
Commercial customers (per REU)	\$ 56.39	\$ 52.27
(REU = Residential Equivalent Unit)		

APPENDIX B
PAGE 3 of 4

	Existing	Temporary
<u>Water System Improvement Charge</u>	<u>Rate</u>	<u>Rate</u>
All service areas unless noted differently	3.57%	0.00%

The Water System Improvement Charge is applied to the total water utility bill of each customer under the Company's applicable rates and charges.

The Public Staff – North Carolina Utilities Commission (Public Staff) is authorized by statute to represent consumers in proceedings before the Commission. Written statements to the Public Staff should include the name of the subdivision where the customer is receiving service, contact information, and any information that the writer wishes to be considered by the Public Staff in its investigation of the matter; these statements should be addressed to Mr. Christopher J. Ayers, Executive Director, Public Staff, 4326 Mail Service Center, Raleigh, North Carolina 27699-4300. Written statements may also be faxed to 919-715-6704 or e-mailed to statements@ncuc.net.

The Attorney General is also authorized by statute to represent consumers in proceedings before the Commission. Statements to the Attorney General should be addressed to The Honorable Josh Stein, Attorney General, 9001 Mail Service Center, Raleigh, North Carolina 27699-9001. They may also be e-mailed to utilityAGO@ncdoj.gov.

Information regarding this proceeding can be accessed from the Commission's website at www.ncuc.net under the docket number of this proceeding (i.e., W-218 Sub 526).

TEMPORARY MORATORIUM ON DISCONNECTION FOR NONPAYMENT AND PROVISIONS FOR PAYMENT ARRANGEMENTS

In response to the COVID-19 public health crisis and to Governor Roy Cooper's Declaration of a State of Emergency (Executive Order No. 116, March 10, 2020), the North Carolina Utilities Commission issued an Order on March 19, 2020 in Docket No. M-100, Sub 158 which addressed disconnections for nonpayment, reconnections, waivers of certain fees, interest, and payment arrangements. As early as March 13, 2020, Aqua North Carolina initiated actions consistent with the ultimate Commission Order and the Company joins other regulated utilities in strict compliance with the customer protection provisions set forth by the Commission. A complete copy of the Order may be found on the Commission website home page - <https://www.ncuc.net>.

The Commission also provided that, at the end of the State of Emergency, customers having arrearages accrued during the emergency period shall be provided the opportunity to make a reasonable payment arrangement over no less than a six month period and shall not be charged any late fees for late payment for arrearages accrued during the State of Emergency. (The Order does not relieve a customer of their obligation to pay bills for receipt of any utility service covered by the Order).

ISSUED BY ORDER OF THE COMMISSION.

This the day of July, 2020.

NORTH CAROLINA UTILITIES COMMISSION

Janice H. Fulmore, Deputy Clerk

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing **MOTION FOR APPROVAL OF AN ORDER APPROVING FORM OF REVISED NOTICES OF TEMPORARY RATES, SUBJECT TO AN UNDERTAKING TO REFUND PURSUANT TO G.S. 62-135**, filed by Aqua North Carolina, Inc. in Docket No. W-218, Sub 526, has been served on each of the parties to this proceeding.

This the 1st day of July, 2020.

**ATTORNEY FOR AQUA NORTH CAROLINA, INC.
Electronically Submitted**

/s/Jo Anne Sanford
North Carolina State Bar No. 6831
Sanford Law Office, PLLC
Post Office Box 28085
Raleigh, North Carolina 27611-8085
Telephone: 919.210.4900
sanford@sanfordlawoffice.com

DOCKET NO. W-218, SUB 526

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of	
Application by Aqua North Carolina, Inc.,)	
202 MacKenan Court, Cary, North)	PARTIAL SETTLEMENT
Carolina 27511, for Authority to Adjust)	AGREEMENT AND
and Increase Rates for Water and Sewer)	STIPULATION
Utility Service in All Its Service Areas in)	
North Carolina)	

Aqua North Carolina, Inc. (Aqua or the Company), and the Public Staff – North Carolina Utilities Commission (Public Staff) (collectively the Stipulating Parties), through counsel and pursuant to N.C. Gen. Stat. § 62-92 and Rule R1-24(c) of the Rules and Regulations of the North Carolina Utilities Commission (Commission), respectfully submit the following Partial Settlement Agreement and Stipulation (Stipulation) for consideration by the Commission in this proceeding. The Stipulating Parties hereby stipulate and agree as follows:

I. BACKGROUND

A. On December 31, 2019, Aqua filed an application with the Commission requesting authority to adjust and increase its rates for water and sewer utility services in all its service areas in North Carolina effective January 30, 2020.

B. On February 14, 2020, the Commission issued its Order Scheduling Hearings, Establishing Discovery Guidelines, and Requiring Customer Notice (Scheduling Order). Among other things, the Scheduling Order established the dates, times, and locations for six public witness hearings to take place in April 2020 and an expert witness hearing to begin on June 23, 2020.

C. On March 31, 2020, to assist in preventing the spread of coronavirus and in response to Governor Roy Cooper's Executive Order No. 121 imposing a statewide "stay at home" order until April 29, 2020, the Commission issued an order postponing the previously scheduled public witness hearings pending further order.

D. On April 29, 2020, the North Carolina Attorney General's Office (AGO) filed a notice of intervention in this docket pursuant to N.C. Gen. Stat. § 62-20.

E. On May 12, 2020, the Public Staff filed a motion for extension of time to file its testimony until 5:00 p.m. on May 26, 2020, with the exception of the testimony of Public Staff witness John R. Hinton. On May 14, 2020, the Commission issued an order granting the Public Staff's motion. Pursuant to the Commission's order, the deadline for the Company to file its rebuttal testimony was extended to June 12, 2020, with the exception of the rebuttal testimony of Company witness Dylan W. D'Ascendis.

F. On May 19, 2020, the Public Staff filed the testimony of Public Staff witness Hinton.

G. On May 21, 2020, Aqua filed the revised exhibits to the direct testimony of its witnesses Shannon Becker and Edward Thill.

H. On May 26, 2020, the Public Staff filed the testimony of its witnesses Michelle M. Boswell, Lindsay Darden, Lynn Feasel, D. Michael Franklin, Windley E. Henry, and Charles M. Junis.

I. On June 2, 2020, Aqua filed the rebuttal testimony of Aqua witness D'Ascendis.

J. On June 11, 2020, Aqua filed a Petition for Approval of an Order Allowing Deferral of Revenues in Lieu of Rates Under Bond or, Alternatively, Notice of Intent to Place Temporary Rates in Effect Subject to a Refund Pursuant to G.S. 62-135 (Petition).

K. On June 12, 2020, Aqua filed the rebuttal testimony of its witnesses Amanda Berger, Dean R. Gearhart, Paul J. Hanley, Joe Pearce and George Kunkel, and Edward Thill.

L. Also on June 12, 2020, Aqua filed a motion for an extension of time until 12:00 p.m. on June 13, 2020, to file the joint rebuttal testimony of its witnesses Becker and Pearce.

M. On June 13, 2020, Aqua filed the joint rebuttal testimony of its witnesses Becker and Pearce.¹

N. On June 15, 2020, Aqua filed the rebuttal testimony of its witness Gearhart with corrected Rebuttal Exhibit 1, and the joint rebuttal testimony of its witnesses Becker and Pearce with corrected Rebuttal Exhibits.

O. On June 16, 2020, the Commission filed an Order Granting Extension of Time to File Rebuttal Testimony Nunc Pro Tunc allowing Aqua's

¹ Because June 13, 2020, fell on a Saturday, when the Chief Clerk's Office was closed, the joint rebuttal testimony of Aqua witnesses Becker and Pearce was not marked filed by the Chief Clerk's Office until June 15, 2020, the next business day following June 13, 2020.

motion for an extension of time to 12:00 p.m. on June 13, 2020, to file the joint rebuttal testimony of its witnesses Becker and Pearce.

P. Also on June 16, 2020, the Public Staff and the Attorney General's Office filed a joint response to Aqua's Petition filed June 11, 2020.

Q. On June 19, 2020, Aqua filed revisions to the rebuttal testimony and exhibits of Aqua witnesses Berger and Thill.

R. On June 22, 2020, the Public Staff filed the corrected testimony of its witness Junis and the corrected joint testimony and exhibits of its witnesses Henry and Junis.

S. Subsequent to the filing of the Company's application in this docket, the Public Staff engaged in substantial discovery of Aqua regarding the matters addressed by the Company's application and further examined the relevant books and records of Aqua with respect to the Company's application. The Public Staff's discovery efforts spanned a period of months, entailed over 135 sets of multi-question data requests directed to the Company, as well as informal follow-up questions. The Public Staff also reviewed North Carolina Department of Environmental Quality (DEQ) records. Due to the coronavirus outbreak and the "stay at home" order issued by North Carolina Governor, Roy Cooper, the Public Staff was unable to conduct site visits as of the time of the filing of this Partial Settlement Agreement and Stipulation.

T. Following completion of the Public Staff's investigation of the Company's application and accompanying documents, review of the results of its examination of the Company's books and records, review of the Company's responses to the Public Staff's Data Requests and follow-up questions, and after the Public Staff filed its direct testimony on May 19 and 26, 2020, and the Company filed its rebuttal testimony on June 12 and 13, 2020, the Public Staff conducted additional discovery regarding the Company's rebuttal testimony and the Stipulating Parties participated in multiple virtual meetings to discuss possible settlement.

U. After settlement negotiations, in which concessions from their litigation positions were made by both parties, the Stipulating Parties were ultimately able to arrive at a partial settlement, the terms of which are reflected in the following sections of this Stipulation and the schedules and exhibits attached hereto. The Stipulating Parties agree and stipulate as follows:

II. UNRESOLVED ISSUES BETWEEN THE STIPULATING PARTIES

The Stipulating Parties have not reached a compromise on the following issues:

- A. Conservation Pilot Program;
- B. Rate design;
- C. Water quality reporting; and
- D. The in-service date of plant and Aqua's unitization process.

III. REVENUE REQUIREMENT ISSUES RESOLVED BETWEEN THE STIPULATING PARTIES

The Stipulating Parties have reached an agreement regarding the following revenue requirement issues. The actual amount of the agreed-upon adjustments may differ due to the effects of the Unresolved Issues and/or updated information to be provided by the Company. The revenue requirement effects of the agreed-upon issues are shown on Settlement Exhibit I. The revenue requirement effects of this Stipulation provide sufficient support for the annual revenue required on the issues agreed to in this Stipulation. Unless otherwise stated in this Stipulation, no Stipulating Party waives any right to assert a position in any future proceeding or docket before the Commission or in any court, as the adjustments agreed to in this Stipulation are strictly for purposes of compromise and are intended to show a rational basis for reaching the agreed-upon revenue requirement adjustments without either party conceding any specific adjustment. The Stipulating Parties agree that settlement on these issues will not be used as a rationale for future arguments on contested issues brought before the Commission. The areas of agreement are as follows:

A. The test period for this rate case is the twelve months ending September 30, 2019, adjusted for certain changes in plant, revenues, and costs that were not known at the time the case was filed but are based upon circumstances occurring or becoming known through March 31, 2020. The salaries and wages, pensions and benefits, and payroll tax for Aqua NC employees were updated through March 31, 2020 based on the agreement of the Stipulating Parties.

B. The Stipulating Parties agree upon the difference in the calculation of the revenue requirement based on Company amounts [Line 2].

C. The appropriate long-term debt (LTD) cost is 4.21% [Line 3]. The capital structure is 50% long-term debt and 50% common equity. The Stipulating Parties agree that in consideration of a number of factors, including the impacts of the Coronavirus Pandemic on customers and the changing economic conditions, the appropriate return on common equity (ROE) to use in setting rates in this proceeding is 9.4% [Line 4]. The Stipulating Parties agree that the stipulated capital structure and stipulated levels of overall rate of return and rates of return on common equity and long-term debt are consistent with the requirements of N.C.G.S. § 62-133.

D. The Stipulating Parties agree that Aqua will forego inclusion in rates in this proceeding of the 11 post-test year projects completed after the close of the March 31, 2020 update period [Line 5], subject to the following conditions: (1) rates will be set in this proceeding based upon Aqua's actual allocated test year costs for Aqua Corporate Services and Aqua Customer Operations and (2) the Public Staff will not oppose the Company's right to recover the reasonable and prudent costs of the 11 post-March 31, 2020 projects in the Company's next rate case or, in the interim, to file a WSIC/SSIC application to recover the costs of any of the post-March 31, 2020 projects which qualify as eligible projects through a surcharge under N.C.G.S. § 62-133.12. The Stipulating Parties agree to the dollar adjustment on Line 5.

E. The Company accepts the Public Staff's proposed adjustment to re-allocate vehicles and accumulated depreciation related to those vehicles as set forth in the testimony of Public Staff witness Henry [Line 6].

F. The Company accepts the Public Staff's proposed adjustment to post test year additions to accumulated depreciation [Line 7].² This does not include post test year additions after March 31, 2020.

G. The Company accepts the Public Staff's proposed adjustment to remove accumulated depreciation related to future customers as set forth in the testimony of Public Staff witness Henry [Line 8].

H. The Company accepts the Public Staff's proposed adjustment to accumulated depreciation related to vehicle allocations [Line 9].

I. The Company accepts the Public Staff's proposed adjustment to accumulated depreciation for the WSIC/SSIC in service date [Line 10].²

J. The Company accepts the Public Staff's proposed adjustment to post test year additions to CIAC [Line 11].

K. The Company accepts the Public Staff's proposed adjustment to post test year additions to accumulated amortization – CIAC [Line 12].²

L. The Company accepts the Public Staff's proposed adjustment to post test year additions PAA [Line 13].

M. The Company accepts the Public Staff's proposed adjustment for Mid-South growth related PAA to March 31, 2020 [Line 14].

² Following the filing of its testimony on May 26, 2020, the Public Staff made corrections to this adjustment. The Company accepts the Public Staff's adjustment, as corrected.

N. The Company accepts the Public Staff's proposed adjustment to post test year additions accumulated amortization – PAA [Line 15].

O. The Company accepts the Public Staff's proposed adjustment to update advances for construction to March 31, 2020 [Line 16].

P. The Company accepts the Public Staff's proposed adjustment to ADIT - post test year additions [Line 17]. This does not include post test year additions after March 31, 2020.

Q. The Company accepts the Public Staff's proposed adjustment to ADIT - unamortized rate case expense [Line 18]. This adjustment will be updated for actual and estimated rate case expense through the issuance of the Commission's final order.

R. The Company accepts the Public Staff's proposed adjustment to Adjustment to ADIT - unamortized repair tax credit [Line 19].

S. The Company accepts the Public Staff's proposed adjustment to ADIT - protected EDIT [Line 20].

T. The Company accepts the Public Staff's proposed adjustment to update customer deposits to March 31, 2020 [Line 21].

U. The Stipulating Parties agree that no excess capacity ratemaking adjustment should be made in this rate case related to Aqua's wastewater treatment plants (WWTPs) which serve the Company's Carolina Meadows, The Legacy, and Westfall service areas [Line 22].

V. The Company accepts the Public Staff's proposed adjustment to cash working capital [Line 23].

W. The Company accepts the Public Staff's adjustment for tank painting [Line 24].

X. The Company accepts the Public Staff's adjustment to unamortized rate case expense [Line 25].

Y. The Company accepts the Public Staff's proposed adjustment to depreciation study [Line 26].

Z. The Company accepts the Public Staff's proposed adjustment to repair tax credit [Line 27].

AA. The Company accepts the Public Staff adjustments to remove the Johnston County unamortized transmission charge and revenue deficit [Lines 28 and 29], consistent with the Commission's decision in the Sub 497 rate case.

BB. The Stipulating Parties agree with the Public Staff's proposed adjustment related to deferred accounting on post-test year plant additions [Line 30]. Therefore, the Stipulating Parties agree to the ratemaking adjustment shown on Line 30

CC. The Company accepts the Public Staff's proposed adjustment to average tax accruals [Line 31]. This adjustment will be updated for the final calculation of unemployment tax, regulatory fee, and property tax.

DD. The Company accepts the Public Staff's proposed adjustment to service revenues [Line 32]. Further, the Company withdraws its application for a conservation normalization factor.

EE. The Company accepts the Public Staff's proposed adjustment to late payment fees [Line 33]. This adjustment will be updated based on the ongoing level of service revenues approved by the Commission.

FF. The Company accepts the Public Staff's proposed adjustment to uncollectibles and abatements [Line 34].

GG. The Company accepts the Public Staff's proposed adjustment to remove capitalized labor [Line 35].

HH. The Company accepts the Public Staff's proposed adjustment to add transportation regular payroll [Line 36].

II. The Stipulating Parties agree to an adjustment in the amount of (\$222,275) to remove four open positions and to update salaries and wages through March 31, 2020 [Line 37].

JJ. The Stipulating Parties agree to an adjustment in the amount of (\$5,043) to remove leave without pay [Line 38].

KK. The Company accepts the Public Staff's proposed adjustment to reflect actual standby and overtime salaries and wages [Line 39].²

LL. The Public Staff agrees to withdraw its proposed adjustment to state bonuses related to EPS [Line 40]. This is consistent with the Commission's decision in the Sub 497 rate case.

MM. The Stipulating Parties agree to settle issues related to Executive Compensation and bonuses and Board of Directors compensation and expenses consistent with the Commission's decision in the Sub 497 rate case by removing 25% of such expenses requested in the Company's application [Lines 41, 59, 60].

With one exception involving Line 42, the Stipulating Parties agree that no further adjustments should be made in this case regarding allocations from Aqua Corporate Services and Aqua Customer Operations [Lines 42 and 45]. The Stipulating Parties agree to an adjustment in the amount of (\$92,050) to Line 42 related to open positions and terminations.

NN. The Company accepts the Public Staff's proposed adjustment to remove capitalized pensions and benefits [Line 43].

OO. The Stipulating Parties agree to an adjustment of (\$122,256) to remove four open positions and to update benefits through March 31, 2020, as discussed in Subparagraph DD above [Line 44].

PP. The Company accepts the Public Staff's proposed adjustment to remove unqualified benefits from Corporate Sundries [Line 46].

QQ. The Company accepts the Public Staff's proposed adjustment to fuel for production [Line 47].

RR. The Company accepts the Public Staff's proposed adjustment to sludge removal [Line 48].

SS. The Company accepts the Public Staff's proposed adjustment to purchased power [Line 49].

TT. The Company accepts the Public Staff's proposed adjustment to materials and supplies [Line 50].

UU. The Company accepts the Public Staff's proposed adjustment to testing [Line 51].

VV. The Stipulating Parties agree to an adjustment of (\$1,601) to contractual services – legal [Line 52].

WW. The Company accepts the Public Staff's adjustment for contractual services – other – pump maintenance [Line 53].

XX. The Company accepts the Public Staff's proposed adjustment to contractual services – other – corporate sundries [Line 54].

YY. The Company accepts the Public Staff's proposed adjustment to contractual services – other – accrued expenses [Line 55].²

ZZ. The Stipulating Parties agree that the Company's stipulated insurance expense [Line 56] will be subject to a 50% true-up based on actual claims paid as a regulatory asset or liability, without a return or carrying costs, to be recovered in future rate cases.

AAA. The Stipulating Parties agree that regulatory commission expense adjustment [Line 57] will be updated to represent actual rate case expenses, plus agreed upon estimated costs to complete the rate case proceeding. The Stipulating Parties also agree with the use of a three-year amortization in this case without a return or carrying costs on the unamortized balance.

BBB. The Company accepts the Public Staff's proposed adjustment to remove capitalized miscellaneous expense [Line 58].

CCC. The Company accepts the Public Staff's proposed adjustment to remove unqualified miscellaneous expenses for corporate sundries [Line 61].

DDD. The Stipulating Parties agree to an adjustment of \$14,150 to annualization and consumption [Line 62].

EEE. The Company accepts the Public Staff's proposed adjustment to Contra-OH allocations [Line 63].

FFF. The Company accepts the Public Staff's proposed adjustment to amortized EDIT [Line 64].

GGG. The Company accepts the Public Staff's proposed adjustment to payroll taxes [Line 65]. Payroll tax is subject to change when the salaries allocated from corporate service and ACO are changed and finalized.

HHH. The Stipulating Parties agree to utilize a 15 percent adjustment for allowable purchased water loss in this case [Line 66]. Further, the Stipulating Parties agree to work toward development of a mutually-agreeable standard based upon the methodology for purchased water systems set forth in Aqua's Pearce/Kunkle rebuttal testimony for implementation in the Company's next general rate case, and to report the progress of those discussions in the next case.

III. The Stipulating Parties agree to an adjustment in the amount of \$61,225 to contract services – other – temporary labor [Line 67].

JJJ. The Public Staff agrees to withdraw its proposed adjustment to the Johnston County purchased sewer rate [Line 68] which was proposed in the Company's Item 18 update filed April 21, 2020, and has since been confirmed by the Public Staff.

KKK. The Company accepts the Public Staff's proposed adjustment to rounding difference [Line 69].

IV. AGREEMENT TO SUPPORT SETTLEMENT; NON-WAIVER.

A. The Stipulating Parties will act in good faith to support the

reasonableness of this Stipulation in any hearing before the Commission and any proposed order or brief in this docket. The Stipulating Parties further agree that this Stipulation is in the public interest because it reflects a give-and-take partial settlement of contested issues.

B. The provisions of this Stipulation do not reflect any position asserted by any of the Stipulating Parties, but reflect instead the compromise and settlement between the Stipulating Parties as to all of the issues covered hereby. No Stipulating Party waives any right to assert any position in any future proceeding or docket before this or any other Commission and in any court except insofar as the Commission is addressing litigation arising out of the implementation of the terms herein or the approval of this Stipulation. This Stipulation shall not be cited as precedent by any of the Parties with regard to any issue in any other proceeding or docket before this Commission or in any court.

C. This Stipulation is a product of negotiation among the Stipulating Parties, and no provision of this Stipulation shall be strictly construed in favor of or against any Party.

V. Introduction of Testimony and Waiver of Cross-Examination.

A. Except for testimony and exhibits related to the Unresolved Issues, the pre-filed testimony and exhibits of the Stipulating Parties may be received in evidence without objection, and each Party waives all right to cross examine any witness with respect to such pre-filed testimony and exhibits. If, however, questions are asked by any Commissioner, or if questions are asked or positions are taken

by any person who is not a Stipulating Party, then any Stipulating Party may respond to such questions by presenting testimony or exhibits and cross-examining any witness with respect to such testimony and exhibits.

B. The Stipulating Parties agree that Aqua's application, the testimony and exhibits of the Stipulating Parties, and this Partial Settlement Agreement and will provide sufficient support for the annual revenue requirement amounts agreed to herein, subject to the revenue requirement effect of the Commission's decisions on the Unresolved Issues.

VI. STIPULATION BINDING ONLY IF ACCEPTED IN ITS ENTIRETY

This Stipulation is the product of negotiation and compromise of a complex set of issues, and no portion of this Stipulation is or will be binding on any of the Parties unless the entire Partial Settlement Agreement and Stipulation is accepted by the Commission. If the Commission rejects any part of this Stipulation or approves this Stipulation subject to any change or condition, or if the Commission's approval of this Stipulation is rejected or conditioned by a reviewing court, the Stipulating Parties agree to meet and discuss the applicable Commission or court order within five business days of its issuance and to attempt in good faith to determine if they are willing to modify the Stipulation consistent with the order. No Party shall withdraw from the Stipulation prior to complying with the foregoing sentence. If any Party withdraws from the Stipulation, each Party retains the right to seek additional procedures before the Commission, including cross-examination of witnesses, with respect to issues addressed by the Stipulation and shall not be bound or prejudiced by the terms and conditions of the Stipulation.

VII. COUNTERPARTS

This Stipulation may be executed in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute the same instrument. Execution by facsimile signature shall be deemed to be, and shall have the same effect as, execution by original signature.

The foregoing is agreed and stipulated to this the 1st day of July, 2020.

Electronically Submitted

Aqua North Carolina, Inc.

By: /s/
Shannon V. Becker
President

Public Staff – North Carolina Utilities
Commission

By: /s/
Christopher J. Ayers
Executive Director

Agua North Carolina, Inc.
Docket No. W-218, Sub 526
CALCULATION OF GROSS REVENUE
IMPACT OF PUBLIC STAFF ADJUSTMENTS
For The Test Year Ended September 30, 2019

Settlement Exhibit I

Line No.	Item	Aqua Water [1] (a)	Aqua Sewer [1] (b)	Fairways Water [1] (c)	Fairways Sewer [1] (d)	Brookwood Water [1] (e)	Total [2] (f)
1	Increase / (decrease) in total revenues per Company	\$4,044,422	\$1,545,098	\$113,289	\$82,169	\$1,001,869	\$6,786,847
2	Difference in calculation of revenue requirement based on Company amounts	(1,550)	1,648	(454)	(894)	(2,293)	(3,543)
3	Adjust debt cost rate to 4.21%	(27,721)	(12,436)	(680)	(2,151)	(5,421)	(48,409)
4	Adjust return on equity to 9.40%	(629,832)	(282,543)	(15,458)	(48,875)	(123,172)	(1,099,880)
5	Adjustment to post test year additions to plant in service	(223,380)	(82,346)	(788)	(17,660)	(232,767)	(556,941)
6	Adjustment to allocate vehicle purchased	(42,435)	18,194	7,491	4,877	11,873	0
7	Adjustment to post test year additions to A/D	13,852	(29,282)	(2,263)	(3,844)	118,220	96,683
8	Adjustment to remove A/D related to future customers	321	0	0	0	0	321
9	Adjustment to A/D for vehicle allocations	1,643	(655)	(304)	(198)	(486)	0
10	Adjustment to A/D for WSIC/SSIC in service date	(3,210)	(996)	0	0	(249)	(4,455)
11	Adjustment to post test year additions to CIAC	(106,527)	(126,451)	(13,679)	(19,319)	(383)	(266,359)
12	Adjustment to post test year additions to accumulated amortization - CIAC	37,976	49,535	4,782	4,568	3,173	100,034
13	Adjustment to post test year additions PAA	2,626	0	0	0	0	2,626
14	Adjustment for Mid South growth related PAA to 03/31/20	4,834	0	0	0	0	4,834
15	Adjustment to post test year additions accumulated amortization - PAA	(1,291)	1,964	0	0	(5)	668
16	Adjustment to update advances for construction to 03/31/20	5,991	13,107	565	0	0	19,663
17	Adjustment to ADIT - post test year additions	(7,133)	15,358	(553)	344	22,811	30,827
18	Adjustment to ADIT - unamortized rate case expense	622	1,639	(318)	254	8	2,205
19	Adjustment to ADIT - unamortized repair tax credit	(1,132)	(362)	(29)	(31)	(180)	(1,734)
20	Adjustment to ADIT - protected EDIT	6,190	1,634	472	301	1,368	9,965
21	Adjustment to update customer deposits to 03/31/20	184	66	18	0	99	367
22	Adjustment to remove excess capacity	0	0	0	0	0	0
23	Adjustment to cash working capital	(4,363)	(1,419)	(488)	(379)	(849)	(7,498)
24	Adjustment to tank painting	36,521	0	(307)	0	26,464	62,678
25	Adjustment to remove unamortized rate case expense	(12,276)	(3,090)	(881)	(560)	(2,744)	(19,551)
26	Adjustment to depreciation study	607	153	44	28	137	969
27	Adjustment to repair tax credit	2	6	(1)	(5)	4	6
28	Adjustment to remove JoCO unamortized transmission charge	0	(55,997)	0	0	0	(55,997)
29	Adjustment to remove JoCO transmission revenue deficit	0	(32,309)	0	0	0	(32,309)
30	Adjustment to remove deferred accounting on post test year additions	(148,651)	(65,111)	(229)	(7,461)	(54,484)	(275,936)
31	Adjustment to average tax accruals	(112)	(69)	1	(6)	(7)	(193)
32	Adjustment to service revenues	(355,983)	(12,443)	(12,747)	11,449	(17,784)	(387,508)
33	Adjustment for late payment fees	(611)	(14)	(18)	15	(60)	(688)
34	Adjustment to uncollectibles and abatements	1,974	39	33	(25)	873	2,894
35	Adjustment to remove capitalized labor	(215,884)	(53,117)	(2,628)	(2,803)	(18,240)	(292,672)
36	Adjustment to add transportation regular payroll	585	0	44	0	131	760
37	Adjustment to update salaries and wages March 31, 2020	(146,782)	(53,895)	(4,235)	(4,191)	(13,172)	(222,275)
38	Adjustment to remove leave without pay	(3,330)	(1,223)	(96)	(95)	(299)	(5,043)
39	Adjustment to reflect actual standby and overtime salaries and wages	(26,624)	21,427	351	134	2,933	(1,779)
40	Adjustment to remove bonuses related to EPS	0	0	0	0	0	0
41	Adjustment to allocate executive compensation to shareholders	(116,023)	(30,489)	(8,706)	(5,560)	(26,161)	(186,939)
42	Adjustment to reflect allocation from Corp Serv & ACO	(57,504)	(14,642)	(4,169)	(2,604)	(13,132)	(92,051)
43	Adjustment to remove capitalized pensions and benefits	(526,383)	(132,404)	(6,548)	(7,471)	(46,324)	(719,130)
44	Adjustment to update pensions and benefits to March 31, 2020	(80,884)	(29,660)	(2,298)	(2,433)	(6,981)	(122,256)
45	Adjustment to reflect benefits allocated from Corporate Services	0	0	0	0	0	0

Agua North Carolina, Inc.
Docket No. W-218, Sub 526
CALCULATION OF GROSS REVENUE
IMPACT OF PUBLIC STAFF ADJUSTMENTS
For The Test Year Ended September 30, 2019

Settlement Exhibit I

Line No.	Item	Aqua Water [1] (a)	Aqua Sewer [1] (b)	Fairways Water [1] (c)	Fairways Sewer [1] (d)	Brookwood Water [1] (e)	Total [2] (f)
46	Adjustment to remove unqualified benefits from Corporate Sundries	(11,250)	(4,821)	(357)	(357)	(1,071)	(17,856)
47	Adjustment to fuel for production	(2,744)	(7,083)	572	1,946	(1,516)	(8,825)
48	Adjustment to sludge removal	0	(14,555)	0	(445)	0	(15,000)
49	Adjustment to purchased power	103,897	18,765	(934)	(4,315)	9,067	126,480
50	Adjustment to materials and supplies	17,428	11,206	(1,241)	2,110	11,225	40,728
51	Adjustment to testing	0	(11,869)	0	(1,005)	0	(12,874)
52	Adjustment to contractual services - legal	(994)	(263)	(76)	(48)	(220)	(1,601)
53	Adjustment to contractual services - other - pump maintenance	0	(18,690)	0	1,697	0	(16,993)
54	Adjustment to contractual services - other- corporate sundries	(42,150)	(11,129)	(3,217)	(2,050)	(9,318)	(67,864)
55	Adjustment to contract services - other- accrued expenses	(15,020)	0	0	0	0	(15,020)
56	Adjustment to insurance	(84,532)	25,807	(14,455)	42	(29,930)	(103,068)
57	Adjustment regulatory commission expense	(161,833)	(40,777)	(11,628)	(7,390)	(36,160)	(257,788)
58	Adjustment to remove capitalized miscellaneous expense	(8,530)	(4,181)	(643)	(287)	(944)	(14,585)
59	Adjustment to remove 25% BOD compensation from miscellaneous exp.	(20,484)	(7,542)	(590)	(590)	(1,831)	(31,037)
60	Adjustment to remove 25% BOD expenses from miscellaneous expense	(374)	(957)	363	145	1,001	178
61	Adjustment to remove unqualified misc exp. for Corporate Sundries	(6,523)	(1,722)	(498)	(317)	(1,442)	(10,502)
62	Adjustment to annualization and consumption	26,766	(6,154)	1,715	(13,882)	5,705	14,150
63	Adjustment to Contra-OH allocations	907,386	229,674	11,665	12,853	79,196	1,240,774
64	Adjustment to amortized EDIT	(97,916)	(25,854)	(7,472)	(4,760)	(21,646)	(157,649)
65	Adjustment to payroll taxes	(145,293)	(5,041)	(10,728)	(3,717)	(24,750)	(189,529)
66	Adjustment to purchased water	(62,448)	0	0	0	0	(62,448)
67	Adjustment to contract services - other- Temporary labor	46,458	0	46	0	14,721	61,225
68	Adjustment to purchased sewer	0	12,885	0	0	0	12,885
69	Rounding difference	(11)	(18)	4	(2)	(1)	(28)
70	Revenue impact of Public Staff adjustments	<u>(2,183,861)</u>	<u>(758,501)</u>	<u>(101,550)</u>	<u>(124,968)</u>	<u>(385,013)</u>	<u>(3,553,893)</u>
71	Increase / (decrease) per Public Staff	<u>\$1,860,561</u>	<u>\$786,597</u>	<u>\$11,739</u>	<u>(\$42,799)</u>	<u>\$616,856</u>	<u>\$3,232,954</u>

[1] Calculated by the Public Staff.

[2] Sum of Column (a) thru Column (e).

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. W-218, SUB 526

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

<p style="text-align: center;">In the Matter of</p> <p>Application by Aqua North Carolina, Inc., 202 MacKenan Court, Cary, North Carolina 27511, for Authority to Adjust and Increase Rates for Water and Sewer Utility Service in All Its Service Areas in North Carolina</p>	<p>) PETITION FOR APPROVAL) OF AN ORDER ALLOWING) DEFERRAL OF REVENUES) IN LIEU OF RATES UNDER) BOND OR,) ALTERNATIVELY, NOTICE) OF INTENT TO PLACE) TEMPORARY RATES IN) EFFECT SUBJECT TO AN) UNDERTAKING TO) REFUND PURSUANT TO) G.S. 62-135</p>
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NOW COMES AQUA NORTH CAROLINA, INC. (“Aqua” or “Company”),

by and through the undersigned counsel, pursuant to North Carolina Utilities Commission (“NCUC” or “Commission”) Rules R1-5, R7-35, and R10-21, and presents two alternative requests to the Commission for its consideration with respect to the manner of rate recovery in this case, during the interim period from July 30, 2020 (when rates under bond could be implemented by the Company, pursuant to G.S. 62-135) and the point of entry of a final Order by the Commission in this case. Aqua respectfully proposes a functional, simple, and fair deferral of revenue method for the Commission’s consideration in this unique circumstance. Described below, it offers the benefits of: certainty at the time of later imposition of the rate change; delay of charges in rates to a later point in time by when it is hoped that the economy and the nation’s health will be improved; avoidance of a

two-stepped rate increase process and the attendant confusion and possibility of refunds with interest; and a reasonable opportunity for the Company to avoid a significant, unrecoverable revenue loss between July 30th and the date of the Commission's Final Rate Case Order.

Under either method of cost recovery, Aqua shall remain strictly compliant with the Commission's Order of March 19, 2020, in Docket M-100, Sub 158, with respect to suspension of disconnection, to waiver of interest on late payments, and to reconnection during the period of the State of Emergency (declared by Governor Roy Cooper on March 10, 2020, in Executive Order No. 116). Further, at the expiration of the Commission's Order, Aqua will comply with the Commission's provisions concerning extended payment arrangements. Nothing about a change in rates, standing alone, affects Aqua's commitment and responsibility to adhere strictly to these consumer safeguards.

Aqua's ask here is essentially to request recovery for a regulatory asset which, in this case, is effectively the build-up of revenue that the Company would otherwise collect if it initiates its right to install rates under bond. The recovery would be via an agreed-upon surcharge once the final order is released. Aqua contends that the NCUC has authority to approve the use of a regulatory asset, as it has done so repeatedly over time, under certain circumstances and while exercising its oversight to assure fairness and accuracy.

Alternatively, if the Commission does not elect to authorize use of the revenue deferral mechanism, then Aqua respectfully gives notice under G.S. 62-135 that the Company intends to place temporary rates in effect in three

of its five Rate Divisions¹, subject both to an undertaking to refund and to this request for Commission approval of the Customer Notices and Undertaking to Refund attached hereto. The implementation of temporary, partial rates subject to an undertaking to refund is authorized herein pursuant to G.S. 62-135² and the Company seeks to have it effective for service rendered on and after Thursday, July 30, 2020.³ If the deferral mechanism is not available, then in compliance with the applicable statutory procedures regarding implementation of temporary rates, the Company requests approval of the attached Notices to Customers and Undertaking to Refund.

In support of its alternative requests, Aqua states the following:

1. On December 31, 2019, Aqua filed a Rate Case Application with the Commission in this docket seeking authority to adjust and increase its rates for providing water and sewer utility service in all of its service areas in North Carolina, effective for service rendered on and after January 30, 2020. In Paragraph 14 of its Sub 526 Rate Case Application, Aqua stated that:

Pursuant to the provisions of G.S. 62-135, Aqua hereby notifies the Commission that the Company intends to partially implement its proposed rates on a temporary, interim basis subject to refund, effective for service rendered on and after six months from January 30, 2020, assuming that the Commission: (a) suspends the operation of the Company's proposed rates as requested in this Application; and (b) has not entered a final order by that date. Consistent with the customer notice provisions of G.S. 62-135(a), Aqua further requests that the Notices to Customers attached to the NCUC scheduling order hereafter issued in this docket include a specific provision which notifies customers that the Company intends to implement temporary

¹ Aqua Water, Aqua Sewer, and Brookwood Water Rate Divisions.

² G.S. 62-135 is entitled "Temporary rates under bond".

³ The date of July 30, 2020 is six months after the Company could have put into effect the rates requested in its December 31, 2019 Application, but for the Commission's suspension of the rates and declaration of a general rate case.

rates under bond effective for service rendered on and after six months from January 30, 2020.⁴

2. By its Rate Case Application, Aqua proposed to increase its tariffed rates and charges to produce additional gross revenues on a company-wide basis of \$6,819,722, an 11.20% increase over the total revenue level generated by the rates currently in effect for the Company.

3. On January 21, 2020, the Commission issued an Order declaring this proceeding to be a general rate case and suspending the proposed new rates for up to 270 days pursuant to G.S. 62-134. On February 14, 2020, the Commission issued its Scheduling Order in this docket wherein it acknowledged Aqua's intent to implement temporary rates on an interim basis, under bond and subject to refund, for water and sewer utility service rendered on and after July 30, 2020. The Commission also included the following notice provision in the Notices to Customers which Aqua was required to mail or hand deliver to all of its customers:

RATES UNDER BOND

Pursuant to N.C.G.S. § 62-134, Aqua has requested a final order be issued within six months from January 30, 2020, the proposed effective date of new rates. Otherwise, pursuant to N.C.G.S. § 62-135, Aqua intends to implement its proposed rates under bond on a temporary, interim basis subject to refund, effective for service rendered on and after six months from January 30, 2020, or July 31, 2020.⁵

⁴ In Footnote 1 to the Sub 526 Rate Case Application, Aqua acknowledged and agreed that, in placing temporary rates in effect under bond, the Company would observe and abide by all of the statutory restrictions and requirements set forth in G.S. 62-135, including the 20% limitation specified in subparagraph (b) and the bonding and undertaking to refund provisions, including interest, specified in subparagraphs (c) and (d).

⁵ The date of July 31, 2020, should have been stated as July 30, 2020.

4. By the Scheduling Order, the Commission also scheduled six public hearings to receive testimony from Aqua's customers. As a result of the Coronavirus Pandemic, those hearings were subsequently cancelled by the Commission by Order dated March 31, 2020, and no replacement hearings have, to date, been scheduled. This understandable and unavoidable delay will undoubtedly cause the Commission to be unable to issue a Final Rate Case Order prior to the July 30, 2020 date when the Company is entitled to place temporary rates in effect subject to refund. Such delay is one of the critical underpinnings of the Company's request as set forth in this Motion.

5. G.S. 62-135(a) provides, in pertinent part, that:

Notwithstanding an order of suspension of an increase in rates, any public utility except a common carrier may, subject to the provisions of subsections (b), (c), and (d) hereof, put such suspended rates into effect upon the expiration of six months after the date when such rate or rates would have become effective, if not so suspended, by notifying the Commission and its customers of its action in making such increase not less than 10 days prior to the day when it shall be placed in effect;...

6. G.S. 62-135(b) provides that:

No rate or rates placed in effect pursuant to this section shall result an increase of more than twenty percent (20%) on any single rate classification of the public utility.

7. G.S. 62-135(c) provides that:

No rate or rates shall be placed in effect pursuant to this section until the public utility has filed with the Commission a bond in a reasonable amount approved by the Commission, with sureties approved by the Commission, or an undertaking approved by the Commission, conditioned upon the refund in a manner to be prescribed by order of the Commission, to the persons entitled thereto of the amount of the excess plus interest from the date that such were put into effect, if the rate

or rates so put into effect are finally determined to be excessive. The amount of said interest shall be determined pursuant to G.S. 62-130(e).

8. On May 8, 2020, Aqua withdrew its Application for approval of a WSIC/SSIC surcharge, which would have ostensibly provided some rate relief from July 1, 2020 forward, based upon the determination that customers and the Company were better served, during this time, by avoiding sequential changes to rates.

9. Aqua is able to forego implementation of temporary rates under bond if the Commission authorizes the Company to impose water and sewer customer surcharges (to be collected over a reasonable period of time for three of its five Water and Sewer Rate Divisions) on and after the date of entry of the NCUC's Final Rate Case Order to recover the incremental water and sewer rate increases which are ultimately found reasonable by the Commission, for the interim period of time extending between July 30, 2020, and the effective date of the rate increase granted in the Final Rate Case Order.⁶

10. Aqua readily acknowledges that the Company's proposed deferral mechanism has not been used in this way before in North Carolina and that, to the Company's knowledge, there is no specific precedent for it. However, the Company also submits that the Commission's longstanding practice concerning the use of deferral methodologies has been characterized by the ability to utilize accounting mechanisms to deal with unusual and unique situations in a fair

⁶ Aqua asserts that the Company's alternative proposal, if approved by the Commission, would not require notice to customers at this time. Notice of any approved customer surcharges would be given in the Commission-required Notices to Customers which will be attached to the Commission's Final Rate Case Order.

manner, balancing ultimate good for ratepayers with the financial needs of Commission-regulated public utilities. Such an opportunity presents in this case, where deferring the revenues from rates that would otherwise be put in place on July 30, 2020 can allow the Company to avoid implementing rates under bond---which are authorized by statute and otherwise necessary for Aqua's financial stability in North Carolina.

11. Aqua submits that the Company's proposed deferred revenue alternative is clearly a more beneficial option for ratepayers, for whom the ultimate rate increase is delayed, and who will see no increase until there is the benefit of final review and decision by the Commission. It also balances the Company's need for some assurance of ultimate recovery---at rates that will have been rigorously examined by the Commission and the public advocate agencies who are parties to the case---of substantial revenues otherwise lost during the intervening period from July 30, 2020, until issuance of the Commission's final Order. It is true that ratepayers would be entitled to a refund with interest if rates subject to an undertaking to refund are imposed that exceed the rates ultimately ordered, and thus they would ultimately be made whole. However, the deferred revenue methodology avoids the imposition of rates in a two-step process and provides the benefit of rate stability until there is certainty of final decision. Additionally, during the interim, the nation's economy and health have additional time to recover.

12. In order for Aqua to implement temporary rates on July 30, 2020, notice must be provided to the Company's customers prior to the effective date of the new temporary rates subject to an undertaking to refund. To date, notice of

the Company's general intent to implement temporary rates subject to refund has been made in the Company's Sub 526 Rate Case Application, as well as in the Commission's Scheduling Order and the Commission-required Notices to Customers. Nevertheless, in order to ensure complete compliance with the statutory requirements of G.S. 62-135, Aqua hereby provides additional notice to the Commission of its intent to place partial, temporary rates and charges into effect on an interim basis effective for service rendered on and after July 30, 2020, if the deferred revenue mechanism is unacceptable to the Commission. These proposed temporary rates will be implemented subject to an Undertaking to Refund. The Company would intend to provide additional notice to its customers by bill insert prior to the effective date of the new temporary rates subject to an Undertaking to Refund.

13. By the temporary rates to be implemented subject to an Undertaking to Refund, the Company will increase its current rates and charges for its Aqua Water, Aqua Sewer, and Brookwood Water Rate Divisions by a total of \$4,484,737, which represents 7.19%, 7.2%, and 12.6% temporary rate increases, respectively, for these three rate entities that are impacted. (Aqua will forego implementing temporary rates subject to refund for the Company's Fairways Water and Fairways Sewer Rate Divisions.)

14. Consistent with G.S. 62-135(b), the proposed temporary rates to be implemented by Aqua effective July 30, 2020, are designed to produce \$4,484,737 of additional revenues on an annualized basis. The interim rates placed in effect will not result in an increase of twenty percent (20%) or more for any single rate

classification. The levels of temporary rates and charges planned to be made effective for water and sewer utility service for each customer class are attached hereto as Appendix A and Appendix B, which are the Company's Proposed Notices to Customers of Temporary Rate Increase Subject to Undertaking to Refund for Aqua Water and Sewer customers and Brookwood Water customers, respectively.

15. As another integral part of this Notice, Aqua also files an Undertaking to Refund consistent with the applicable provisions of G.S. 62-135(c) whereby the Company commits to make refunds, including interest at a rate specified by the Commission pursuant to G.S. 62-130(e)⁷, to its affected customers of any revenue over-recovery received under temporary rates. The Company's Undertaking to Refund is attached hereto as Appendix C.

16. Aqua will calculate and apply the temporary rate increase subject to its Undertaking to Refund, and any applicable refunds, to the existing rate structures currently in place for each applicable Rate Division and for each customer class.

WHEREUPON, Aqua respectfully requests that, unless the Commission authorizes and approves the use of the deferred revenue procedure described above (which is the Company's preferred alternative), it approve the Proposed Notices to Customers (which include the temporary rates to be implemented effective for service rendered on and after July 30, 2020) and the Company's Undertaking to Refund, attached hereto as Appendices A, B, and C, respectively.

⁷ Aqua proposes that any refunds ordered by the Commission should include interest at the overall rate of return allowed by the Commission in its Final Rate Case Order in this case.

Under either of these options, Aqua respectfully requests a decision from the Commission as quickly as possible, so that, if temporary rates subject to an Undertaking to Refund are implemented, there will be sufficient time to provide customer notice prior to implementing the proposed temporary rates by July 30, 2020.

Aqua has sought the response of the Attorney General and the Public Staff in this matter. Their drafting input into the wording of the Notices to Customers and the Undertaking to Refund has been incorporated in the attached documents, and they offer no objection as to form. However, they both oppose the deferral revenue recovery mechanism and the Public Staff will respond to the Petition.

Respectfully submitted this the 11th day of June 2020.

ATTORNEYS FOR AQUA NORTH CAROLINA, INC.

Electronically Submitted

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Appendix A

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. W-218, SUB 526

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

<p style="text-align: center;">In the Matter of</p> <p>Application by Aqua North Carolina, Inc., 202 MacKenan Court, Cary, North Carolina 27511, for Authority to Adjust and Increase Rates for Water and Sewer Utility Service in All Its Service Areas in North Carolina</p>	<p>)</p> <p>)</p> <p>)</p> <p>)</p> <p>)</p> <p>)</p>	<p>NOTICE TO CUSTOMERS OF TEMPORARY RATE INCREASE SUBJECT TO UNDERTAKING TO REFUND</p>
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TEMPORARY RATES SUBJECT TO UNDERTAKING TO REFUND

NOTICE IS HEREBY GIVEN THAT on December 31, 2019, Aqua North Carolina, Inc. ("Aqua" or "Company") filed a Rate Case Application with the North Carolina Utilities Commission seeking authority to adjust and increase its rates for providing water and sewer utility service in all of its service areas in North Carolina effective for service rendered on and after January 30, 2020.

In its Rate Case Application, Aqua notified the Commission that, pursuant to the provisions of G.S. 62-135, the Company intended to implement its proposed rates on a temporary, interim basis subject to refund, effective for service rendered on and after six months from January 30, 2020, assuming that the Commission: (a) suspended the operation of the Company's proposed rates as requested in the Application; and (b) had not entered a final order by that date. Consistent with the customer notice provisions of G.S. 62-135(a), Aqua further requested that the Notices to Customers attached to the NCUC scheduling order should include a specific provision which notified customers that the Company intended to implement temporary rates under bond effective for service rendered on and after six months from January 30, 2020.

The Commission previously required the Company to send Notices to Customers which contained notification of the dates, times, and locations of the public hearings scheduled in this case and, at Aqua's request, customers were also notified of the Company's intent to implement temporary rates under bond effective for water and sewer utility service rendered on and after July 30, 2020. If ultimately found to be excessive by the Commission, these temporary rates are subject to refund to customers with interest at an interest rate to be ordered by the Commission.

This is a second notice regarding the temporary rates which Aqua will place in effect on or after July 30, 2020, as specifically allowed by state law in the Public Utilities Act; i.e., G.S. 62-135. Aqua's proposed temporary rates for all its service areas, with the exception of the Brookwood and LaGrange service areas in Cumberland and Hoke Counties and the Fairways and Beau Rivage (The Cape) service areas in New Hanover County, are as follows:

WATER UTILITY SERVICE

<u>Monthly Metered Service (Residential and Commercial customers)</u>	<u>Existing Rates</u>	<u>Proposed Rates</u>
<u>Base facility charge (zero usage, based on meter size)</u>		
<1" meter	\$ 19.25	\$ 21.04
1" meter	\$ 48.13	\$ 52.60
1-1/2" meter	\$ 96.25	\$ 105.20
2" meter	\$154.00	\$ 168.32
3" meter	\$288.75	\$ 315.60
4" meter	\$481.25	\$ 526.00
6" meter	\$962.50	\$1,052.00

The base charges listed above apply to all Aqua North Carolina metered water systems except those in the Brookwood/LaGrange service areas in Cumberland and Hoke Counties and the Fairways/Beau Rivage (The Cape) service areas in New Hanover County.

<u>Usage charge, per 1,000 gallons</u>	<u>Existing Rate</u>	<u>Proposed Rate</u>
All service areas unless noted differently below	\$ 5.83	\$ 6.49

Bulk Purchased Water Systems

Proposed base monthly charge same as above

Proposed usage charge per 1,000 gallons based on bulk water provider are unchanged.

<u>Monthly Unmetered Service (flat rate)</u>	<u>Existing Rates</u>	<u>Proposed Rates</u>
All service areas unless noted differently below		
Residential customers	\$ 39.66	\$ 47.00
Commercial customers (per *REU)	\$ 67.42	\$ 74.87
*(REU = Residential Equivalent Unit)		
<u>Water System Improvement Charge</u>	<u>Existing Rate</u>	<u>Proposed Rate</u>
All service areas unless noted differently below	2.69%	0.00%

The Water System Improvement Charge is applied to the total water utility bill of each customer under the Applicant's applicable rates and charges.

SEWER UTILITY SERVICE

<u>Monthly Unmetered Service (flat rate)</u>	<u>Existing Rates</u>	<u>Proposed Rates</u>
All service areas unless noted differently below		
Residential customers	\$ 72.04	\$ 77.49
Commercial customers (per *REU)	\$100.86	\$ 106.94
*(REU = Residential Equivalent Unit)		

Commercial Monthly Metered Service and all Parkway Crossing and Park South Station Service Areas (based on metered water usage)

Base facility charge (zero usage, based on water meter size)

All service areas unless noted differently below

	Existing Rates	Proposed Rates
<1" meter	\$ 26.11	\$ 26.59
1" meter	\$ 65.28	\$ 66.48
1-1/2" meter	\$ 130.55	\$ 132.95
2" meter	\$ 208.88	\$ 212.72
3" meter	\$ 391.65	\$ 398.85
4" meter	\$ 652.75	\$ 664.75
6" meter	\$1,305.50	\$1,329.50
<u>Usage charge, per 1,000 gallons</u>	\$ 8.92	\$ 10.18

All service areas unless noted differently below

	Existing Rates	Proposed Rates
<u>Parkway Crossing and Park South Station Service Areas</u>		
Base facility charge (zero usage)	As shown above	As shown above
Usage charge, per 1,000 gallons	\$ 6.45	\$ 6.45

Hawthorne at the Greene Apartments, Woodland Farm Rocky Ridge and Beaver Farms Service Areas – Mecklenburg County:

	Existing Rates	Proposed Rates
Base facility charge (to be collected and delivered to Carolina Water Service, Inc. of North Carolina for treatment of the Wastewater), per month (per REU)	\$ 47.94	\$ 47.94
Usage charge, per 1,000 gallons	\$ 6.11	\$ 7.26
<u>Sewer System Improvement Charge</u>	Existing Rates	Proposed Rates
All service areas unless noted differently	1.15%	0.00%

The Public Staff is authorized by statute to represent consumers in proceedings before the Commission. Written statements to the Public Staff should include the name of the subdivision where the customer is receiving service, contact information, and any information that the writer wishes to be considered by the Public Staff in its investigation of the matter; these statements should be addressed to Mr. Christopher J. Ayers, Executive Director, Public Staff, 4326 Mail Service Center, Raleigh, North Carolina 27699-4326. Written statements may also be faxed to 919-715-6704 or e-mailed to statements@ncuc.net.

The Attorney General is also authorized by statute to represent consumers in proceedings before the Commission. Statements to the Attorney General should be addressed to The Honorable Josh Stein, Attorney General, 9001 Mail Service Center, Raleigh, North Carolina 27699-9001. They may also be e-mailed to utilityAGO@ncdoj.gov.

Written statements are not evidence unless those persons appear at a public hearing and testify concerning the information contained in their written statements.

Information regarding this proceeding can be accessed from the Commission's website at www.ncuc.net under the docket number of this proceeding.

TEMPORARY MORATORIUM ON DISCONNECTION FOR NON-PAYMENT AND PROVISIONS FOR PAYMENT ARRANGEMENTS

In response to the COVID-19 public health crisis and to Governor Roy Cooper's Declaration of a State of Emergency (Executive Order No.116, March 10, 2020), the North Carolina Utilities Commission issued an Order on March 19, 2020 in Docket No. M-100, Sub 158 which addressed disconnections for nonpayment, reconnections, waivers of certain fees, interest, and payment arrangements. As early as March 13, 2020, Aqua North Carolina initiated actions consistent with the ultimate Commission Order and the Company joins other regulated utilities in strict compliance with the customer protection provisions set forth by the Commission. A complete copy of the Order may be found on the Commission website home page - <https://www.ncuc.net>.

The Commission also provided that, at the end of the State of Emergency, customers having arrearages accrued during the emergency period shall be provided the opportunity to make a reasonable payment arrangement over no less than a six month period and shall not be charged any late fees for late payment for arrearages accrued during the State of Emergency. (The Order does not relieve a customer of their obligation to pay bills for receipt of any utility service covered by the Order).

Issued by Order of the Commission this the _____ day of June, 2020.

NORTH CAROLINA UTILITIES COMMISSION

Kimberley A. Campbell, Chief Clerk

Appendix B

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. W-218, SUB 526

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of	
Application by Aqua North Carolina, Inc.,	) NOTICE TO CUSTOMERS
202 MacKenan Court, Cary, North	) OF TEMPORARY RATE
Carolina 27511, for Authority to Adjust and	) INCREASE SUBJECT TO
Increase Rates for Water and Sewer Utility	) UNDERTAKING TO
Service in All Its Service Areas in North	) REFUND
Carolina)

TEMPORARY RATES SUBJECT TO UNDERTAKING TO REFUND

NOTICE IS HEREBY GIVEN THAT on December 31, 2019, Aqua North Carolina, Inc. ("Aqua" or "Company") filed a Rate Case Application with the North Carolina Utilities Commission seeking authority to adjust and increase its rates for providing water and sewer utility service in all of its service areas in North Carolina effective for service rendered on and after January 30, 2020.

In its Rate Case Application, Aqua notified the Commission that, pursuant to the provisions of G.S. 62-135, the Company intended to implement its proposed rates on a temporary, interim basis subject to refund, effective for service rendered on and after six months from January 30, 2020, assuming that the Commission: (a) suspended the operation of the Company's proposed rates as requested in the Application; and (b) had not entered a final order by that date. Consistent with the customer notice provisions of G.S. 62-135(a), Aqua further requested that the Notices to Customers attached to the NCUC scheduling order should include a specific provision which notified customers that the Company intended to implement temporary rates under bond effective for service rendered on and after six months from January 30, 2020.

The Commission previously required the Company to send Notices to Customers which contained notification of the dates, times, and locations of the public hearings scheduled in this case and, at Aqua's request, customers were also notified of the Company's intent to implement temporary rates under bond effective for water and sewer utility service rendered on and after July 30, 2020. If ultimately found to be excessive by the Commission, these temporary rates are to refund to customers with interest at an interest rate to be ordered by the Commission.

This is a second notice regarding the temporary rates which Aqua will place in effect on or after July 30, 2020, as specifically allowed by state law in the Public Utilities Act; i.e., G.S. 62-135. Aqua's proposed changes to the present water rates for its Brookwood/LaGrange service areas in Cumberland and Hoke Counties are as follows:

WATER UTILITY SERVICE

<u>Monthly Metered Service (Residential and Commercial customers)</u>		
Base charge, per month (zero usage, based on meter size)	<u>Existing Rates</u>	<u>Proposed Rates</u>
<1" meter	\$ 14.03	\$ 16.19
1" meter	\$ 35.08	\$ 40.48
1-1/2" meter	\$ 70.15	\$ 80.95
2" meter	\$ 112.24	\$ 129.52
3" meter	\$ 210.45	\$ 242.85
4" meter	\$ 350.75	\$ 404.75
6" meter	\$ 701.50	\$ 809.50
<u>Usage charge, per 1,000 gallons</u>	\$ 3.76	\$ 4.62
All service areas unless noted differently below		
<u>Bulk Purchased Water Systems</u>		
Proposed base monthly charge same as above		
Proposed usage charge per 1,000 gallons based on bulk water provider are unchanged		
<u>Monthly Unmetered Service (flat rate)</u>		
All service areas unless noted differently below	<u>Existing Rates</u>	<u>Proposed Rates</u>
Residential customers	\$ 33.17	\$ 37.65
Commercial customers (per *REU)	\$ 56.39	\$ 56.69
*(REU = Residential Equivalent Unit)		
<u>Water System Improvement Charge</u>		
All service areas unless noted differently below	<u>Existing Rate</u>	<u>Proposed Rate</u>
	3.57%	0.00%

The Water System Improvement Charge is applied to the total water utility bill of each customer under the Company's applicable rates and charges.

The Public Staff is authorized by statute to represent consumers in proceedings before the Commission. Written statements to the Public Staff should include the name of the subdivision where the customer is receiving service, contact information, and any information that the writer wishes to be considered by the Public Staff in its investigation of the matter; these statements should be addressed to Mr. Christopher J. Ayers, Executive Director, Public Staff, 4326 Mail Service Center, Raleigh, North Carolina 27699-4326. Written statements may also be faxed to 919-715-6704 or e-mailed to statements@ncuc.net.

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Written statements are not evidence unless those persons appear at a public hearing and testify concerning the information contained in their written statements.

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TEMPORARY MORATORIUM ON DISCONNECTION FOR NON-PAYMENT AND PROVISIONS FOR PAYMENT ARRANGEMENTS

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The Commission also provided that, at the end of the State of Emergency, customers having arrearages accrued during the emergency period shall be provided the opportunity to make a reasonable payment arrangement over no less than a six month period and shall not be charged any late fees for late payment for arrearages accrued during the State of Emergency. (The Order does not relieve a customer of their obligation to pay bills for receipt of any utility service covered by the Order).

Issued by Order of the Commission this the _____ day of June, 2020.

NORTH CAROLINA UTILITIES COMMISSION

Kimberley A. Campbell, Chief Clerk

Appendix C

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. W-218, SUB 526

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of	
Application by Aqua North Carolina, Inc.,)
202 MacKenan Court, Cary, North)
Carolina 27511, for Authority to Adjust and)
Increase Rates for Water and Sewer Utility)
Service in All Its Service Areas in North)
Carolina)
)

UNDERTAKING TO
REFUND OF AQUA NORTH
CAROLINA, INC.

NOW COMES AQUA NORTH CAROLINA, INC. ("Aqua" or "Company")

and files this Undertaking to Refund pursuant to G.S. 62-135(c).

UNDERTAKING TO REFUND

Aqua North Carolina, Inc., by and through the undersigned Company President, makes this written undertaking to the North Carolina Utilities Commission that the Company will refund to its customers in its Aqua Water, Aqua Sewer, and Brookwood Water Rate Divisions using the current rate structure for any amount of temporary rates made effective on and after July 30, 2020, pursuant to G.S. 62-135, plus interest at a rate to be specified by the Commission pursuant to G.S. 62-130(e), as may finally be determined by the Commission to be excessive and as required by the Final Commission Rate Case Order in this docket. Such refunds will be made consistent with any terms and conditions set forth by the Commission in its Final Rate Case Order.

This the _____ day of June, 2020.

Shannon V. Becker, President
Aqua North Carolina, Inc.

Sworn to and subscribed before me this
the _____ day of June, 2020.

Notary Public

My Commission Expires: _____

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing **MOTION FOR APPROVAL OF AN ORDER ALLOWING DEFERRAL OF REVENUES IN LIEU OF RATES UNDER BOND OR, ALTERNATIVELY, NOTICE OF INTENT TO PLACE TEMPORARY RATES IN EFFECT SUBJECT TO AN UNDERTAKING TO REFUND PURSUANT TO G.S. 62-135**, filed by Aqua North Carolina, Inc. in Docket No. W-218, Sub 526, has been served on each of the parties to this proceeding.

This the 11th day of June, 2020.

ATTORNEY FOR AQUA NORTH CAROLINA, INC.
Electronically Submitted

/s/Jo Anne Sanford

North Carolina State Bar No. 6831
Sanford Law Office, PLLC
Post Office Box 28085
Raleigh, North Carolina 27611-8085
Telephone: 919.210.4900
sanford@sanfordlawoffice.com

Notary Public location during video notarization: Wake County
Stated physical location of principal during video notarization: Wake County

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

*Page 1 of 427 pages previously filed in the
docket system on April 21, 2020.

/A

FORM 10-K

(Mark One)

☒ ANNUAL REPORT PURSUANT TO SECTION 13 or 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2019

Or

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission File number 1-6659

ESSENTIAL UTILITIES, INC.

(Exact name of registrant as specified in its charter)

Pennsylvania

(State or other jurisdiction of incorporation or organization)

23-1702594

(I.R.S. Employer Identification No.)

762 W Lancaster Avenue, Bryn Mawr, Pennsylvania
(Address of principal executive offices)

19010-3489
(Zip Code)

(610) 527-8000

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, par value \$0.50 per share 6.00% Tangible Equity Units	WTRG WTRU	New York Stock Exchange New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None.

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. ☒ Yes ☐ No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. ☐ Yes ☒ No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. ☒ Yes ☐ No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). ☒ Yes ☐ No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "small reporting company," and "emerging growth company" in Rule 12(b)-2 of the Exchange Act.:

Large accelerated filer ☒
Non-accelerated filer ☐
Emerging growth company ☐

Accelerated filer ☐
Small reporting company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). ☐ Yes ☒ No

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the registrant as of June 30, 2019: \$8,911,078,473

The number of shares outstanding of the registrant's common stock as of February 19, 2020: 222,781,536

DOCUMENTS INCORPORATED BY REFERENCE

(1) Portions of the definitive Proxy Statement, relating to the 2020 annual meeting of shareholders of registrant, to be filed within 120 days after the end of the fiscal year covered by this Form 10-K, have been incorporated by reference into Part III of this Form 10-K

OFFICIAL COPY

Apr 21 2020

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. W-218, SUB 526

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of		
Application by Aqua North Carolina, Inc.,)	
202 MacKenan Court, Cary, North Carolina	)	VERIFIED RESPONSE TO
27511, for Authority to Adjust and Increase	)	MOTION TO COMPEL
Rates for Water and Sewer Utility Service)	
in All Its Service Areas in North Carolina)	

NOW COMES AQUA NORTH CAROLINA, INC. (“Aqua” or “Company”), by and through the undersigned counsel, and responds to the unverified Motion to Compel, filed and served by the Public Staff (or “Staff”) on April 22, 2020. In support of this Verified Response, Aqua respectfully shows the Commission the following:

1. GENERAL RESPONSE.

a) Although it is unfortunate that Aqua and the Public Staff have not been able to fully resolve their discovery difficulties, the current circumstance arises from a fairly traditional pattern: the Public Staff casts a broad net on discovery, searching for information that is either relevant or may lead to relevant information, the pace of the requests/production/exchanges of information accelerates sharply near the end of the discovery period, answers from the Utility beget more questions, the Utility ultimately objects to burden and lack of relevance, the Public Staff’s expansive demands request information the Utility does not have, and in the rush of it all, communication and understanding suffer.

b) In spite of the Commission’s amended procedures requiring that testimony be filed with the Rate Case Application, the crush of discovery

demands---some recently issued that relate to filings (including testimony) made in the December 31, 2019 Application---is at peak, as the Public Staff pushes to prepare to file its testimony by the approaching deadline. Both Aqua and the Public Staff have worked courteously and responsibly, and continue to do so. Aqua notes that no allegations of bad faith or inattention or lack of vigorous, committed efforts at compliance are legitimately any part of this conversation. The Company has not "refused" to provide data. It has in some instances been unable to meet all of the Public Staff's requests, as the Staff couched them, even after diligent efforts to provide enormous amounts of information. The Company has in some instances not been clear on the exact focus of the data requests. In other instances, as information was exchanged, it was determined that the Public Staff requests needed to be re-cast. And in some instances, the Company has, after concerted efforts to try to comply with the terms of the requests, concluded that: the information was not available; the request itself sought information not germane to the stated purpose of the inquiry; or that the request was unduly burdensome and/or unlikely to lead to any relevant results. On some occasions the Company submits it has provided information that the Public Staff did not realize was available to them. This is an ordinary by-product of the give and take as information is exchanged and better understood; and, for the most part, these issues have been appropriately resolved between the parties.

c) The fact that Aqua intends to not only make its regularly-scheduled WSIC/SSIC surcharge filing, but that it intends to ask for inclusion of meters in that filing, layers review of one request (WSIC/SSIC) into the same timetable as review of another request (inclusion in rate base of the named

projects). The Company is attempting to accelerate production of WSIC/SSIC-specific data responses. However, the WSIC/SSIC filing is not complete (it will be made May 1st) and the Company has simply not always been able to comply with the entirety of the Public Staff's rate case production demands on the timetable requested.

d) Aqua regrets that this decision has been migrated to the Commission, and the Company continues without ceasing to provide information sufficient to satisfy the Public Staff's questions and to explain accounting procedures that should be better understood.

2. SPECIFIC RESPONSE TO MOTION TO COMPEL.

a) Aqua respectfully responds to the concerns and allegations raised by the Public Staff's Motion to Compel. In the interest of time, the Company will not address and counterpoint each paragraph of the Public Staff's Motion. Clearly, there is a disagreement or misunderstanding which Aqua seeks to address and remedy by this Verified Response and by continuing provision of data to the Public Staff, as well as by discussions.

In the continued spirit of compromise and transparency, the Company in this Response and with its ongoing production of responses to data requests, will hopefully dispense with the need for determination of the Public Staff's Motion by the Commission. The Company remains committed to proactive discussions with the Public Staff to address the transfer of complex data files with large amounts of data and the essential need to navigate and understand what is being provided in these large files. In addition, the Company remains committed to answering and discussing any

questions or concerns with the Public Staff when interpreting such data. Likewise, the Company will continue to follow up with the Public Staff to understand what the Staff is looking for to the extent the question may be unclear or open to interpretation.

b) Based on Aqua's understanding, the Motion to Compel surrounds two of the Public Staff's discovery requests – Data Requests 54 and 82. Aqua has provided updated information as recently as today to the Public Staff and respectfully submits that both Data Requests have been answered to the best of the Company's ability.

c) Data Request No. 54, Sub-Item 2.h¹

This Data Request Item concerns the Company's WSIC/SSIC surcharge filing which is to be made on May 1. The Company has been unable to meet the Public Staff's request to provide a Sub-Item 2.h filing, or the data supporting it, prior to its final review and internal management approval of such filing. That said, the Company reports that after further clarification and discussion with Public Staff, it is the Company's belief that what the Staff was specifically looking for in satisfaction of Sub-Item 2.h includes the Company's internal "Engineering Project Closure" forms, contractor estimates of progress and change orders related to the WSIC/SSIC application that will be filed on May 1, 2020. This documentation was provided to the Public Staff today, April 24, 2020. Out

¹ With today's submission of the information required by Sub-Item 2.h of Public Staff DR No. 54, the Company believes it has now provided all of the information requested by the Staff in each of the nine Sub-Items of that DR.

of an abundance of caution and to make sure there is no miscommunication, the Company will follow up with Public Staff to confirm that this Sub-Item response has been fully satisfied. Additionally, the Company is working diligently to not only prepare the WSIC/SSIC filing, but also to accelerate the provision of any additional, specifically requested data pertaining to it, of the sort that is normally requested by the Public Staff in review of WSIC/SSIC projects.

d) Data Request No. 54, Item 3

It is the Company's understanding that the Public Staff will not need any additional responses to DR No. 54, Item 3 if the Staff is satisfied with the information provided by Aqua in response to DR No. 82.

e) Data Request No. 82

The Public Staff contends that DR No. 82 is necessary for a number of reasons outlined in the Motion to Compel. Those reasons will not be repeated here, and the Company will not address germane issues related to relevance or undue burden.

Aqua has repeatedly attempted to answer this DR Item covering 63,000 assets placed in service since 2015. As recently as the date of the Public Staff's filing of the Motion to Compel, the Company produced additional information in hopes of satisfying this request. A technical issue left blank the date fields for assets placed in service in March 2020. That data, to the extent available, was provided today in an update to the original file. Additionally, the Company today included in its transmittal to the Public

Staff a narrative that includes explanations of the date fields of specific interest to the Public Staff and why some of the information requested is not now, nor has it ever, been available. The Company has provided all information that is or can reasonably be made available. To the extent that any data sought has not been provided, it is because the Company does not have it.

First, as requested by DR No. 82, Aqua has provided the following for each rate entity and each month during the calendar years of 2015, 2016, 2017, 2018, 2019, 2020 (actual through March and budgeted), and 2021 (budgeted):

- List of all capital projects, by category – Provided 04/20/20
- Total cost of the project – Provided on 04/20/20
- Primary plant account (e.g., 320300 – Water Treatment Equipment or 354000 – Structures & Improvements) – Provided 04/20/20
- Date of completion - Provided 04/22/20 and 04/24/20, to the extent available
- Date placed in service - Provided 04/22/20 and 04/24/20, to the extent available
- Date recorded/booked for accounting - Provided 04/20/20
- Activity description (e.g., main/service replacement, Fe/Mn filter, generator, hydro tank replacement, etc.) – Provided 04/20/20
- System name – Provided 04/20/20 and 04/24/20

Secondly, Aqua does not have in-service and completion dates for routine projects. The Company often refers to these projects as “blanket” projects. This is a utility term of art that generally describes unplanned but very routine projects that the utility accomplishes on a regular basis. [For

example, repairing or replacing a section of water pipe to address a main break.] They are not lengthy projects and are generally started and completed in one month. Costs associated with these transactions are recorded and capitalized in the same month via an automated process due to the volume of separate transactions and the requirement that these costs be recorded by system. For these types of projects, Aqua's tracking system does not track the data that the Public Staff is seeking. Aqua has explained this to the Public Staff previously and is requesting additional opportunity to explain how and why the accounting system works as it does, including the extent to which the current system is influenced by regulatory requirements.

3. ADDITIONAL PROCEDURAL CONCERNS.

Finally, and significantly, Aqua is fully prepared to defend against the innuendo [that apparently needs to be confirmed with more discovery data, and/or explanation regarding why additional data is not available] that the Public Staff has asserted in the Motion to Compel. The Company is very concerned with the Public Staff's suggestion of a potential issue of misconduct, in the comments in paragraph 21 at pages 9-10, wherein the Staff gives an example of why it needs certain information. The Public Staff's effort to support the Motion to Compel is transformed into something more serious by this publication, made as a collateral comment in a discovery dispute.

Whether intended or not, comments about a "pattern" of behavior, "inflating rate base," and the legitimacy of the Company's bases for not responding to requests by the Public Staff require review by Aqua's

management and likely other responses. The Company is preparing to go back in time, again, to defend itself and its accounting practices---against either innuendo or allegation. Aqua will not further discuss this issue here, because, if it is an issue, it is best deferred for later articulation in testimony, rebuttal, and at hearing. However, the Company's serious concern about the insinuation from the language used by the Public Staff is that it is unduly prejudicial at this point, and that the mere inclusion of it in a public document by the Staff raises serious other issues of credibility for the Company.

WHEREFORE, Aqua respectfully requests that the Commission direct Aqua and the Public Staff to meet to discuss whether there are in fact any remaining outstanding differences to be resolved by the Motion to Compel, and to report back to the Commission.

Respectfully submitted this the 24th day of April 2020.

ATTORNEYS FOR AQUA NORTH CAROLINA, INC.

Electronically Submitted

/s/Jo Anne Sanford

North Carolina State Bar No. 6831

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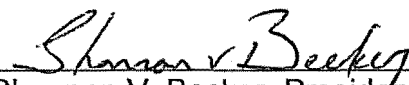
T: 919.760.3185

BenninkLawOffice@aol.com

VERIFICATION

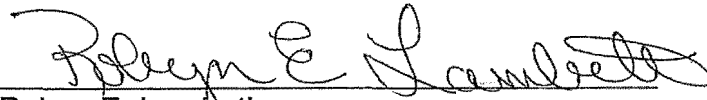
Shannon V. Becker, being duly sworn, deposes and says:

That he is the President of Aqua North Carolina, Inc.; that he is familiar with the facts set out in this **VERIFIED RESPONSE TO MOTION TO COMPEL** filed by Aqua North Carolina, Inc. in Docket No. W-218 Sub 526; that he has read the foregoing Response and knows the contents thereof; and that the same is true of his knowledge except as to those matters stated therein on information and belief, and as to those he believes them to be true.

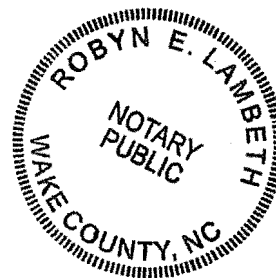

Shannon V. Becker, President

NORTH CAROLINA
COUNTY OF Wake

Sworn to and subscribed before me this
the 24th day of April 2020.


Robyn E. Lambeth
Notary Public

My Commission Expires: May 13, 2021



CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing **VERIFIED RESPONSE TO MOTION TO COMPEL**, filed by Aqua North Carolina, Inc. in Docket No. W-218, Sub 526 has been served on the Public Staff, North Carolina Utilities Commission, by hand delivery or electronic transmission to Megan Jost, Staff Attorney.

This the 24th day of April 2020.

**ATTORNEY FOR AQUA NORTH CAROLINA, INC.
Electronically Submitted**

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Aqua NC Billing Analysis & Rate Design

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Process Overview

This section is an overview of the billing analysis and rate design process in general terms for the rate case filed 12/31/2019. Individual actions, calculations, and files and their structure are described in later sections. Do not try to follow this overview section by looking at Excel files; rather read this section to get the overall idea of the process and then look at Excel files when they are referenced and explained in the sections that follow. Before opening Excel files, read the appendix about file interdependencies.

- Billing data is received from Aqua's billing system for three 12-month periods. Data for each bill includes the number of billed-months and, where appropriate, usage. The annual quantities of bills and volume of usage are called billing determinants (BDs).
- The data is summarized by month by class and billing category (usually meter size or other characteristic) and tariff rate treatment.
- The most recent 12-month period is called the test year (or sometimes base year). Before proceeding, the test year billing determinants are tested to ensure that they are reasonably accurate; this is done by applying to them the billing rates which were in effect over the 12-month test year and comparing the resulting expected calculated revenue to the revenue which was booked in that period.
- In rare cases when anomalies occurred in the test year billing for some customers, the test year BDs are then "normalized" so that they become representative of a 12-month period.
- To project BDs to a pro forma period, anticipated customer growth for a six-month period is applied to the normalized determinants to develop the number of projected annual bills and projected usage, and then the resulting usage is adjusted by a factor to increase or decrease it based on considerations of past and/or current averages and trends.
- The pro forma billing determinants are applied to the rates in effect at the time of the filing to calculate "Pro Forma Revenue at Present Rates". This is the amount of revenue which could be anticipated if there were no change of rates and if the projected pro forma BDs actually occur.
- A revenue requirement is calculated (outside of the billing analysis and rate design process) based on expenses, rate of return on equity, taxes, fees, etc.
- If there are no changes proposed to the rate structure, proposed rates can be designed by spreading the total pro forma revenue requirement over the projected pro forma BDs; but if the rate structure is proposed to change, then a modified set of BDs called Pro Forma at Proposed Rates BDs is calculated and used to spread the revenue requirement.
- Finally, a "proof of revenue" is done by applying the proposed rates to all the projected pro forma BDs by class, size, category, etc. The resulting calculated revenue sum should be equal to the proposed revenue requirement within a reasonable percent difference which inevitably occurs due to rounding of the rates.

BD Analysis, Projection, and Rate Design Files

There are two Excel files (one for Water systems and one for Sewer systems) wherein the billing determinants are compiled, calculated, and combined into the Exhibits F, H, and J for the MFR.

Aside (to be covered in more detail later):

- Exhibit F shows the historical test year BDs by month, by test year total, Normalized, and Pro Forma at the present rate structures.

- Exhibit H shows the BDs and calculated revenues for the test year, pro forma at present rates, and pro forma at proposed rates.

The names of the two billing determinants files start with “NC WT BD” and “NC SW BDs”, and the names end with the time period that they cover, e.g., “3YE 2019 09”, meaning “the 3 Years Ending with the 9th month of 2019”. Thus, the two files produced for this rate case are named

[NC WT BDs 3YE 2019 09.xlsx]

[NC SW BDs 3YE 2019 09.xlsx]

The “WT” file contains sets of tabs for three tariff groups: ANC Water, Brookwood Water, and Fairways Water.

The “SW” file contains sets of tabs for two tariff groups: ANC Sewer and Fairways Sewer.

Each set of tabs has tab names beginning with the abbreviation of a tariff group (viz., ANC, Brkwd, or Frwys) represented by “nnn” in this narrative.

Customer Growth Tab

Aqua provided total customer counts by tariff group (3 WT & 2 SW) as of the ends of Mar & Sep 2019. We can assume the difference is a typical 6 months of growth and can be added it to the 9/30/19 (end of test year) numbers to get 3/31/2020 projected pro forma customers. The growth data within a tariff group was divided over the two or three largest rate code entities in proportion to their number of premises. These pro forma 6-month growth customers are multiplied by 12 to calculate the pro forma annual additional bills expected, and these annual figures are looked-up from other tabs by means of SUMIFS formulas. This calculation is provided as a preliminary indicator of the customer count as of the post-test year end date and is subject to true-up in creation of final rates.

Rate Table Tabs

Each BD file (one WT and one SW) has tabs showing tariff rates that were in effect during the 3-year analysis period, in tables by tariff, class, and size; one table shows rates effective 10/1/16-12/17/18, and the other shows rates effective 12/18/18-9/30/19. The WT file has a third tab containing usage charges for all the water providers. The rates in all these tables flow to other tabs when needed for display and/or calculations by means of INDEX/MATCH lookup functions.

TY Revenue Tabs

Each BD file (one WT and one SW) has a tab containing test year revenues by account per the General Ledger (G/L). These revenues are looked-up from other tabs by means of SUMIFS formulas. This tab is included in the file to minimize the number of external files that must be linked.

Trend Summary Tab

To adjust pro forma projected usage for Water, the NCUC Staff has historically used an adjustment factor to move actual Test Year average usage per bill to the level of the past 3-year average usage per bill. Due to declining average usage (“conservation”) for most areas over more than 10 years, using this 3-year averaging factor has consistently over-estimated post-rate case consumption resulting in the company earning less than its authorized rate of return. The company controller, Edward Thill, provided the ‘Trend Summary’ tab which contains 3-years of average usage data and calculations for Conservation Normalization Factors for each tariff group. These factors are linked to an Exhibit Fw page where they are combined with the traditional 3-

year average usage data to get a factor that is used in the BD Data tabs for a pro forma usage adjustment there.

BD Data Tabs

This section covers the BD Data tabs, which are where important data resides and complex calculations are performed for each tariff entity. The tabs are named 'ANC BD data', 'Brkwd BD data' and 'Frwys BD data' in the Water file, and 'ANC Swr data' and 'Frwys Swr data' in the Sewer file. They are referred to in general in this document as the 'nnn BD data' tabs.

In each set of tabs, the 'nnn BD data' tab contains the 36 months of bills and usage broken down by Rate Code, Class and Size Code.

Note:

I say "size code" here because flat rate and availability customers with no meters or no known meter size have a code differentiating them for rate purposes, such as "FR.r" for "Flat Rate – Residential" and "Av.M" for "Availability billed Monthly". In this narrative I will use the term "size" rather than "size code" for brevity.

Note:

In order to be able to sort data by size easily in Excel, for fractional meter sizes I use "0.625" for 5/8 inch, "0.75" for 3/4 inch, and "1.5" for 1 & 1/2 inches.

These tabs have much more of a function than just presenting historical data. They also have calculations for normalization, pro forma projects, and revenue calculation as described in the following subsections.

Bills and Usage

Flowing from left to right within the 'nnn BD data' tabs, the three one-year periods are shown oldest first, and the periods are labeled TY-2, TY-1 and TY (for 2 years prior to the Test Year, 1 year prior to the Test Year, and Test Year.) Totals for each period are summed at the end of each 12 months, and those three totals are linked to three side-by-side columns further to the right for ease of comparison.

BDs are shown in groups by rate code and size. I will refer to these groups as rate code groups or rate code entities.

Calculation of Test Year Revenue based on TY BDs

For each of the groups of BDs (i.e., by Rate Code, Class, Size) the appropriate tariff rates for 2018 and 2019 are shown in two adjacent columns (see "Rate Table Tabs" section.) BDs for months in 2018 are multiplied by the 2018 rates and BDs for the months in 2019 are multiplied by the 2019 rates, and the sum of those two multiplications is a fair representation of the expected test year period Billed Revenue. Since there was a rate change effective Dec 18, 2018 and since billing dates for customers vary across each month, there will inevitably be differences between expected Billed Revenue calculated this way and Booked Revenue in the General Ledger (G/L). But if the difference is reasonably small, say around 1% or less, comparing this "Billed Revenue Calc'd" with corresponding "Booked Revenue" figures (adjusted for removing Unbilled and other non-BD related amounts), then the TY BDs in the 'nnn BD data' tab is considered sufficiently accurate for rate making. The comparison is shown in MFR Exhibit H, but the revenue calculations are done in these columns of the 'nnn BD data' tabs.

Note:

Rates are displayed as per billed-month and per 1000 gallons (kGals). A rate for service billed annually would appear as 1/12 of the tariff rate, and a quarterly billed rate would appear as 1/3 of the tariff rate. Similarly, the billing determinants for one annual bill would be displayed as 12 billed-months. This allows simple and consistent

multiplication of annual billed-months by the rate per billed-month to arrive at annual revenue for all rate codes.

Normalization

The “Normalized” column of the ‘nnn BD data’ tabs calculates bills and usage that should be representative of a 12-month period using the last month’s bill or customer data. In cases when anomalies occurred within the test year billing for some customers (non in this filing) or there were changes to meter sizes or rate codes (about 10 in this filing), the test year BDs are normalized manually in that column and those changes are highlighted in color. For the other rate codes, the number of bills in the last month of the test year is multiplied by 12 months to get a normalized test year annual count for that rate code. The normalized usage is then calculated by multiplying the normalized annual count by the average usage per bill of the rate code entity.

Pro forma Organic Growth

The “Grwth AnBills” column shows the pro forma annual additional bills calculated on the ‘Cust Growth’ tab (described in another section), and the sum of that growth in bills plus the normalized bills is calculated in the “Pro Forma” column. That sum is multiplied by the Normalized column’s Average usage per bill to get an intermediate value of pro forma usage, but that intermediate value is not displayed because the complete formula then performs a usage adjustment as described next. (Remember that there are very few manual normalizations, so for most rate code entities the intermediate usage value is the same as that of the normalized column.)

Pro Forma Usage Adjustment

As explained in the “Trend Summary Tab” section of this narrative, a consumption adjustment factor for each of the three Water tariff entities is linked into a cell (in Row 1) on the corresponding ‘nnn BD data’. That factor is applied to all of the intermediate usage values (as just described), and the resulting adjusted usage values are shown in the “Pro Forma” column.

Pro Forma Tariff Structure Changes

Pro forma billing determinants are used to calculate expected revenue at Present rates, then to calculate a Proposed rate design, and then to calculate expected revenue at Proposed rates. If there are no changes to the rate structure are proposed, the pro forma BDs are the same for all these calculations; otherwise, a second set of pro forma BDs are developed, and they are called Pro Forma Proposed BDs.

In this rate case some rate structure changes are proposed:

- Sewer customers in the Woodland Farm Rocky Ridge subdivision have treatment provided by Carolina Water. They have been billed at the Aqua flat rate but should be billed at the same measured rate as other Carolina Water purchased sewer customers. (Public Staff’s C. Junis pointed this out in 2018 but it was agreed that it was too late to make a change then because the customers had not been “Noticed”.) At Present Rates they are billed flat rate with no usage component in their BDs, but at Proposed Rates their BDs have a usage component. To accommodate this, the ‘ANC Swr data’ tab in the file [NC SW BDs 3YE 2019 09.xlsx] has an additional column for those BDs named “PF Prpsd” (after the usual “Pro Forma” column). Exhibits Fs and Hs for ANC sewer also have a similar additional column to show PF Proposed BDs.
- Tiered Water rates with inclining blocks are being proposed for Residential and Irrigation customers in some areas of ANC and all of Fairways. (This will be explained in more

detail in other sections.) Because of the complexity of the calculations, Pro Forma BDs at Proposed Rates could not be calculated and shown on the 'nnn BD data' tabs, but they are shown on Exhibits Fw and Hw.

==== This is the end of the section covering the 'nnn BD data' tabs =====

MFR Exhibits Related to Billing Determinants and Rate Design

MFR tab locations – why different

There are tabs in the BD files for three MFR Exhibits: F, H, and J. Typically, they are in the file only temporarily so they can be worked on prior to the rest of the MFR being ready to include them. The preliminary rate design calculations using hypothetical revenue requirements are done first within the BD files on preliminary Exhibit H. When the MFR work has progressed to the calculation of a proposed revenue requirement, the tabs for Exhibits F, H, and J would usually be copied from the BD file to the MFR file and relinked to tabs in the MFR file. In this filing, the calculations for introducing Tiered Water rates (with inclining blocks) were so complex that it was better to keep those three exhibits in the NC WT BDs file for ANC and Fairways. Only Brookwood Water Exhibits F, H, & J were copied to the Brookwood MFR file (leaving the preliminary versions remaining in the NC WT BD file); for the other tariff entities, the only versions of these three exhibits are in the NC WT BD and NC SW BD files.

Exhibit F Tabs

The title of Exhibit F is "Billing Analysis - Quantities." Displayed on this exhibit are bill and usage quantities broken down in rows by class, size and rate structure and by columns by month for the test year, total test year, normalized test year, and pro forma (present rates). (For ANC Sewer I added a column for pro forma at Proposed rates to show effects of changing the rate structure of Woodland Farm as explained elsewhere herein.)

The BD quantities are brought to the Ex F tabs from the 'nnn BD data' tab and combined (summed) into the appropriate rows by means of SUMPRODUCT formulas. (Using SUMIFS formulas would be problematical because some of the row labels for lookups are "<1" (meaning meter sizes less than 1 inch) but SUMIFS interprets "<1" as a logical comparative operator.)

(To meet ratemaking filing requirements there is no need to break down usage quantities by meter size, as usage rates are not size-related. But I choose to show usage in the same categories and sizes as the bill quantities so that average usage per bill can be easily calculated and displayed in this exhibit for analysis and possible use in other calculations.)

In addition to the Exhibit F tab showing Quantities in the Test Year (as just described) I created similar tabs showing Quantities in the periods TY-1 and TY-2, again pulling the BDs for those periods from the same 'nnn BD data' tab and summing them by category. While it is not a filing requirement to submit exhibits for the prior two periods, Staff usually requests them in a Data Request; such a DR will not be required in this case since Staff has the "NC WT BD" and "NC SW BDs" files containing them.

For the Water MFRs there is an additional (and last) page in Exhibit F "Billing Analysis – Quantities" with the subtitle "Test Year Average Consumption - Water." This sheet calculates average usage per bill per by month for the three years from the data in the 'nnn BD data' tab, again using SUMPRODUCT formulas. Total bills are displayed, and, to be meaningful and

comparable, Flat Rate and other non-metered bills such as Availability are excluded before the monthly ratios are calculated. Overall average usage per bill is then calculated for the test year and for the total 3-year period on this tab. As explained in the “Trend Summary Tab” section, a consumption adjustment ratio is calculated on this tab which takes usage trends into consideration (as opposed to simply calculating a ratio of 3-year average to test year average, ignoring trends). First the ratio from the Trend Summary tab is applied to the 3-year average to get a projected pro forma usage per bill, then the pro forma usage per bill is divided by the test year average to get a factor that can be applied in the ‘nnn BD data’ tab (as explained in the “Pro Forma Usage Adjustment” section) to get projected pro forma usage values. (Note that the percentage change is displayed on the printed exhibit per past practice, but its corresponding useful decimal factor is calculated below the print area.)

Exhibit H Tabs and Rate Design

Formal Filed Portion of Exhibit H tab

The title of Exhibit H is “Test Year Revenue at Present Rates, Total Period Volumes.” Displayed on this exhibit are bill and usage quantities, rates and calculated revenues for the test year, pro forma at present rates, and pro forma at proposed rates.

As in the organization of Exhibit F, the rows in Exhibit H break down the billing determinants by logical group according to the rate structure, e.g., by bills and usage, by geography, by water or sewer treatment provider, by size, and by usage block. Although for some geographic groups the present rates are the same, they must be broken out because their rates differed prior to the last rate change (12/18/18) and some of those prior months are within the test year.

For the test year, quantities and calculated revenue are brought from the ‘nnn BD data’ tab and combined (summed) into the appropriate rows by means of SUMPRODUCT formulas; likewise, for normalized and pro forma present rates quantities. Because there was a rate change within the test period, the rates in effect column shows the division of the TY revenue (as calculated on the ‘nnn BD data’ tab) by the billing determinant quantity. At the bottom of the test year columns, total calculated revenue is compared to booked revenue to demonstrate that the TY BDs are reasonably accurate, as described in the “Calculation of Test Year Revenue based on TY BDs” section.

For pro forma at present rates, the rates per the present tariff are brought from the rate table tab (described earlier) and multiplied by the BD quantities to calculate and display projected pro forma revenue at present rates.

The next rightmost two columns in Exhibits H show the proposed rates and the multiplication of those rates by the pro forma quantities to calculate pro forma revenue at present rates. At the bottom of this last column the projected revenue is totaled and compared to the proposed revenue requirement from Exhibit G, which serves as the “proof of revenue.” Where there are no proposed changes to rate structure, namely for Brookwood Water and Fairways Sewer, there is only one pro forma quantity column. For ANC Sewer there is also a column for pro forma units at proposed rates, as explained in the “Pro Forma Tariff Structure Changes” section. For ANC Water and Fairways Water there are a few more intermediate columns to display the pro forma quantities and revenue at the proposed Tiered rate structure before and after Repression (this will be explained in a later section).

Rate Design Calculations on Exhibit H tab

Calculations for rate design, except for tiered rates, are done on the Exhibit H tabs to the right of the filed printed area of the exhibit. Rate design is done on this tab rather than on a separate “RD” tab because the row structure of Exhibit H breaks the billing determinants down in a logical and useful way to calculate proposed base facility charge per REU (Residential Equivalent Unit) and the charge per kGal.

The rate design process (in the non-printing portion of the Exhibit H tabs) follows this flow:

- From the total Exhibit G revenue requirement, the amount that should be recovered by fixed charges (e.g., meter size charges and flat rates) is calculated by multiplying it by the proposed Fixed to Total Revenue ratio.

There could be much written about how a utility has most of its costs in fixed assets and therefore would like to have the Fixed ratio very high (ideally much higher than 50%) while the commission staff would like to use a very low Fixed ratio for social reasons (keep the bill low for very low users and encourage conservation by having high rates for usage). Rather than do that, the company chose to use the same fixed ratios that were used by Public Staff in the prior rate case rate design.

- The fixed charge revenue requirement so calculated is spread over the total REUs from this tab, resulting in proposed rates for all sizes, rounded to the nearest cent.
- Those rounded rates are multiplied by the Bills BDs on this tab and summed to arrive at the expected fixed revenue if those rates were implemented. There will always be a slight difference of the calculated expected fixed revenue compared to the fixed revenue requirement due to rounding.
- The expected fixed revenue just calculated is subtracted from the original total revenue requirement (from Exhibit G) yielding the variable revenue requirement, i.e., the amount that must be recovered by the charges per kGal of usage.
- All the pro forma (at proposed rates) usage BDs are summed on this tab and divided into the variable revenue requirement just calculated to yield the uniform rate per kGal for this tariff entity.

(The “uniform rate” means the charge that would be applied to all usage in the tariff entity for which the Exhibit H is part unless tiered rates are proposed; where tiered rates are proposed, the total revenue that would be achieved by applying the uniform rate to pro forma usage for the tiered area customers is linked to another tab where it becomes the “usage revenue requirement” to be recovered by the tiered rate structure after accounting for repression, as explained in another section.)

- The rounded usage rate is multiplied by the Usage BDs on this tab and summed to arrive at the expected variable revenue if those rates were implemented. There will always be a slight difference of the calculated expected variable revenue compared to the variable revenue requirement due to rounding. This rounding difference is displayed on the printed portion of Exhibit H at the bottom of the “PF Reve at Proposed” column.

Exhibit J Tabs

The title of Exhibit J is “Comparison of Present and Applied for Rates.” In addition to the column for Proposed rates there are two columns for the Present rates, one for the tariff rates alone and one for the combined tariff charge and current Service Improvement Charge (SIC), because the later column is what the customers are really being charged and those rates should be compared to the rates in the Proposed column.

After listing the rates, a comparison of sample residential bills at average usage is shown.

Finally, the percentage of fixed charge to total charge for that residential bill is shown. This is just informational and can not be expected to be the same as the fixed / variable percentages used for total revenue across all classes and sizes in the rate design process.

Inclining Block Calculations and Files

Water Inclining Blocks

Aqua is proposing to introduce tiered inclining block rates for Water for selected areas where water supply is a concern or a problem. Those areas and their approximate Residential components are:

System Name	PWSID	Rate Entity / Region	RATE CODE	RATE DESCRIPTION	~ # Res Pirms
Arbor Run	NC3041039	ANC / West	N042	RSM1 HYDRAULICS RES MTH 1 DIAL	226
Bayleaf	NC0392373	ANC / Central	N001	RSM1 HEATER EAST RES MTH 1 DIAL	5,815
Bayleaf	NC0392373	ANC / Central	N042	RSM1 HYDRAULICS RES MTH 1 DIAL	258
Merion	NC4092005	ANC / Central	N001	RSM1 HEATER EAST RES MTH 1 DIAL	102
Pebble Bay	NC2018008	ANC / West	N020	RSM1 HEATER WEST RES MTH 1 DIAL	201
The Cape	NC0465199	Fairways / Coast	N054	RSM1 BEAU RIVAGE RES MTH 1 DIAL	1,518
The Cape	NC0465199	Fairways / Coast	N056	RSM1 FAIRWAYS RES MTH 1 DIAL	2,735
Total					10,855

In a rate structure designed to result in water conservation, (1) there must be two or more rate blocks, (2) the block sizes must be chosen to be effective, and (3) each block's rate must be greater than the preceding block's rate (inclining blocks) with enough of an increase between the blocks to influence the customers' usage practices.

Residential and Irrigation customers will be charged the tiered rates. Commercial customers will pay a uniform rate per kGal across all of their usage.

Note that the Fairways PWSID area "The Cape" includes all proposed tier customers in Fairways, while the proposed ANC tier areas contain about 12 % of the ANC-provided water customers and 18% of the ANC-provided usage.

Irrigation

In NC it has been the practice to classify all Irrigation meters as Commercial Class. Consequently, irrigation meters have been included in commercial rate codes with non-irrigation meters and would not be identified in the billing analysis data and Exhibit F. Because it is proposed to charge Irrigation meters the new tiered rates (in proposed tier areas) it was necessary to identify them and assign them the class designation "IRR" within the billing analysis and rate design files and in the MFR exhibits.

Repression

With higher rates, especially with inclining blocks, there is the very high probability of repression, i.e., reduced usage due to higher prices. The Environmental Finance Center at the University of North Carolina, Chapel Hill did a study on this (circa 2009) which contained this:

... we assumed a price elasticity of -0.3, meaning that for every 10% increase in the total bill that the customer receives, the customer responds by decreasing their water consumption by 3%. This elasticity is based on the most recent and focused analysis on water price elasticity in North Carolina.

In applying the above estimate of usage decreases due to higher bills, Aqua has been very conservative:

- First, it is assumed that there is a “threshold” amount of percent increase in bills before the customer will notice and begin to cut back. The staff of the Florida commission has been known to assume a 10% increase in bill cost before any repression begins, then applies a reduction to bills whose increase exceed that threshold; Aqua has done the same in this filing.
- Second, calculation of estimated repression is done on an individual bill basis rather than on gross annual charges and volumes. One would not expect repression to occur in months when usage volumes are below average or when the total bill under the new rates are less than under present rates. And in an inclining block rate structure, repressed gallons will be seen in the higher-priced blocks, not spread over all blocks.

For this narrative, and in the Excel files, I define blocks by their upper limits in kGals (rather than by their size) and different block rates by their ratio to the first block (not to the block immediately below them). So, for example, three blocks defined by 5 and 10 kGals and rate ratios of 1.0, 2.0, and 3.5 could be charged like this (hypothetical blocks and charges for illustration only):

Hypothetical Tier Example	Block 1	Block 2	Block 3
Upper Block Limit in kGals	5	10	None (9999)
Gallons within Block	1st 5,000	Next 5,000	Above 10,000
Rate ratio to Block 1 Rate	1.0	2.0	3.5
Charge per kGal within Block	\$2.00	\$4.00	\$7.00

For example, without tiered rates a customer using 14,000 gallons in one month at \$3.00 per kGal, would have a usage charge of \$42. With the tiered rates in the table above the usage charge would be \$58, which is (5 kgals x \$2.00) + (5 kGals x \$4.00) + (4 kGals x \$7.00).

Assuming a base facility charge of \$20 for this meter size, the bills with and without tiers would be \$62 and \$78, for an increase of \$16 or 26%. Assuming a rate of consumption decline of 3% for each 10% increase in customer bills, the expected repression would be 1,092 gallons (26% / 10% = 2.6; 2.6 x 3% = 7.8%; 7.8% of 14,000 gallons is 1,092 gallons). (Remember, this is a hypothetical example for illustration and not associated with numbers in this filing.)

Note that when implementing inclining block tiered rates, the weighted average rate of all the blocks must equal the original uniform rate adjusted for repression. This means that the lower blocks will have rates lower than the weighted average and the higher blocks will have rates higher than average. All customers with any usage will have part or all their usage charged at the first block rate, and only very large users will have some of their usage charged at the highest rate. This is because the entire variable revenue requirement must be recovered. Depending on the tiered rate parameters chosen (number of blocks, size of blocks, ratio of block rates to block 1, and repression percent) many or most customers' bills will be lower than what they would be at a uniform (non-tiered) rate structure. Also, in non-peak months when large users are not exceeding the lower tiers, their bills could be lower than at uniform rates.

Calculating Repression and Tier Rate Design

To calculate the repression on an individual bill basis, billing data at that level in a “Premises Detail Extract” (PDE) for the customers in the proposed tier areas is shown in files named [NC ANC PDE for Tiers TYE 2019 09.xlsb] and [NC Frwys PDE for Tiers TYE 2019 09.xlsb].

Calculations are done within those files to do the following:

- Entering the proposed block parameters in a small look-up area in the ‘PDE for Tiers’ files on the “nnn Tier RD” tabs.
- On the “WT Data” tabs, dividing the total usage on every bill into blocks according to the proposed tiered structure. (E.g., a structure with four blocks of 0-5 kGals, 5-10 kGals, 10-20 kGals, and > 20 kGals; these are put in Excel formulas as Upper Limits of 5, 10, 20, and 9,999 (for infinity), all in kGals). This first spread is in columns with labels containing C1 (for Calc 1).
- Calculating what the bill would have been at Present rates, including SIC. (Note that “Present rates” are those at filing not average during the test year, so original bill amounts had to be recalculated to account for any rate changes within the test year, such as those on 12/18/2018).
- Adjusting Consumption for variations by area, class, and size. As mentioned, a Consumption Normalization Factor was used which had been based on all usage in a tariff entity. This was further refined by calculating pro forma / test ratio for each usage row on the Exhibit F tab (i.e., each class and size category), dividing it by the single CNF to derive a “(PF/TY Fctr)/CNF” ratio and applying them to usage amounts for these bills by class and size category.
- Calculating Proposed Intermediate block usage rates to recover the usage-related revenue requirement for the customers in the proposed Tier areas. This is done in the ‘PDE for Tiers’ files by creating an intermediate pivot table in the ‘nnn Tier RD’ tab from the bill-specific data in the “WT Data” tab. Resulting Intermediate rates are linked into the “WT Data” tabs into row 2 above the columns “Blk n C1 Usg Chrg”, where n is the block number 1 thru 4.
- Calculating Proposed Intermediate rate bills on the ‘WT Data’ tab, by applying those Intermediate Proposed rates to the volumes in each block (with a “C1” suffix label) and adding the proposed base facilities charge (based on meter size).
- Comparing the “PF Prsnt Rate Bill” to the “Bill at Intrm Tier Rates” and calculating a Percent increase (positive or negative) of the Proposed Intermediate bill over that at Present rates.
- Calculating an amount of usage repressed (in the column “Repression kGals C2”) by applying the repression factor (3% per every 10% increase in this filing) only if the percent increase exceeded the threshold (set at 10% in this filing).
- Calculating the pro forma usage after repression (in the “Totl Cons Rpsd (kG) C2” column) by subtracting the “Repression kGals C2” from the previously used pro forma usage (in column “CNF'd Tot Cons (kGals)”).
- Spreading the new Repressed Consumption over the same proposed tier structure (i.e., the same number of blocks with the same upper limits). Note that this usually results in the number of kGals in the lower priced blocks staying the same as before, with the repression amount coming off the highest block first and then the second highest, etc.) This second spread is in columns with labels “Blk n kGals C2” ending C2 (for calculation # 2).

- Calculating Proposed Rates at Repressed Levels. The resulting rates in each block will be higher than those from the intermediate calculations as the new total proforma usage is lower while the usage-related revenue requirement has not changed.
- Stopping the repression calculations. The higher rates resulting in the rate design using repressed usage will obviously result in further repression, which would lead to another round of higher Proposed rates and subsequent higher proposed rates *ad infinitum*, but the company's calculations stop with the Proposed Rates at Repressed Levels (above) being the Proposed Final Rates.

Block Parameter Choice

The present rates are vastly different in ANC vs. Fairways. They are shown in Exhibits Jw and excerpted here:

Residential 5/8" Rates (w/SIC)	ANC	Frwys
Meter Charge	\$ 19.77	\$ 8.34
Usage Charge per kGal	\$ 5.99	\$ 1.53
Average Charge at 5,000 gallons	\$ 49.70	\$ 15.97

With usage rate so low in Fairways, the higher block rates would have to be at a very high factor to the lowest block to have any effect on customer behavior. Therefore, the following parameters are being proposed and were used in the rate design calculations described above.

ANC Proposed Parameters	Block 1	Block 2	Block 3	Block 4
Upper Block Limit in kGals	4	8	15	None (9999)
Gallons within Block	1st 4,000	Next 4,000	Next 7,000	Above 15,000
Rate Ratio to Block 1 Rate	1.0	1.5	2.25	3.0

Frwys Proposed Parameters	Block 1	Block 2	Block 3	Block 4
Upper Block Limit in kGals	5	10	20	None (9999)
Gallons within Block	1st 5,000	Next 5,000	Next 10,000	Above 20,000
Rate Ratio to Block 1 Rate	1.0	2.0	3.5	5.0

Dan Franceski
2020 0128 1530

Appendix – Excel File Interdependencies

Because of the interdependencies of the Excel files, it is usual to get many cells with #VALUE when opening only one file. This can be mitigated by changing the Calculation Option (in the Formula part of the Ribbon) from Automatic to Manual before opening any of these files, but it not assured. Often the Data -> Edit Links process must be used to open interconnected files.

When opening a file if you get a message about updating links, hit Cancel. If you get a message about updating links, hit Continue (without updating).

The BD file [NC WT BDs 3YE 2019 09.xlsx] is linked to get data from the three MFR files

- [Aqua North Carolina MFR_09302019.xlsxb]
- [Brookwood MFR_09302019.xlsxb]
- [Fairways & Beau Rivage MFR_09302019.xlsxb]

And from [NC Codes 2019.xlsx]

And to exchange data to & from the two Tier calculation files

- [NC ANC PDE for Tiers TYE 2019 09.xlsxb]
- [NC Frwys PDE for Tiers TYE 2019 09.xlsxb]

The BD file [NC SW BDs 3YE 2019 09.xlsx] is linked to get data from two MFR files

- [Aqua North Carolina MFR_09302019.xlsxb]
- [Fairways & Beau Rivage MFR_09302019.xlsxb]

And from [NC WT BDs 3YE 2019 09.xlsx]

Two of the MFR files, [Aqua North Carolina MFR_09302019.xlsxb] and [Fairways & Beau Rivage MFR_09302019.xlsxb], and the two PDE for Tiers files are linked to get data from the two BD files

- [NC WT BDs 3YE 2019 09.xlsx]
- [NC SW BDs 3YE 2019 09.xlsx]

CERTIFICATE OF SERVICE

I hereby certify that the foregoing **Rule R1-17(f) Second Compliance Filing**, filed by Aqua North Carolina, Inc., has been served on the parties of record to Docket No. W-218, Sub 526, in accordance with North Carolina Utilities Commission Rule R1-39, either by: United States mail, first class postage pre-paid; by hand delivery; or by means of electronic delivery upon agreement of the receiving party.

This the 29th day of January, 2020.

Electronically Submitted
/s/Jo Anne Sanford
State Bar No. 6831

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ATTORNEY FOR AQUA NORTH
CAROLINA, INC.

**STATE OF NORTH CAROLINA
UTILITIES COMMISSION
RALEIGH**

DOCKET NO. W-218, SUB 497A
DOCKET NO. W-218, SUB 526

<p>In the Matter of</p> <p>Application by Aqua North Carolina, Inc., 202 MacKenan Court, Cary, North Carolina 27511 for Authority to Implement Water and Sewer System Improvement Charge Rate Adjustments Pursuant to G.S. 62- 133.12</p>	<p>) NOTICE OF WITHDRAWAL OF) APPLICATION FOR APPROVAL) OF WATER AND SEWER) SYSTEM IMPROVEMENT) CHARGE RATE ADJUSTMENTS) PURSUANT TO G.S. 62-133.12)</p>
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NOW COMES Aqua North Carolina, Inc. (“Aqua” or “Company”), by and through counsel, and hereby gives notice to the North Carolina Utilities Commission (“Commission” or “NCUC”) of withdrawal of its application for authority to implement water and sewer system improvement charge (“WSIC/SSIC”) rate adjustments, which was filed in Docket No. W-218, Sub 497A on April 30, 2020, pursuant to G.S. 62-133.12 and NCUC Rules R7-39 and R10-26.

The attorney for Aqua, on whom all pleadings and notices should be served, is:

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Respectfully submitted this 8th day of May, 2020.

SANFORD LAW OFFICE, PLLC

Electronically Submitted

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Attorneys for Aqua North Carolina, Inc.

CERTIFICATE OF SERVICE

I hereby certify that I have served a copy of the foregoing **Notice of Withdrawal of Application for Approval of Water and Sewer System Improvement Charge Rate Adjustments Pursuant to G.S. 62-133.12**, filed by Aqua North Carolina, Inc. in Docket Nos. W-218, Subs 497A and 526, on the parties to those Dockets in accordance with North Carolina Utilities Commission Rule R1-39, either by United States mail, first class postage pre-paid; by hand delivery; or by means of electronic delivery upon agreement of the receiving party.

This the 8th day of May, 2020.

Electronically Submitted
/s/Jo Anne Sanford

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