

Carolina Water Service, Inc. of North Carolina
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to D'Ascendis Direct Exhibit No. 1

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Carolina Water Services, Inc. of North Carolina
Recommended Capital Structure and Cost Rates
for Ratemaking Purposes
at December 31, 2017

<u>Type Of Capital</u>	<u>Ratios (1)</u>	<u>Cost Rate</u>	<u>Weighted Cost Rate</u>
Long-Term Debt	47.11%	6.00% (1)	2.83%
Common Equity	<u>52.89%</u>	11.50% - 11.90% (2)	<u>6.08%</u> - <u>6.29%</u>
Total	<u>100.00%</u>		<u>8.91%</u> <u>9.12%</u>

Notes:

- (1) Company-Provided.
- (2) From page 2 of this Schedule.

Carolina Water Services, Inc. of North Carolina
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)	9.10%
2.	Risk Premium Model (RPM) (2)	12.12%
3.	Capital Asset Pricing Model (CAPM) (3)	11.31%
4.	Market Models Applied to Comparable Risk, Non-Price Regulated Companies (4)	<u>12.63%</u>
5.	Indicated Common Equity Cost Rate before Adjustment for Size Risk	11.50%
6.	Size Risk Adjustment (5)	<u>0.40%</u>
7.	Indicated Common Equity Cost Rate	<u>11.90%</u>
8.	Range of Common Equity Cost Rates	<u>11.50% - 11.90%</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.

Proxy Group of Six Water Companies
CAPITALIZATION AND FINANCIAL STATISTICS (1)
2012 - 2016, Inclusive

	2017	2016	2015	2014	2013	
	(MILLIONS OF DOLLARS)					
<u>CAPITALIZATION STATISTICS</u>						
<u>AMOUNT OF CAPITAL EMPLOYED</u>						
TOTAL PERMANENT CAPITAL	\$3,164.203	\$2,984.170	\$2,830.411	\$2,686.017	\$2,572.465	
SHORT-TERM DEBT	\$211.958	\$175.773	\$118.223	\$94.412	\$123.719	
TOTAL CAPITAL EMPLOYED	<u>\$3,376.161</u>	<u>\$3,159.943</u>	<u>\$2,948.634</u>	<u>\$2,780.429</u>	<u>\$2,696.184</u>	
<u>INDICATED AVERAGE CAPITAL COST RATES (2)</u>						
TOTAL DEBT	4.78 %	4.927 %	5.02 %	5.162 %	5.33 %	
PREFERRED STOCK	5.91 %	5.91 %	5.91 %	5.67 %	6.09 %	
<u>CAPITAL STRUCTURE RATIOS</u>						
<u>BASED ON TOTAL PERMANENT CAPITAL:</u>						
LONG-TERM DEBT	45.27 %	45.38 %	45.90 %	44.69 %	45.25 %	45.30 %
PREFERRED STOCK	0.12	0.13	0.13	0.14	0.18	0.14
COMMON EQUITY	54.61	54.49	53.97	55.17	54.57	54.56
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>BASED ON TOTAL CAPITAL:</u>						
TOTAL DEBT, INCLUDING SHORT-TERM	48.90 %	47.91 %	47.03 %	46.27 %	47.02 %	47.43 %
PREFERRED STOCK	0.11	0.12	0.13	0.14	0.16	0.13
COMMON EQUITY	50.99	51.97	52.84	53.60	52.82	52.44
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	3.42 %	3.63 %	4.38 %	4.88 %	4.91 %	4.25 %
MARKET / AVERAGE BOOK RATIO	318.59	290.78	239.19	223.55	214.84	257.39
DIVIDEND YIELD	1.71	2.19	2.65	2.77	2.89	2.44
DIVIDEND PAYOUT RATIO	59.30	60.14	60.04	56.31	57.21	58.60
<u>RATE OF RETURN ON AVERAGE BOOK COMMON EQUITY</u>	10.89 %	10.57 %	10.43 %	10.90 %	10.61 %	10.68 %
<u>TOTAL DEBT / EBITDA (3)</u>	3.56 X	3.51 X	3.43 X	3.31 X	3.45 X	3.45 X
<u>FUNDS FROM OPERATIONS / TOTAL DEBT (4)</u>	22.69 %	22.50 %	26.10 %	26.48 %	24.11 %	24.38 %
<u>TOTAL DEBT / TOTAL CAPITAL</u>	48.90 %	47.91 %	47.03 %	46.27 %	47.02 %	47.42 %

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

Capital Structure Based upon Total Permanent Capital for the
Proxy Group of Six Water Companies
2012 - 2016, Inclusive

	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>	<u>2013</u>	<u>5 YEAR AVERAGE</u>
<u>American States Water Co.</u>						
Long-Term Debt	37.75 %	39.40 %	41.15 %	39.15 %	40.30 %	39.55 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	<u>62.25</u>	<u>60.60</u>	<u>58.85</u>	<u>60.85</u>	<u>59.70</u>	<u>60.45</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	55.81 %	54.74 %	53.89 %	52.70 %	52.42 %	53.91 %
Preferred Stock	0.07	0.09	0.11	0.15	0.17	0.12
Common Equity	<u>44.12</u>	<u>45.17</u>	<u>46.00</u>	<u>47.15</u>	<u>47.41</u>	<u>45.97</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>Aqua America Inc</u>						
Long-Term Debt	52.26 %	50.81 %	50.76 %	49.45 %	50.32 %	50.72 %
Preferred Stock	0.00	0.00	0.00	0.00	0.01	0.00
Common Equity	<u>47.74</u>	<u>49.19</u>	<u>49.24</u>	<u>50.55</u>	<u>49.67</u>	<u>49.28</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	44.12 %	45.83 %	44.69 %	40.46 %	42.03 %	43.43 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	<u>55.88</u>	<u>54.17</u>	<u>55.31</u>	<u>59.54</u>	<u>57.97</u>	<u>56.57</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>
<u>Middlesex Water Co.</u>						
Long-Term Debt	38.65 %	38.91 %	40.44 %	41.55 %	41.37 %	40.18 %
Preferred Stock	0.64	0.68	0.69	0.71	0.88	0.72
Common Equity	<u>60.71</u>	<u>60.41</u>	<u>58.87</u>	<u>57.74</u>	<u>57.75</u>	<u>59.10</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	43.02 %	42.60 %	44.46 %	44.81 %	45.07 %	43.99 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	<u>56.98</u>	<u>57.40</u>	<u>55.54</u>	<u>55.19</u>	<u>54.93</u>	<u>56.01</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	45.27 %	45.38 %	45.90 %	44.69 %	45.25 %	45.30 %
Preferred Stock	0.12	0.13	0.13	0.14	0.18	0.14
Common Equity	<u>54.61</u>	<u>54.49</u>	<u>53.97</u>	<u>55.17</u>	<u>54.57</u>	<u>54.56</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

Carolina Water Services, Inc. of North Carolina
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]	[8]	
Proxy Group of Six Water Companies	Average Dividend Yield (1)	Value Line Projected Five Year Growth in EPS (2)	Reuters Mean Projected Five Year Growth Rate in EPS	Zack's Five Year Projected Growth Rate in EPS	Yahoo! Finance Projected Five Year Growth in EPS	Average Projected Five Year Growth in EPS (3)	Adjusted Dividend Yield (4)	Indicated Common Equity Cost Rate (5)
American States Water Co.	1.89 %	6.50 %	4.00 %	5.00 %	4.00 %	4.88 %	1.94 %	6.82 %
American Water Works Company Inc	2.04	8.50	10.60	7.50	8.20	8.70	2.13	10.83
Aqua America Inc	2.36	7.00	7.00	6.00	5.00	6.25	2.43	8.68
California Water Service Group	1.88	10.00	NA	6.00	9.80	8.60	1.96	10.56
Middlesex Water Co.	2.43	9.00	NA	NA	2.70	5.85	2.50	8.35
York Water Co.	2.18	9.50	NA	NA	4.90	7.20	2.26	9.46
							Average	<u>9.12 %</u>
							Median	<u>9.07 %</u>
							Average of Mean and Median	<u>9.10 %</u>

NA= Not Available

Notes:

- (1) Indicated dividend at 03/29/2018 divided by the average closing price of the last 60 trading days ending 03/29/2018 for each company.
- (2) From pages 2 through 7 of this Schedule.
- (3) Average of columns 2 through 5 excluding negative growth rates.
- (4) This reflects a growth rate component equal to one-half the conclusion of growth rate (from column 6) x column 1 to reflect the periodic payment of dividends (Gordon Model) as opposed to the continuous payment. Thus, for American States Water Co., $1.89\% \times (1 + (1/2 \times 4.88\%)) = 1.94\%$.
- (5) Column 6 + column 7.

Source of Information:

Value Line Investment Survey
www.reuters.com Downloaded on 03/29/2018
www.zacks.com Downloaded on 03/29/2018
www.yahoo.com Downloaded on 03/29/2018

AMER. STATES WATER NYSE-AWR										RECENT PRICE	P/E RATIO		RELATIVE P/E RATIO		DIV'D YLD		VALUE LINE				
										56.40	32.0 (Trailing: 30.8 Median: 20.0)		1.56		1.9%						
TIMELINESS 2 Raised 12/11/17 SAFETY 2 Raised 7/20/12 TECHNICAL 2 Raised 12/29/17 BETA .80 (1.00 = Market)										LEGENDS — 1.25 x Dividends p sh divided by Interest Rate ... Relative Price Strength 2-for-1 split 9/13 Options: Yes Shaded area indicates recession										Target Price Range 2020 2021 2022	
2020-22 PROJECTIONS High Price 55 Ann'l Total Gain (Nil) Return 2% Low Price 40 (-30%) -5%																				% TOT. RETURN 12/17 THIS STOCK VL ARITH. INDEX 1 yr. 29.8 15.8 3 yr. 64.1 30.1 5 yr. 172.0 92.5	
Insider Decisions M A M J J A S O N to Buy 0 0 0 0 0 0 0 0 0 0 Options 11 0 8 2 0 3 4 0 2 to Sell 3 1 4 3 2 4 3 2 4										Institutional Decisions 1Q2017 2Q2017 3Q2017 to Buy 87 96 104 to Sell 89 84 79 Hld's(000) 29082 28355 27880										Percent shares traded 24 8	
2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018										© VALUE LINE PUB. LLC 20-22											
Revenues per sh 15.95 "Cash Flow" per sh 3.85 Earnings per sh A 2.35 Div'd Decl'd per sh B 1.35 Cap'l Spending per sh 3.60 Book Value per sh 16.80 Common Shs Outst'g C 37.00 Avg Ann'l P/E Ratio 21.0 Relative P/E Ratio 1.30 Avg Ann'l Div'd Yield 2.8%																					
CAPITAL STRUCTURE as of 9/30/17 Total Debt \$367.3 mill. Due in 5 Yrs \$41.7 mill. LT Debt \$321.0 mill. LT Interest \$21.3 mill. (38% of Cap'l)										Revenues (\$mill) 590 Net Profit (\$mill) 87.0 Income Tax Rate 21.0% AFUDC % to Net Profit 2.5% Long-Term Debt Ratio 43.5% Common Equity Ratio 56.5% Total Capital (\$mill) 1100 Net Plant (\$mill) 1400 Return on Total Cap'l 9.0% Return on Shr. Equity 14.0% Return on Com Equity 14.0% Retained to Com Eq 6.0% All Div's to Net Prof 57%											
Leases, Uncapitalized: Annual rentals \$2.5 mill. Pension Assets-12/16 \$150.9 mill. Oblig. \$180.4 mill. Pfd Stock None. Common Stock 36,679,175 shs. as of 10/11/17 MARKET CAP: \$2.1 billion (Mid Cap)										BUSINESS: American States Water Co. operates as a holding company. Through its principal subsidiary, Golden State Water Company, it supplies water to 261,002 customers in 75 cities and 10 counties. Service areas include the greater metropolitan areas of Los Angeles and Orange Counties. The company also provides electric utility services to 23,940 customers in the city of Big Bear Lake and in areas of San Bernardino County. Sold Chaparral City Water of Arizona (6/11). Has 736 employees. BlackRock, Inc. owns 11.7% of out. shares; Vanguard, 9.5%; off. & dir. 1.5%. (4/17 Proxy). Chairman: Lloyd Ross. President & Chief Executive Officer: Robert J. Sprowls. Inc. CA. Address: 630 East Foothill Blvd., San Dimas, CA 91773. Tel: 909-394-3600. Internet: www.aswater.com.											
CURRENT POSITION 2015 2016 9/30/17 (\$MILL.) Cash Assets 4.4 .4 6.7 Accts Receivable 18.9 20.0 29.4 Other 109.4 146.5 110.6 Current Assets 132.7 166.9 146.7 Accts Payable 50.6 43.7 53.8 Debt Due 28.3 90.3 46.3 Other 44.6 43.9 51.8 Current Liab. 123.5 177.9 151.9										American States Water has solid earnings prospects. We estimate that the water utility earned \$1.85 per share in 2017, thanks, in part, to an unusual gain resulting from the sale of certain assets. Even without this windfall, however, the company would still have likely recorded a 6% increase in its share net. The positive momentum from its core water operations should enable the company's share net to reach \$1.85 once again in 2018.											
ANNUAL RATES of change (per sh) Past 10 Yrs. Past 5 Yrs. Est'd '14-'16 to '20-'22 Revenues 5.5% 3.0% 4.5% "Cash Flow" 7.5% 6.5% 6.0% Earnings 10.0% 9.5% 6.5% Dividends 7.0% 10.5% 7.5% Book Value 5.5% 5.0% 4.0%										Our earnings forecasts are based upon constructive regulatory treatment. As is the protocol in California, a utility petitions state authorities for rate relief every three years. The company's Golden Gate Water subsidiary filed a general case in July of last year. The application is for the years 2019, 2020, and 2021. A final decision is expected by the end of 2018. The California Public Utility Commission has been reasonable in the past, as it has worked with utilities that have had to spend heavily to upgrade antiquated pipeline systems as well as successfully get customers to reduce consumption because of droughts.											
Cal-endar QUARTERLY REVENUES (\$ mill.) Full Year Mar.31 Jun.30 Sep.30 Dec.31 2014 102.0 115.6 138.3 109.9 465.8 2015 100.9 114.6 133.0 110.1 458.6 2016 93.5 112.0 123.8 106.8 436.1 2017 98.8 113.2 124.4 108.6 445 2018 102 118 135 115 470										Timely shares of American States have been doing well, of late. Since our last report three months ago, AWR has increased over 10%. By comparison, the S&P 500 has risen only about 6%. Typically, water stocks have been defensive investments for those seeking income. This pattern has changed, possibly due to the limited amount of shares available in the large-cap sector of the water industry. Indeed, AWR is now trading above our projected 2020-2022 Target Price Range. Also, potential interest rates hikes by the Federal Reserve may now make this group less suitable for conservative accounts.											
Cal-endar EARNINGS PER SHARE A Full Year Mar.31 Jun.30 Sep.30 Dec.31 2014 .28 .39 .54 .36 1.57 2015 .32 .41 .56 .31 1.60 2016 .28 .45 .59 .30 1.62 2017 .34 .62 .57 .32 1.85 2018 .39 .48 .60 .38 1.85										James A. Flood January 12, 2018											
Cal-endar QUARTERLY DIVIDENDS PAID B Full Year Mar.31 Jun.30 Sep.30 Dec.31 2014 .2025 .2025 .213 .213 .83 2015 .213 .213 .224 .224 .87 2016 .224 .224 .224 .242 .91 2017 .242 .242 .255 .255 .99 2018										The nonregulated business provides opportunity for growth. No matter how efficiently a utility is run, its profitability is limited to what state regulators allow. Through its ASUS business, which represents about 20% of net income, the company has been involved in taking over the management of water systems of major U.S. military installation. ASUS has already signed several 50-year contracts, and we expect to see more agreements reached in the coming years as privatization in this sector increases.											

(A) Primary earnings. Excludes nonrecurring gains/(losses): '04, 7c; '05, 13c; '06, 3c; '08, (14c); '10, (23c); '11, 10c. Next earnings report due early February.
(B) Dividends historically paid in early March, June, September, and December. ■ Div'd reinvestment plan available.
(C) In millions, adjusted for split.

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Company's Financial Strength A
Stock's Price Stability 75
Price Growth Persistence 75
Earnings Predictability 85

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AMERICAN WATER NYSE-AWK				RECENT PRICE	89.08	P/E RATIO	28.1 (Trailing: 30.2 Median: NMF)	RELATIVE P/E RATIO	1.37	DIV'D YLD	2.0%	VALUE LINE								
TIMELINESS	2	Raised 11/17/17	High: 23.7	23.0	25.8	32.8	39.4	45.1	56.2	61.2	85.2	92.4	Target Price Range	2020	2021	2022				
SAFETY	3	New 7/25/08	Low: 16.5	16.2	19.4	25.2	31.3	37.0	41.1	48.4	58.9	70.0								
TECHNICAL	3	Lowered 1/12/18											128							
BETA	.65	(1.00 = Market)	LEGENDS — 0.85 x Dividends p sh divided by Interest Rate ... Relative Price Strength Options: Yes Shaded area indicates recession										96							
2020-22 PROJECTIONS													80							
High	Price	Gain	Ann'l Total											64						
Low	90	(-35%)	3%											48						
	60		-6%											32						
Insider Decisions													24							
	M	A	M	J	J	A	S	O	N				16							
to Buy	0	0	0	0	0	0	0	0	0				12							
Options	3	0	7	0	1	0	0	0	2											
to Sell	2	0	2	0	0	1	0	0	3											
Institutional Decisions																				
	1Q2017	2Q2017	3Q2017	Percent	21															
to Buy	269	281	262	shares	14															
to Sell	302	291	292	traded	7															
Hld's(000)	160388	158865	160782																	
© VALUE LINE PUB. LLC 20-22																				
2001	2002	2003	2004	2005	2006	2007E	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018			
--	--	--	--	--	13.08	13.84	14.61	13.98	15.49	15.18	16.25	16.28	16.78	17.72	18.54	18.95	20.10	Revenues per sh	23.05	
--	--	--	--	--	.65	d.47	2.87	2.89	3.56	3.73	4.27	4.36	4.75	5.13	5.26	5.80	6.20	"Cash Flow" per sh	7.50	
--	--	--	--	--	d.97	d2.14	1.10	1.25	1.53	1.72	2.11	2.06	2.39	2.64	2.62	3.00	3.30	Earnings per sh A	4.15	
--	--	--	--	--	--	--	.40	.82	.86	.90	1.21	.84	1.21	1.33	1.47	1.62	1.78	Div'd Decl'd per sh B	2.35	
--	--	--	--	--	4.31	4.74	6.31	4.50	4.38	5.27	5.25	5.50	5.33	6.51	7.36	7.20	7.25	Cap'l Spending per sh	6.85	
--	--	--	--	--	23.86	28.39	25.64	22.91	23.59	24.11	25.11	26.52	27.39	28.25	29.24	30.90	32.40	Book Value per sh D	39.45	
--	--	--	--	--	160.00	160.00	160.00	174.63	175.00	175.66	176.99	178.25	179.46	178.28	178.10	178.50	179.00	Common Shs Outst'g C	187.50	
--	--	--	--	--	--	--	18.9	15.6	14.6	16.8	16.7	19.9	20.0	20.5	27.7	26.8		Avg Ann'l P/E Ratio	18.0	
--	--	--	--	--	--	--	1.14	1.04	.93	1.05	1.06	1.12	1.05	1.03	1.46	1.31		Relative P/E Ratio	1.15	
--	--	--	--	--	--	--	1.9%	4.2%	3.8%	3.1%	3.4%	2.0%	2.5%	2.5%	2.0%	2.0%		Avg Ann'l Div'd Yield	3.1%	
CAPITAL STRUCTURE as of 9/30/17 Total Debt \$7462.0 mil. Due in 5 Yrs \$1698.0 mil. LT Debt \$6672.0 mil. LT Interest \$349.0 mil. (55% of Cap'l)						2214.2	2336.9	2440.7	2710.7	2666.2	2876.9	2901.9	3011.3	3159.0	3302.0	3380	3600	Revenues (\$mill)	4325	
Leases, Uncapitalized: Annual rentals \$14.0 mil. Pension Assets 12/16 \$1443.0 mil. Obliq. \$1864.0 mil. Pfd Stock \$9.0 mil. Pfd Div'd \$.5 mill						d342.3	187.2	209.9	267.8	304.9	374.3	369.3	429.8	476.0	468.0	535	590	Net Profit (\$mill)	780	
Common Stock 178,375,400 shs. as of 10/26/17						--	37.4%	37.9%	40.4%	39.5%	40.7%	39.1%	39.4%	39.1%	39.2%	40.0%	21.0%	Income Tax Rate	21.0%	
MARKET CAP: \$15.9 billion (Large Cap)						--	--	--	--	--	6.2%	5.1%	--	5.1%	1.4%	2.0%	2.5%	AFUDC % to Net Profit	3.5%	
CURRENT POSITION 2015 2016 9/30/17 (\$MILL.)						50.9%	53.1%	56.9%	56.8%	55.7%	53.9%	52.4%	52.4%	53.7%	52.4%	53.5%	55.0%	55.0%	Long-Term Debt Ratio	54.0%
Cash Assets	45.0	75.0	93.0	49.1%	46.9%	43.1%	43.2%	44.2%	46.1%	47.6%	47.4%	46.2%	46.2%	47.5%	45.0%	45.0%	Common Equity Ratio	46.0%		
Accts Receivable	255.0	269.0	312.0	9245.7	8750.2	9289.0	9561.3	9580.3	9635.5	9940.7	10364	10911	10967	11600	12850	Total Capital (\$mill)	16000			
Other	357.0	440.0	455.0	9318.0	9991.8	10524	11059	11021	11739	12391	12900	13933	14992	15675	16400	Net Plant (\$mill)	18000			
Current Assets	657.0	784.0	860.0	NMF	3.7%	3.8%	4.4%	4.8%	5.4%	5.1%	5.5%	5.7%	5.6%	6.0%	6.0%	Return on Total Cap'l	6.5%			
Accts Payable	126.0	154.0	144.0	NMF	4.6%	5.2%	6.5%	7.2%	8.4%	7.8%	8.7%	9.4%	9.0%	9.5%	10.0%	Return on Shr. Equity	10.5%			
Debt Due	682.0	1423.0	790.0	NMF	4.6%	5.2%	6.5%	7.2%	8.4%	7.8%	8.7%	9.4%	9.0%	9.5%	10.0%	Return on Com Equity	10.5%			
Other	725.0	815.0	813.0	NMF	3.0%	1.8%	2.8%	3.5%	3.6%	4.7%	4.3%	4.7%	4.0%	4.5%	4.5%	Retained to Com Eq	4.5%			
Current Liab.	1533.0	2392.0	1747.0	--	34%	65%	56%	52%	57%	40%	50%	50%	50%	57%	55%	All Div'ds to Net Prof	57%			
BUSINESS: American Water Works Company, Inc. is the largest investor-owned water and wastewater utility in the U.S., providing services to over 15 million people in over 47 states and Canada. (Regulated presence in 16 states.) Nonregulated business assists municipalities and military bases with the maintenance and upkeep as well. Regulated operations made up 86.5% of 2016 revenues.																				
American Water Works' prospects are bright. In a December investor presentation, management stated once again that the in-house target for annual growth over the next five-year period for both earnings and dividends is at the high end of the 7% to 10% range. This is well above the projected industry average.																				
Acquisitions and cost controls will likely remain the twin pillars of the utility's operating strategy. The water industry in the United States is very fragmented and inefficient. As a result, there are many small and midsize water authorities that do not have the funds required to make the necessary upgrades to their aging water facilities. Hence, American Water has a continual pipeline of purchases in the works. The company is able to integrate these new additions into its asset base while achieving substantial cost savings. Moreover, regulators are happy (more below) when utilities can provide better service at a lower price.																				
Regulators will probably have a major say in the company's future performance. As the utility continues to expand, its relationship with different state water																				
authorities should become even more important as it will have to file more rate cases. On the positive side of the ledger, American Water's internal (non-GAAP) operating expense margin continues to decline. Indeed, the ratio has decreased from 44% in 2010 to about 34% this year. The goal is 32.5% by 2020-2022. In any case, being able to quantify savings keeps a utility in the good graces of those ruling on rate filings.																				
The capital budget has been raised substantially. Even though the company is already in the midst of a major construction program, management just increased the estimated outlays by about \$1 billion to bring the new expected five-year total to somewhere between \$8.0 billion and \$8.6 billion. American Water's finances are average, and probably will remain so for the next several years.																				
These timely shares will most likely not interest long-term investors. AWK has outperformed the broader market averages, of late. Indeed, the stock recently traded above our projected 2020-2022 Target Price Range.																				
<i>James A. Flood January 12, 2018</i>																				
ANNUAL RATES Past 10 Yrs. Past 5 Yrs. Est'd '14-'16 to '20-'22				679.0	754.8	846.1	731.4	3011.3												
Revenues	3.0%	3.5%	4.5%																	
"Cash Flow"	23.0%	8.5%	6.5%																	
Earnings	--	11.0%	8.5%																	
Dividends	--	9.0%	10.0%																	
Book Value	1.5%	4.0%	5.5%																	
Cal-endar	QUARTERLY REVENUES (\$ mill.)				Full Year															
	Mar.31	Jun.30	Sep.30	Dec.31																
2014	679.0	754.8	846.1	731.4	3011.3															
2015	698.0	782.0	896.0	783.0	3159.0															
2016	743.0	827.0	930.0	802.0	3302.0															
2017	756.0	844.0	936.0	844	3380															
2018	770	895	1040	895	3600															
Cal-endar	EARNINGS PER SHARE A				Full Year															
	Mar.31	Jun.30	Sep.30	Dec.31																
2014	.39	.62	.86	.52	2.39															
2015	.44	.68	.96	.56	2.64															
2016	.46	.77	.83	.57	2.62															
2017	.52	.73	1.13	.62	3.00															
2018	.58	.84	1.19	.69	3.30															
Cal-endar	QUARTERLY DIVIDENDS PAID B				Full Year															
	Mar.31	Jun.30	Sep.30	Dec.31																
2014	.28	.31	.31	.31	1.21															
2015	.31	.34	.34	.34	1.33															
2016	.34	.375	.375	.375	1.47															
2017	.375	.415	.415	.415	1.62															
2018																				
(A) Diluted earnings. Excludes nonrecurring losses: '08, \$4.62; '09, \$2.63; '11, \$0.07. Discontinued operations: '06, (\$0.04); '11, \$0.03; '12, (\$0.10); '13, (\$0.01). GAAP used as of 2014. Next earnings report due mid-February. Quarterly earnings do not sum in '16 due to rounding. (B) Dividends paid in March, June, September, and December. (C) Div. reinvestment available. (D) In millions. (E) Includes intangibles. On 9/30/17: \$1.373 billion, \$7.70/share. (F) Pro forma numbers for '06 & '07.																				
Company's Financial Strength B+																				
Stock's Price Stability 100																				
Price Growth Persistence 85																				
Earnings Predictability 90																				
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CALIFORNIA WATER NYSE-CWT				RECENT PRICE	44.70	P/E RATIO	30.0 (Trailing: 31.5 Median: 20.0)	RELATIVE P/E RATIO	1.46	DIV'D YLD	1.6%	VALUE LINE																											
TIMELINESS 2 Raised 9/1/17	High: 22.9	22.7	23.3	24.1	19.8	19.4	19.3	23.4	26.4	26.0	36.8	46.2	Target Price Range 2020 2021 2022																										
SAFETY 3 Lowered 7/27/07	Low: 16.4	17.1	13.8	16.7	16.9	16.7	16.8	18.4	20.3	19.5	22.5	32.4																											
TECHNICAL 2 Raised 12/22/17	LEGENDS — 1.33 x Dividends p sh divided by Interest Rate Relative Price Strength 2-for-1 split 6/11 Options: Yes Shaded area indicates recession																																						
BETA .80 (1.00 = Market)	2020-22 PROJECTIONS High Price 50 Gain Ann'l Total Return 5% Low 35 (-20%) -4%																																						
Insider Decisions M A M J J A S O N to Buy 1 1 1 1 1 1 1 1 1 Options 22 0 0 0 0 0 0 0 1 to Sell 1 0 1 1 0 0 1 0 0																																							
Institutional Decisions 1Q2017 2Q2017 3Q2017 to Buy 97 88 80 to Sell 83 77 71 Hld's(000) 38886 38422 38931																																							
Percent shares traded 18 12 6																																							
% TOT. RETURN 12/17 THIS STOCK VL ARTH. INDEX 1 yr. 36.4 15.8 3 yr. 98.1 30.1 5 yr. 181.9 92.5																																							
2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 © VALUE LINE PUB. LLC 20-22																																							
8.13	8.67	8.18	8.59	8.72	8.10	8.88	9.90	10.82	11.05	12.00	13.34	12.23	12.50	12.29	12.70	13.70	14.10	Revenues per sh	15.00																				
1.10	1.32	1.26	1.42	1.52	1.36	1.56	1.86	1.93	1.93	2.07	2.32	2.21	2.47	2.22	2.34	2.70	2.90	"Cash Flow" per sh	3.25																				
.47	.63	.61	.73	.74	.67	.75	.95	.98	.91	.86	1.02	1.02	1.19	.94	1.01	1.40	1.55	Earnings per sh A	1.85																				
.56	.56	.56	.57	.57	.58	.58	.59	.59	.60	.62	.63	.64	.65	.67	.69	.72	.75	Div'd Decl'd per sh B	1.02																				
2.04	2.91	2.19	1.87	2.01	2.14	1.84	2.41	2.66	2.97	2.83	3.04	2.58	2.76	3.69	4.77	3.85	3.65	Cap'l Spending per sh	3.65																				
6.48	6.56	7.22	7.83	7.90	9.07	9.25	9.72	10.13	10.45	10.76	11.28	12.54	13.11	13.41	13.75	14.30	14.75	Book Value per sh C	16.50																				
30.36	30.36	33.86	36.73	36.78	41.31	41.33	41.45	41.53	41.67	41.82	41.98	47.74	47.81	47.88	47.97	48.25	48.50	Common Shs Outst'g D	50.00																				
27.1	19.8	22.1	20.1	24.9	29.2	26.1	19.8	19.7	20.3	21.3	17.9	20.1	19.7	24.8	29.6	26.9	26.9	Avg Ann'l P/E Ratio	23.0																				
1.39	1.08	1.26	1.06	1.33	1.58	1.39	1.19	1.31	1.29	1.34	1.14	1.13	1.04	1.25	1.56	1.31	1.31	Relative P/E Ratio	1.45																				
4.4%	4.5%	4.2%	3.9%	3.1%	2.9%	3.0%	3.1%	3.1%	3.2%	3.4%	3.5%	3.1%	2.8%	2.9%	2.3%	1.9%	1.9%	Avg Ann'l Div'd Yield	2.4%																				
CAPITAL STRUCTURE as of 9/30/17 Total Debt \$750.8 mill. Due in 5 Yrs \$174.0 mill. LT Debt \$519.7 mill. LT Interest \$35.0 mill. (44% of Cap'l)													367.1	410.3	449.4	460.4	501.8	560.0	584.1	597.5	588.3	609.4	660	685	Revenues (\$mill) E	750													
Pension Assets-12/16 \$376.5 mill. Oblig. \$564.8 mill.													31.2	39.8	40.6	37.7	36.1	42.6	47.3	56.7	45.0	48.7	68.0	75.0	Net Profit (\$mill)	93.0													
Pfd Stock None													39.9%	37.7%	40.3%	39.5%	40.5%	37.5%	30.3%	33.0%	36.0%	35.5%	35.0%	21.0%	Income Tax Rate	21.0%													
Common Stock 48,015,000 shs.													8.3%	8.6%	7.6%	4.2%	7.6%	8.0%	4.3%	2.7%	4.3%	6.1%	5.0%	5.0%	AFUDC % to Net Profit	5.0%													
MARKET CAP: \$2.1 billion (Mid Cap)													42.9%	41.6%	47.1%	52.4%	51.7%	47.8%	41.6%	40.1%	44.4%	44.6%	43.0%	44.5%	Long-Term Debt Ratio	42.0%													
CURRENT POSITION 2015 2016 9/30/17 (\$MILL.)													56.6%	58.4%	52.9%	47.6%	48.3%	52.2%	58.4%	59.9%	55.6%	55.4%	57.0%	55.5%	Common Equity Ratio	58.0%													
Cash Assets	8.8	25.5	28.3	674.9	690.4	794.9	914.7	931.5	908.2	1024.9	1045.9	1154.4	1191.2	1215	1290	1290	1930	Total Capital (\$mill)	1425																				
Other	118.8	116.6	152.2	1010.2	1112.4	1198.1	1294.3	1381.1	1457.1	1515.8	1590.4	1701.8	1859.3	1900	1930	1930	2000	Net Plant (\$mill)	2000																				
Current Assets	127.6	142.1	180.5	5.9%	7.1%	6.5%	5.5%	5.5%	6.3%	6.0%	6.3%	5.2%	5.5%	6.5%	7.0%	7.5%	7.5%	Return on Total Cap'l	7.5%																				
Accts Payable	66.4	77.8	89.4	8.1%	9.9%	9.6%	8.6%	8.0%	9.0%	7.9%	9.1%	7.0%	7.4%	10.0%	10.5%	10.5%	10.5%	Return on Shr. Equity	11.0%																				
Debt Due	40.2	123.3	231.1	8.1%	9.9%	9.6%	8.6%	8.0%	9.0%	7.9%	9.1%	7.0%	7.4%	10.0%	10.5%	10.5%	10.5%	Return on Com Equity	11.0%																				
Other	41.9	49.1	59.9	1.8%	3.8%	3.8%	3.0%	2.3%	3.4%	3.4%	4.1%	2.0%	2.4%	4.5%	5.5%	5.5%	5.5%	Retained to Com Eq	5.0%																				
Current Liab.	148.5	250.2	380.4	77%	61%	60%	66%	71%	62%	56%	55%	71%	68%	51%	49%	49%	49%	All Div's to Net Prof	55%																				
BUSINESS: California Water Service Group provides regulated and nonregulated water service to 482,400 customers in 100 communities in the state of California. Accounts for over 94% of total customers. Also operates in Washington, New Mexico, and Hawaii. Main service areas: San Francisco Bay area, Sacramento Valley, Salinas Valley, San Joaquin Valley & parts of Los Angeles. Acquired Rio Grande Corp; West Hawaii Utilities (9/08). Revenue breakdown, '16: residential, 72%; business, 20%; industrial, 4%; public authorities, 3%; other 1%. Off. and dir. own 1% of common stock (4/17 proxy). Has 1,163 employees. Pres. and CEO: Martin A. Kropelnicki Inc.: DE. Addr.: 1720 North First St., San Jose, CA 95112-4598. Tel.: 408-367-8200. Internet: www.calwatergroup.com.																																							
ANNUAL RATES Past Past Est'd '14-'16 of change (per sh) 10 Yrs. 5 Yrs. to '20-'22													California Water Service Group stock is trading around recently established all-time highs. The regulated water utility wrapped up 2017 by surging through the \$45-per-share price threshold on more than one occasion, with shares rising 33% on the year. Since our previous review, the equity is up more than 10% in value. Indeed, the investment community has handsomely rewarded the company for delivering consistent top- and bottom-line growth, quarter to quarter. However, fourth-quarter share-net may slip by two cents. For 2018, our ranking system suggests another strong performance may be in store, as CWT shares are poised to outpace the year-ahead broader market averages (Timeliness: 2).					expenses are still on the rise, despite some progress in the second quarter. Water costs (only investment upgrades can be recouped) from greater customer usage, as well as periodic increases in wholesale supplier rates, are pushing expenses higher. Overall, we are adding \$10 million and \$0.10 to our 2018 revenue and earnings estimates, to \$685 million and \$1.55 a share, respectively.																					
Revenues	4.0%	2.0%	3.0%	Aggressive infrastructure spending remains on tap through next decade. As previously noted, California has close to \$500 million left on its investment budget, and has earmarked the funds for upgrades to its aging infrastructure and water systems. On top of that, these improvements are likely to be accompanied by bolt-on acquisitions.					This issue is best suited for short-term accounts. On the other hand, CWT shares have been on a multiyear price ascent and, as a result, total return potential 3 to 5 years out is unappealing. Thus, we think investors with a longer-term holding period can find more-attractive options elsewhere, at this time.																														
"Cash Flow"	5.0%	3.5%	5.5%	We think the positives will continue to outweigh the negatives here. California Water Service is enjoying the fruits of recent rate increases by the California regulatory authority. In fact, the decision has added more than \$30 million in incremental revenues so far. In addition, favorable changes to the corporate tax rate should help lift profits this year. To address the latter, the company's operating					Nicholas P. Patrikis January 12, 2018																														
Earnings	4.5%	3.0%	10.0%	Quarterly Revenues (\$ mill.)																																			
Dividends	1.5%	2.0%	7.5%	Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year	2014	110.5	158.4	191.2	137.4	597.5	2015	122.0	144.4	183.5	138.4	588.3	2016	121.7	152.4	184.3	151.0	609.4	2017	122.0	171.1	211.7	155.2	660	2018	130	175	215	165	685
Book Value	5.0%	5.0%	3.5%	Earnings per Share A																																			
				Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year	2014	d.11	.36	.70	.24	1.19	2015	.03	.21	.52	.18	.94	2016	d.02	.24	.48	.31	1.01	2017	.02	.39	.70	.29	1.40	2018	.08	.42	.72	.33	1.55
				Quarterly Dividends Paid B																																			
				Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year	2014	.1625	.1625	.1625	.1625	.65	2015	.1675	.1675	.1675	.1675	.67	2016	.1725	.1725	.1725	.1725	.69	2017	.18	.18	.18	.18	.72	2018					

(A) Basic EPS. Excl. nonrecurring gain (loss): '01, 2¢; '02, 4¢; '11, 4¢. Next earnings report due late February.
 (B) Dividends historically paid in late Feb., May, Aug., and Nov. ■ Div'd reinvestment plan available.
 (C) Incl. intangible assets. In '16: \$21.9 mill., \$0.46/sh.
 (D) In millions, adjusted for splits.
 (E) Excludes non-reg. rev.

Company's Financial Strength B++
 Stock's Price Stability 80
 Price Growth Persistence 35
 Earnings Predictability 65

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MIDDLESEX WATER NDQ-MSEX										RECENT PRICE	P/E RATIO					RELATIVE P/E RATIO	DIV'D YLD	VALUE LINE					
4 Lowered 7/7/17 2 New 10/21/11 1 Raised 1/12/18 BETA .80 (1.00 = Market)										39.09	25.9	(Trailing: 31.3 Median: 20.0)			1.26	2.3%	VALUE LINE Target Price Range 2020 2021 2022						
TIMELINESS SAFETY TECHNICAL BETA										20.5 16.5	20.2 16.9	19.8 12.0	17.9 11.6	19.3 14.7	19.4 16.5	19.6 17.5	22.5 18.6	23.7 19.1	28.0 21.2	44.5 25.0	46.7 32.2	High: 64 Low: 32 2020 2021 2022	
2020-22 PROJECTIONS High Price 50 (+30%) Low Price 35 (-10%) Ann'l Total Return 9% Gain Nil										LEGENDS 1.20 x Dividends p sh divided by Interest Rate Relative Price Strength Options: Yes Shaded area indicates recession										% TOT. RETURN 12/17 THIS STOCK VL ARITH. INDEX 1 yr. -4.9 15.8 3 yr. 87.5 30.1 5 yr. 137.8 92.5			
Insider Decisions M A M J J A S O N to Buy 0 0 0 0 0 0 0 0 0 0 Options 0 7 0 0 0 0 0 0 0 0 to Sell 1 0 0 0 0 0 1 1 1 1										Institutional Decisions 1Q2017 2Q2017 3Q2017 to Buy 45 60 46 to Sell 51 44 41 Hld's(000) 9400 9201 9500 Percent traded 12 8 4													
CAPITAL STRUCTURE as of 9/30/17 Total Debt \$166.8 mill. Due in 5 Yrs \$32.1 mill. LT Debt \$135.8 mill. LT Interest \$6.0 mill. (Total interest coverage: 10.9x) (38% of Cap'l)										MARKET CAP: \$650 million (Small Cap)													
Business : Middlesex Water Company engages in the ownership and operation of regulated water utility systems in New Jersey, Delaware, and Pennsylvania. It also operates water and wastewater systems under contract on behalf of municipal and private clients in NJ and DE. Its Middlesex System provides water services to 61,000 retail customers, primarily in Middlesex County, New Jersey. In 2016, the Middlesex System accounted for 60% of operating revenues. At 12/31/16, the company had 309 employees. Incorporated: NJ. President, CEO, and Chairman: Dennis W. Doll. Officers & directors own 3.5% of the common stock; BlackRock Institutional Trust Co., 7.2% (4/17 proxy). Add.: 1500 Ronson Road, Iselin, NJ 08830. Tel.: 732-634-1500. Internet: www.middlesexwater.com.										Middlesex Water Company's battle with mother nature has yet to subside. The story hasn't changed much over the past three months, as weather-related disruptions took a toll on its top line once again. Operating in the Northeast region of the U.S. leaves MSEX vulnerable to extremely volatile weather conditions, which can noticeably impact customer water consumption. Specifically, its Middlesex New Jersey operations saw revenues contract \$1.8 million, year over year, due to softer consumption, while its Delaware utility system was essentially flat, thanks to contributions from added residential customers during the period. Overall, Middlesex generated \$36.2 million in revenues for the September period, \$1.6 million less than last year's haul. This has spurred us to trim \$3.0 million off our 2017 top-line forecast, to \$134 million.										proved perspective. All told, we look for earnings to expand 18% this year, to \$1.65 a share (+0.05), on revenues of \$143 million (-\$2.0 million).			
Current Position										Business										Long-term, infrastructure upgrades ought to bear fruit. Approximately \$12 million per year (for the next three years) is earmarked for the replacement of aging water mains, valves, and other infrastructure upgrades.			
Annual Rates										Business										The company boosted its quarterly dividend payout by about 6%, to \$0.224 per share. Shareholders have enjoyed 45 years of consecutive dividend increases, and we don't think this streak will be broken anytime soon. At present, MSEX shares offer a yield that fractionally outpaces the average of all dividend paying stocks in <i>The Value Line Investment Survey</i> .			
Quarterly Revenues										Business										This issue is still a subpar selection for relative year-ahead price performance (Timeliness: 4). What's more, total return potential over the pull to 2020-2022 is nothing to write home about. Thus, we think investors can find better options elsewhere, at this juncture.			
Quarterly Earnings										Business										Nicholas P. Patrikis January 12, 2018			
Quarterly Dividends										Business										Company's Financial Strength B++ Stock's Price Stability 70 Price Growth Persistence 40 Earnings Predictability 80			

(A) Diluted earnings. Next earnings report due early February. (B) Dividends historically paid in mid-Feb., May, Aug., and November. Div'd reinvestment plan available. (C) In millions, adjusted for split.

YORK WATER NDQ-YORW										RECENT PRICE	P/E RATIO				RELATIVE P/E RATIO				DIV'D YLD	VALUE LINE											
										33.35	30.0 (Trailing: 34.4 Median: 24.0)				1.46				2.0%												
TIMELINESS 3 Raised 11/17/17 SAFETY 3 Lowered 7/17/15 TECHNICAL 2 Raised 1/5/18 BETA .80 (1.00 = Market)										LEGENDS 1.10 x Dividends p sh divided by Interest Rate Relative Price Strength 3-for-2 split '90e Options: Yes Shaded area indicates recession										Target Price Range 2020 2021 2022 64 48 40 32 24 20 16 12 8 6											
2020-22 PROJECTIONS High Price 45 (+35%) Low Price 30 (-10%) Ann'l Total Return 10% Gain Nil										Insider Decisions M A M J J A S O N to Buy 1 1 3 2 2 1 3 2 2 1 3 2 Options 0 0 1 3 0 0 0 0 0 0 0 0 to Sell 0 0 0 0 0 0 0 0 0 0 0 0										Institutional Decisions 1Q2017 2Q2017 3Q2017 to Buy 38 42 40 to Sell 33 33 30 Hld's(000) 5127 5206 5125				Percent shares traded 12 8 4				% TOT. RETURN 12/17 THIS STOCK VL ARITH. INDEX 1 yr. -9.6 15.8 3 yr. 55.7 30.1 5 yr. 115.9 92.5			
2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018										© VALUE LINE PUB. LLC 20-22																					
2.05 2.05 2.17 2.18 2.58 2.56 2.79 2.89 2.95 3.07 3.18 3.21 3.27 3.58 3.68 3.70 3.75 3.95 .59 .57 .65 .65 .79 .77 .86 .88 .95 1.07 1.09 1.12 1.19 1.36 1.45 1.42 1.65 1.75 .43 .40 .47 .49 .56 .58 .57 .57 .64 .71 .71 .72 .75 .89 .97 .92 1.05 1.15 .34 .35 .37 .39 .42 .45 .48 .49 .51 .52 .53 .54 .55 .57 .60 .63 .65 .70										Revenues per sh 5.40 "Cash Flow" per sh 2.25 Earnings per sh A 1.60 Div'd Decl'd per sh B .96																					
.75 .66 1.07 2.50 1.69 1.85 1.69 2.17 1.18 .83 .74 .94 .76 1.10 1.11 1.03 1.95 1.25 3.79 3.90 4.06 4.65 4.85 5.84 5.97 6.14 6.92 7.19 7.45 7.73 7.98 8.15 8.51 8.88 9.30 9.55 9.46 9.55 9.63 10.33 10.40 11.20 11.27 11.37 12.56 12.69 12.79 12.92 12.98 12.83 12.81 12.85 12.90 12.75										Cap'l Spending per sh .95 Book Value per sh 11.20 Common Shs Outst'g C 12.50																					
17.8 26.9 24.5 25.7 26.3 31.2 30.3 24.6 21.9 20.7 23.9 24.4 26.3 23.1 23.5 32.8 33.3 .91 1.47 1.40 1.36 1.40 1.68 1.61 1.48 1.46 1.32 1.50 1.55 1.48 1.22 1.18 1.72 1.62 4.4% 3.3% 3.2% 3.1% 2.9% 2.5% 2.8% 3.5% 3.6% 3.5% 3.1% 3.1% 2.8% 2.8% 2.6% 2.1% 1.9%										Avg Ann'l P/E Ratio 22.5 Relative P/E Ratio 1.40 Avg Ann'l Div'd Yield 2.6%																					
CAPITAL STRUCTURE as of 9/30/17 Total Debt \$88.9 mill. Due in 5 Yrs \$30.5 mill. LT Debt \$88.9 mill. LT Interest \$5.4 mill.										31.4 32.8 37.0 39.0 40.6 41.4 42.4 45.9 47.1 47.6 48.5 50.5 50.5 6.4 6.4 7.5 7.5 8.9 9.1 9.3 9.7 11.5 12.5 11.8 13.5 14.5										Revenues (\$mill) 67.5 Net Profit (\$mill) 20.0											
Pension Assets 12/16 \$35.5 mill. (43% of Cap'l) Obliq. \$40.8 mill.										36.5% 36.1% 37.9% 38.5% 35.3% 37.6% 37.6% 29.8% 27.5% 31.3% 24.0% 21.0% 3.6% 10.1% -- 1.2% 1.1% 1.1% .8% 1.8% 1.6% 1.9% 2.0% 1.5%										Income Tax Rate 21.0% AFUDC % to Net Profit 1.5%											
Pfd Stock None										46.5% 54.5% 45.7% 48.3% 47.1% 46.0% 45.1% 44.8% 44.4% 42.6% 43.0% 43.0% 53.5% 45.5% 54.3% 51.7% 52.9% 54.0% 54.9% 55.2% 55.6% 57.4% 57.0% 57.0%										Long-Term Debt Ratio 43.5% Common Equity Ratio 56.5%											
Common Stock 12,859,432 shs.										125.7 153.4 160.1 176.4 180.2 184.8 188.4 189.4 196.3 198.7 210 220 191.6 211.4 222.0 228.4 233.0 240.3 244.2 253.2 261.4 270.9 275 280										Total Capital (\$mill) 250 Net Plant (\$mill) 295											
MARKET CAP: \$425 million (Small Cap)										9.5% 9.2% 8.6% 9.8% 9.5% 9.3% 9.3% 11.0% 11.5% 10.4% 11.5% 12.0% 9.5% 9.2% 8.6% 9.8% 9.5% 9.3% 9.3% 11.0% 11.5% 10.4% 11.5% 12.0%										Return on Total Cap'l 9.0% Return on Shr. Equity 14.5% Return on Com Eq 14.5%											
CURRENT POSITION (\$MILL.)										1.7% 1.4% 1.9% 2.7% 2.5% 2.4% 2.4% 3.9% 4.4% 3.4% 4.0% 4.5% 82% 85% 78% 72% 73% 74% 74% 64% 64% 62% 67% 61%										All Div's to Net Prof 60%											
Cash Assets 2.9 4.2 -- Accounts Receivable 3.5 4.3 4.4 Inventory (Avg. Cost) .8 .7 .9 Other 4.6 3.4 3.3 Current Assets 11.8 12.6 8.6 Accts Payable 1.8 3.7 4.0 Debt Due -- -- -- Other 4.4 4.5 6.1 Current Liab. 6.2 8.2 10.1										BUSINESS: The York Water Company is the oldest investor-owned regulated water utility in the United States. It has operated continuously since 1816. As of December 31, 2016, the company's average daily availability was 35.4 million gallons and its service territory had an estimated population of 196,000. Has more than 67,000 customers. Residential customers accounted for 63% of 2016 revenues; commercial and industrial (29%); other (8%). It also provides sewer billing services. Incorporated: PA. York had 105 full-time employees at 12/31/16. President/CEO: Jeffrey R. Hines. Officers/directors own 1.1% of the common stock (3/17 proxy). Address: 130 East Market Street, York, Pennsylvania 17401. Telephone: (717) 845-3601. Internet: www.yorkwater.com.										Capital expenditures ought to remain par for the course going forward. Management estimates it spent approximately \$25 million in 2017 on aging infrastructure, raw water pumping stations, and pipe replacements, more than double the year-earlier total. With plenty of its footprint still needing to be brought up to speed, we anticipate at least several years of aggressive investment spending. York Water raised its quarterly dividend by 4%, to \$0.17 a share. This marks 21 consecutive years that the company has increased its annual dividend payout. The current yield is fractionally above that of the <i>Value Line</i> median, but should trend higher into next decade thanks to additional dividend hikes. York Water shares have moved up one notch for Timeliness, to 3, and are now pegged to track the year-ahead broader market averages. Prospects out to the 2020-2022 time frame are bright, though most of the benefits we envision appear to already be baked into the stock price. Capital appreciation potential does not stand out at the recent quotation.											
ANNUAL RATES of change (per sh)										York Water delivered a better-than-expected bottom-line performance in the third quarter. The regulated water utility earned \$0.31 a share for the September period (+15% year over year), besting our \$0.29 call by two cents. The advance can be largely attributed to a lower effective tax rate (asset improvements qualify for deductions), higher surcharges to customers, and an increased allowance for funds used during construction (interest deduction). Meanwhile, operation and maintenance expenses as a percentage of revenues rose 200 basis points, on an annual basis, which makes the share-net showing even more encouraging. On the other hand, revenue growth was essentially nonexistent, dragged down by generally lower consumption. We are adjusting our 2018 top- and bottom-line estimates. Despite an expanding customer base (acquisition-driven), York's top line is under some pressure. We now look for revenues of \$50.5 million in 2018, down from our prior forecast of \$52.0 million. Conversely, we are adding a dime to our earnings-per-share estimate, to \$1.15.										Nicholas P. Patrikis January 12, 2018											
Cal-endar										QUARTERLY REVENUES (\$ mill.)										Full Year											
2014 10.6 11.8 12.0 11.5 45.9 2015 11.2 11.9 12.4 11.6 47.1 2016 11.3 11.8 12.6 11.9 47.6 2017 11.3 12.3 12.7 12.2 48.5 2018 12.0 12.5 13.3 12.7 50.5										EARNINGS PER SHARE A										Full Year											
2014 .16 .22 .23 .28 .89 2015 .20 .22 .28 .27 .97 2016 .19 .23 .27 .23 .92 2017 .20 .23 .31 .31 1.05 2018 .24 .25 .34 .32 1.15										QUARTERLY DIVIDENDS PAID B										Full Year											
2014 .1431 .1431 .1431 .1431 .572 2015 .1495 .1495 .1495 .1555 .604 2016 .1555 .1555 .1555 .1602 .627 2017 .1602 .1602 .1602 .1666 .647 2018																															

(A) Diluted earnings. Next earnings report due late February. (C) In millions, adjusted for split.
(B) Dividends historically paid in late February, June, September, and December.
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Carolina Water Services, Inc. of North Carolina
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)	13.43 %
Risk Premium Using an Adjusted Total Market Approach (2)	<u>10.80 %</u>
Average	<u><u>12.12 %</u></u>

Notes:

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

Carolina Water Services, Inc. of North Carolina
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	Average Predicted Variance	GARCH Coefficient	Predicted Risk Premium (2)	Risk-Free Rate (3)	Indicated ROE (4)
American States Water Co.	0.38%	0.33%	0.36%	1.77802	7.96%	3.69%	11.65%
American Water Works Company Inc	NMF	NMF	NMF	4.90988	NMF	3.69%	NMF
Aqua America Inc	0.45%	0.32%	0.39%	2.26697	11.14%	3.69%	14.83%
California Water Service Group	0.32%	0.42%	0.37%	1.86909	8.62%	3.69%	12.31%
Middlesex Water Co.	0.30%	0.52%	0.41%	1.87709	9.64%	3.69%	13.33%
York Water Co.	0.47%	0.47%	0.47%	1.98492	11.79%	3.69%	15.48%
						Average	<u>13.52%</u>
						Median	<u>13.33%</u>
					Average of Mean and Median		<u>13.43%</u>

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) $\text{Column [5]} + \text{Column [6]}$.

Carolina Water Services, Inc. of North Carolina
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)	4.66 %
2.	Adjustment to Reflect Yield Spread Between Aaa Rated Corporate Bonds and A Rated Public Utility Bonds	<u>0.28 (2)</u>
3.	Adjusted Prospective Yield on A Rated Public Utility Bonds	4.94 %
4.	Adjustment to Reflect Bond Rating Difference of Proxy Group	<u>0.06 (3)</u>
5.	Adjusted Prospective Bond Yield	5.00 %
6.	Equity Risk Premium (4)	<u>5.80</u>
7.	Risk Premium Derived Common Equity Cost Rate	<u><u>10.80 %</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 0.28% from page 4 of this Schedule.
 - (3) Adjustment to reflect the A2 / A3 Moody's LT issuer rating of the proxy group of eight 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 A3 Public Utility Bonds ($1/6 * 0.34\% = 0.06\%$) as derived from page 4 of this Schedule.
 - (4) From page 7 of this Schedule.

Carolina Water Services, Inc. of North Carolina
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>
Feb-2018	3.87 %	4.13 %	4.52 %
Jan-2018	3.82	4.09	4.42
Dec-2017	<u>3.55</u>	<u>3.86</u>	<u>4.18</u>
Average	<u>3.75 %</u>	<u>4.03 %</u>	<u>4.37 %</u>

Selected Bond Spreads

A Rated Public Utility Bonds Over Aaa Rated Corporate Bonds:

0.28 % (1)

Baa Rated Public Utility Bonds Over A Rated Public Utility Bonds:

0.34 % (2)

Notes:

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

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

Source of Information:

Bloomberg Professional Service

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

	<u>Moody's</u>		<u>Standard & Poor's</u>	
	<u>Long-Term Issuer Rating</u>	<u>Numerical Weighting(1)</u>	<u>Long-Term Issuer Rating</u>	<u>Numerical Weighting(1)</u>
<u>Proxy Group of Six Water Companies</u>	<u>March 2018</u>		<u>March 2018</u>	
American States Water Co. (2)	A2	6.0	A+	5.0
American Water Works Company Inc (3)	A3	7.0	A	6.0
Aqua America Inc (4)	NR	--	A+	5.0
California Water Service Group (5)	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>5.7</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 Aqua Pennsylvania, Inc.
- (5) 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-

Carolina Water Services, Inc. of North Carolina
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)	6.64 %
2.	Mean equity risk premium based on a study using the holding period returns of public utilities with A rated bonds (2)	<u>4.95</u>
3.	Average equity risk premium	<u><u>5.80</u></u> %

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

Carolina Water Services, Inc. of North Carolina
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)	5.56 %
2.	Regression on Ibbotson Risk Premium Data (2)	7.31
3.	Ibbotson Equity Risk Premium based on PRPM (3)	<u>6.66</u>
4.	Average Ibbotson Equity Risk Premium	<u><u>6.51</u></u>
<u>Value Line-Based Equity Risk Premiums:</u>		
5.	Equity Risk Premium Based on Value Line Summary and Index (4)	4.68
6.	Equity Risk Premium Based on Value Line S&P 500 Companies (5)	<u>11.07</u>
7.	Average Value Line Equity Risk Premium	<u><u>7.87</u></u>
<u>Bloomberg-Based Equity Risk Premium:</u>		
8.	Equity Risk Premium Based on Bloomberg S&P 500 Companies (6)	<u>9.93</u>
9.	Conclusion of Equity Risk Premium (7)	8.10 %
10.	Adjusted Beta (8)	<u>0.82</u>
11.	Forecasted Equity Risk Premium	<u><u>6.64</u></u> %

Notes provided on page 9 of this Schedule.

Carolina Water Services, Inc. of North Carolina
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® SBBI® 2017 Market Report minus the arithmetic mean monthly yield of Moody's average Aaa and Aa corporate bonds from 1926-2016.
- (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 1928-2017 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 March 2018.
- (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 4.66% (from page 3 of this Schedule) from the projected 3-5 year total annual market return of 9.34% (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 15.73% 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 4.66% results in an expected equity risk premium of 11.07%.
- (6) Using data from the Bloomberg Professional Service for the S&P 500, an expected total return of 14.59% 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 4.66% results in an expected equity risk premium of 9.93%.
- (7) Average of lines 4, 7, and 8.
- (8) Average of mean and median beta from Schedule DWD-5.

Sources of Information:

Stocks, Bonds, Bills, and Inflation - 2017 SBBI Yearbook, John Wiley & Sons, Inc.
Industrial Manual and Mergent Bond Record Monthly Update.
Value Line Summary and Index
Blue Chip Financial Forecasts, December 1, 2017 and April 1, 2018
Bloomberg Professional Service

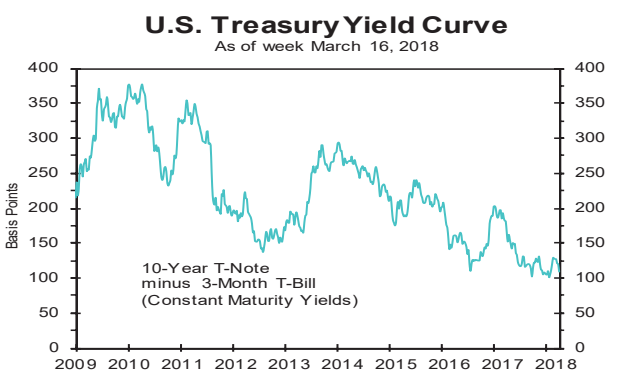
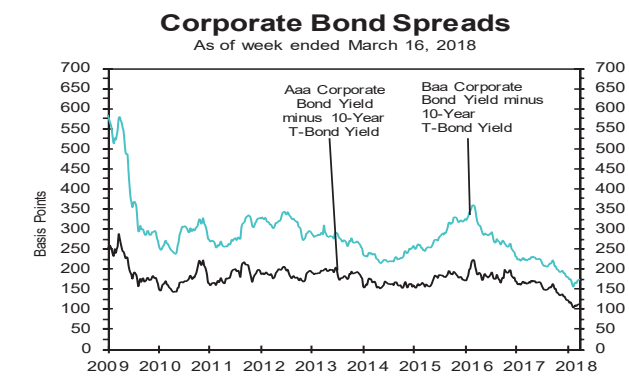
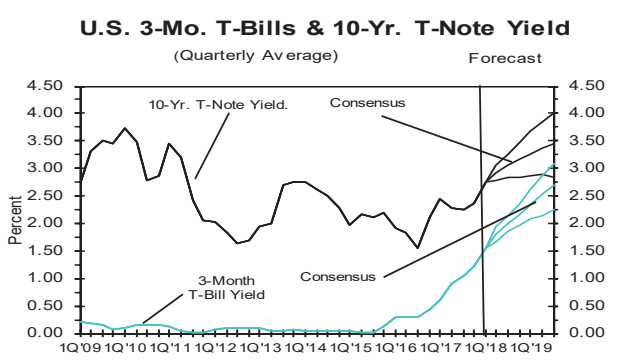
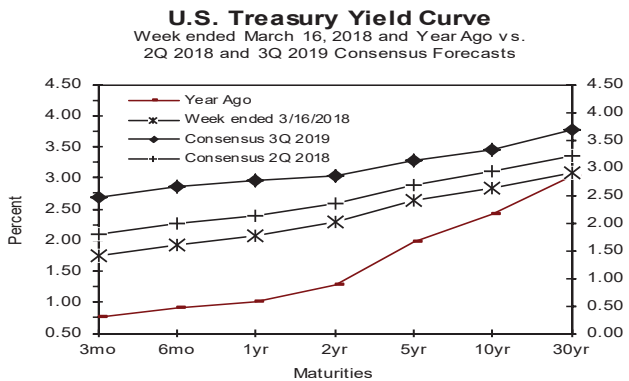
2 ■ BLUE CHIP FINANCIAL FORECASTS ■ APRIL 1, 2018

Consensus Forecasts Of U.S. Interest Rates And Key Assumptions¹

Interest Rates	History								Consensus Forecasts-Quarterly Avg.						
	Average For Week Ending				Average For Month				Latest Qtr	2Q	3Q	4Q	1Q	2Q	3Q
	Mar. 16	Mar. 9	Mar. 2	Feb. 23	Feb	Jan	Dec	1Q 2018*	2018	2018	2018	2019	2019	2019	
Federal Funds Rate	1.42	1.42	1.41	1.42	1.42	1.41	1.29	1.42	1.7	2.0	2.2	2.4	2.6	2.7	
Prime Rate	4.50	4.50	4.50	4.50	4.50	4.50	4.38	4.50	4.8	5.0	5.2	5.4	5.6	5.8	
LIBOR, 3-mo.	2.15	2.06	2.01	1.92	1.84	1.73	1.59	1.88	2.1	2.3	2.5	2.7	2.9	3.1	
Commercial Paper, 1-mo.	1.79	1.68	1.64	1.56	1.52	1.50	1.38	1.57	1.8	2.0	2.3	2.5	2.7	2.9	
Treasury bill, 3-mo.	1.75	1.68	1.65	1.64	1.56	1.43	1.33	1.56	1.8	2.0	2.2	2.3	2.5	2.7	
Treasury bill, 6-mo.	1.93	1.88	1.86	1.85	1.76	1.62	1.49	1.76	2.0	2.2	2.3	2.5	2.7	2.9	
Treasury bill, 1 yr.	2.06	2.05	2.06	2.02	1.94	1.80	1.69	1.93	2.1	2.3	2.5	2.7	2.8	3.0	
Treasury note, 2 yr.	2.28	2.25	2.24	2.25	2.16	2.02	1.83	2.15	2.4	2.5	2.7	2.8	2.9	3.0	
Treasury note, 5 yr.	2.63	2.65	2.63	2.66	2.59	2.36	2.17	2.53	2.7	2.8	2.9	3.1	3.2	3.3	
Treasury note, 10 yr.	2.84	2.88	2.86	2.91	2.84	2.56	2.40	2.75	2.9	3.1	3.2	3.3	3.4	3.4	
Treasury note, 30 yr.	3.08	3.15	3.14	3.19	3.11	2.86	2.77	3.03	3.2	3.3	3.5	3.6	3.7	3.8	
Corporate Aaa bond	3.97	4.00	3.97	3.99	3.91	3.68	3.63	3.86	4.1	4.2	4.4	4.6	4.7	4.8	
Corporate Baa bond	4.58	4.61	4.56	4.56	4.47	4.24	4.21	4.43	4.8	5.0	5.1	5.3	5.4	5.5	
State & Local bonds	3.61	3.60	3.60	3.59	3.57	3.42	3.46	3.53	3.8	3.9	4.1	4.2	4.3	4.4	
Home mortgage rate	4.44	4.46	4.43	4.40	4.33	4.03	3.95	4.27	4.5	4.6	4.8	4.9	5.0	5.2	

Key Assumptions	History								Consensus Forecasts-Quarterly					
	2Q		3Q		4Q		1Q		2Q	3Q	4Q	1Q	2Q	3Q
	2016	2016	2016	2017	2017	2017	2017	2017	2018	2018	2018	2019	2019	2019
Major Currency Index	89.6	90.3	93.7	94.4	93.0	88.3	88.9	86.3	86.4	86.4	86.5	86.5	86.6	86.7
Real GDP	2.2	2.8	1.8	1.2	3.1	3.2	2.6	2.2	3.1	3.0	2.8	2.5	2.4	2.1
GDP Price Index	2.4	1.4	2.0	2.0	1.0	2.1	2.4	2.3	2.0	2.2	2.1	2.2	2.1	2.2
Consumer Price Index	2.3	1.8	3.0	3.1	-0.3	2.0	3.7	3.3	1.9	2.2	2.1	2.2	2.2	2.3

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 is sourced from Haver Analytics. Historical data for Fed's Major Currency Index is 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 1Q 2018 based on historical data through the week ended March 16th. *Data for 1Q 2018 Major Currency Index is based on data through week ended March 16th. Figures for 1Q 2018 Real GDP, GDP Chained Price Index and Consumer Price Index are consensus forecasts based on a special question asked of the panelists' this month.



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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 2019 through 2023 and averages for the five-year periods 2019-2023 and 2024-2028. Apply these projections cautiously. Few if any economic, demographic and political forces can be evaluated accurately over such long time spans.

Interest Rates		Average For The Year					Five-Year Averages	
		2019	2020	2021	2022	2023	2019-2023	2024-2028
1. Federal Funds Rate	CONSENSUS	2.5	2.7	2.9	2.9	2.9	2.8	3.0
	Top 10 Average	2.9	3.2	3.4	3.4	3.5	3.3	3.5
	Bottom 10 Average	2.1	2.0	2.3	2.3	2.4	2.2	2.4
2. Prime Rate	CONSENSUS	5.5	5.8	5.9	5.9	5.9	5.8	5.9
	Top 10 Average	5.9	6.3	6.4	6.5	6.6	6.3	6.5
	Bottom 10 Average	5.0	5.1	5.2	5.2	5.2	5.1	5.3
3. LIBOR, 3-Mo.	CONSENSUS	2.8	3.1	3.2	3.1	3.2	3.1	3.2
	Top 10 Average	3.2	3.6	3.8	3.8	3.9	3.7	3.8
	Bottom 10 Average	2.4	2.6	2.6	2.5	2.6	2.5	2.6
4. Commercial Paper, 1-Mo.	CONSENSUS	2.6	2.9	3.0	3.0	3.1	2.9	3.1
	Top 10 Average	3.1	3.5	3.6	3.7	3.8	3.5	3.8
	Bottom 10 Average	2.2	2.5	2.6	2.5	2.5	2.5	2.6
5. Treasury Bill Yield, 3-Mo.	CONSENSUS	2.5	2.8	2.9	2.9	2.9	2.8	2.9
	Top 10 Average	2.9	3.3	3.4	3.4	3.5	3.3	3.5
	Bottom 10 Average	2.1	2.3	2.4	2.3	2.3	2.3	2.4
6. Treasury Bill Yield, 6-Mo.	CONSENSUS	2.6	2.9	3.0	3.0	3.0	2.9	3.1
	Top 10 Average	3.0	3.4	3.5	3.6	3.7	3.5	3.7
	Bottom 10 Average	2.2	2.4	2.5	2.4	2.4	2.4	2.5
7. Treasury Bill Yield, 1-Yr.	CONSENSUS	2.7	3.0	3.1	3.1	3.2	3.0	3.2
	Top 10 Average	3.2	3.6	3.7	3.7	3.8	3.6	3.9
	Bottom 10 Average	2.3	2.5	2.6	2.5	2.5	2.5	2.6
8. Treasury Note Yield, 2-Yr.	CONSENSUS	2.8	3.1	3.3	3.2	3.3	3.1	3.3
	Top 10 Average	3.3	3.8	3.8	3.8	3.9	3.7	4.0
	Bottom 10 Average	2.4	2.6	2.7	2.6	2.6	2.6	2.7
10. Treasury Note Yield, 5-Yr.	CONSENSUS	3.1	3.4	3.5	3.5	3.5	3.4	3.6
	Top 10 Average	3.6	3.9	4.1	4.1	4.1	3.9	4.3
	Bottom 10 Average	2.6	2.8	2.9	2.9	2.9	2.8	3.0
11. Treasury Note Yield, 10-Yr.	CONSENSUS	3.3	3.6	3.7	3.7	3.8	3.6	3.8
	Top 10 Average	3.9	4.2	4.3	4.3	4.3	4.2	4.5
	Bottom 10 Average	2.8	2.9	3.1	3.1	3.1	3.0	3.2
12. Treasury Bond Yield, 30-Yr.	CONSENSUS	3.8	4.1	4.2	4.2	4.2	4.1	4.3
	Top 10 Average	4.4	4.7	4.7	4.7	4.8	4.7	5.0
	Bottom 10 Average	3.3	3.5	3.6	3.5	3.6	3.5	3.7
13. Corporate Aaa Bond Yield	CONSENSUS	4.9	5.1	5.2	5.2	5.3	5.1	5.4
	Top 10 Average	5.5	5.9	5.9	6.0	6.0	5.9	6.2
	Bottom 10 Average	4.3	4.5	4.5	4.5	4.6	4.5	4.7
13. Corporate Baa Bond Yield	CONSENSUS	5.7	6.0	6.0	6.0	6.1	6.0	6.2
	Top 10 Average	6.4	6.8	6.8	6.9	6.9	6.8	7.0
	Bottom 10 Average	5.0	5.2	5.3	5.2	5.3	5.2	5.4
14. State & Local Bonds Yield	CONSENSUS	4.4	4.5	4.6	4.5	4.6	4.5	4.8
	Top 10 Average	5.0	5.2	5.2	5.3	5.3	5.2	5.5
	Bottom 10 Average	3.9	4.0	4.0	3.9	4.1	4.0	4.1
15. Home Mortgage Rate	CONSENSUS	5.0	5.2	5.3	5.3	5.4	5.2	5.5
	Top 10 Average	5.5	5.8	5.9	6.0	6.0	5.8	6.1
	Bottom 10 Average	4.5	4.7	4.7	4.6	4.7	4.6	4.9
A. FRB - Major Currency Index	CONSENSUS	90.4	90.0	89.9	89.9	90.0	90.0	90.4
	Top 10 Average	94.7	94.8	95.0	95.1	95.3	95.0	95.4
	Bottom 10 Average	86.9	85.8	85.4	85.5	85.6	85.8	86.1
		Year-Over-Year, % Change					Five-Year Averages	
		2019	2020	2021	2022	2023	2019-2023	2024-2028
B. Real GDP	CONSENSUS	2.2	1.9	2.0	2.0	2.0	2.0	2.0
	Top 10 Average	2.5	2.4	2.5	2.4	2.3	2.4	2.4
	Bottom 10 Average	1.8	1.4	1.7	1.6	1.7	1.6	1.7
C. GDP Chained Price Index	CONSENSUS	2.2	2.1	2.1	2.1	2.1	2.1	2.1
	Top 10 Average	2.5	2.3	2.3	2.3	2.3	2.3	2.3
	Bottom 10 Average	1.8	1.9	1.9	2.0	1.9	1.9	1.9
D. Consumer Price Index	CONSENSUS	2.3	2.3	2.3	2.2	2.2	2.3	2.2
	Top 10 Average	2.7	2.6	2.6	2.4	2.4	2.5	2.4
	Bottom 10 Average	1.9	1.9	2.0	2.0	2.0	2.0	2.0

Carolina Water Services, Inc. of North Carolina
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	4.04 %
2.	Regression of Historical Equity Risk Premium (2)	5.61
3.	Forecasted Equity Risk Premium Based on PRPM (3)	<u>4.18</u>
4.	Average Equity Risk Premium Using S&P Holding Period Returns	<u>4.61 %</u>
	<u>Equity Risk Premium based on Projected Market Appreciation of the S&P Utility Index</u>	
5.	Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (Value Line Data) (4)	<u>4.86</u>
6.	Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (Bloomberg Data) (5)	<u>5.37</u>
7.	Average Equity Risk Premium (6)	<u>4.95 %</u>

- Notes: (1) Based on S&P Public Utility Index monthly total returns and Moody's Public Utility Bond average monthly yields from 1928-2017. 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 - 2017 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 - March 2018.
- (4) Using data from Value Line for the S&P Utilities Index, an expected return of 9.80% 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 4.94%, calculated on line 3 of page 3 of this Schedule results in an equity risk premium of 4.86%. (9.80% - 4.94% = 4.86%)
- (5) Using data from Bloomberg Professional Service for the S&P Utilities Index, an expected return of 10.31% 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 4.94%, calculated on line 3 of page 3 of this Schedule results in an equity risk premium of 5.37%. (10.31% - 4.94% = 5.37%)
- (6) Average of lines 4 through 6.

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

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Proxy Group of Six Water Companies	Value Line Adjusted Beta	Bloomberg Adjusted Beta	Average Beta	Market Risk Premium (1)	Risk-Free Rate (2)	Traditional CAPM Cost Rate	ECAPM Cost Rate	Indicated Common Equity Cost Rate (3)
American States Water Co.	0.80	0.79	0.80	9.12 %	3.69 %	10.99 %	11.44 %	11.21 %
American Water Works Company Inc	0.65	0.71	0.68	9.12	3.69	9.89	10.62	10.26
Aqua America Inc	0.75	0.79	0.77	9.12	3.69	10.71	11.24	10.97
California Water Service Group	0.80	0.88	0.84	9.12	3.69	11.35	11.72	11.53
Middlesex Water Co.	0.80	0.93	0.87	9.12	3.69	11.62	11.92	11.77
York Water Co.	0.80	0.93	0.87	9.12	3.69	11.62	11.92	11.77
Mean			<u>0.81</u>			<u>11.03 %</u>	<u>11.48 %</u>	<u>11.25 %</u>
Median			<u>0.82</u>			<u>11.17 %</u>	<u>11.58 %</u>	<u>11.37 %</u>
Average of Mean and Median			<u>0.82</u>			<u>11.10</u>	<u>11.53</u>	<u>11.31 %</u>

Notes on page 2 of this Schedule.

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

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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 (1926-2016)

Arithmetic Mean Monthly Returns for Large Stocks 1926-2016:	11.97 %
Arithmetic Mean Income Returns on Long-Term Government Bonds:	<u>5.17</u>
MRP based on Ibbotson Historical Data:	<u>6.80</u> %

Measure 2: Application of a Regression Analysis to Ibbotson Historical Data (1926-2016)

8.49 %

Measure 3: Application of the PRPM to Ibbotson Historical Data: (January 1926 - March 2018)

7.55 %

Average Historical Data MRP 7.61 %

Value Line MRP Estimates:

Measure 4: Value Line Projected MRP (Thirteen weeks ending March 30, 2018)

Total projected return on the market 3-5 years hence*:	9.34 %
Projected Risk-Free Rate (see note 2):	<u>3.69</u>
MRP based on Value Line Summary & Index:	<u>5.65</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:	15.73 %
Projected Risk-Free Rate (see note 2):	<u>3.69</u>
MRP based on Value Line data	<u>12.04</u> %

Average Value Line MRP: 8.84 %

Measure 6: Bloomberg Projected MRP

Total return on the Market based on the S&P 500:	14.59 %
Projected Risk-Free Rate (see note 2):	<u>3.69</u>
MRP based on Bloomberg data	<u>10.90</u> %

Average of Value Line, Ibbotson, and Bloomberg MRP: 9.12 %

- (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:

Second Quarter 2018	3.20 %
Third Quarter 2018	3.30
Fourth Quarter 2018	3.50
First Quarter 2019	3.60
Second Quarter 2019	3.70
Third Quarter 2019	3.80
2019-2023	4.10
2024-2028	<u>4.30</u>
	<u>3.69</u> %

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

Sources of Information:

Value Line Summary and Index
Blue Chip Financial Forecasts, December 1, 2017 and April 1, 2018
Stocks, Bonds, Bills, and Inflation - 2017 SBBI Yearbook, John Wiley & Sons, Inc.
Bloomberg Professional Services

Carolina Water Service, Inc. of North Carolina
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 0.38 – 0.78 and residual standard error of the regression range of 2.4465 – 2.9177 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 0.1178. 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

$$\text{Thus, } 0.1178 = \frac{2.6821}{\sqrt{518}} = \frac{2.6821}{22.7596}$$

Source of Information: Value Line, Inc., March 2018
Value Line Investment Survey (Standard Edition)

Carolina Water Services, Inc. of North Carolina
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.	0.75	0.62	2.7925	0.1058
American Water Works Company Inc	0.65	0.42	2.0354	0.0771
Aqua America Inc	0.70	0.54	2.1992	0.0833
California Water Service Group	0.75	0.62	2.6641	0.1010
Middlesex Water Co.	0.80	0.63	3.1066	0.1177
York Water Co.	0.80	0.67	3.2949	0.1249
Average	<u>0.74</u>	<u>0.58</u>	<u>2.6821</u>	<u>0.1016</u>
Beta Range (+/- 2 std. Devs. of Beta)	0.38	0.78		
2 std. Devs. of Beta	0.20			
Residual Std. Err. Range (+/- 2 std. Devs. of the Residual Std. Err.)	2.4465	2.9177		
Std. dev. of the Res. Std. Err.	0.1178			
2 std. devs. of the Res. Std. Err.	0.2356			

Source of Information: Valueline Proprietary Database, March 2018

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

	[1]	[2]	[3]	[4]
<u>Proxy Group of Seventeen Non-Price Regulated Companies</u>	<u>VL Adjusted Beta</u>	<u>Unadjusted Beta</u>	<u>Residual Standard Error of the Regression</u>	<u>Standard Deviation of Beta</u>
ABM Industries Inc.	0.80	0.67	2.5536	0.0968
AutoZone Inc.	0.80	0.69	2.6223	0.0994
Cheesecake Factory	0.75	0.55	2.7238	0.1032
CBOE Holdings	0.70	0.49	2.5467	0.0965
Chemed Corp.	0.80	0.63	2.9158	0.1105
C.H. Robinson	0.85	0.71	2.6970	0.1022
Cigna Corp.	0.85	0.76	2.7306	0.1035
Darden Restaurants	0.85	0.74	2.7669	0.1049
DaVita Inc.	0.85	0.77	2.7539	0.1044
Forrester Research	0.70	0.48	2.6673	0.1011
Hormel Foods	0.75	0.56	2.5540	0.0968
IQVIA Holdings	0.85	0.75	2.5724	0.0989
Mercury General	0.80	0.62	2.4507	0.0929
Vail Resorts	0.80	0.69	2.5050	0.0949
Pinnacle Foods	0.80	0.66	2.5411	0.0973
Spectrum Brands	0.85	0.70	2.8926	0.1096
West Pharmac. Svcs.	0.85	0.74	2.6305	0.0997
Average	<u>0.80</u>	<u>0.66</u>	<u>2.6500</u>	<u>0.1000</u>
Proxy Group of Six Water Companies	<u>0.74</u>	<u>0.58</u>	<u>2.6821</u>	<u>0.1016</u>

Source of Information:

Valueline Proprietary Database, March 2018

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

Principal Methods	Proxy Group of Seventeen Non- Price Regulated Companies
Discounted Cash Flow Model (DCF) (1)	14.15 %
Risk Premium Model (RPM) (2)	12.46
Capital Asset Pricing Model (CAPM) (3)	11.78
	Mean <u>12.80 %</u>
	Median <u>12.46 %</u>
	Average of Mean and Median <u>12.63 %</u>

Notes:

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

Carolina Water Services, Inc. of North Carolina
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]	[3]	[4]	[5]	[6]	[7]	[8]
Proxy Group of Seventeen Non-Price Regulated Companies	Average Dividend Yield	Value Line Projected Five Year Growth in EPS	Reuters Mean Consensus Projected Five Year Growth Rate 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)
ABM Industries Inc.	1.91 %	15.00 %	16.00 %	NA %	16.00 %	15.67 %	2.06 %	17.73 %
AutoZone Inc.	-	11.50	11.68	12.70	11.68	11.89	-	NA
Cheesecake Factory	2.42	7.00	10.88	14.40	10.88	10.79	2.55	13.34
CBOE Holdings	0.89	16.50	17.90	17.60	17.90	17.48	0.97	18.45
Chemed Corp.	0.42	13.50	10.00	10.00	10.00	10.88	0.44	11.32
C.H. Robinson	2.00	9.50	9.86	9.00	9.86	9.56	2.10	11.66
Cigna Corp.	0.02	12.50	13.92	12.90	13.92	13.31	0.02	13.33
Darden Restaurants	2.66	13.00	13.52	10.90	13.52	12.74	2.83	15.57
DaVita Inc.	-	9.00	23.74	16.80	23.74	18.32	-	NA
Forrester Research	1.88	8.00	12.00	12.00	12.00	11.00	1.98	12.98
Hormel Foods	2.22	10.50	NA	9.30	0.53	6.78	2.30	9.08
IQVIA Holdings	-	14.50	16.65	13.80	16.15	15.28	-	NA
Mercury General	5.25	14.00	25.30	25.30	25.30	22.48	5.84	28.32
Vail Resorts	2.68	18.00	23.70	NA	23.70	21.80	2.97	24.77
Pinnacle Foods	2.25	10.50	9.60	8.00	9.60	9.43	2.36	11.79
Spectrum Brands	1.56	12.00	5.05	14.60	5.05	9.18	1.63	10.81
West Pharmac.Svcs.	0.60	14.00	10.20	13.70	10.20	12.03	0.64	12.67
							Mean	15.13 %
							Median	13.16 %
							Average of Mean and Median	14.15 %

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 March 30, 2018. 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 03/29/2018
www.zacks.com Downloaded on 03/29/2018
www.yahoo.com Downloaded on 03/29/2018

Carolina Water Services, Inc. of North Carolina
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 Seventeen Non- Price Regulated Companies</u>
1.	Prospective Yield on Baa Rated Corporate Bonds (1)	5.41 %
2.	Equity Risk Premium (2)	<u>7.05</u>
3.	Risk Premium Derived Common Equity Cost Rate	<u><u>12.46 %</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 December 1, 2017 and April 1, 2018 (see pages 10 and 11 of Schedule DWD-4). The estimates are detailed below.

Second Quarter 2018	4.80 %
Third Quarter 2018	5.00
Fourth Quarter 2018	5.10
First Quarter 2019	5.30
Second Quarter 2019	5.40
Third Quarter 2019	5.50
2019-2023	6.00
2024-2028	<u>6.20</u>
Average	<u><u>5.41 %</u></u>

(2) From page 5 of this Schedule.

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

<u>Proxy Group of Seventeen Non-Price Regulated Companies</u>	Moody's Long-Term Issuer Rating March 2018		Standard & Poor's Long-Term Issuer Rating March 2018	
	<u>Long-Term Issuer Rating</u>	<u>Numerical Weighting (1)</u>	<u>Long-Term Issuer Rating</u>	<u>Numerical Weighting (1)</u>
ABM Industries Inc.	NR	--	NR	--
AutoZone Inc.	Baa1	8.0	BBB	9.0
Cheesecake Factory	NR	--	NR	--
CBOE Holdings	Baa1	8.0	BBB+	8.0
Chemed Corp.	WR	--	NR	--
C.H. Robinson	NR	--	BBB+	8.0
Cigna Corp.	Baa1	8.0	A	--
Darden Restaurants	Baa2	9.0	BBB	9.0
DaVita Inc.	Ba3	13.0	BB	12.0
Forrester Research	NR	--	NR	--
Hormel Foods	A1	5.0	A	6.0
IQVIA Holdings	NR	--	BBB-	10.0
Mercury General	Baa2	9.0	NR	--
Vail Resorts	NR	--	NR	--
Pinnacle Foods	NR	--	BB-	13.0
Spectrum Brands	NR	--	NR	--
West Pharmac. Svcs.	NR	--	NR	--
Average	<u>Baa2</u>	<u>8.6</u>	<u>BBB</u>	<u>9.4</u>

Notes:

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

Source of Information:
Bloomberg Professional Services

Carolina Water Services, Inc. of North Carolina
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for
Proxy Group of Seventeen 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 Seventeen Non- Price Regulated Companies</u>
<u>Ibbotson-Based Equity Risk Premiums:</u>		
1.	Ibbotson Equity Risk Premium (1)	5.56 %
2.	Regression on Ibbotson Risk Premium Data (2)	7.31
3.	Ibbotson Equity Risk Premium based on PRPM (3)	<u>6.66</u>
4.	Average Ibbotson Equity Risk Premium	<u><u>6.51</u></u>
<u>Value Line-Based Equity Risk Premiums:</u>		
5.	Equity Risk Premium Based on <u>Value Line</u> Summary and Index (4)	4.68
6.	Equity Risk Premium Based on <u>Value Line</u> S&P 500 Companies (5)	<u>11.07</u>
7.	Average <u>Value Line</u> Equity Risk Premium	<u><u>7.87</u></u>
<u>Bloomberg-Based Equity Risk Premium:</u>		
8.	Equity Risk Premium Based on Bloomberg S&P 500 Companies (6)	<u><u>9.93</u></u>
9.	Conclusion of Equity Risk Premium (7)	8.10 %
10.	Adjusted Beta (8)	<u>0.87</u>
11.	Forecasted Equity Risk Premium	<u><u>7.05 %</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 lines 4, 7, and 8.
- (8) Average of mean and median beta from page 6 of this Schedule.

Sources of Information:

Stocks, Bonds, Bills, and Inflation - 2017 SBBI Yearbook, John Wiley & Sons, Inc.
Value Line Summary and Index
Blue Chip Financial Forecasts, December 1, 2017 and April 1, 2018
Bloomberg Professional Services

Carolina Water Services, Inc. of North Carolina
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

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Proxy Group of Seventeen Non-Price Regulated Companies	Value Line Adjusted Beta	Bloomberg Beta	Average Beta	Market Risk Premium (1)	Risk-Free Rate (2)	Traditional CAPM Cost Rate	ECAPM Cost Rate	Indicated Common Equity Cost Rate (3)
ABM Industries Inc.	0.80	1.17	0.98	9.12 %	3.69 %	12.63 %	12.67 %	12.65 %
AutoZone Inc.	0.80	0.83	0.81	9.12	3.69	11.08	11.51	11.29
Cheesecake Factory	0.75	0.96	0.86	9.12	3.69	11.53	11.85	11.69
CBOE Holdings	0.70	1.11	0.91	9.12	3.69	11.99	12.19	12.09
Chemed Corp.	0.80	0.97	0.89	9.12	3.69	11.81	12.06	11.93
C.H. Robinson	0.85	0.90	0.87	9.12	3.69	11.62	11.92	11.77
Cigna Corp.	0.85	0.91	0.88	9.12	3.69	11.72	11.99	11.85
Darden Restaurants	0.85	0.91	0.88	9.12	3.69	11.72	11.99	11.85
DaVita Inc.	0.85	0.94	0.89	9.12	3.69	11.81	12.06	11.93
Forrester Research	0.70	1.06	0.88	9.12	3.69	11.72	11.99	11.85
Hormel Foods	0.75	0.61	0.68	9.12	3.69	9.89	10.62	10.26
IQVIA Holdings	0.85	1.07	0.96	9.12	3.69	12.45	12.54	12.49
Mercury General	0.80	0.93	0.87	9.12	3.69	11.62	11.92	11.77
Vail Resorts	0.80	0.93	0.87	9.12	3.69	11.62	11.92	11.77
Pinnacle Foods	0.80	0.71	0.75	9.12	3.69	10.53	11.10	10.82
Spectrum Brands	0.85	0.70	0.78	9.12	3.69	10.80	11.31	11.05
West Pharmac. Svcs.	0.85	0.92	0.88	9.12	3.69	11.72	11.99	11.85
Mean			<u>0.86</u>			<u>11.54 %</u>	<u>11.86 %</u>	<u>11.70 %</u>
Median			<u>0.88</u>			<u>11.72 %</u>	<u>11.99 %</u>	<u>11.86 %</u>
Average of Mean and Median			<u>0.87</u>			<u>11.63 %</u>	<u>11.93 %</u>	<u>11.78 %</u>

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

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

Line No.	[1] Market Capitalization on March 29, 2018 (1) (millions)	[2] Applicable Decile of the NYSE/AMEX/ NASDAQ (2)	[3] Applicable Size Premium (3)	[4] Spread from Applicable Size Premium (4)
1.	\$ 182.481	10	5.59%	
2.	\$ 4,240.418	4	0.98%	4.61%

[A] Decile	[B] Number of Companies	[C] Recent Total Market Capitalization (millions)	[D] Recent Average Market Capitalization (millions)	[E] Size Premium (Return in Excess of CAPM)
Largest	1	\$15,290,475.30	\$80,054.84	-0.35%
	2	\$3,010,671.02	\$15,053.36	0.61%
	3	\$1,609,575.62	\$7,968.20	0.89%
	4	\$1,010,851.81	\$4,573.99	0.98%
	5	\$677,120.07	\$2,982.91	1.51%
	6	\$541,038.00	\$2,088.95	1.66%
	7	\$384,129.20	\$1,357.35	1.72%
	8	\$297,164.94	\$823.17	2.08%
	9	\$212,609.64	\$436.57	2.68%
Smallest	10	\$92,882.17	\$117.57	5.59%

*From 2017 Stocks, Bonds, Bills, and Inflation (SBBBI) Yearbook

Notes:

- (1) From page 2 of this Schedule.
- (2) Gleaned from Column (D) 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 on Column (E) on the bottom of this page.
- (4) Line No. 1 Column 3 - Line No. 2 Column 3. For example, the 4.61% in Column 4, Line No. 2 is derived as follows
4.61% = 5.59% - 0.98%.

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

Company	[1] Exchange	[2] Common Stock Shares Outstanding at Fiscal Year End 2017 (millions)	[3] Book Value per Share at Fiscal Year End 2017 (1)	[4] Total Common Equity at Fiscal Year End 2017 (millions)	[5] Closing Stock Market Price on March 29, 2018	[6] Market-to- Book Ratio on March 29, 2018 (2)	[6] Market Capitalization on March 29, 2018 (3) (millions)
Carolina Water Services, Inc. of North Carolina		NA	NA	\$ 60,726 (4)	NA		
Based upon Proxy Group of Six Water Companies						300.5 (5)	\$ 182,481 (6)
Proxy Group of Six Water Companies							
American States Water Co.	NYSE	36,681	\$ 14.447	\$ 529,945	\$ 53.060	367.3 %	\$ 1,946,283
American Water Works Company Inc	NYSE	178,445	30.177	\$ 5,385,000	82.130	272.2	14,655,651
Aqua America Inc	NYSE	177,714	11.016	\$ 1,957,621	34.060	309.2	6,052,937
California Water Service Group	NYSE	48,012	14.443	\$ 693,462	37.250	257.9	1,788,463
Middlesex Water Co.	NASDAQ	16,352	14.015	\$ 229,175	36.700	261.9	600,118
York Water Co.	NASDAQ	12,873	9.276	\$ 119,405	31.000	334.2	399,055
Average		78,346	\$ 15.562	\$ 1,485,768	\$ 45,700	300.5 %	\$ 4,240,418

NA= Not Available

- Notes: (1) Column 3 / Column 1.
(2) Column 4 / Column 2.
(3) Column 1 * Column 4.

(4) Equals Company-requested rate base multiplied by the Company-requested equity ratio.

(5) The market-to-book ratio of Carolina Water Services, Inc. of North Carolina on March 29, 2018 is assumed to be equal to the market-to-book ratio of Proxy Group of Six Water Companies on March 29, 2018.

(6) Carolina Water Services, Inc. of North Carolina's common stock, if traded, would trade at a market-to-book ratio equal to the average market-to-book ratio at March 29, 2018 of the Proxy Group of Six Water Companies, 300.5%, and Carolina Water Services, Inc. of North Carolina's market capitalization on March 29, 2018 would therefore have been \$182.48 million.

Source of Information: 2017 Annual Forms 10K
Bloomberg Financial Services