

Carolina Water Service, Inc. of North Carolina
Docket No. W-354, Sub 344

BEFORE THE
NORTH CAROLINA UTILITIES COMMISSION

EXHIBITS TO ACCOMPANY THE
DIRECT TESTIMONY

OF

PAULINE M. AHERN, CRRA
PARTNER
SUSSEX ECONOMIC ADVISORS, LLC

ON BEHALF OF

CAROLINA WATER SERVICE, INC. OF NORTH CAROLINA

AUGUST 21, 2015

Table of Contents
To the Direct Exhibits
of Pauline M. Ahern, CRRA

	<u>Exhibit</u>
Summary of Cost of Capital and Fair Rate of Return	1
Capital Intensity and Depreciation Rates for Carolina Water Service, Inc. of NC and the Proxy Group of Eight Water Companies	2
Financial Profile of the Proxy Group of Eight Water Companies	3
Application of the Discounted Cash Flow Model (DCF) to the Proxy Group of Eight Water Companies	4
Current Institutional Holdings	5
Application of the Risk Premium Model (RPM) to the Proxy Group of Eight Water Companies	6
Application of the Capital Asset Pricing Model (CAPM) to the Proxy Group of Eight Water Companies	7
Basis of Selection for the Non-Price Regulated Companies Comparable in Total Risk to the Proxy Group of Eight Water Companies	8
Cost of Common Equity Models Applied to the Comparable Risk Non-Price Regulated Companies	9
Estimated Market Capitalization for Carolina Water Service, Inc. of NC and the Proxy Group of Eight Water Companies	10

Carolina Water Service, Inc. of NC
Summary of Cost of Capital and Fair Rate of Return
Based upon the Consolidated Capital Structure of Utilities, Inc. at
Test Year End - December 31, 2014

<u>Type Of Capital</u>	<u>Amount Outstanding</u>	<u>Ratios (1)</u>	<u>Cost Rate</u>	<u>Weighted Cost Rate</u>
Long-Term Debt	\$ 180,000,000	48.99%	6.60% (1)	3.23%
Common Equity	<u>\$ 187,441,949</u>	<u>51.01%</u>	10.40% (2)	<u>5.31%</u>
Total	<u>\$ 367,441,949</u>	<u>100.00%</u>		<u>8.54%</u>

Notes:

- (1) Company provided.
- (2) From page 2 of this Exhibit.

Carolina Water Service, Inc. of NC
Brief Summary of Common Equity Cost Rate

<u>Line No.</u>	<u>Principal Methods</u>	<u>Proxy Group of Eight Water Companies</u>
1.	Discounted Cash Flow Model (DCF) (1)	8.52 %
2.	Risk Premium Model (RPM) (2)	10.74
3.	Capital Asset Pricing Model (CAPM) (3)	9.41
4.	Market Models Applied to Comparable Risk, Non-Price Regulated Companies (4)	<u>10.63</u>
5.	Indicated Common Equity Cost Rate before Adjustment for Business Risks	10.02 %
6.	Size Adjustment (5)	<u>0.40</u>
7.	Indicated Common Equity Cost Rate	<u>10.42 %</u>
8.	Recommended Common Equity Cost Rate	<u>10.40 %</u>

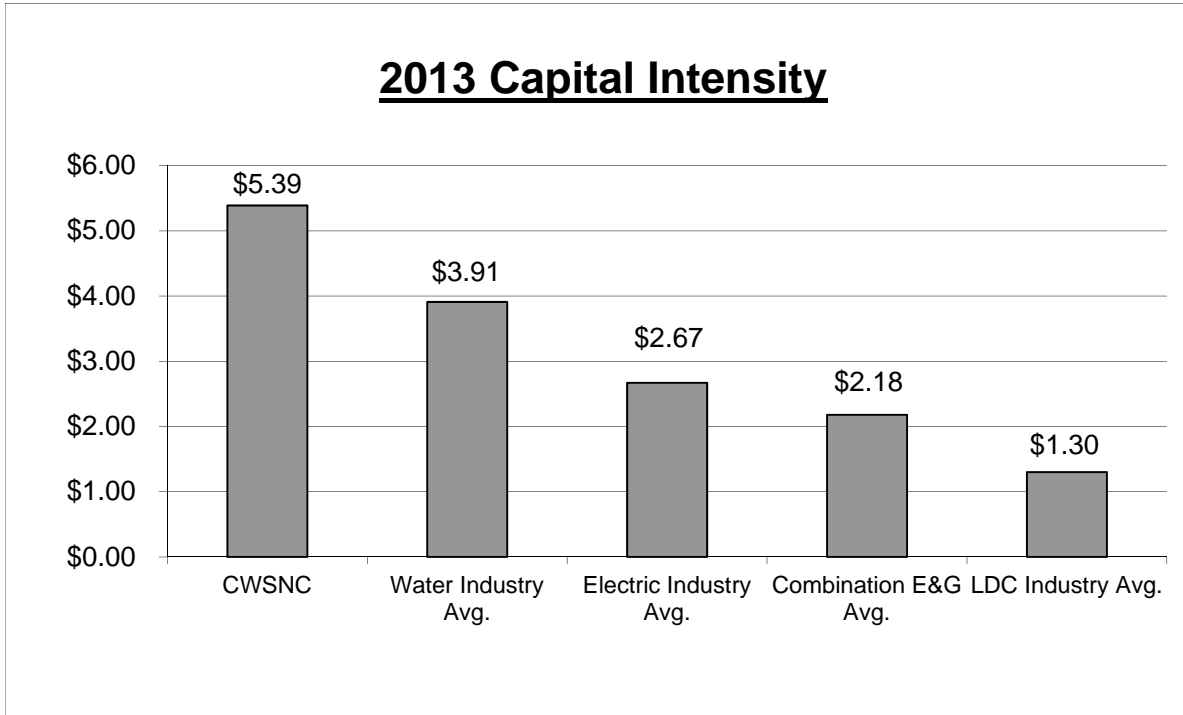
Notes: (1) From Exhibit 4.
(2) From page 1 of Exhibit 6.
(3) From page 1 of Exhibit 7.
(4) From page 1 of Exhibit 9.
(5) Business risk adjustment to reflect Carolina Water Service, Inc. of NC's greater business risk due to its small size relative to the proxy group as detailed in Ms. Ahern's accompanying direct testimony.

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Carolina Water Service, Inc. of NC
2013 Capital Intensity of Carolina Water Service, Inc. of NC and
AUS Utility Reports Utility Companies Industry Averages

	Average Net Plant (\$ mill)	Total Operating Revenue (\$ mill)	Capital Intensity (\$)	Capital Intensity CWSNC v. Other Industries (times)
Carolina Water Service, Inc. of NC	\$ 83.86	\$ 15.56	\$ 5.39	- -
Water Industry Average	\$ 2,312.28	\$ 591.26	\$ 3.91	137.85%
Electric Industry Average	\$ 16,284.49	\$ 6,092.15	\$ 2.67	201.87%
Combination Elec. & Gas Industry Average	\$ 15,236.52	\$ 6,985.66	\$ 2.18	247.25%
Gas Distribution Average	\$ 3,565.57	\$ 2,750.03	\$ 1.30	414.62%



Notes:

Capital Intensity is equal to Net Plant divided by Total Operating Revenue.

Source of Information:

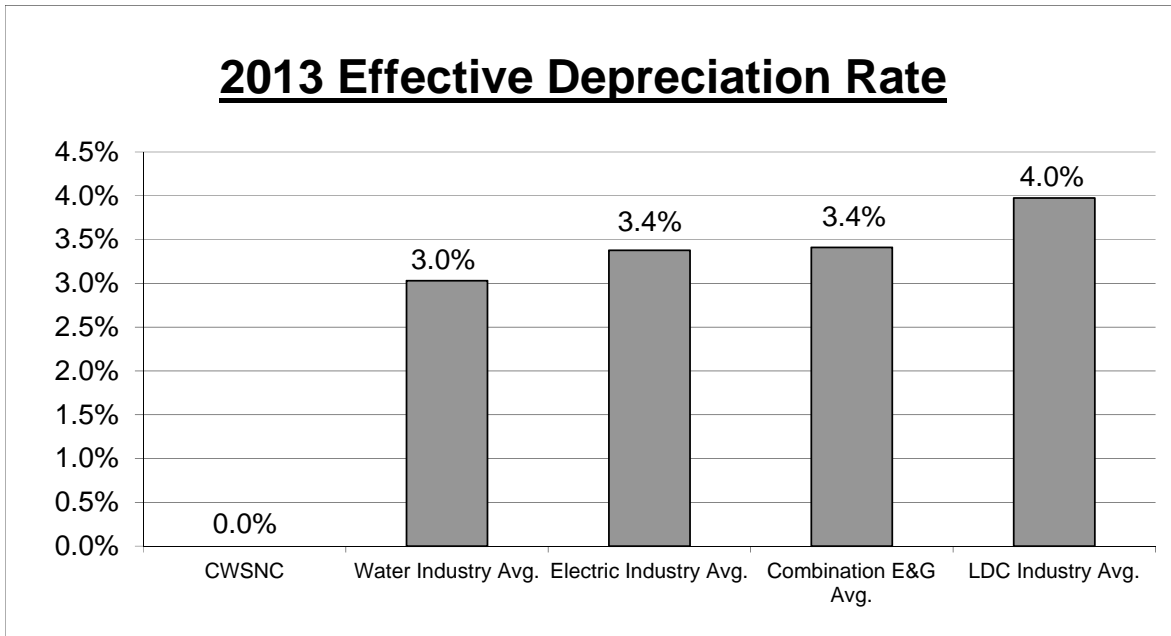
EDGAR Online's I-Metrix Database
Company Annual Forms 10-K

AUS Utility Reports - January 2015
Published By AUS Consultants

Carolina Water Service Inc. of NC Annual Report to the North Carolina Utilities Commission for the year ended December 31, 2013.

Carolina Water Service, Inc. of NC
2013 Depreciation Rate of Carolina Water Service, Inc. of NC and
AUS Utility Reports Utility Companies Industry Averages

	Depreciation Depletion & Amort. Expense (\$ mill)	Average Total Gross Plant Less CWIP (\$ mill)	Depreciation Rate (%)	Depreciation Rate CWSNC v. Other Industries (times)
Carolina Water Service, Inc. of NC	\$ 2.06	\$ 81.45	2.5%	- -
Water Industry Average	\$ 77.95	\$ 2,572.41	3.0%	83.33%
Electric Industry Average	\$ 706.06	\$ 20,900.90	3.4%	73.53%
Combination Elec. & Gas Industry Average	\$ 717.06	\$ 21,024.41	3.4%	73.53%
LDC Gas Distribution Industry Average	\$ 182.93	\$ 4,602.26	4.0%	62.50%



Notes:

Effective Depreciation Rate is equal to Depreciation, Depletion and Amortization Expense divided by average beginning and ending year's Gross Plant minus Construction Work in Progress.

Source of Information:

EDGAR Online's I-Metrix Database
Company Annual Forms 10-K

AUS Utility Report - January 2015
Published by AUS Consultants

Carolina Water Service Inc. of NC Annual Report to the North Carolina Utilities Commission for the year ended December 31, 2013.

Proxy Group of Eight Water Companies
CAPITALIZATION AND FINANCIAL STATISTICS (1)
2009 - 2013, Inclusive

	2013	2012	2011	2010	2009	
	(MILLIONS OF DOLLARS)					
<u>CAPITALIZATION STATISTICS</u>						
<u>AMOUNT OF CAPITAL EMPLOYED</u>						
TOTAL PERMANENT CAPITAL	\$2,058.747	\$1,998.358	\$1,926.369	\$1,901.851	\$1,821.915	
SHORT-TERM DEBT	<u>\$95.589</u>	<u>\$60.594</u>	<u>\$89.698</u>	<u>\$56.420</u>	<u>\$31.879</u>	
TOTAL CAPITAL EMPLOYED	<u>\$2,154.336</u>	<u>\$2,058.952</u>	<u>\$2,016.067</u>	<u>\$1,958.271</u>	<u>\$1,853.794</u>	
<u>INDICATED AVERAGE CAPITAL COST RATES (2)</u>						
TOTAL DEBT	5.19 %	5.36 %	5.32 %	5.37 %	5.34 %	
PREFERRED STOCK	5.51 %	5.53 %	5.53 %	5.54 %	5.54 %	
						<u>5 YEAR AVERAGE</u>
<u>CAPITAL STRUCTURE RATIOS</u>						
BASED ON TOTAL PERMANENT CAPITAL:						
LONG-TERM DEBT	46.24 %	49.32 %	50.91 %	50.74 %	50.38 %	49.52 %
PREFERRED STOCK	0.16	0.18	0.21	0.21	0.24	0.20
COMMON EQUITY	<u>53.60</u>	<u>50.50</u>	<u>48.88</u>	<u>49.05</u>	<u>49.38</u>	<u>50.28</u>
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	47.77 %	50.87 %	52.68 %	52.82 %	52.56 %	51.34 %
PREFERRED STOCK	0.15	0.17	0.19	0.20	0.21	0.18
COMMON EQUITY	<u>52.08</u>	<u>48.96</u>	<u>47.13</u>	<u>46.98</u>	<u>47.23</u>	<u>48.48</u>
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	5.07 %	5.88 %	5.75 %	5.91 %	3.78 %	5.28 %
MARKET / AVERAGE BOOK RATIO	197.25	174.63	164.15	157.23	146.56	167.96
DIVIDEND YIELD	3.22	3.87	4.39	4.82	5.46	4.35
DIVIDEND PAYOUT RATIO	58.37	60.45	64.89	65.69	58.31	61.54
<u>RATE OF RETURN ON AVERAGE BOOK COMMON EQUITY</u>	10.08 %	10.12 %	9.30 %	9.09 %	6.84 %	9.09 %
<u>TOTAL DEBT / EBITDA (3)</u>	3.65 X	3.83 X	4.30 X	4.55 X	5.40 X	4.35 X
<u>FUNDS FROM OPERATIONS / TOTAL DEBT (4)</u>	22.91 %	20.95 %	19.26 %	17.60 %	16.76 %	19.50 %
<u>TOTAL DEBT / TOTAL CAPITAL</u>	47.77 %	50.87 %	52.68 %	52.82 %	52.56 %	51.34 %

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: I-Metrix Database
Company SEC Form 10-K

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Capital Structure Based upon Total Permanent Capital for the
Proxy Group of Eight Water Companies
2009 - 2013, Inclusive

	2013	2012	2011	2010	2009	5 YEAR AVERAGE
<u>American States Water Co.</u>						
Long-Term Debt	40.30 %	42.49 %	45.46 %	44.30 %	46.95 %	43.90 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	59.70	57.51	54.54	55.70	53.05	56.10
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
<u>American Water Works Co., Inc.</u>						
Long-Term Debt	52.42 %	54.30 %	55.72 %	56.73 %	56.98 %	55.23 %
Preferred Stock	0.17	0.21	0.27	0.29	0.30	0.25
Common Equity	47.41	45.49	44.01	42.98	42.72	44.52
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
<u>Aqua America, Inc.</u>						
Long-Term Debt	50.32 %	53.41 %	54.11 %	57.05 %	56.59 %	54.29 %
Preferred Stock	0.01	0.01	0.02	0.02	0.02	0.02
Common Equity	49.67	46.58	45.87	42.93	43.39	45.69
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
<u>California Water Service Group</u>						
Long-Term Debt	42.03 %	50.39 %	52.04 %	52.51 %	47.93 %	48.98 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	57.97	49.61	47.96	47.49	52.07	51.02
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
<u>Connecticut Water Service, Inc.</u>						
Long-Term Debt	47.34 %	49.03 %	53.05 %	49.32 %	50.59 %	49.87 %
Preferred Stock	0.20	0.21	0.30	0.34	0.35	0.28
Common Equity	52.46	50.76	46.65	50.34	49.06	49.85
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
<u>Middlesex Water Company</u>						
Long-Term Debt	41.36 %	43.53 %	43.12 %	43.91 %	47.35 %	43.85 %
Preferred Stock	0.88	1.02	1.06	1.07	1.24	1.05
Common Equity	57.76	55.45	55.82	55.02	51.41	55.10
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
<u>SIW Corporation</u>						
Long-Term Debt	51.09 %	55.39 %	56.63 %	53.79 %	49.52 %	53.28 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	48.91	44.61	43.37	46.21	50.48	46.72
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
<u>York Water Company</u>						
Long-Term Debt	45.07 %	45.98 %	47.16 %	48.28 %	47.16 %	46.73 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	54.93	54.02	52.84	51.72	52.84	53.27
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
<u>Proxy Group of Eight Water Companies</u>						
Long-Term Debt	46.24 %	49.32 %	50.91 %	50.74 %	50.38 %	49.52 %
Preferred Stock	0.16	0.18	0.21	0.21	0.24	0.20
Common Equity	53.60	50.50	48.88	49.05	49.38	50.28
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %

Source of Information
EDGAR Online's I-Metrix Database
Annual Forms 10-K

Carolina Water Service, Inc. of NC
Indicated Common Equity Cost Rate Using the Discounted Cash Flow Model for
the Proxy Group of Eight Water Companies

	[1]		[2]		[3]		[4]		[5]		[6]		[7]		[8]
Proxy Group of Eight Water Companies	Average Dividend Yield (1)		Value Line Projected Five Year Growth in EPS (2)		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 in EPS (3)		Adjusted Dividend Yield (4)		Indicated Common Equity Cost Rate (5)
American States Water Co.	2.23 %		6.50 %		3.00 %		2.00 %		3.00 %		3.63 %		2.27 %		5.90 %
American Water Works Co., Inc.	2.29		7.50		8.03		7.90		8.03		7.87		2.38		10.25
Aqua America, Inc.	2.48		8.50		4.00		5.00		4.00		5.38		2.55		7.93
California Water Service Group	2.72		7.50		6.00		6.00		6.00		6.38		2.81		9.19
Connecticut Water Service, Inc.	2.85		7.00		5.00		5.00		5.00		5.50		2.93		8.43
Middlesex Water Company	3.44		5.00		NA		NA		2.70		3.85		3.51		7.36
SJW Corporation	2.39		7.00		NA		NA		14.00		10.50		2.52		13.02
York Water Company	2.59		7.00		NA		NA		4.90		5.95		2.67		8.62
													Average		8.84 %
													Median		8.52 %

NA= Not Available
NMF = Not Meaningful Figure

Notes:

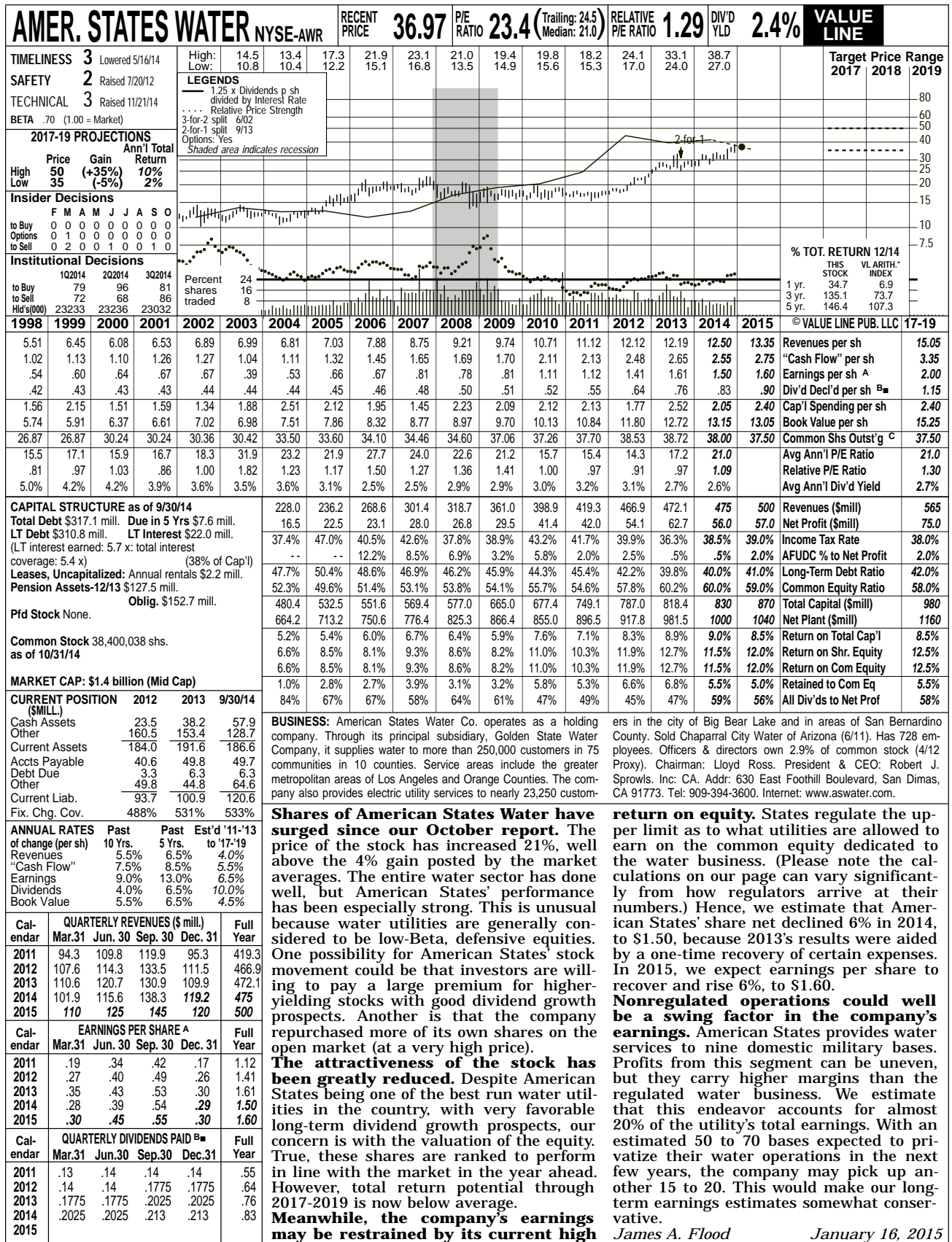
- (1) Indicated dividend at 02/27/2015 divided by the average closing price of the last 60 trading days ending 02/27/2015 for each company.
- (2) From pages 2 through 10 of this Exhibit.
- (3) Average of columns 2 through 5 excluding negative growth rates.
- (4) This reflects a growth rate component 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., $2.23\% \times (1 + (1/2 \times 3.63\%)) = 2.27\%$.
- (5) Column 6 + column 7.

Source of Information:

Value Line Investment Survey
www.reuters.com Downloaded on 02/27/2015
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www.yahoo.com Downloaded on 02/27/2015

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(A) Primary earnings. Excludes nonrecurring gains/(losses): '04, 7c; '05, 13c; '06, 3c; '08, 14c; '10, (23c) '11, 10c. Next earnings report due mid February. Quarterly earnings may not

add due to rounding.

(B) Dividends historically paid in early March, June, September, and December. ■ Div'd reinvestment plan available.

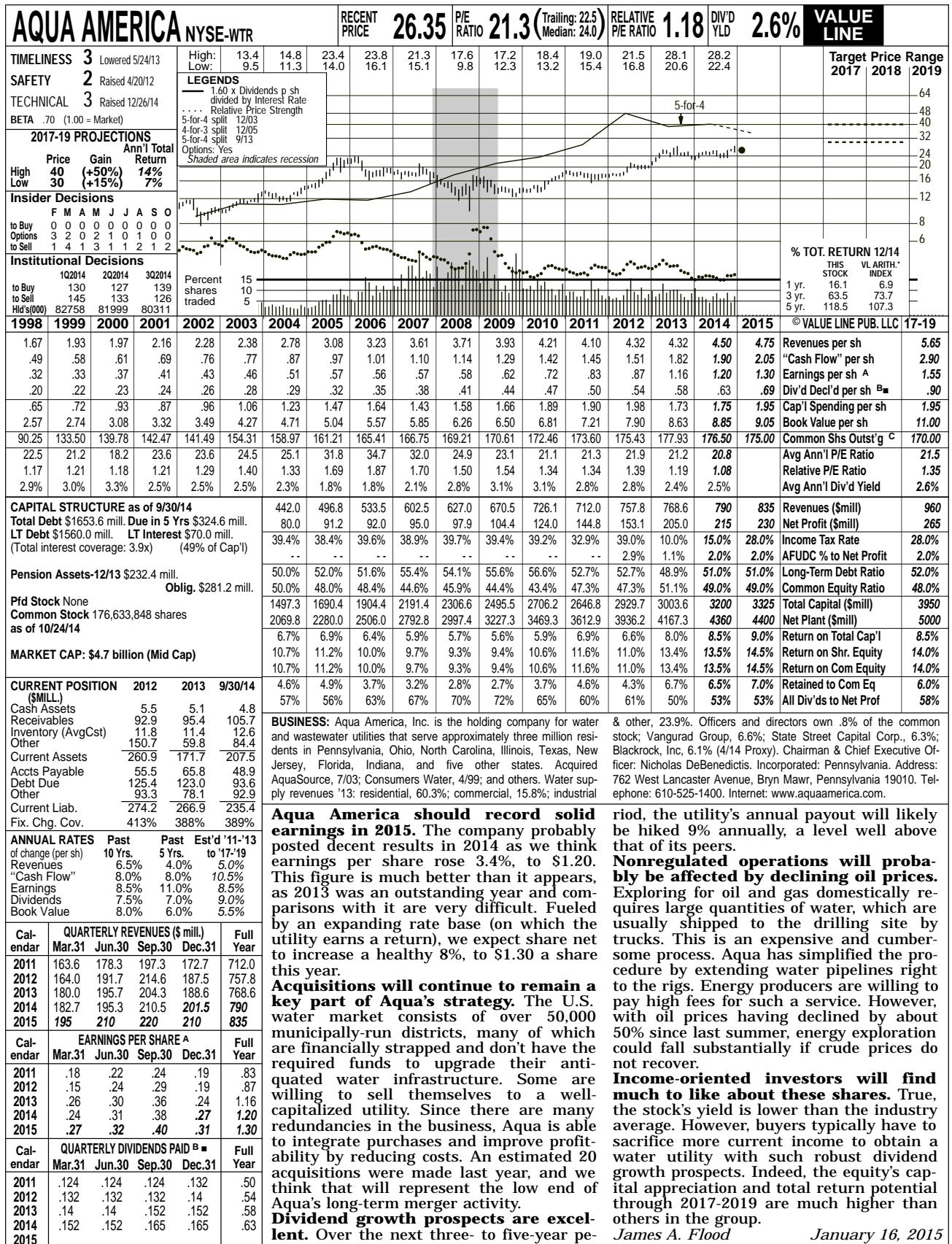
(C) In millions, adjusted for splits.

Company's Financial Strength A
Stock's Price Stability 85
Price Growth Persistence 65
Earnings Predictability 85

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AMERICAN WATER NYSE-AWK										RECENT PRICE	53.25	P/E RATIO	21.6	(Trailing: 24.5 Median: NMF)	RELATIVE P/E RATIO	1.19	DIV'D YLD	2.4%	VALUE LINE						
TIMELINESS	3	Lowered 12/26/14											High:	23.7	23.0	25.8	32.8	39.4	45.1	56.2		Target Price	2017	2018	2019
SAFETY	3	New 7/25/08											Low:	16.5	16.2	19.4	25.2	31.3	37.0	41.1					
TECHNICAL	3	Raised 1/2/15																							
BETA	.70	(1.00 = Market)																							
2017-19 PROJECTIONS																									
Price	75	Gain	50	Ann'l Total																					
Low	75	(+40%)	11%	Return																					
High	75	(-5%)	1%																						
Insider Decisions																									
F M A M J J A S O																									
to Buy																									
Options																									
to Sell																									
Institutional Decisions																									
1Q2014 2Q2014 3Q2014																									
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(A) Diluted egs. Excl. nonrec. gains (losses): '99, (9c); '00, 2c; '01, 2c; '02, 4c; '03, 3c; '12, 18c. Excl. gain from disc. operations: '12, 7c; '13, 9c. May not sum due to rounding. Next earnings report due mid February.

(B) Dividends historically paid in early March, June, Sept. & Dec. ■ Div'd. reinvestment plan available (5% discount).

(C) In millions, adjusted for stock splits.

Company's Financial Strength A
Stock's Price Stability 100
Price Growth Persistence 60
Earnings Predictability 95

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<p>(A) Basic EPS. Excl. nonrecurring gain (loss): '00, (4c); '01, 2c; '02, 4c; '11, 4c. Next earnings report due mid-February. (B) Dividends historically paid in late Feb., May, Aug., and Nov. ■ Div'd reinvestment plan available. (C) Incl. intangible assets. In '13: \$18.2 mill., \$0.38/sh. (D) In millions, adjusted for splits.</p>	<p>(E) Excludes non-reg. rev.</p>	<p>Company's Financial Strength B++ Stock's Price Stability 95 Price Growth Persistence 40 Earnings Predictability 90</p>
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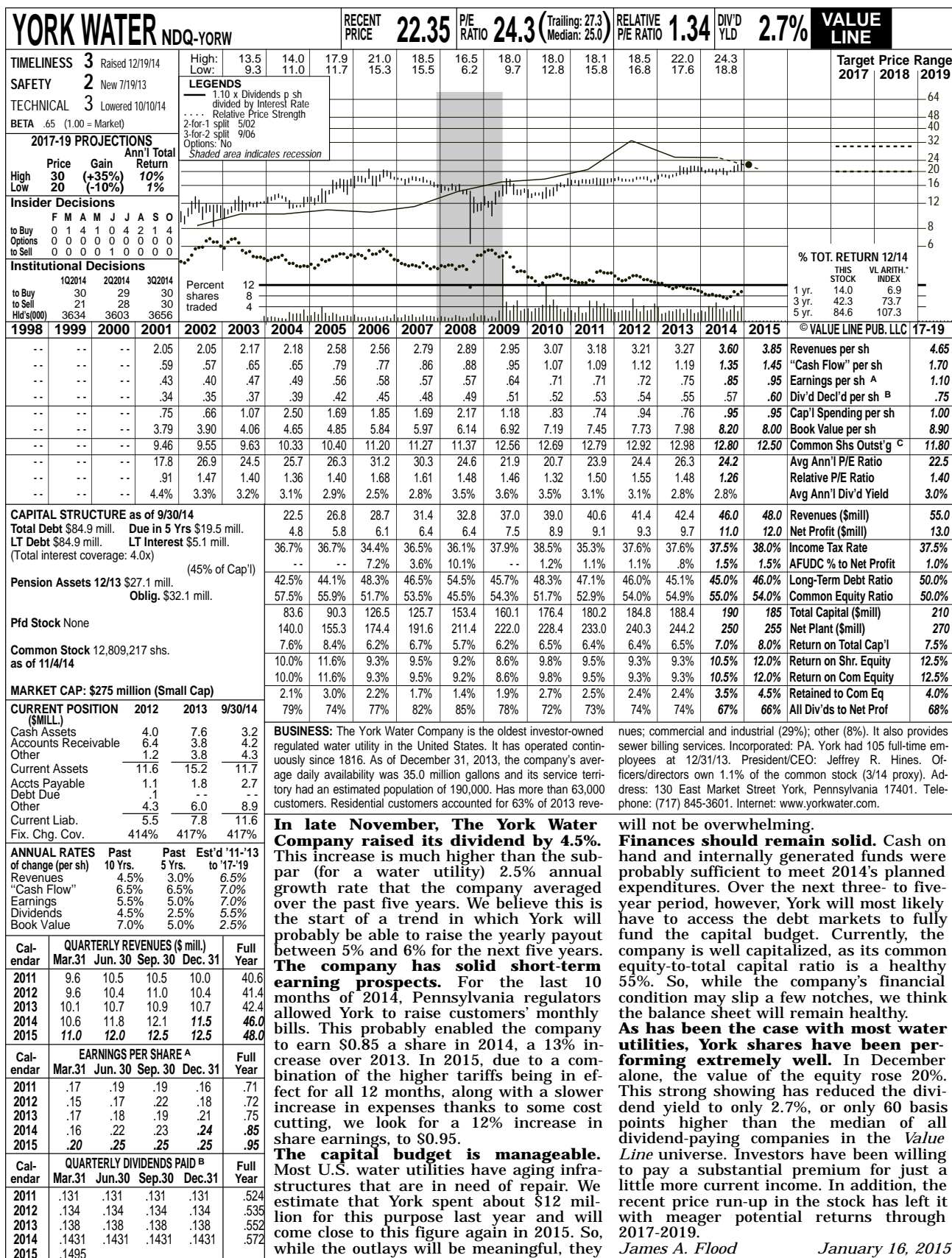
Aug 21 2015

Company's Financial Strength	B+
Stock's Price Stability	90
Price Growth Persistence	50
Earnings Predictability	85

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MIDDLESEX WATER NDQ-MSEX				RECENT PRICE	22.07	P/E RATIO	19.5	(Trailing: 20.1 Median: 21.0)	RELATIVE P/E RATIO	1.08	DIV'D YLD	3.5%	VALUE LINE			
TIMELINESS	3	Lowered 4/11/14	High: 21.2	21.8	23.5	20.5	20.2	19.8	17.9	19.3	19.4	19.6	22.5	23.7	23.9	Target Price
SAFETY	2	New 10/21/11	Low: 15.8	16.7	17.1	16.5	16.9	12.0	11.6	14.7	16.5	17.5	18.6	19.1		2017
TECHNICAL	3	Lowered 9/26/14	LEGENDS												2018	2019
BETA	.70	(1.00 = Market)	1.20 x Dividends p sh divided by Interest Rate													
2017-19 PROJECTIONS				Relative Price Strength												
High	30	Gain (+35%)	Ann'l Total	3-for-2 split 1/02												
Low	20	(-10%)	11%	4-for-3 split 11/03												
Insider Decisions				Options: No												
Institutional Decisions				Shaded area indicates recession												
CAPITAL STRUCTURE as of 9/30/14				Percent shares traded												
Total Debt \$165.3 mill. Due in 5 Yrs \$56.4 mill.				10/2014 20/2014 30/2014												
LT Debt \$129.2 mill. LT Interest \$4.5 mill.				to Buy 37 41 32												
(LT interest earned: 6.0x)				to Sell 34 34 40												
Pension Assets-12/13 \$46.4 mill.				Hld's(000) 6432 6463 6339												
Oblig. \$56.0 mill.																
Pfd Stock \$2.4 mill. Pfd Div'd: \$.1 mill.																
Common Stock 16,111,268 shs. as of 10/31/14																
MARKET CAP: \$350 million (Small Cap)																
CURRENT POSITION (SMILL.)																
Cash Assets																
Other																
Current Assets																
Accts Payable																
Debt Due																
Other																
Current Liab.																
Fix. Chg. Cov.																
ANNUAL RATES of change (per sh)																
Past 10 Yrs.																
Past 5 Yrs.																
Est'd '11-'13																
Revenues																
"Cash Flow"																
Earnings																
Dividends																
Book Value																
Cal-endar																
QUARTERLY REVENUES (\$ mill.)																
Mar.31 Jun.30 Sep.30 Dec.31																
2011																
2012																
2013																
2014																
2015																
Cal-endar																
EARNINGS PER SHARE A																
Mar.31 Jun.30 Sep.30 Dec.31																
2011																
2012																
2013																
2014																
2015																
Cal-endar																
QUARTERLY DIVIDENDS PAID B																
Mar.31 Jun.30 Sep.30 Dec.31																
2011																
2012																
2013																
2014																
2015																

<p>(A) Diluted earnings. Excludes nonrecurring losses : '03, \$1.97; '04, \$3.78; '05, \$1.09; '06, \$16.36; '08, \$1.22; '10, 46¢. Next earnings report due mid February. Quarterly egs. may not add due to rounding.</p>	<p>(B) Dividends historically paid in early March, June, September, and December. ■ Div'd reinvestment plan available.</p>	<p>(C) In millions, adjusted for stock splits.</p>	<p>Company's Financial Strength B+ Stock's Price Stability 80 Price Growth Persistence 30 Earnings Predictability 80</p>
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(A) Diluted earnings. Next earnings report due mid February.
(B) Dividends historically paid in mid-January, April, July, and October.

(C) In millions, adjusted for splits.

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Company's Financial Strength B+
Stock's Price Stability 90
Price Growth Persistence 55
Earnings Predictability 100

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James A. Flood

January 16, 2015

Carolina Water Service, Inc. of NC
Current Institutional Holdings and Individual Holdings
the Proxy Group of Eight Water Companies

	[1]	[2]
	February 27, 2015 Percentage of Institutional Holdings	February 27, 2015 Percentage of Individual Holdings (1)
<u>Proxy Group of Eight Water Companies</u>		
American States Water Co.	60.86 %	39.14 %
American Water Works Co., Inc.	80.79	19.21
Aqua America, Inc.	46.15	53.85
California Water Service Group	65.44	34.56
Connecticut Water Service, Inc.	39.14	60.86
Middlesex Water Company	38.82	61.18
SJW Corporation	53.07	46.93
York Water Company	29.41	70.59
	<u>51.71 %</u>	<u>48.29 %</u>
Average		

Notes:

(1) (1 - column 1).

Source of Information: pro.edgar-online.com, February 27, 2015

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Aug 21 2015

Carolina Water Service, Inc. of NC
Summary of Risk Premium Models for the
Proxy Group of Eight Water Companies

	<u>Proxy Group of Eight Water Companies</u>
Predictive Risk Premium Model TM (PRPM TM) (1)	11.81 %
Risk Premium Using an Adjusted Total Market Approach (2)	<u>9.67 %</u>
Average	<u><u>10.74 %</u></u>

Notes:

(1) From page 2 of this Exhibit.

(2) From page 3 of this Exhibit.

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Proxy Group of Eight Water Companies
Indicated ROE
Derived by the Predictive Risk Premium Model (1)

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Proxy Group of Eight 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.	0.39%	0.47%	0.43%	1.677792	9.01%	3.61%	12.62%
American Water Works Co., Inc.	NM	NM	NM	NM	NM	3.61%	NM
Aqua America, Inc.	0.47%	0.34%	0.40%	2.229162	11.24%	3.61%	14.85%
California Water Service Group	0.32%	0.39%	0.35%	1.882704	8.20%	3.61%	11.81%
Connecticut Water Service, Inc.	0.28%	0.27%	0.28%	1.803111	6.23%	3.61%	9.84%
Middlesex Water Company	0.27%	0.34%	0.30%	2.003978	7.46%	3.61%	11.07%
SJW Corporation	0.42%	0.43%	0.43%	1.403779	7.49%	3.61%	11.10%
York Water Company	0.45%	0.41%	0.43%	2.081037	11.28%	3.61%	14.89%
						Average	12.31%
						Median	11.81%

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 CRSP® Data® 2012. Center for Research in Security Prices, The University of Chicago Booth School of Business and Bloomberg Professional Service.
- (2) $(1 + (\text{Column [1]} * \text{Column [2]})^{12}) - 1$.
- (3) From note 2 on page 2 of Exhibit 7.
- (4) Column [3] + Column [4].

Carolina Water Service, Inc. of NC
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 Eight Water Companies</u>
1.	Prospective Yield on Aaa Rated Corporate Bonds (1)	4.65 %
2.	Adjustment to Reflect Yield Spread Between Aaa Rated Corporate Bonds and A Rated Public Utility Bonds	<u>0.10 (2)</u>
3.	Adjusted Prospective Yield on A Rated Public Utility Bonds	4.75 %
4.	Adjustment to Reflect Bond Rating Difference of Proxy Group	<u>0.13 (3)</u>
5.	Adjusted Prospective Bond Yield	4.88 %
6.	Equity Risk Premium (5)	<u>4.79</u>
7.	Risk Premium Derived Common Equity Cost Rate	<u><u>9.67 %</u></u>

- Notes:
- (1) Consensus forecast of Moody's Aaa Rated Corporate bonds from Blue Chip Financial Forecasts (see pages 9-10 of this Exhibit).
 - (2) The average yield spread of A rated public utility bonds over Aaa rated corporate bonds of 0.10% from page 6 of this Exhibit.
 - (3) Adjustment to reflect the A2 / A3 Moody's LT issuer rating of the proxy group of eight water companies as shown on page 6 of this Exhibit. The 13 basis point upward adjustment is derived by taking 1/6 of the spread between A2 and A3 Public Utility Bonds ($1/6 * 0.79\% = 0.13\%$) as derived from page 4 of this Exhibit.
 - (4) From page 7 of this Exhibit.

Carolina Water Service, Inc. of NC
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>
Dec-14	3.79 %	3.95 %	4.70 %
Jan-15	3.46	3.58	4.39
Feb-15	<u>3.61</u>	<u>3.62</u>	<u>4.44</u>
Average	<u><u>3.62</u></u> %	<u><u>3.72</u></u> %	<u><u>4.51</u></u> %

Selected Bond Spreads

A Rated Public Utility Bonds Over Aaa Rated Corporate Bonds:
0.10 % (1)

Baa Rated Public Utility Bonds Over A Rated Public Utility Bonds:
0.79 % (2)

Notes:

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

Source of Information:

Bloomberg Professional Service

Carolina Water Service, Inc. of NC
Comparison of Long-Term Issuer Ratings for the
Proxy Group of Eight Water Companies

Proxy Group of Eight Water Companies	Moody's		Standard & Poor's	
	Long-Term Issuer Rating		Long-Term Issuer Rating	
	February 2015		February 2015	
	Bond Rating	Numerical Weighting(1)	Bond Rating	Numerical Weighting(1)
American States Water Co. (2)	A2	6.0	A+	5.0
American Water Works Co., Inc. (3)	A3	7.0	A-	7.0
Aqua America, Inc. (4)	NR	--	A+	5.0
California Water Service Group (5)	NR	--	A+	5.0
Connecticut Water Service, Inc. (6)	NR	--	A	6.0
Middlesex Water Company	NR	--	A-	7.0
SJW Corporation (7)	NR	--	A	6.0
York Water Company	NR	--	A-	7.0
Average	A2/A3	6.5	A	6.0

Notes:

- (1) From page 6 of this Exhibit.
- (2) Ratings are those of Golden State Water
- (3) Ratings are those of Pennsylvania American Water and New Jersey American Water.
- (4) Ratings are those of Aqua Pennsylvania, Inc.
- (5) Ratings are those of California Water Service
- (6) Ratings are those of Connecticut Water
- (7) Ratings are those of San Jose Water Co.

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

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Numerical Assignment for
Moody's and Standard & Poor's Long-Term Issuer Ratings

<u>Moody's Long-Term Issuer Rating</u>	<u>Numerical Weighting</u>	<u>S&P Long-Term Issuer 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 Service, Inc. of NC
Judgment of Equity Risk Premium for
the Proxy Group of Eight Water Companies

<u>Line No.</u>		<u>Proxy Group of Eight Water Companies</u>
1.	Calculated equity risk premium based on the total market using the beta approach (1)	4.85 %
2.	Mean equity risk premium based on a study using the holding period returns of public utilities with A rated bonds (2)	<u>4.73</u>
3.	Average equity risk premium	<u><u>4.79 %</u></u>

Notes: (1) From page 8 of this Exhibit.
(2) From page 11 of this Exhibit.

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Carolina Water Service, Inc. of NC
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for
the Proxy Group of Eight Water Companies

<u>Line No.</u>	<u>Equity Risk Premium Measure</u>	<u>Proxy Group of Eight Water Companies</u>
1.	Ibbotson Equity Risk Premium (1)	5.85 %
2.	Ibbotson Equity Risk Premium based on PRPM™ (2)	6.18
3.	Equity Risk Premium Based on <u>Value Line</u> Summary and Index (3)	4.76
4.	Equity Risk Premium Based on S&P 500 Companies(4)	<u>9.40</u>
5.	Conclusion of Equity Risk Premium (5)	6.55 %
6.	Adjusted Value Line Beta (6)	<u>0.74</u>
7.	Forecasted Equity Risk Premium	<u><u>4.85 %</u></u>

- Notes:
- (1) Based on the arithmetic mean historical monthly returns on large company common stocks from Ibbotson® SBBI® 2014 Classic Yearbook - Market Results for Stocks, Bonds, Bills, and Inflation minus the arithmetic mean monthly yield of Moody's Aaa and Aa corporate bonds from 1926 - 2013. (12.05% - 6.20% = 5.85%).
 - (2) The Predictive Risk Premium Model (PRPM) is discussed in Ms. Ahern's 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 minus the average Aaa and Aa corporate monthly bond yields, from January 1928 through January 2015.
 - (3) The equity risk premium based on the Value Line Summary and Index is derived from taking the projected 3-5 year total annual market return of 9.41% (described fully in note 1 of page 2 of Exhibit 9) and subtracting the average consensus forecast of Aaa corporate bonds of 4.65% (Shown on page 3 of this Exhibit). (9.41% - 4.65% = 4.76%).
 - (4) Using data from the Bloomberg Professional Service for the S&P 500, an expected total return of 14.05% was derived based upon expected dividend yields and long-term growth estimates as a proxy for capital appreciation. Subtracting the average consensus forecast of Aaa corporate bonds of 4.65% results in a expected equity risk premium of 9.40%. (14.05% - 4.65% = 9.40%).
 - (5) Average of Lines 1 through 4.
 - (6) Median beta derived from page 1 of Exhibit 7.

Sources of Information:

Ibbotson® SBBI® 2014 Classic Yearbook - Market Results for Stocks, Bonds, Bills, and Inflation, Morningstar, Inc., 2014 Chicago, IL.
Industrial Manual and Mergent Bond Record Monthly Update.
Value Line Summary and Index
Blue Chip Financial Forecasts, March 1, 2015 and December 1, 2014
Bloomberg Professional Services

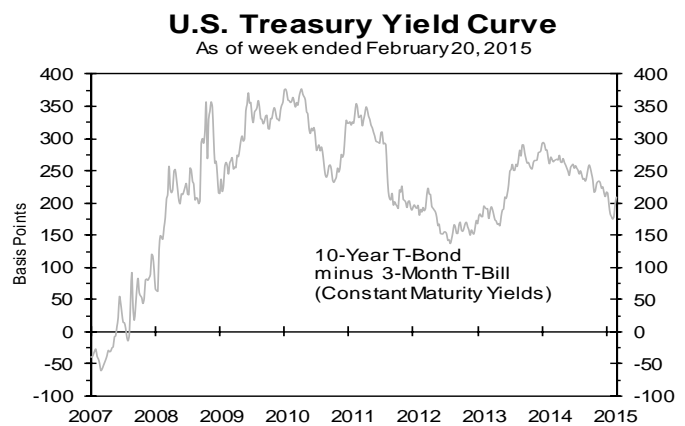
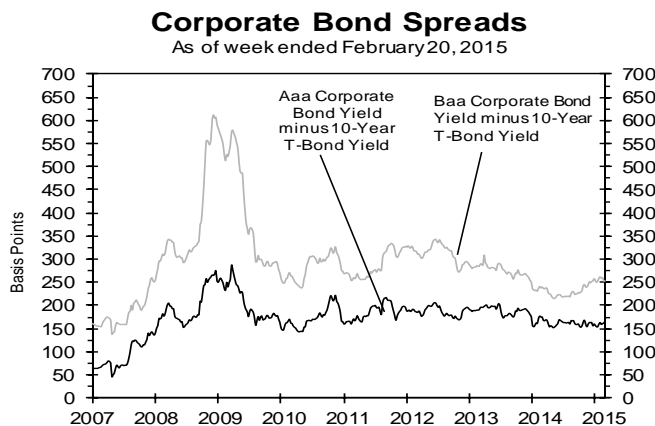
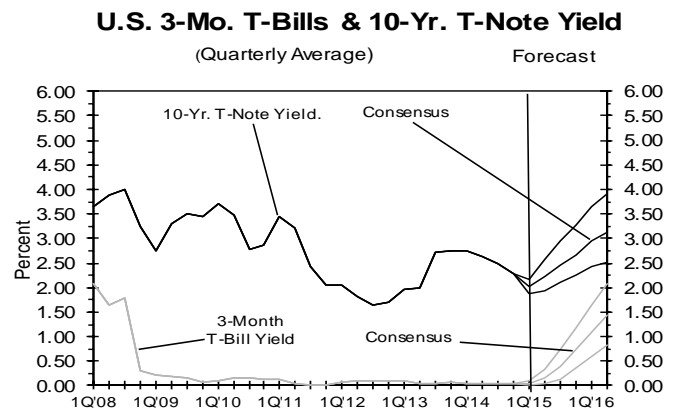
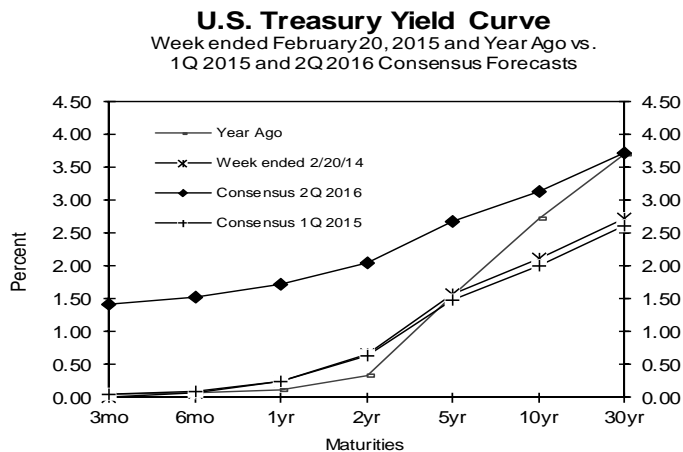
2 ■ BLUE CHIP FINANCIAL FORECASTS ■ MARCH 1, 2015

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

Interest Rates	History								Consensus Forecasts-Quarterly Average					
	Average For Week Ending				Average For Month				Latest Q	1Q 2015	2Q 2015	3Q 2015	4Q 2015	1Q 2016
	Feb. 20	Feb. 13	Feb. 6	Jan. 30	Jan.	Dec.	Nov.	4Q 2014		2015	2015	2015	2015	2016
Federal Funds Rate	0.12	0.12	0.09	0.12	0.11	0.12	0.09	0.10		0.1	0.2	0.4	0.8	1.1
Prime Rate	3.25	3.25	3.25	3.25	3.25	3.25	3.25	3.25		3.3	3.3	3.5	3.8	4.1
LIBOR, 3-mo.	0.26	0.26	0.26	0.26	0.26	0.23	0.23	0.23		0.3	0.4	0.6	0.9	1.3
Commercial Paper, 1-mo.	0.06	0.08	0.08	0.08	0.09	0.11	0.07	0.08		0.1	0.2	0.4	0.8	1.1
Treasury bill, 3-mo.	0.02	0.01	0.02	0.02	0.03	0.03	0.02	0.02		0.0	0.2	0.4	0.7	1.1
Treasury bill, 6-mo.	0.07	0.07	0.07	0.08	0.08	0.11	0.07	0.08		0.1	0.2	0.5	0.8	1.2
Treasury bill, 1 yr.	0.24	0.24	0.21	0.17	0.20	0.21	0.13	0.15		0.2	0.4	0.7	1.1	1.4
Treasury note, 2 yr.	0.67	0.65	0.54	0.51	0.55	0.64	0.53	0.54		0.6	0.9	1.1	1.5	1.8
Treasury note, 5 yr.	1.58	1.51	1.31	1.28	1.37	1.64	1.62	1.60		1.5	1.7	1.9	2.1	2.4
Treasury note, 10 yr.	2.11	2.00	1.81	1.77	1.88	2.21	2.33	2.28		2.0	2.2	2.4	2.7	2.9
Treasury note, 30 yr.	2.72	2.58	2.39	2.33	2.46	2.83	3.04	2.97		2.6	2.8	3.0	3.3	3.5
Corporate Aaa bond	3.77	3.62	3.42	3.36	3.46	3.79	3.92	3.88		3.7	3.8	4.1	4.3	4.6
Corporate Baa bond	4.64	4.53	4.41	4.36	4.45	4.74	4.79	4.74		4.6	4.7	5.0	5.2	5.4
State & Local bonds	3.62	3.60	3.49	3.36	3.40	3.70	3.96	3.87		3.5	3.7	3.9	4.2	4.4
Home mortgage rate	3.76	3.69	3.59	3.66	3.71	3.86	4.00	3.97		3.8	3.9	4.2	4.4	4.7

Key Assumptions	History								Consensus Forecasts-Quarterly					
	1Q 2013	2Q 2013	3Q 2013	4Q 2013	1Q 2014	2Q 2014	3Q 2014	4Q 2014	1Q 2015	2Q 2015	3Q 2015	4Q 2015	1Q 2016	2Q 2016
Major Currency Index	74.7	76.4	76.7	76.0	77.1	76.6	77.8	82.6	87.7	89.0	89.5	90.0	89.6	89.1
Real GDP	2.7	1.8	4.5	3.5	-2.1	4.6	5.0	2.2	2.6	3.0	3.1	3.0	2.9	2.9
GDP Price Index	1.3	1.2	1.7	1.5	1.3	2.1	1.4	0.1	0.4	1.6	1.8	1.9	2.0	2.0
Consumer Price Index	1.2	0.4	2.2	1.1	1.9	3.0	1.1	-1.2	-1.8	2.0	2.2	2.2	2.2	2.2

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 for interest rates except LIBOR is from Federal Reserve Release (FRSR) H.15. LIBOR quotes available from *The Wall Street Journal*. Interest rate definitions are same as those in FRSR H.15. Treasury yields are reported on a constant maturity basis. Historical data for Fed's Major Currency Index is from FRSR H.10 and G.5. 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).



Long-Range Estimates:

The table below contains results of our semi-annual long-range CONSENSUS survey. There are also Top 10 and bottom 10 averages for each variable. Shown are estimates for the years 2016 through 2020 and averages for the five-year periods 2016-2020 and 2021-2025. Apply these projections cautiously. Few economic, demographic and political forces can be evaluated accurately over such long time spans.

Interest Rates		-----Average For The Year-----					Five-Year Averages	
		2016	2017	2018	2019	2020	2016-2020	2021-2025
1. Federal Funds Rate	CONSENSUS	1.8	2.9	3.6	3.7	3.7	3.1	3.6
	Top 10 Average	2.4	3.7	4.2	4.2	4.2	3.7	4.1
	Bottom 10 Average	1.2	2.3	2.9	3.0	3.0	2.5	2.9
2. Prime Rate	CONSENSUS	4.7	5.8	6.5	6.6	6.6	6.0	6.5
	Top 10 Average	5.4	6.6	7.1	7.2	7.2	6.7	7.1
	Bottom 10 Average	4.2	5.2	5.8	5.9	5.8	5.4	5.6
3. LIBOR, 3-Mo.	CONSENSUS	2.1	3.2	3.7	3.9	3.9	3.3	3.8
	Top 10 Average	2.7	3.9	4.3	4.4	4.4	3.9	4.3
	Bottom 10 Average	1.5	2.5	3.1	3.2	3.3	2.7	3.3
4. Commercial Paper, 1-Mo.	CONSENSUS	1.9	3.0	3.5	3.7	3.7	3.1	3.7
	Top 10 Average	2.4	3.5	4.0	4.2	4.2	3.6	4.2
	Bottom 10 Average	1.5	2.5	3.0	3.1	3.2	2.7	3.2
5. Treasury Bill Yield, 3-Mo.	CONSENSUS	1.8	2.9	3.4	3.6	3.6	3.0	3.5
	Top 10 Average	2.4	3.6	4.0	4.2	4.1	3.7	4.1
	Bottom 10 Average	1.3	2.2	2.9	2.9	2.9	2.4	2.7
6. Treasury Bill Yield, 6-Mo.	CONSENSUS	2.0	3.0	3.6	3.7	4.7	3.4	3.6
	Top 10 Average	2.5	3.8	4.2	4.4	7.4	4.4	4.2
	Bottom 10 Average	1.5	2.4	3.0	3.1	3.1	2.6	2.8
7. Treasury Bill Yield, 1-Yr.	CONSENSUS	2.1	3.2	3.7	3.8	3.8	3.3	3.7
	Top 10 Average	2.8	3.9	4.4	4.5	4.4	4.0	4.3
	Bottom 10 Average	1.6	2.5	3.1	3.1	3.2	2.7	2.9
8. Treasury Note Yield, 2-Yr.	CONSENSUS	2.5	3.4	3.9	4.0	4.0	3.6	4.0
	Top 10 Average	3.3	4.1	4.5	4.7	4.6	4.2	4.5
	Bottom 10 Average	1.9	2.8	3.3	3.3	3.3	2.9	3.2
10. Treasury Note Yield, 5-Yr.	CONSENSUS	3.1	3.8	4.2	4.3	4.3	4.0	4.3
	Top 10 Average	3.8	4.5	4.9	5.1	5.1	4.7	4.9
	Bottom 10 Average	2.6	3.2	3.6	3.5	3.6	3.3	3.6
11. Treasury Note Yield, 10-Yr.	CONSENSUS	3.7	4.3	4.6	4.7	4.7	4.4	4.6
	Top 10 Average	4.4	5.0	5.4	5.6	5.6	5.2	5.4
	Bottom 10 Average	3.2	3.5	3.8	3.8	3.9	3.7	3.9
12. Treasury Bond Yield, 30-Yr.	CONSENSUS	4.3	4.8	5.0	5.1	5.2	4.9	5.1
	Top 10 Average	5.0	5.6	5.9	6.2	6.2	5.8	6.0
	Bottom 10 Average	3.7	4.0	4.2	4.2	4.3	4.1	4.3
13. Corporate Aaa Bond Yield	CONSENSUS	5.1	5.6	6.0	6.1	6.1	5.8	6.1
	Top 10 Average	5.8	6.4	6.8	7.0	7.0	6.6	6.8
	Bottom 10 Average	4.5	4.8	5.1	5.1	5.2	5.0	5.4
13. Corporate Baa Bond Yield	CONSENSUS	6.0	6.5	6.8	6.9	7.0	6.6	7.0
	Top 10 Average	6.7	7.3	7.7	7.9	7.9	7.5	7.7
	Bottom 10 Average	5.4	5.6	5.9	5.9	6.0	5.8	6.2
14. State & Local Bonds Yield	CONSENSUS	4.9	5.2	5.4	5.4	5.4	5.2	5.3
	Top 10 Average	5.5	5.7	6.0	6.1	6.1	5.9	6.0
	Bottom 10 Average	4.3	4.6	4.7	4.7	4.7	4.6	4.7
15. Home Mortgage Rate	CONSENSUS	5.2	5.8	6.2	6.3	6.3	6.0	6.2
	Top 10 Average	5.9	6.5	7.1	7.2	7.2	6.8	7.0
	Bottom 10 Average	4.6	5.1	5.5	5.5	5.5	5.2	5.3
A. FRB - Major Currency Index	CONSENSUS	83.6	83.3	82.7	82.4	82.1	82.8	82.0
	Top 10 Average	86.7	86.7	86.6	86.5	86.6	86.6	86.3
	Bottom 10 Average	80.3	79.8	78.5	77.9	77.3	78.7	77.4
		-----Year-Over-Year, % Change-----					Five-Year Averages	
		2016	2017	2018	2019	2020	2016-2020	2021-2025
B. Real GDP	CONSENSUS	2.8	2.8	2.6	2.4	2.4	2.6	2.3
	Top 10 Average	3.2	3.1	2.9	2.8	2.7	2.9	2.6
	Bottom 10 Average	2.6	2.4	2.3	1.8	2.0	2.2	2.0
C. GDP Chained Price Index	CONSENSUS	2.0	2.2	2.2	2.1	2.1	2.1	2.1
	Top 10 Average	2.3	2.7	2.6	2.5	2.4	2.5	2.5
	Bottom 10 Average	1.7	1.8	1.8	1.8	1.8	1.8	1.8
D. Consumer Price Index	CONSENSUS	2.3	2.5	2.4	2.3	2.3	2.4	2.3
	Top 10 Average	2.7	3.1	3.0	2.8	2.7	2.8	2.7
	Bottom 10 Average	2.0	2.0	2.0	1.9	1.9	1.9	1.9

Carolina Water Service, Inc. of NC
Derivation of Mean Equity Risk Premium Based on a Study
Using Holding Period Returns of Public Utilities

<u>Line No.</u>		<u>Over A Rated Moody's Public Utility Bonds (1)</u>
1.	Arithmetic Mean Holding Period Returns on the Standard & Poor's Utility Index 1928-2014 (2):	10.69 %
2.	Arithmetic Mean Yield on Moody's A Rated Public Utility Yields 1928-2014	<u>(6.48)</u>
3.	Historical Equity Risk Premium	4.21 %
4.	Forecasted Equity Risk Premium Based on PRPM™ (3)	4.18
5.	Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (4)	<u>5.80</u>
6.	Average of Historical and PRPM™ Equity Risk Premium	<u><u>4.73 %</u></u>

- Notes: (1) Based on S&P Public Utility Index monthly total returns and Moody's Public Utility Bond average monthly yields from 1928-2014.
- (2) 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.
- (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 - February 2015.
- (4) Using data from Bloomberg Professional Service for the S&P Utilities Index, an expected return of 10.55% 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 4.75%, calculated on line 3 of page 3 of this Exhibit results in an equity risk premium of 5.80%. (10.55% - 4.75% = 5.80%)

Carolina Water Service, Inc. of NC
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 Eight 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.	0.70	0.77	0.74	7.50 %	3.61 %	9.16 %	9.65 %	
American Water Works Co., Inc.	0.70	0.55	0.63	7.50	3.61	8.34	9.03	
Aqua America, Inc.	0.70	0.73	0.72	7.50	3.61	9.01	9.54	
California Water Service Group	0.70	0.77	0.74	7.50	3.61	9.16	9.65	
Connecticut Water Service, Inc.	0.65	0.69	0.67	7.50	3.61	8.64	9.25	
Middlesex Water Company	0.70	0.80	0.75	7.50	3.61	9.24	9.70	
SJW Corporation	0.85	0.83	0.84	7.50	3.61	9.91	10.21	
York Water Company	0.65	0.89	0.77	7.50	3.61	9.39	9.82	
Average			0.73			9.10 %	9.61 %	9.36 %
Median			0.74			9.16 %	9.65 %	9.41 %

Notes:

- (1) The market risk premium (MRP) is an average of four different measures. The first measure of the MRP derives the total return on the market by adding the thirteen-week average forecasted 3-5 year capital appreciation to the thirteen-week average expected dividend from Value Line Summary and Index. The projected risk-free rate (developed in Note 2) is then subtracted from the total return to arrive at the projected MRP. The second measure of MRP is based on the arithmetic mean of historical monthly return data of large stocks less the income return on long-term government bonds from 1926-2013 as published by Morningstar, Inc. The third measure applies the PRPM to the Ibbotson historical data to derive a projected MRP. The fourth measure uses data from Bloomberg Professional Services to derive a total projected return on the S&P 500 by using expected dividend yields and long-term growth estimates as a proxy for capital appreciation. The projected risk-free rate is then subtracted from the projected total return to arrive at the projected MRP. The four measures of MRP are illustrated below:

Measure 1: Value Line Projected MRP (Thirteen weeks ending 2/27/15)

Total projected return on the market 3 -5 years hence:	9.41 %
Projected Risk-Free Rate (described in Note 2):	3.61
MRP based on Value Line Summary & Index:	<u>5.80 %</u>

Measure 2: Ibbotson Arithmetic Mean MRP (1926 - 2013)

Arithmetic Mean Monthly Returns for Large Stocks 1926 - 2013:	12.05 %
Arithmetic Mean Income Returns on Long-Term Government Bonds:	5.26
MRP based on Ibbotson Historical Data:	<u>6.79 %</u>

Measure 3: Application of the PRPM to Ibbotson Historical Data:	<u>6.98 %</u>
---	---------------

Measure 4: Bloomberg Projected MRP

Total return on the Market based on the S&P 500:	14.05 %
Projected Risk-Free Rate (described in Note 2):	3.61
MRP based on Bloomberg data	<u>10.44 %</u>

Average MRP: 7.50 %

- (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. The projection of the risk-free rate is illustrated below:

First Quarter 2015	2.60 %
Second Quarter 2015	2.80
Third Quarter 2015	3.00
Fourth Quarter 2015	3.30
First Quarter 2016	3.50
Second Quarter 2016	3.70
2016-2020	4.90
2021-2025	5.10
	<u>3.61 %</u>

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

Sources of Information:

Value Line Summary and Index
Blue Chip Financial Forecasts March 1, 2015 and December 1, 2014
Ibbotson 2014 Classic Yearbook
Bloomberg Professional Services

Carolina Water Service Inc. of NC
Basis of Selection of the Group of Non-Price Regulated Companies
Comparable in Total Risk to the Proxy Group of Eight Water Companies

The criteria for selection of the proxy group of twenty-eight non-price regulated companies was that the non-price regulated companies be domestic and reported in Value Line Investment Survey (Standard Edition).

The proxy group of twenty-eight non-price regulated companies were then selected based upon the unadjusted beta range of 0.37 – 0.61 and residual standard error of the regression range of 2.4920 – 2.9720 of the water 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 water industry's residual standard error of the regression is 0.1200. The standard deviation of the standard error of the regression is calculated as follows:

Standard Deviation of the Std. Err. of the Regr. = 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

$$\text{Thus, } 0.1200 = \frac{2.7320}{\sqrt{518}} = \frac{2.7320}{22.7596}$$

Source of Information: Value Line, Inc., December 15, 2014
Value Line Investment Survey (Standard Edition)

Carolina Water Service, Inc. of NC
Basis of Selection of Comparable Risk
Domestic Non-Price Regulated Companies

	[1]	[2]	[3]	[4]
Proxy Group of Eight Water Companies	Value Line Adjusted Beta	Unadjusted Beta	Residual Standard Error of the Regression	Standard Deviation of Beta
American States Water Co.	0.65	0.44	3.1757	0.0719
American Water Works Co., Inc.	0.65	0.44	2.5968	0.0588
Aqua America, Inc.	0.60	0.35	2.3272	0.0527
California Water Service Group	0.60	0.36	2.2764	0.0516
Connecticut Water Service, Inc.	0.75	0.55	2.8197	0.0639
Middlesex Water Company	0.75	0.56	2.5174	0.0570
SJW Corporation	0.85	0.73	3.2010	0.0725
York Water Company	0.70	0.47	2.9414	0.0666
Average	0.69	0.49	2.7320	0.0619
Beta Range (+/- 2 std. Devs. of Beta)	0.37	0.61		
2 std. Devs. of Beta	0.12			
Residual Std. Err. Range (+/- 2 std. Devs. of the Residual Std. Err.)	2.4920	2.9720		
Std. dev. of the Res. Std. Err.	0.1200			
2 std. devs. of the Res. Std. Err.	0.2400			

Source of Information: Valueline Proprietary Database 12/15/14

Carolina Water Service, Inc. of NC
Proxy Group of Non-Price Regulated Companies
Comparable in Total Risk to the
Proxy Group of Eight Water Companies

	[1]	[2]	[3]	[4]
Proxy Group of Twenty-Eight Non-Price-Regulated Companies	VL Adjusted Beta	Unadjusted Beta	Residual Standard Error of the Regression	Standard Deviation of Beta
Gallagher (Arthur J.	0.75	0.60	2.8257	0.0640
Amgen	0.75	0.56	2.8681	0.0650
Baxter Int'l Inc.	0.75	0.59	2.8485	0.0645
Brown-Forman 'B'	0.75	0.59	2.5194	0.0571
Bristol-Myers Squibb	0.70	0.51	2.7060	0.0613
Brown & Brown	0.75	0.57	2.5708	0.0582
Quest Diagnostics	0.75	0.58	2.7019	0.0612
Dun & Bradstreet	0.75	0.61	2.8850	0.0653
DaVita HealthCare	0.70	0.49	2.7874	0.0631
Haemonetics Corp.	0.65	0.46	2.5941	0.0588
Kroger Co.	0.65	0.45	2.7324	0.0619
Lancaster Colony	0.75	0.55	2.8757	0.0651
Mercury General	0.75	0.59	2.8344	0.0642
Markel Corp.	0.75	0.55	2.6954	0.0610
Annaly Capital Mgmt.	0.65	0.45	2.6087	0.0591
Northwest Bancshares	0.75	0.59	2.6054	0.0590
Owens & Minor	0.75	0.55	2.9650	0.0672
Ross Stores	0.75	0.58	2.7900	0.0632
Sherwin-Williams	0.70	0.47	2.7446	0.0622
Smucker (J.M.)	0.70	0.50	2.5587	0.0580
Silgan Holdings	0.70	0.47	2.7938	0.0633
Stericycle Inc.	0.65	0.43	2.5317	0.0573
Molson Coors Brewing	0.75	0.55	2.8609	0.0648
Teleflex Inc.	0.75	0.60	2.6693	0.0605
Hanover Insurance	0.75	0.59	2.5287	0.0573
TJX Companies	0.75	0.61	2.5257	0.0572
Weis Markets	0.65	0.47	2.6581	0.0602
Alleghany Corp.	0.75	0.57	2.7854	0.0631
Average	0.72	0.54	2.7168	0.0615
Proxy Group of Eight Water Companies	0.69	0.49	2.7320	0.0619

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Carolina Water Service, Inc. of NC
Summary of Cost of Equity Models Applied to the
Proxy Group of Non-Price-Regulated Companies
Comparable in Total Risk to the
Proxy Group of Eight Water Companies

<u>Principal Methods</u>	<u>Proxy Group of Twenty-Eight Non-Price- Regulated Companies</u>
Discounted Cash Flow Model (DCF) (1)	10.63 %
Risk Premium Model (RPM) (2)	11.01
Capital Asset Pricing Model (CAPM) (3)	<u>10.06</u>
Average	<u>10.57 %</u>
Median	<u>10.63 %</u>

Notes:

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

Carolina Water Service, Inc. of NC
DCF Results for the Proxy Group of Non-Price-Regulated Companies Comparable in Total Risk to
the Proxy Group of Eight Water Companies

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Proxy Group of Twenty-Eight 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
Gallagher (Arthur J.)	3.07 %	15.00 %	12.56 %	13.00 %	12.56 %	13.28 %	3.27 %	16.55 %
Amgen	1.54	9.00	11.10	9.20	11.10	10.10	1.62	11.72
Baxter Int'l Inc.	2.90	5.50	4.78	8.20	4.78	5.82	2.98	8.80
Brown-Forman 'B'	1.40	9.00	8.05	9.20	NA	8.75	1.46	10.21
Bristol-Myers Squibb	2.45	7.50	15.65	15.60	15.65	13.60	2.62	16.22
Brown & Brown	1.36	14.00	10.47	10.20	10.47	11.29	1.44	12.73
Quest Diagnostics	1.92	7.00	7.47	10.10	9.41	8.50	2.00	10.50
Dun & Bradstreet	1.44	5.50	7.03	7.90	7.03	6.87	1.49	8.36
DaVita HealthCare	-	12.00	4.21	12.20	8.11	9.13	-	NA
Haemonetics Corp.	-	11.00	12.00	11.80	12.00	11.70	-	NA
Kroger Co.	1.11	10.50	11.93	11.50	11.93	11.47	1.17	12.64
Lancaster Colony	1.99	6.00	NA	NA	8.00	7.00	2.06	9.06
Mercury General	4.40	7.00	3.20	2.10	3.20	3.88	4.49	8.37
Markel Corp.	-	12.50	10.00	10.00	10.00	10.63	-	NA
Annaly Capital Mgmt.	11.03	0.50	(19.60)	(1.20)	(11.40)	0.50	11.06	11.56
Northwest Bancshares	4.29	5.50	NA	NA	5.00	5.25	4.40	9.65
Owens & Minor	2.85	10.50	6.63	6.90	6.63	7.67	2.96	10.63
Ross Stores	0.85	8.50	12.30	11.60	11.84	11.06	0.90	11.96
Sherwin-Williams	0.82	17.00	18.60	14.20	15.73	16.38	0.89	17.27
Smucker (J.M.)	2.43	6.50	4.67	5.70	5.50	5.59	2.50	8.09
Silgan Holdings	1.11	9.00	6.88	9.30	8.44	8.41	1.16	9.57
Stericycle Inc.	-	11.00	14.50	14.70	15.00	13.80	-	NA
Molson Coors Brewing	1.96	8.50	3.20	5.10	3.20	5.00	2.01	7.01
Teleflex Inc.	1.19	15.50	11.80	11.20	12.27	12.69	1.27	13.96
Hanover Insurance	2.31	22.50	(1.10)	NA	(1.10)	22.50	2.57	25.07
TJX Companies	1.04	11.00	10.22	11.90	10.81	10.98	1.10	12.08
Weis Markets	2.56	1.00	NA	NA	NA	1.00	2.57	3.57
Alleghany Corp.	-	3.00	NA	NA	8.50	5.75	-	NA
							Average	11.55 %
							Median	10.63 %

NA= Not Available
NMF= Not Meaningful Figure

- (1) Mr. D'Ascendis's application of the DCF model to the domestic, non-price regulated comparable risk companies is identical to the application of the DCF to his proxy group of water companies. he uses the 60 day average price and the spot indicated dividend as of February 27, 2015 for his dividend yield and then adjusts that yield for 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 02/27/2015
www.zacks.com Downloaded on 02/27/2015
www.yahoo.com Downloaded on 02/27/2015

Carolina Water Service, Inc. of NC
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 Twenty-Eight Non- Price-Regulated Companies</u>
1.	Prospective Yield on Baa Rated Corporate Bonds (1)	5.51 %
2.	Equity Risk Premium (2)	<u>5.50</u>
3.	Risk Premium Derived Common Equity Cost Rate	<u><u>11.01 %</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 March 1, 2015 and December 1, 2014 (see pages 9-10 of Exhibit 6). The estimates are detailed below.

First Quarter 2015	4.60 %
Second Quarter 2015	4.70
Third Quarter 2015	5.00
Fourth Quarter 2015	5.20
First Quarter 2016	5.40
Second Quarter 2016	5.60
2016-2020	6.60
2021-2025	<u>7.00</u>
Average	<u><u>5.51 %</u></u>

(2) From page 5 of this Exhibit.

Carolina Water Service, Inc. of NC
Comparison of Long-Term Issuer Ratings for the
Proxy Group of Non-Price-Regulated Companies Comparable in Total Risk to the
Proxy Group of Eight Water Companies

Proxy Group of Twenty-Eight Non-Price-Regulated Companies	Moody's Long-Term Issuer Rating February 2015		Standard & Poor's Long-Term Issuer Rating February 2015	
	Bond Rating	Numerical Weighting (1)	Bond Rating	Numerical Weighting (1)
Gallagher (Arthur J.	NR	--	NR	--
Amgen	Baa1	8.0	A	6.0
Baxter Int'l Inc.	A3	7.0	A-	7.0
Brown-Forman 'B'	A1	5.0	A-	7.0
Bristol-Myers Squibb	A2	6.0	A+	5.0
Brown & Brown	Baa3	10.0	BBB-	10.0
Quest Diagnostics	Baa2	9.0	BBB+	8.0
Dun & Bradstreet	NR	--	BBB-	10.0
DaVita HealthCare	B1	14.0	BB	12.0
Haemonetics Corp.	NR	--	NR	--
Kroger Co.	Baa2	9.0	BBB	9.0
Lancaster Colony	NR	--	NR	--
Mercury General	WR	--	NR	--
Markel Corp.	Baa2	9.0	BBB	9.0
Annaly Capital Mgmt.	NR	--	NR	--
Northwest Bancshares	NR	--	NR	--
Owens & Minor	Ba1	11.0	BBB	9.0
Ross Stores	A3	7.0	A-	7.0
Sherwin-Williams	A3	7.0	A	6.0
Smucker (J.M.)	A3	7.0	BBB	9.0
Silgan Holdings	Ba2	12.0	BB+	11.0
Stericycle Inc.	NR	--	NR	--
Molson Coors Brewing	Baa2	9.0	BBB+	8.0
Teleflex Inc.	NR	--	BB	12.0
Hanover Insurance	Baa3	10.0	BBB	9.0
TJX Companies	A3	7.0	A+	5.0
Weis Markets	NR	--	NR	--
Alleghany Corp.	Baa2	9.0	BBB	9.0
Average	Baa2	8.7	BBB+	8.4

Notes:

(1) From page 6 of Exhibit 6.

Source of Information:

Bloomberg Professional Services

Carolina Water Service, Inc. of NC
Derivation of Equity Risk Premium Based on the Total Market Approach
Using the Beta for
the Proxy Group of Non-Price-Regulated Companies
Proxy Group of Eight Water Companies

<u>Line No.</u>	<u>Equity Risk Premium Measure</u>	<u>Proxy Group of Twenty-Eight Non- Price-Regulated Companies</u>
1.	Ibbotson Equity Risk Premium (1)	5.85 %
2.	Ibbotson Equity Risk Premium based on PRPM (1)	6.18
3.	Equity Risk Premium Based on <u>Value Line</u> Summary and Index (1)	4.76
4.	Equity Risk Premium Based on S&P 500 Companies(1)	<u>9.40</u>
5.	Conclusion of Equity Risk Premium (2)	6.55 %
6.	Adjusted Value Line Beta (3)	<u>0.84</u>
7.	Forecasted Equity Risk Premium	<u><u>5.50 %</u></u>

Notes: (1) From page 8 of Exhibit 6.
(2) Average of Lines 1 through 4.
(3) Median beta derived from page 5 of this Exhibit.

Sources of Information:

Ibbotson® S&P® 2014 Classic Yearbook - Market Results for Stocks, Bonds, Bills, and Inflation, Morningstar, Inc., 2014 Chicago, IL.

Value Line Summary and Index

Blue Chip Financial Forecasts, March 1, 2015 and December 1, 2014

Bloomberg Professional Services

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

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Proxy Group of Twenty-Eight 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)
Gallagher (Arthur J.)	0.80	0.96	0.88	7.50 %	3.61 %	10.21 %	10.44 %	
Amgen	0.80	1.02	0.91	7.50	3.61	10.44	10.60	
Baxter Int'l Inc.	0.90	0.83	0.87	7.50	3.61	10.14	10.38	
Brown-Forman 'B'	0.85	1.08	0.97	7.50	3.61	10.89	10.94	
Bristol-Myers Squibb	0.75	0.92	0.84	7.50	3.61	9.91	10.21	
Brown & Brown	0.85	0.89	0.87	7.50	3.61	10.14	10.38	
Quest Diagnostics	0.85	0.83	0.84	7.50	3.61	9.91	10.21	
Dun & Bradstreet	1.00	1.34	1.17	7.50	3.61	12.39	12.07	
DaVita HealthCare	0.85	0.77	0.81	7.50	3.61	9.69	10.04	
Haemonetics Corp.	0.80	0.76	0.78	7.50	3.61	9.46	9.87	
Kroger Co.	0.75	0.85	0.80	7.50	3.61	9.61	9.99	
Lancaster Colony	0.75	0.91	0.83	7.50	3.61	9.84	10.15	
Mercury General	0.65	0.66	0.66	7.50	3.61	8.56	9.20	
Markel Corp.	0.65	0.82	0.74	7.50	3.61	9.16	9.65	
Annaly Capital Mgmt.	0.50	0.41	0.46	7.50	3.61	7.06	8.07	
Northwest Bancshares	0.70	0.77	0.74	7.50	3.61	9.16	9.65	
Owens & Minor	0.90	1.04	0.97	7.50	3.61	10.89	10.94	
Ross Stores	0.75	0.92	0.84	7.50	3.61	9.91	10.21	
Sherwin-Williams	0.75	0.93	0.84	7.50	3.61	9.91	10.21	
Smucker (J.M.)	0.70	0.85	0.78	7.50	3.61	9.46	9.87	
Silgan Holdings	0.80	0.81	0.81	7.50	3.61	9.69	10.04	
Stericycle Inc.	0.80	0.79	0.80	7.50	3.61	9.61	9.99	
Molson Coors Brewing	0.85	1.04	0.95	7.50	3.61	10.74	10.83	
Teleflex Inc.	0.95	0.79	0.87	7.50	3.61	10.14	10.38	
Hanover Insurance	0.85	0.97	0.91	7.50	3.61	10.44	10.60	
TJX Companies	0.75	0.93	0.84	7.50	3.61	9.91	10.21	
Weis Markets	0.70	0.86	0.78	7.50	3.61	9.46	9.87	
Alleghany Corp.	0.70	0.96	0.83	7.50	3.61	9.84	10.15	
Average			0.84			9.88 %	10.18 %	10.03 %
Median			0.84			9.91 %	10.21 %	10.06 %

Notes:

(1) From Exhibit 7, note 1.

(2) From Exhibit 7, note 2.

(3) Average of CAPM and ECAPM cost rates.

Carolina Water Service, Inc. of NC
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 December 31, 2014 (1) (millions)	[2] NYSE/AMEX/ NASDAQ (2)	[3] Applicable Size Premium (3)	[4] Spread from Applicable Size Premium (4)
1. Carolina Water Service, Inc. of NC	\$ 127.613	10	5.78%	
2. Proxy Group of Eight Water Companies	\$ 2,355.800	6	1.74%	4.04%

(A) Decile	(B) Market Capitalization of Smallest Company (millions)	(C) Market Capitalization of Largest Company (millions)	(D) Midpoint (millions)	(E) Premium (Return in Excess of CAPM) (2)
Largest	1 \$ 24,428.848	\$ 591,015.721	\$ 307,722.285	-0.36%
	2 10,170.746	24,272.837	17,221.792	0.63%
	3 5,864.266	10,105.622	7,984.944	0.91%
	4 3,724.624	5,844.592	4,784.608	1.06%
	5 2,552.441	3,724.186	3,138.314	1.60%
	6 1,688.895	2,542.913	2,115.904	1.74%
	7 1,011.278	1,686.860	1,349.069	1.71%
	8 549.056	1,010.634	779.845	2.15%
	9 300.752	548.839	424.796	2.69%
Smallest	10 3.037	300.725	151.881	5.78%

*From Duff & Phelps 2015 Valuation Handbook (Preview Edition)

Notes:

- (1) From Page 2 of this Exhibit.
- (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. 1a Column 3 – Line No. 2 Column 3 and Line No. 1b, Column 3 – Line No. 3 of Column 3 etc.. For example, the 4.04% in Column 4, Line No. 2 is derived as follows 4.04% = 2.69% - 1.74%.

Carolina Water Service, Inc. of NC.
Market Capitalization of Carolina Water Service, Inc. of NC and
the Proxy Group of Eight Water Companies

Company	Exchange	[1] Common Stock Shares Outstanding at Fiscal Year End 2013 (millions)	[2] Book Value per Share at Fiscal Year End 2013 (1)	[3] Total Common Equity at Fiscal Year End 2013 (millions)	[4] Closing Stock Market Price on February 27, 2015	[5] Market-to- Book Ratio on February 27, 2015 (2)	[6] Market Capitalization on February 27, 2015 (3) (millions)
Carolina Water Service, Inc. of NC	NASDAQ	NA	NA	64.877	NA	196.7	\$ 127.613
Proxy Group of Eight Water Companies							
American States Water Co.	NYSE	38.721	\$ 12.717	\$ 492.404	\$ 40.130	315.6	\$ 1,553.861
American Water Works Co., Inc.	NYSE	178.379	\$ 26.504	\$ 4,727.804	\$ 54.080	204.0	\$ 9,646.736
Aqua America, Inc.	NYSE	176.751	\$ 8.684	\$ 1,534.835	\$ 26.440	304.5	\$ 4,673.286
California Water Service Group	NYSE	47.741	\$ 12.542	\$ 598.756	\$ 25.430	202.8	\$ 1,214.054
Connecticut Water Service, Inc.	NASDAQ	11.038	\$ 17.985	\$ 198.525	\$ 37.100	206.3	\$ 409.518
Middlesex Water Company	NASDAQ	15.963	\$ 11.824	\$ 188.745	\$ 23.260	196.7	\$ 371.299
SJW Corporation	NYSE	20.169	\$ 15.924	\$ 321.175	\$ 33.240	208.7	\$ 670.422
York Water Company	NASDAQ	12.979	\$ 7.975	\$ 103.511	\$ 23.670	296.8	\$ 307.220
Average		62.718	\$ 14.269	\$ 1,020.719	\$ 32.919	241.9	\$ 2,355.800

NA= Not Available

Notes: (1) Column 3 / Column 1.
(2) Column 4 / Column 2.
(3) Column 5 * Column 3.

From Carolina Water Service Inc. of NC Annual Report to the North Carolina Utilities Commission for the year
(4) ended December 31, 2013.

Source of Information: 2013 Annual Forms 10K
yahoo.finance.com