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# Exhibit No. 7

Confluence Rivers – Exhibit 7  
D’Ascendis Direct  
File No. WR-2023-0006

Exhibit No. \_\_\_\_\_  
Issue: Cost of Capital  
Witness: Dylan W. D'Ascendis  
Type of Exhibit: Direct Testimony  
Sponsoring Party: Confluence Rivers  
Case No.: WR-2023-0006/SR-2023-0007  
Date: December 19, 2022

BEFORE THE  
  
MISSOURI PUBLIC SERVICE COMMISSION

DIRECT TESTIMONY

OF

DYLAN W. D'ASCENDIS  
PARTNER  
SCOTTMADDEN, INC.

ON BEHALF OF  
  
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.

December 19, 2022

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1 **I. INTRODUCTION**

2 **A. WITNESS IDENTIFICATION**

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

4 A. My name is Dylan W. D'Ascendis. My business address is 3000 Atrium Way, Suite  
5 200, Mount Laurel, NJ 08054.

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

7 A. I am a Partner at ScottMadden, Inc.

8 **B. BACKGROUND AND QUALIFICATIONS**

9 **Q. Please summarize your professional experience and educational  
10 background.**

11 A. I have offered expert testimony on behalf of investor-owned utilities in over 35 state  
12 regulatory commissions in the United States, the Federal Energy Regulatory  
13 Commission, the Alberta Utility Commission, one American Arbitration Association  
14 panel, and the Superior Court of Rhode Island on issues including, but not limited  
15 to, common equity cost rate, rate of return, valuation, capital structure, class cost  
16 of service, and rate design.

17 On behalf of the American Gas Association ("AGA"), I calculate the AGA  
18 Gas Index, which serves as the benchmark against which the performance of the  
19 American Gas Index Fund ("AGIF") is measured on a monthly basis. The AGA  
20 Gas Index and AGIF are a market capitalization-weighted index and mutual fund,  
21 respectively, comprised of the common stocks of the publicly traded corporate  
22 members of the AGA.

23 I am a member of the Society of Utility and Regulatory Financial Analysts  
24 ("SURFA"). In 2011, I was awarded the professional designation "Certified Rate

1 of Return Analyst" by SURFA, which is based on education, experience, and the  
2 successful completion of a comprehensive written examination.

3 I am also a member of the National Association of Certified Valuation  
4 Analysts ("NACVA") and was awarded the professional designation "Certified  
5 Valuation Analyst" by the NACVA in 2015.

6 I am a graduate of the University of Pennsylvania, where I received a  
7 Bachelor of Arts degree in Economic History. I have also received a Master of  
8 Business Administration with high honors and concentrations in Finance and  
9 International Business from Rutgers University.

10 The details of my educational background and expert witness appearances  
11 are included in Appendix A.

## 12 **II. PURPOSE OF TESTIMONY**

### 13 **Q. What is the purpose of your Direct Testimony in this proceeding?**

14 A. The purpose of my Direct Testimony is to present evidence on behalf of  
15 Confluence Rivers Utility Operating Company, Inc. ("Confluence Rivers" or the  
16 "Company") about the appropriate capital structure and corresponding cost rates  
17 the Company should be given the opportunity to earn on its jurisdictional rate base.

### 18 **Q. Have you prepared any Schedules in support of your recommendation?**

19 A. Yes. I have prepared Schedules DWD-1 through DWD-9, which have been  
20 prepared by me or under my direct supervision.

### 21 **Q. What is your recommended cost of capital for Confluence Rivers?**

22 A. I recommend the Missouri Public Service Commission ("MPSC" or the  
23 "Commission") authorize the Company the opportunity to earn an overall rate of  
24 return of 9.86% based on the actual capital structure of Confluence Rivers, which

1 consists of 31.44% long-term debt at an embedded cost rate of 6.60%, and 68.56%  
2 common equity at my recommended return on common equity (“ROE”) of 11.35%.  
3 The overall rate of return is summarized on page 1 of Schedule DWD-1 and in  
4 Table 1 below:

5 **Table 1: Summary of Overall Rate of Return**

<u>Type of Capital</u>	<u>Ratios</u>	<u>Cost Rate</u>	<u>Weighted Cost Rate</u>
Long-Term Debt	31.44%	6.60%	2.08%
Common Equity	<u>68.56%</u>	11.35%	<u>7.78%</u>
Total	<u>100.00%</u>		<u>9.86%</u>

6 **III. SUMMARY**

7 **Q. Please summarize your recommended common equity cost rate.**

8 A. My recommended common equity cost rate of 11.35% is summarized on page 2  
9 of Schedule DWD-1. I have assessed the market-based common equity cost rates  
10 of companies of relatively similar, but not necessarily identical, risk to Confluence  
11 Rivers. Using companies of relatively comparable risk as proxies is consistent with  
12 the principles of fair rate of return established in the *Hope*<sup>1</sup> and *Bluefield*<sup>2</sup> Supreme  
13 Court cases. No proxy group can be identical in risk to any single company, so  
14 there must be an evaluation of relative risk between the company and the proxy  
15 group to see if it is appropriate to make adjustments to the proxy group’s indicated  
16 rate of return.

17 My recommendation results from the application of several cost of common  
18 equity models, specifically the Discounted Cash Flow (“DCF”) model, the Risk

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<sup>1</sup> *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944). (“*Hope*”)

<sup>2</sup> *Bluefield Water Works Improvement Co. v. Public Serv. Comm’n*, 262 U.S. 679 (1922). (“*Bluefield*”)

Premium Model (“RPM”), and the Capital Asset Pricing Model (“CAPM”), to the market data of a proxy group of six water companies (“Utility Proxy Group”) whose selection criteria will be discussed below. In addition, I also applied the DCF, RPM, and CAPM to a proxy group of domestic, non-price regulated companies comparable in total risk to the Utility Proxy Group (“Non-Price Regulated Proxy Group”).

The results derived from each are as follows:

**Table 2: Summary of Common Equity Cost Rate**

Discounted Cash Flow Model	9.73%
Risk Premium Model	11.84%
Capital Asset Pricing Model	12.00%
Market Models Applied to Comparable Risk, Non-Price Regulated Companies	<u>11.97%</u>
Indicated Range of Common Equity Cost Rates Before Adjustments for Company-Specific Risk	10.36% - 11.36%
Business Risk Adjustment	1.00%
Financial Risk Adjustment	<u>-0.51%</u>
Indicated Range of Common Equity Cost Rates after Adjustment	<u>10.85% – 11.85%</u>
Recommended Cost of Common Equity	<u>11.35%</u>

After analyzing the indicated common equity cost rates derived through these models, the indicated range of common equity cost rates applicable to the Utility Proxy Group is between 10.36% and 11.36%.<sup>3</sup>

<sup>3</sup> The indicated range is equal to 50 basis points above and below the midpoint of my four model results.

1           The indicated range of common equity cost rates applicable to the Utility  
2 Proxy Group was then adjusted upward by 1.00%, and downward by 0.51%, to  
3 reflect Confluence Rivers' greater business risk, and lesser financial risk,  
4 respectively, relative to the Utility Proxy Group. These adjustments result in a  
5 Company-specific range of common equity cost rates between 10.85% and  
6 11.85%. From this range of results, I recommend the Commission consider a  
7 common equity cost rate of 11.35%, or the approximate midpoint, for use in setting  
8 rates for the Company.

9 **IV. GENERAL PRINCIPLES**

10 **Q. What general principles have you considered in arriving at your**  
11 **recommended common equity cost rate of 11.35%?**

12 A. In unregulated industries, the competition of the marketplace is the principal  
13 determinant of the price of products or services. For regulated public utilities,  
14 regulation must act as a substitute for marketplace competition. Assuring that the  
15 utility can provide safe and reliable service at all times to their customers requires  
16 a level of earnings sufficient to maintain the integrity of presently invested capital.  
17 Sufficient earnings also permit the attraction of needed new capital at a reasonable  
18 cost, for which the utility must compete with other firms of comparable risk,  
19 consistent with the fair rate of return standards established by the U.S. Supreme  
20 Court in the previously cited *Hope* and *Bluefield* decisions. The U.S. Supreme  
21 Court affirmed the fair rate of return standards in *Hope*, when it stated:

22           The rate-making process under the Act, i.e., the fixing of 'just  
23 and reasonable' rates, involves a balancing of the investor  
24 and the consumer interests. Thus we stated in the Natural  
25 Gas Pipeline Co. case that 'regulation does not insure [sic]  
26 that the business shall produce net revenues.' 315 U.S. at

1 page 590, 62 S.Ct. at page 745. But such considerations  
2 aside, the investor interest has a legitimate concern with the  
3 financial integrity of the company whose rates are being  
4 regulated. From the investor or company point of view it is  
5 important that there be enough revenue not only for operating  
6 expenses but also for the capital costs of the business. These  
7 include service on the debt and dividends on the stock. Cf.  
8 Chicago & Grand Trunk R. Co. v. Wellman, 143 U.S. 339, 345,  
9 346 12 S.Ct. 400, 402. By that standard the return to the  
10 equity owner should be commensurate with returns on  
11 investments in other enterprises having corresponding risks.  
12 That return, moreover, should be sufficient to assure  
13 confidence in the financial integrity of the enterprise, so as to  
14 maintain its credit and to attract capital.<sup>4</sup>

15 In summary, the U.S. Supreme Court has found a return that is adequate to  
16 attract capital at reasonable terms enables the utility to provide service while  
17 maintaining its financial integrity. As discussed above, and in keeping with  
18 established regulatory standards, that return should be commensurate with the  
19 returns expected elsewhere for investments of corresponding risk. The  
20 Commission's decision in this proceeding, therefore, should provide the Company  
21 with the opportunity to earn a return that is: 1) adequate to attract capital at  
22 reasonable cost and terms; 2) sufficient to ensure its financial integrity; and 3)  
23 commensurate with returns on investments in enterprises having corresponding  
24 risks.

25 In addition, the required return for a regulated public utility is established on  
26 a stand-alone basis, *i.e.*, for the utility operating company at issue in a rate case.  
27 Parent entities, like other investors, have capital constraints and must look at the  
28 attractiveness of the expected risk-adjusted return of each investment alternative  
29 in their capital budgeting process. That is, utility holding companies that own many

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<sup>4</sup> *Hope*, 320 U.S. 591 (1944), at 603.

1 utility operating companies have choices as to where they will invest their limited  
2 capital within the holding company family. Therefore, the opportunity cost concept  
3 applies regardless of whether the funding source is public or corporate.

4 When funding is provided by a parent entity, the return still must be sufficient  
5 to provide an incentive to allocate equity capital to the subsidiary or business unit  
6 rather than other internal or external investment opportunities. That is, the  
7 regulated subsidiary must compete for capital with all the parent company's  
8 affiliates, and with other similar risk companies, which may include non-utilities. In  
9 that regard, investors value corporate entities on a sum-of-the-parts basis and  
10 expect each division within the parent company to provide an appropriate risk-  
11 adjusted return.

12 It, therefore, is important that the authorized ROE for the Company reflects  
13 the risks and prospects of its operations and supports its financial integrity from a  
14 stand-alone perspective.

15 **Q. Within that broad framework, how is the cost of capital estimated in**  
16 **regulatory proceedings?**

17 A. Regulated utilities primarily use common stock and long-term debt to finance their  
18 permanent property, plant, and equipment (*i.e.*, rate base). The fair rate of return  
19 for a regulated utility is based on its weighted average cost of capital, in which, as  
20 noted earlier, the costs of the individual sources of capital are weighted by their  
21 respective book values.

22 The cost of capital is the return investors require to make an investment in  
23 a firm. Investors will provide funds to a firm only if the return that they *expect* is

1 equal to, or greater than, the return that they *require* to accept the risk of providing  
2 funds to the firm.

3 The cost of capital (that is, the combination of the costs of debt and equity)  
4 is based on the economic principle of “opportunity costs.” The principle of  
5 opportunity costs recognizes that investing in any asset (whether debt or equity  
6 securities) represents a forgone opportunity to invest in alternative assets. For any  
7 investment to be sensible, its expected return must be at least equal to the return  
8 expected on alternative investment opportunities with comparable risks. Because  
9 investments with like risks should offer similar returns, the opportunity cost of an  
10 investment should equal the return available on an investment of comparable risk.

11 The cost of debt is contractually defined and can be directly observed as  
12 the interest rate or yield on debt securities. However, the cost of equity must be  
13 estimated based on market data and various financial models. Because the cost  
14 of equity is premised on opportunity costs, the models used to determine it are  
15 typically applied to a group of “comparable” or “proxy” companies.

16 In the end, the estimated cost of capital should reflect the return that  
17 investors require in light of the subject company’s business and financial risks, and  
18 the returns available on comparable investments.

19 **A. BUSINESS RISK**

20 **Q. Please define business risk and explain why it is important to the**  
21 **determination of a fair rate of return.**

22 A. Business risk is the riskiness of a company’s common stock without the use of  
23 debt and/or preferred capital. Examples of such general business risks faced by  
24 all utilities (*i.e.*, electric, natural gas distribution, and water) include size, the quality

1 of management, the regulatory environment in which utilities operate, customer  
2 mix and concentration of customers, service territory growth, and capital intensity.  
3 All of these have a direct bearing on earnings.

4 Consistent with the basic financial principle of risk and return, business risk  
5 is important to the determination of a fair rate of return, because the higher the  
6 level of risk, the higher the rate of return investors demand.

7 **Q. What business risks do the water and wastewater industries face in general?**

8 A. Water and wastewater utilities have an ever-increasing responsibility to be  
9 stewards of the environment from which water supplies are drawn in order to  
10 preserve and protect essential natural resources of the United States. This  
11 increased environmental stewardship is a direct result of compliance with the Safe  
12 Drinking Water Act, as well as a response to continuous monitoring by the  
13 Environmental Protection Agency and state and local governments, of the water  
14 supply for potential contaminants and their resultant regulations. This, plus aging  
15 infrastructure, necessitate additional capital investment in the distribution and  
16 treatment of water, exacerbating the pressure on free cash flows arising from  
17 increased capital expenditures for infrastructure repair and replacement. The  
18 significant amount of capital investment and, hence, high capital intensity, is a  
19 major risk factor for the water and wastewater utility industry.

20 *Value Line Investment Survey* (“*Value Line*”) observes the following about  
21 the water utility industry:

22 Just about every company in the [Water Utility] Industry has  
23 been busy replacing old pipelines. For decades, most water  
24 utilities did not invest the funds required to modernize their  
25 systems. Water utilities and regulators were both satisfied in  
26 keeping customers’ monthly bills low. When compared to  
27 other utilities’ bills, such as electric, gas, and cable, water was

1 relatively cheap. There was a long-term cost to this lack of  
2 capital expenditures. In the earlier part of the 21<sup>st</sup> century, as  
3 water started to become more of a scarcer commodity, water  
4 districts became alarmed when they realized how much water  
5 was being lost because of old leaky pipes. Since then, the  
6 industry has been investing heavily to fix the problem. The  
7 replacement process will likely take decades to complete.<sup>5</sup>

8 The water and wastewater industry also experiences low depreciation rates.  
9 Depreciation rates are one of the principal sources of internal cash flows for all  
10 utilities (through a utility's depreciation expense) and are vital for a company to  
11 fund ongoing replacements and repairs of water and wastewater systems.  
12 Water/wastewater utility assets have long lives, and therefore have long capital  
13 recovery periods. As such, they face greater risk due to inflation, which results in  
14 a higher replacement cost per dollar of net plant. Simply, capital that is retiring  
15 today will need to be replaced with capital which is significantly more expensive.

16 Substantial capital expenditures, as noted by *Value Line*, will require  
17 significant financing. The three sources of financing typically used are debt, equity  
18 (common and preferred), and cash flow. All three are intricately linked to the  
19 opportunity to earn a sufficient rate of return as well as the ability to achieve that  
20 return. Consistent with *Hope* and *Bluefield*, the return must be sufficient to  
21 maintain credit quality as well as enable the attraction of necessary new capital,  
22 be it debt or equity capital. If unable to raise debt or equity capital, the utility must  
23 turn to either retained earnings or free cash flow,<sup>6</sup> both of which are directly linked  
24 to earning a sufficient rate of return. The level of free cash flow represents a utility's  
25 ability to meet the needs of its debt and equity holders. If either retained earnings

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<sup>5</sup> *Value Line Investment Survey*, October 7, 2022.

<sup>6</sup> Free Cash Flow = Operating Cash Flow (Funds From Operations) minus Capital Expenditures.

1 or free cash flow is inadequate, it will be nearly impossible for the utility to attract  
2 the needed capital for new infrastructure investment necessary to ensure quality  
3 service to its customers. An insufficient rate of return can be financially devastating  
4 for utilities as well as a public safety issue for their customers.

5 The water and wastewater utility industry's high degree of capital intensity  
6 and low depreciation rates, coupled with the need for substantial infrastructure  
7 capital spending, require regulatory support in the form of adequate and timely rate  
8 relief, and in particular, a sufficient authorized return on common equity, so that  
9 the industry can successfully meet the challenges it faces.

10 **B. FINANCIAL RISK**

11 **Q. Please define financial risk and explain why it is important to the**  
12 **determination of a fair rate of return.**

13 A. Financial risk is the additional risk created by the introduction of debt and preferred  
14 stock into the capital structure. The higher the proportion of debt and preferred  
15 stock in the capital structure, the higher the financial risk (*i.e.*, likelihood of default).  
16 Therefore, consistent with the basic financial principle of risk and return, investors  
17 demand a higher common equity return as compensation for bearing higher default  
18 risk.

19 **Q. Can bond and credit ratings be a proxy for the combined business and**  
20 **financial risk (*i.e.*, investment risk of an enterprise)?**

21 A. Yes, similar bond ratings/issuer credit ratings reflect, and are representative of,  
22 similar combined business and financial risks (*i.e.*, total risk) faced by bond

1 investors.<sup>7</sup> Although specific business or financial risks may differ between  
2 companies, the same bond/credit rating indicates that the combined risks are  
3 roughly similar, albeit not necessarily equal, as the purpose of the bond/credit  
4 rating process is to assess credit quality or credit risk (i.e., the risk of the company  
5 not paying its outstanding debt), and not common equity risk (i.e., the risk of the  
6 company not paying its outstanding debt, nor compensating its equity investors).

7 **Q. That being said, do rating agencies reflect company size in their bond**  
8 **ratings?**

9 A. No. Neither S&P nor Moody's have minimum company size requirements for any  
10 given rating level. This means, all else equal, a relative size analysis needs to be  
11 conducted for companies with similar bond ratings.

## 12 **V. CONFLUENCE RIVERS AND THE UTILITY PROXY GROUP**

13 **Q. Are you familiar with the operations of Confluence Rivers?**

14 A. Yes. Confluence Rivers is headquartered in St. Louis, Missouri, and provides  
15 service to 68 water and sewer service areas, representing approximately 7,999  
16 wastewater connections and water connections.<sup>8</sup>

17 **Q. Why is it necessary to develop a proxy group when estimating the ROE for**  
18 **the Company?**

19 A. Because the Company is not publicly traded and does not have publicly traded  
20 equity securities, it is necessary to develop groups of publicly traded, comparable  
21 companies to serve as "proxies" for the Company. In addition to the analytical

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<sup>7</sup> Risk distinctions within S&P's bond rating categories are recognized by a plus or minus, i.e., within the A category, an S&P rating can be at A+, A, or A-. Similarly, risk distinctions for Moody's ratings are distinguished by numerical rating gradations, i.e., within the A category, a Moody's rating can be A1, A2 and A3.

<sup>8</sup> Source: See Direct Testimony of Brent Thies.

1 necessity of doing so, the use of proxy companies is consistent with the *Hope* and  
2 *Bluefield* comparable risk standards, as discussed above. I have selected a proxy  
3 group that, in my view, is fundamentally risk-comparable to the Company.

4 Even when proxy groups are carefully selected, it is common for analytical  
5 results to vary from company to company. Despite the care taken to ensure  
6 comparability, because no two companies are identical, market expectations  
7 regarding future risks and prospects will vary within the proxy group. It therefore  
8 is common for analytical results to reflect a seemingly wide range, even for a group  
9 of similarly situated companies. At issue is how to estimate the ROE for the target  
10 company from within that range. That determination will be best informed by  
11 employing a variety of sound analyses and necessarily must consider the sort of  
12 quantitative and qualitative information discussed throughout my Direct Testimony.  
13 Additionally, a relative risk analysis between the Company and the Utility Proxy  
14 Group must be made to determine whether explicit Company-specific adjustments  
15 need to be made to the Utility Proxy Group's indicated results.

16 My analyses are based on the Utility Proxy Group, containing U.S. water  
17 utilities. As discussed earlier, utilities must compete for capital with other  
18 companies with commensurate risk (including non-utilities) and, to do so, must be  
19 provided the opportunity to earn a comparable return to these companies having  
20 a commensurate risk. Consequently, it is appropriate to consider the Utility Proxy  
21 Group's market data in determining the Company's ROE.

22 **Q. Please explain how you chose your Utility Proxy Group.**

23 A. The basis of selection for the Utility Proxy Group was to select those companies  
24 which meet the following criteria:

- 1 (i) They are included in the Water Utility Group of *Value Line's Standard*  
2 *Edition* (October 7, 2022);
- 3 (ii) They have 60% or greater of 2021 total operating income or 60% or greater  
4 of 2021 total assets attributable to regulated water operations;
- 5 (iii) At the time of preparation of this testimony, they had not publicly announced  
6 that they were involved in any major merger or acquisition activity (*i.e.*, one  
7 publicly traded utility merging with or acquiring another);
- 8 (iv) They have not cut or omitted their common dividends during the five years  
9 ending 2021 or through the time of the preparation of this testimony;
- 10 (v) They have *Value Line* and Bloomberg Professional Services ("Bloomberg")  
11 adjusted Beta coefficients ("beta");
- 12 (vi) They have a positive *Value Line* five-year dividends per share ("DPS")  
13 growth rate projection; and
- 14 (vii) They have *Value Line*, Zacks or Yahoo! Finance five-year earnings per  
15 share ("EPS") growth rate projections.

16 The following six companies met these criteria: American States Water  
17 Company, American Water Works Company, Inc., California Water Service Group,  
18 Essential Utilities Inc., Middlesex Water Company, and SJW Group.

19 **Q. Please describe Schedule DWD-2, page 1.**

20 A. Page 1 of Schedule DWD-2 contains comparative capitalization and financial  
21 statistics for the Utility Proxy Group identified above for the years 2017 to 2021.  
22 During the five-year period ending 2021, the historically achieved earnings rate on  
23 book common equity for the group averaged 10.40%. The average common equity

1 ratio based on total permanent capital (excluding short-term debt) was 51.78%,  
2 and the average dividend payout ratio was 59.46%.

3 Total debt to earnings before interest, taxes, depreciation, and amortization  
4 for the years 2017 to 2021 ranges between 3.48x and 5.92x, with an average of  
5 4.88x. Funds from operations to total debt range from 11.39% to 23.56%, with an  
6 average of 16.75%.

## 7 **VI. CAPITAL STRUCTURE**

8 **Q. What capital structure ratio do you recommend be employed in developing**  
9 **an overall fair rate of return appropriate for the Company in this proceeding?**

10 A. I recommend the Commission authorize the Company's actual capital structure  
11 consisting of 31.44% long-term debt and 68.56% common equity.

12 **Q. What are the typical sources of capital commonly considered in establishing**  
13 **a utility's capital structure?**

14 A. Common equity and long-term debt are commonly considered in establishing a  
15 utility's capital structure because they are the typical sources of capital financing a  
16 utility's rate base.

17 **Q. Please explain.**

18 A. Long-lived assets are typically financed with long-lived securities, so that the  
19 overall term structure of the utility's long-term liabilities (both debt and equity)  
20 closely match the life of the assets being financed. As stated by Brigham and  
21 Houston:

22 In practice, firms don't finance each specific asset with a type  
23 of capital that has a maturity equal to the asset's life.  
24 However, academic studies do show that most firms tend to

1 finance short-term assets from short-term sources and long-  
2 term assets from long-term sources.<sup>9</sup>

3 Whereas short-term debt has a maturity of one year or less, long-term debt  
4 may have maturities of 30 years or longer. Although there are practical financing  
5 constraints, such as the need to “stagger” long-term debt maturities, the general  
6 objective is to extend the average life of long-term debt. Still, long-term debt has  
7 a finite life, which is likely to be less than the life of the assets included in rate base.  
8 Common equity, on the other hand is outstanding into perpetuity. Thus, common  
9 equity more accurately matches the life of the going concern of the utility, which is  
10 also assumed to operate in perpetuity. Consequently, it is both typical and  
11 important for utilities to have significant proportions of common equity in their  
12 capital structures.

13 **Q. Why is it important for Confluence Rivers’ actual capital structure,**  
14 **consisting of 31.44% long-term debt and 68.56% common equity, be**  
15 **authorized in this proceeding?**

16 A. In order to provide safe, reliable, and affordable service to its customers,  
17 Confluence Rivers must meet the needs and serve the interests of its various  
18 stakeholders, including customers, shareholders, and bondholders. The interests  
19 of these stakeholder groups are aligned with maintaining a healthy balance sheet,  
20 strong credit ratings, and a supportive regulatory environment, so that the  
21 Company has access to capital on reasonable terms in order to make necessary  
22 investments.

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<sup>9</sup> Eugene F. Brigham and Joel F. Houston, Fundamentals of Financial Management, Concise 4<sup>th</sup> Ed., Thomson South-Western, 2004, at 574.

1 Safe and reliable service cannot be maintained at a reasonable cost if  
2 utilities do not have the financial flexibility and strength to access the competitive  
3 markets on reasonable terms. The authorization of a capital structure other than  
4 the Company's actual capital structure will weaken its financial condition and  
5 adversely impact the Company's ability to address expenses and investment, to  
6 the detriment of customers and shareholders. Safe and reliable service for  
7 customers cannot be sustained over the long term if the interests of shareholders  
8 and bondholders are minimized such that the public interest is not optimized.

9 **Q. How does the regulatory environment in which a utility operates affect its**  
10 **access to, and cost of, capital?**

11 A. The regulatory environment can significantly affect both the access to, and cost of,  
12 capital in several ways. The proportion and cost of debt capital available to utility  
13 companies are both influenced, in large part, by the rating agencies' assessment  
14 of the regulatory environment. In other words, the Company's credit rating and  
15 outlook depend substantially on the extent to which rating agencies view the  
16 regulatory environment as credit supportive, or not. In fact, Moody's finds the  
17 regulatory environment to be so important that 50.00% of the factors that weigh in  
18 the Company's ratings determination are dependent on the nature of regulation.<sup>10</sup>

19 Similarly, S&P has noted that:

20 The regulatory framework/regime's influence is of critical  
21 importance when assessing regulated utilities' credit risk  
22 because it defines the environment in which a utility operates

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<sup>10</sup> Moody's Investors Service, *Rating Methodology; Regulated Gas and Electric Utilities*, June 23, 2017, at 4.

1 and has a significant bearing on a utility's financial  
2 performance.<sup>11</sup>

3 The regulatory environment, is thus, one of the most important factors  
4 considered by both debt and equity investors in assessing the risks and prospects  
5 of utility companies. From the perspective of debt investors, the authorized return  
6 should enable the Company to generate the cash flow necessary to meet its near-  
7 term financial obligations, make the capital investments needed to maintain and  
8 expand its system, and maintain sufficient levels of liquidity to fund unexpected  
9 events.

10 Moreover, because fixed income investors have many investment  
11 alternatives, even within a given market sector, the Company's financial profile  
12 must be adequate, on a relative basis, to ensure its ability to attract capital under  
13 a variety of economic and financial market conditions. From the perspective of  
14 equity investors, the authorized return must be sufficient to provide a risk-  
15 comparable return on the equity portion financing the Company's capital  
16 investments.

17 **Q. Please comment on the constructiveness of Missouri's regulatory**  
18 **environment.**

19 A. The Regulatory Research Associates ("RRA") provides an assessment of the  
20 extent to which regulatory jurisdictions are constructive, or not, from the  
21 perspective of investors. As RRA explains, less constructive environments are  
22 associated with higher levels of risk:

23 RRA maintains three principal rating categories, Above  
24 Average, Average, and Below Average, with Above Average

---

<sup>11</sup> Standard & Poor's, RatingsDirect, *Key Credit Factors for the Regulated Utilities Industry*, November 19, 2013, at 6.

1 indicating a relatively more constructive, lower-risk regulatory  
2 environment from an investor viewpoint, and Below Average  
3 indicating a less constructive, higher-risk regulatory climate.  
4 Within the three principal rating categories, the numbers 1, 2,  
5 and 3 indicate relative position. The designation 1 indicates a  
6 stronger (more constructive) rating; 2, a mid range rating; and,  
7 3, a weaker (less constructive) rating. We endeavor to  
8 maintain an approximately equal number of ratings above the  
9 average and below the average.<sup>12</sup>

10 The RRA ranks this Commission as Average / 3, the fourth least constructive  
11 ranking<sup>13</sup>. If this Commission authorizes a capital structure in this proceeding that  
12 is not representative of the Company's operations, a signal would be sent to the  
13 investment community that Missouri's regulatory risk may be increasing further  
14 based on the unpredictability and instability of regulatory outcomes. This may lead  
15 to additional downgrades to the constructiveness of the Commission.

16 **Q. How does your proposed ratemaking common equity ratio of 68.56% for**  
17 **Confluence Rivers compare with the common equity ratios maintained by**  
18 **the Utility Proxy Groups?**

19 A. My proposed ratemaking common equity ratio of 68.56% for Confluence Rivers is  
20 outside of the range of common equity ratios maintained by the Utility Proxy  
21 Groups. Since Confluence Rivers would be perceived to have less financial risk  
22 than the Utility Proxy Group, I have made a downward adjustment to Confluence  
23 Rivers' indicated ROE, as will be discussed below.

---

<sup>12</sup> Source: Regulatory Research Associates.

<sup>13</sup> Source: Regulatory Research Associates.

1 **VII. COMMON EQUITY COST RATE MODELS**

2 **Q. Is it important that cost of common equity models be market-based?**

3 A. Yes. A public utility must compete for equity in capital markets along with all other  
4 companies of comparable risk, which includes non-utilities. The cost of common  
5 equity is thus determined based on equity market expectations for the returns of  
6 those comparable risk companies. If individual investors are choosing to invest  
7 their capital among companies of comparable risk, they will choose a company  
8 providing a higher return over a company providing a lower return.

9 **Q. Are your cost of common equity models market-based models?**

10 A. Yes. The DCF model is market-based because market prices are used in  
11 developing the dividend yield component of the model. The RPM is market-based  
12 because the bond ratings and expected bond yields used in the application of the  
13 RPM reflect the market's assessment of bond/credit risk. In addition, the use of  
14 beta ( $\beta$ ) to determine the equity risk premium reflects the market's assessment of  
15 market/systematic risk, since betas are derived from regression analyses of market  
16 prices. The Predictive Risk Premium Model ("PRPM") uses monthly market  
17 returns in addition to expectations of the risk-free rate. The CAPM is market-based  
18 for many of the same reasons that the RPM is market-based (*i.e.*, the use of  
19 expected bond yields and beta). Selection of the comparable risk non-price  
20 regulated companies is market-based because it is based on statistics which result  
21 from regression analyses of market prices and reflect the market's assessment of  
22 total risk.

1 **Q. What analytical approaches did you use to determine the Company's ROE?**

2 A. As discussed earlier, I have relied on the DCF model, the RPM, and the CAPM,  
3 which I apply to the Utility Proxy Group described above. I also applied these  
4 same models to a Non-Price Regulated Proxy Group described later in this section.

5 I rely on these models because reasonable investors use a variety of tools  
6 and do not rely exclusively on a single source of information or single model.  
7 Moreover, the models on which I rely focus on different aspects of return  
8 requirements, and provide different insights to investors' views of risk and return.  
9 The DCF model, for example, estimates the investor-required return assuming a  
10 constant expected dividend yield and growth rate in perpetuity, while Risk  
11 Premium-based methods (i.e., the RPM and CAPM approaches) provide the ability  
12 to reflect investors' views of risk, future market returns, and the relationship  
13 between interest rates and the Cost of equity. Just as the use of market data for  
14 the Utility Proxy Group adds the reliability necessary to inform expert judgment in  
15 arriving at a recommended common equity cost rate, the use of multiple generally  
16 accepted common equity cost rate models also adds reliability and accuracy when  
17 arriving at a recommended common equity cost rate.

18 **A. DISCOUNTED CASH FLOW MODEL**

19 **Q. What is the theoretical basis of the DCF model?**

20 A. The DCF model is based on the theory that the present value of an expected future  
21 stream of net cash flows during the investment holding period can be determined  
22 by discounting those cash flows at the cost of capital, or the investors'  
23 capitalization rate. Mathematically this is shown as:

1 
$$P_0 = \frac{D_1}{(1+k_e)} + \frac{D_2}{(1+k_e)^2} + \dots + \frac{D_t}{(1+k_e)^t}$$

2 where:

3  $k$  = the required Return on Common Equity;

4  $D_1 \dots D_t$  = the future expected dividends; and

5  $P_0$  = the current stock price.

6 The above equation can be rearranged to form the single-stage constant  
7 growth DCF model as such:

8 
$$K_e = (D_0 (1+g))/P + g$$

9 where:

10  $K_e$  = the required Return on Common Equity;

11  $D_0$  = the annualized Dividend Per Share;

12  $P$  = the current stock price; and

13  $g$  = the growth rate.

14 In this form, the required ROE is equal to the expected dividend yield plus  
15 an expected long-term growth rate. The constant growth DCF formula is derived  
16 from the present value DCF formula.

17 Under the model's strict assumptions, the growth rate equals the rate of  
18 capital appreciation (that is, the growth in the stock price). Given that assumption,  
19 it does not matter whether the investor holds the stock in perpetuity, or whether  
20 they hold the stock for some period of time, collect the dividends, then sell at the  
21 prevailing market price.

22 **Q. Which version of the DCF model did you use?**

23 A. I used the single-stage constant growth DCF model.

1 **Q. Please describe the dividend yield you used in your application of the DCF**  
2 **model.**

3 A. The unadjusted dividend yields are based on the proxy companies' dividends as  
4 of October 31, 2022, divided by the average of closing market prices for the 60  
5 trading days ending October 31, 2022.<sup>14</sup>

6 **Q. Please explain your adjustment to the dividend yield.**

7 A. Because dividends are paid periodically (quarterly), as opposed to continuously  
8 (daily), an adjustment must be made to the dividend yield. This is often referred  
9 to as the discrete, or the Gordon Periodic, version of the DCF model.

10 DCF theory calls for the use of the full growth rate, or  $D_1$ , in calculating the  
11 dividend yield component of the model. Since the various companies in the Utility  
12 Proxy Group increase their quarterly dividend at various times during the year, a  
13 reasonable assumption is to reflect one-half the annual dividend growth rate in the  
14 dividend yield component, or  $D_{1/2}$ . Because the dividend should be representative  
15 of the next 12-month period, my adjustment is a conservative approach that does  
16 not overstate the dividend yield. Therefore, the actual average dividend yields in  
17 Column 1 on page 1 of Schedule DWD-3 have been adjusted upward to reflect  
18 one-half the average projected growth rate shown in Column 5.

19 **Q. Please explain the basis of the growth rates you applied to the Utility Proxy**  
20 **Group in your DCF model.**

21 A. Investors with more limited resources than institutional investors are likely to rely  
22 on widely available financial information services, such as *Value Line*, *Zacks*, and  
23 Yahoo! Finance. Investors realize that analysts have significant insight into the

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<sup>14</sup> See, Schedule DWD-3, page 1, Column 1.

1 dynamics of the industries and individual companies they analyze, as well as  
2 companies' abilities to effectively manage the effects of changing laws and  
3 regulations, and ever-changing economic and market conditions. For these  
4 reasons, I used analysts' five-year forecasts of EPS growth in my DCF analysis.

5 Over the long run, there can be no growth in DPS without growth in EPS.  
6 Security analysts' earnings expectations have a more significant influence on  
7 market prices than dividend expectations. Thus, the use of earnings growth rates  
8 in a DCF analysis provides a better match between investors' market price  
9 appreciation expectations and the growth rate component of the DCF.

10 **Q. Please summarize the DCF model results.**

11 A. As shown on page 1 of Schedule DWD-3, the application of the constant growth  
12 DCF model to the Utility Proxy Group results in a wide range of indicated ROEs  
13 from 5.08% to 14.28%. The mean result, the median result, and the average of  
14 the mean and median results is 9.28% for the Utility Proxy Group.

15 **Q. Do you have any comments regarding your DCF model results?**

16 A. Because Middlesex Water Company's ("MSEX") indicated DCF result of 5.08% is  
17 below that of the marginal yield on A-rated utility debt (5.88%),<sup>15</sup> it violates the  
18 basic financial principle of risk and return, namely that investors require greater  
19 returns for bearing greater risk. It is generally accepted that common equity capital  
20 has greater investment risk than debt capital, as common equity shareholders are  
21 behind debt holders in any claim on a company's assets and earnings. Because  
22 of this, any investor required return on equity below the marginal yield on long-  
23 term debt related to that particular stock is non-sensical and should not be

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<sup>15</sup> Average A-rated utility bond yield for October 2022 as shown on page 4 of Schedule DWD-4.

1 considered. Given that MSEX's long-term credit rating from S&P is A, and the  
2 current (i.e., marginal) yield on A-rated utility bonds of 5.88%,<sup>16</sup> MSEX's indicated  
3 DCF of 5.08% result violates the principle of risk and return stated above and  
4 should be eliminated.

5 **Q. Considering the above, what is your recommended indicated ROE applicable**  
6 **to the DCF model?**

7 A. Eliminating MSEX's indicated DCF cost rate of 5.08% results in mean, median,  
8 and average of mean and median ROEs of 10.12%, 10.21%, and 10.17%,  
9 respectively. In arriving at a conclusion for the DCF-indicated common equity cost  
10 rate for the Utility Proxy Group of 9.73%, I have relied on an average of the mean  
11 and the median results of the DCF both including and excluding MSEX's DCF  
12 result, which takes into consideration all the proxy companies' results, while  
13 mitigating the theoretically inconsistent nature of MSEX's DCF results. Because  
14 my recommended DCF cost rate considers MSEX's illogical DCF result, the 9.73%  
15 DCF-indicated common equity cost rate should be viewed as extremely  
16 conservative.

17 **B. THE RISK PREMIUM MODEL**

18 **Q. Please describe the theoretical basis of the RPM.**

19 A. The RPM is based on the fundamental financial principle of risk and return, namely,  
20 that investors require greater returns for bearing greater risk. The RPM recognizes  
21 that common equity capital has greater investment risk than debt capital, as  
22 common equity shareholders are behind debt holders in any claim on a company's

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<sup>16</sup> Average A-rated utility bond yield for October 2022 as shown on page 4 of Schedule DWD-4.

1 assets and earnings. As a result, investors require higher returns from common  
2 stocks than from investment in bonds, to compensate them for bearing the  
3 additional risk.

4 While it is possible to directly observe bond returns and yields, investors'  
5 required common equity return cannot be directly determined or observed.  
6 According to RPM theory, one can estimate a common equity risk premium over  
7 bonds (either historically or prospectively) and use that premium to derive a cost  
8 rate of common equity. The cost of common equity equals the expected cost rate  
9 for long-term debt capital, plus a risk premium over that cost rate, to compensate  
10 common shareholders for the added risk of being unsecured and last-in-line for  
11 any claim on the corporation's assets and earnings in the event of a liquidation.

12 **Q. Please explain how you derived your indicated cost of common equity based**  
13 **on the RPM.**

14 A. I relied on the results of the application of two risk premium methods. The first  
15 method is the PRPM, while the second method is a risk premium model using a  
16 total market approach.

17 **1. The Predictive Risk Premium Model**

18 **Q. Please explain the PRPM.**

19 A. The PRPM, published in the *Journal of Regulatory Economics* and *The Electricity*  
20 *Journal*<sup>17</sup>, was developed from the work of Robert F. Engle, who shared the Nobel  
21 Prize in Economics in 2003 "for methods of analyzing economic time series with

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<sup>17</sup> Autoregressive conditional heteroscedasticity. See "A New Approach for Estimating the Equity Risk Premium for Public Utilities", Pauline M. Ahern, Frank J. Hanley and Richard A. Michelfelder, *The Journal of Regulatory Economics* (December 2011), 40:261-278 and "Comparative Evaluation of the Predictive Risk Premium Model, the Discounted Cash Flow Model and the Capital Asset Pricing Model for Estimating the Cost of Common Equity", Richard A. Michelfelder, Pauline M. Ahern, Dylan W. D'Ascendis, and Frank J. Hanley, *The Electricity Journal* (May 2013), 84-89.

1 time-varying volatility (“ARCH”).<sup>18</sup> Engle found that volatility changes over time  
2 and is related from one period to the next, especially in financial markets. Engle  
3 discovered that the volatility in prices and returns clusters over time and is  
4 therefore highly predictable and can be used to predict future levels of risk and risk  
5 premiums.

6 The PRPM estimates the risk / return relationship directly, as the predicted  
7 equity risk premium is generated by the prediction of volatility or risk. The PRPM  
8 is not based on an estimate of investor behavior, but rather on the evaluation of  
9 the results of that behavior (*i.e.*, the variance of historical equity risk premiums).

10 The inputs to the model are the historical returns on the common shares of  
11 each company in the Utility Proxy Group minus the historical monthly yield on long-  
12 term U.S. Treasury securities through October 2022. Using a generalized form of  
13 ARCH, known as GARCH, I calculated each Utility Proxy Group company’s  
14 projected equity risk premium using Eviews<sup>®</sup> statistical software. When the  
15 GARCH Model is applied to the historical return data, it produces a predicted  
16 GARCH variance series<sup>19</sup> and a GARCH coefficient<sup>20</sup>. Multiplying the predicted  
17 monthly variance by the GARCH coefficient, then annualizing it<sup>21</sup>, produces the  
18 predicted annual equity risk premium. I then added the forecasted 30-year U.S.  
19 Treasury Bond yield, 3.96%<sup>22</sup>, to each company’s PRPM-derived equity risk  
20 premium to arrive at an indicated cost of common equity. The 30-year Treasury

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18 [www.nobelprize.org](http://www.nobelprize.org).

19 Illustrated on Columns 1 and 2 of page 2 of Schedule DWD-4.

20 Illustrated on Column 4 of page 2 of Schedule DWD-4.

21 Annualized Return =  $(1 + \text{Monthly Return})^{12} - 1$ .

22 See, Column 6 of page 2 of Schedule DWD-4.

1 yield is a consensus forecast derived from the Blue Chip Financial Forecasts (“Blue  
2 Chip”) <sup>23</sup>.

3 **Q. Please describe your selection of a risk-free rate of return.**

4 A. As shown in Schedules DWD-4 and DWD-5, the risk-free rate adopted for  
5 applications of the RPM and CAPM is 3.96%. This risk-free rate of 3.96% is based  
6 on the average of the *Blue Chip* consensus forecast of the expected yields on 30-  
7 year U.S. Treasury bonds for the six quarters ending with the first calendar quarter  
8 of 2024, and long-term projections for the years 2024 to 2028 and 2029 to 2033.

9 **Q. Why do you use the 30-year Treasury yield in your analyses?**

10 A. The yield on long-term U.S. Treasury Bonds is almost risk-free, and its term is  
11 consistent with the long-term cost of capital to public utilities measured by the  
12 yields on A2 rated public utility bonds, the long-term investment horizon inherent  
13 in utilities’ common stocks, and the long-term life of the jurisdictional rate base to  
14 which the allowed fair rate of return (*i.e.*, cost of capital) will be applied. In contrast,  
15 short-term U.S. Treasury yields are more volatile and largely a function of Federal  
16 Reserve monetary policy.

17 **Q. What are the results of the PRPM?**

18 A. As shown on page 2 of Schedule DWD-4, the mean PRPM indicated common  
19 equity cost rate for the Utility Proxy Group is 12.28%, the median is 12.12%, and  
20 the average of the two is 12.20%. Consistent with my reliance on the average of  
21 the median and mean results of the DCF, I relied on the average of the mean and  
22 median results of the Utility Proxy Group PRPM to calculate a cost of common  
23 equity rate of 12.20%.

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<sup>23</sup> *Blue Chip Financial Forecasts*, June 1, 2022, at p. 14 and November 1, 2022, at p. 2.

1           **2.     The Total Market Approach Risk Premium Model**

2   **Q.     Please explain the total market approach RPM.**

3   A.     The total market approach RPM adds a prospective public utility bond yield to an  
4           average of: 1) an equity risk premium that is derived from a beta-adjusted total  
5           market equity risk premium; and 2) an equity risk premium based on the S&P  
6           Utilities Index.

7   **Q.     Please explain the basis of the expected bond yield of 5.74% applicable to**  
8           **the Utility Proxy Group.**

9   A.     The first step in the total market approach RPM analysis is to determine the  
10           expected bond yield. Because both ratemaking and the cost of capital, including  
11           common equity cost rate, are prospective in nature, a prospective yield on  
12           similarly-rated long-term debt is essential. I rely on a consensus forecast of about  
13           50 economists of the expected yield on Aaa rated corporate bonds for the six  
14           calendar quarters ending with the first calendar quarter of 2024, and the long-term  
15           projections for 2024 to 2028, and 2029 to 2033 from *Blue Chip*. As shown on line  
16           1 of page 3 of Schedule DWD-4, the average expected yield on Moody's Aaa rated  
17           corporate bonds is 5.24%. In order to derive an expected yield on A2 rated public  
18           utility bonds, I make an upward adjustment of 0.39%, which represents a recent  
19           spread between Aaa rated corporate bonds and A2 rated public utility bonds, in  
20           order to adjust the expected Aaa rated corporate bond yield to an equivalent  
21           Moody's A2 rated public utility bond.<sup>24</sup> Adding that recent 0.39% spread to the  
22           expected Aaa rated corporate bond yield of 5.24% results in an expected A2 rated  
23           public utility bond of 5.63%.

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<sup>24</sup> As shown on line 2 and explained in note 2 of page 3 of Schedule DWD-4.

1 Since the Utility Proxy Group's average Moody's long-term issuer rating is  
 2 A3, another adjustment to the expected A2 rated public utility bond yield is needed  
 3 to reflect the difference in bond ratings. An upward adjustment of 0.11%, which  
 4 represents one-third of a recent spread between A2 and Baa2 rated public utility  
 5 bond yields, is necessary to make the A2 rated prospective bond yield applicable  
 6 to an A3 rated public utility bond.<sup>25</sup> Adding the 0.11% to the 5.63% prospective A2  
 7 rated public utility bond yield results in a 5.74% expected bond yield for the Utility  
 8 Proxy Group.

9 **Table 3: Summary of the Calculation of the Utility Proxy Group Projected**  
 10 **Bond Yield**<sup>26</sup>

Prospective Yield on Moody's Aaa Rated Corporate Bonds (Blue Chip)	5.24%
Adjustment to Reflect Yield Spread Between Moody's Aaa Rated Corporate Bonds and Moody's A2 Rated Utility Bonds	0.39%
Adjustment to Reflect the Utility Proxy Group's Average Moody's Bond Rating of A3	<u>0.11%</u>
Prospective Bond Yield Applicable to the Utility Proxy Group	<u>5.74%</u>

11 To develop the indicated ROE using the total market approach RPM, this  
 12 prospective bond yield is then added to the average of the three different equity  
 13 risk premiums described below.

14 **Q. Please explain how the beta-derived equity risk premium is determined.**

15 A. The components of the beta-derived risk premium model are: 1) an expected  
 16 market equity risk premium over corporate bonds, and 2) beta. The derivation of

<sup>25</sup> As shown on line 4 and explained in note 3, page 3 of Schedule DWD-4. Moody's does not provide public utility bond yields for A3 rated bonds. As such, it was necessary to estimate the difference between A2 rated and A3 rated public utility bonds. Because there are three steps between Baa2 and A2 (Baa2 to Baa1, Baa1 to A3, and A3 to A2) I assumed an adjustment of one-third of the difference between the A2 rated and Baa2 rated public utility bond yield was appropriate.

<sup>26</sup> As shown on page 3 of Schedule DWD-4.

1 the beta-derived equity risk premium that I applied to the Utility Proxy Group is  
2 shown on lines 1 through 9 of page 8 of Schedule DWD-4. The total beta-derived  
3 equity risk premium I applied was based on an average of: 1) Ibbotson-based  
4 equity risk premiums; 2) *Value Line*-based equity risk premiums; and 3)  
5 Bloomberg-based equity risk premium. Each of these is described in turn.

6 **Q. How did you derive a market equity risk premium based on long-term**  
7 **historical data?**

8 A. To derive a historical market equity risk premium, I used the most recent holding  
9 period returns for the large company common stocks from the Kroll Stocks, Bonds,  
10 Bills, and Inflation (“SBBI”) 2022 Yearbook (“SBBI – 2022”)<sup>27</sup> less the average  
11 historical yield on Moody’s Aaa/Aa rated corporate bonds for the period 1928 to  
12 2021. The use of holding period returns over a very long period of time is  
13 appropriate because it is consistent with the long-term investment horizon  
14 presumed by investing in a going concern, *i.e.*, a company expected to operate in  
15 perpetuity.

16 SBBI’s long-term arithmetic mean monthly total return rate on large  
17 company common stocks was 12.11% and the long-term arithmetic mean monthly  
18 yield on Moody’s Aaa/Aa rated corporate bonds was 5.98% from 1928 to 2021.<sup>28</sup>  
19 As shown on line 1 of page 8 of Schedule DWD-4, subtracting the mean monthly  
20 bond yield from the total return on large company stocks results in a long-term  
21 historical equity risk premium of 6.13%.

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<sup>27</sup> SBBI-2022 Appendix A Tables: Morningstar Stocks, Bonds, Bills, & Inflation 1926-2021.  
<sup>28</sup> As explained in note 1 on page 8 of Schedule DWD-4.

1 I used the arithmetic mean monthly total return rates for the large company  
2 stocks and yields (income returns) for the Moody's Aaa/Aa rated corporate bonds,  
3 because they are appropriate for the purpose of estimating the cost of capital as  
4 noted in SBBI – 2022.<sup>29</sup> The use of the arithmetic mean return rates and yields is  
5 appropriate because historical total returns and equity risk premiums provide  
6 insight into the variance and standard deviation of returns needed by investors in  
7 estimating future risk when making a current investment. If investors relied on the  
8 geometric mean of historical equity risk premiums, they would have no insight into  
9 the potential variance of future returns because the geometric mean relates to the  
10 change over many periods to a constant rate of change, thereby obviating the year-  
11 to-year fluctuations, or variance, which is critical to risk analysis.

12 **Q. Please explain the derivation of the regression-based market equity risk**  
13 **premium.**

14 A. To derive the regression analysis-derived market equity risk premium of 7.02%,  
15 shown on line 2 of page 8 of Schedule DWD-4, I used the same monthly  
16 annualized total returns on large company common stocks relative to the monthly  
17 annualized yields on Moody's Aaa/Aa rated corporate bonds as mentioned above.  
18 The relationship between interest rates and the market equity risk premium was  
19 modeled using the observed monthly market equity risk premium as the dependent  
20 variable, and the monthly yield on Moody's Aaa/Aa rated corporate bonds as the  
21 independent variable. I used a linear Ordinary Least Squares ("OLS") regression,  
22 in which the market equity risk premium is expressed as a function of the Moody's  
23 Aaa/Aa rated corporate bond yield:

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<sup>29</sup> SBBI – 2022, at 200-201.

1 
$$RP = \alpha + \beta (R_{Aaa/Aa})$$

2 where:

3  $RP$  = the market equity risk premium;

4  $\alpha$  = the regression intercept coefficient;

5  $\beta$  = the regression slope coefficient; and

6  $R_{Aaa/Aa}$  = the Moody's Aaa/Aa rated corporate bond yield.

7 Using the equation generated by the regression, an expected equity risk  
8 premium of 7.02% is calculated using the average forecast of Aaa corporate bond  
9 yield of 5.24%, as discussed above.

10 **Q. Please explain the derivation of a PRPM equity risk premium.**

11 A. I used the same PRPM approach described previously to develop another equity  
12 risk premium estimate. The inputs to the model are the historical monthly returns  
13 on large company common stocks minus the monthly yields on Aaa/Aa rated  
14 corporate bonds during the period from January 1928 through October 2022.<sup>30</sup>  
15 Using the previously discussed generalized form of ARCH, known as GARCH, the  
16 projected equity risk premium is determined using Eviews<sup>®</sup> statistical software.  
17 The resulting PRPM predicted market equity risk premium is 9.79%.<sup>31</sup>

18 **Q. Please explain the derivation of a projected equity risk premium based on**  
19 **Value Line Summary and Index data for your RPM analysis.**

20 A. As noted previously, because both ratemaking and the cost of capital are  
21 prospective, a prospective market equity risk premium is needed. The derivation  
22 of the forecasted or prospective market equity risk premium can be found in note

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<sup>30</sup> Data from January 1928-December 2021 is from SBBI – 2022. Data from January 2022 – October 2022 is from Bloomberg Professional Services.

<sup>31</sup> Shown on line 3 on page 8 of Schedule DWD-4.

1 4 on page 8 of Schedule DWD-4. Consistent with the premise that total returns  
2 are the sum of capital appreciation and income returns, this prospective market  
3 return is derived from an average of the three to five-year median market price  
4 appreciation potential by *Value Line* Summary and Index for the 13 weeks ending  
5 November 4, 2022, plus an average of the median estimated dividend yield for the  
6 common stocks of the 1,700 firms covered in *Value Line's* Standard Edition.<sup>32</sup>

7 The average median expected price appreciation is 70.00%, which  
8 translates to a 14.19% annual appreciation, and when added to the average of  
9 *Value Line's* median expected dividend yields of 2.21%, equates to a forecasted  
10 annual total return rate on the market of 16.40%. The forecasted Aaa rated bond  
11 yield of 5.24% is deducted from the total market return of 16.40%, resulting in an  
12 equity risk premium of 11.16%, shown on page 8, line 4 of Schedule DWD-4.

13 **Q. Please explain the derivation of an equity risk premium based on *Value Line***  
14 **data for the S&P 500 companies.**

15 A. Using data from *Value Line*, I calculated an expected total return on the S&P 500  
16 using expected dividend yields as a proxy for income return and long-term growth  
17 estimates as a proxy for capital appreciation. The expected total return for the  
18 S&P 500 is 16.41%. Subtracting the prospective yield on Aaa rated corporate  
19 bonds of 5.24% results in a 11.17% projected equity risk premium.

20 **Q. Please explain the derivation of an equity risk premium based on Bloomberg**  
21 **data.**

22 A. Using data from Bloomberg, I calculated an expected total return on the S&P 500  
23 using expected dividend yields as a proxy for income return and long-term growth

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<sup>32</sup> As explained in detail in page 2, note 1 of Schedule DWD-5.

estimates as a proxy for capital appreciation, identical to the method described above. The expected total return for the S&P 500 is 12.05%. Subtracting the prospective yield on Aaa rated corporate bonds of 5.24% resulted in a 6.81% projected equity risk premium.

**Q. What is your conclusion of a beta-derived equity risk premium for use in your RPM analysis?**

A. I gave equal weight to the six equity risk premiums in arriving at my conclusion of 8.68%.<sup>33</sup>

**Table 4: Summary of the Calculation of the Equity Risk Premium Using Total Market Returns<sup>34</sup>**

Historical Spread Between Total Returns of Large Stocks and Aaa and Aa2 Rated Corporate Bond Yields (1928 – 2021)	6.13%
Regression Analysis on Historical Data	7.02%
PRPM Analysis on Historical Data	9.79%
Prospective Equity Risk Premium using Total Market Returns from <i>Value Line</i> Summary & Index less Projected Aaa Corporate Bond Yields	11.16%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from <i>Value Line</i> for the S&P 500 less Projected Aaa Corporate Bond Yields	11.17%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from Bloomberg Professional Services for the S&P 500 less Projected Aaa Corporate Bond Yields	<u>6.81%</u>
<b>Average</b>	<u>8.68%</u>

After calculating the average market equity risk premium of 8.68%, I adjusted it by beta to account for the risk of the Utility Proxy Group. As discussed below, the beta is a meaningful measure of prospective relative risk to the market as a whole and is a logical means by which to allocate a company's, or proxy group's, share of the market's total equity risk premium relative to corporate bond

<sup>33</sup> See, line 7 on page 8 of Schedule DWD-4.

<sup>34</sup> As shown on page 8 of Schedule DWD-4.

1 yields. As shown on page 1 of Schedule DWD-5, the average of the mean and  
2 median beta for the Utility Proxy Group is 0.78. Multiplying the beta of the Utility  
3 Proxy Group of 0.78 by the market equity risk premium of 8.68% resulted in a beta-  
4 adjusted equity risk premium of 6.77% for the Utility Proxy Group.

5 **Q. How did you derive the equity risk premium based on the S&P Utility Index**  
6 **and Moody's A rated public utility bonds?**

7 A. I estimated three equity risk premiums based on S&P Utility Index holding returns,  
8 and two equity risk premiums based on the expected returns of the S&P Utilities  
9 Index, using *Value Line* and Bloomberg data, respectively. Turning first to the S&P  
10 Utility Index holding period returns, I derived a long-term monthly arithmetic mean  
11 equity risk premium between the S&P Utility Index total returns of 10.74% and  
12 monthly A rated public utility bond yields of 6.46% from 1928 to 2021, to arrive at  
13 an equity risk premium of 4.28%.<sup>35</sup> I then used the same historical data to derive  
14 an equity risk premium of 5.01% based on a regression of the monthly equity risk  
15 premiums. The final S&P Utility Index holding period equity risk premium involved  
16 applying the PRPM using the historical monthly equity risk premiums from January  
17 1928 to October 2022 to arrive at a PRPM-derived equity risk premium of 5.51%  
18 for the S&P Utility Index.

19 I then derived expected total returns on the S&P Utilities Index of 9.60%  
20 and 10.38% using data from *Value Line* and Bloomberg, respectively, and  
21 subtracted the prospective A2 rated public utility bond yield (5.63%)<sup>36</sup>, which  
22 results in risk premiums of 3.97% and 4.75%, respectively. As with the market

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<sup>35</sup> As shown on line 1 on page 11 of Schedule DWD-4.

<sup>36</sup> Derived on line 3 of page 3 of Schedule DWD-4.

1 equity risk premiums, I averaged each risk premium to arrive at my utility-specific  
2 equity risk premium of 4.70%.

3 **Table 5: Summary of the Calculation of the Equity Risk Premium Using S&P**  
4 **Utility Index Holding Returns**<sup>37</sup>

Historical Spread Between Total Returns of the S&P Utilities Index and A2 Rated Utility Bond Yields (1928 – 2021)	4.28%
Regression Analysis on Historical Data	5.01%
PRPM Analysis on Historical Data	5.51%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from <i>Value Line</i> for the S&P Utilities Index less Projected A2 Utility Bond Yields	3.97%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from Bloomberg Professional Services for the S&P Utilities Index less Projected A2 Utility Bond Yields	<u>4.75%</u>
<b>Average</b>	<u>4.70%</u>

5  
6 **Q. What is your conclusion of an equity risk premium for use in your total**  
7 **market approach RPM analysis?**

8 A. The equity risk premium I applied to the Utility Proxy Group is 5.74%, which is the  
9 average of the beta-derived and the S&P utility equity risk premiums of 6.77% and  
10 4.70%, respectively.<sup>38</sup>

11 **Q. What is the indicated RPM common equity cost rate based on the total**  
12 **market approach?**

13 A. As shown on line 7 of Schedule DWD-4, page 3, I calculated a common equity  
14 cost rate of 11.48% for the Utility Proxy Group based on the total market approach  
15 of the RPM.

<sup>37</sup> As shown on page 11 of Schedule DWD-4.

<sup>38</sup> As shown on page 7 of Schedule DWD-4.

1 **Table 6: Summary of the Total Market Return Risk Premium Model<sup>39</sup>**

Prospective Moody's A3 Rated Utility Bond Applicable to the Utility Proxy Group	5.74%
Prospective Equity Risk Premium	<u>5.74%</u>
Indicated Cost of Common Equity	<u>11.48%</u>

2 **Q. What are the results of your application of the PRPM and the total market**  
3 **approach RPM?**

4 A. As shown on page 1 of Schedule DWD-4, the indicated RPM-derived common  
5 equity cost rate is 11.84%, which gives equal weight to the PRPM (12.20%) and  
6 the adjusted market approach results (11.48%).

7 **C. THE CAPITAL ASSET PRICING MODEL**

8 **Q. Please explain the theoretical basis of the CAPM.**

9 A. CAPM theory defines risk as the co-variability of a security's returns with the  
10 market's returns as measured by beta ( $\beta$ ). A beta of less than 1.0 indicates lower  
11 variability than the market as a whole, while a beta greater than 1.0 indicates  
12 greater variability than the market.

13 The CAPM assumes that all other risk (*i.e.*, all non-market or unsystematic  
14 risk) can be eliminated through diversification. The risk that cannot be eliminated  
15 through diversification is called market, or systematic, risk. In addition, the CAPM  
16 presumes that investors require compensation only for systematic risk, which is  
17 the result of macroeconomic and other events that affect the returns on all assets.  
18 The model is applied by adding a risk-free rate of return to a market risk premium,  
19 which is adjusted proportionately to reflect the systematic risk of the individual

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<sup>39</sup> As shown on page 3 of Schedule DWD-4.

1 security relative to the total market, as measured by beta. The traditional CAPM  
2 model is expressed as:

$$3 \quad R_s = R_f + \beta(R_m - R_f)$$

4 Where:  $R_s$  = Return rate on the common stock;

5  $R_f$  = Risk-free rate of return;

6  $R_m$  = Return rate on the market as a whole; and

7  $\beta$  = Adjusted beta (volatility of the  
8 security relative to the market as a whole).

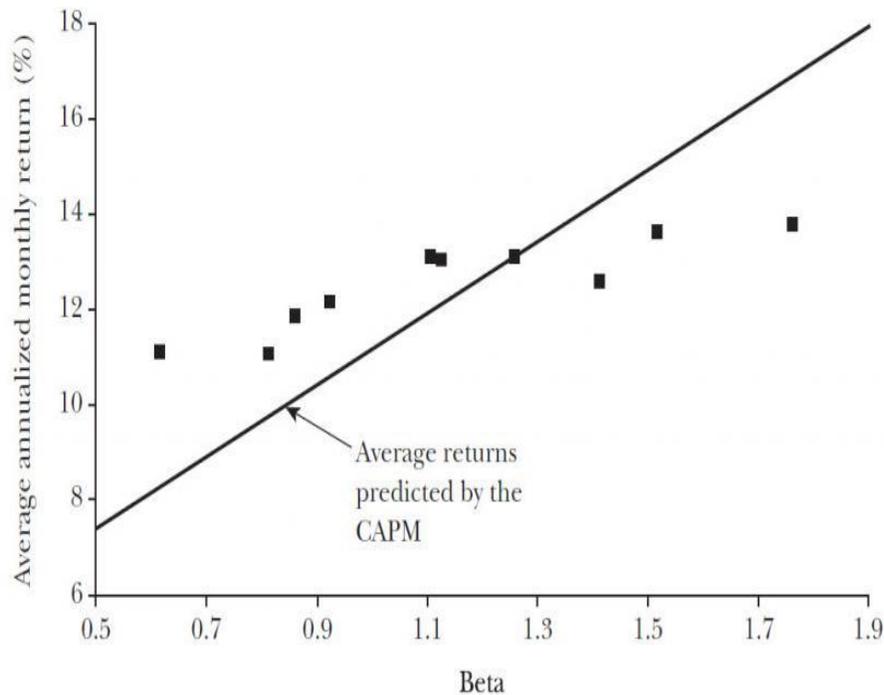
9 Numerous tests of the CAPM have measured the extent to which security  
10 returns and beta are related as predicted by the CAPM, confirming its validity. The  
11 empirical CAPM ("ECAPM") reflects the reality that while the results of these tests  
12 support the notion that beta is related to security returns, the empirical Security  
13 Market Line ("SML") described by the CAPM formula is not as steeply sloped as  
14 the predicted SML.<sup>40</sup> The ECAPM reflects this empirical reality. Fama and French  
15 clearly state regarding Figure 2, below, that "[t]he returns on the low beta portfolios  
16 are too high, and the returns on the high beta portfolios are too low."<sup>41</sup>

---

<sup>40</sup> Roger A. Morin, Modern Regulatory Finance, (PUR Books, 2021) at 221. ("Morin")  
<sup>41</sup> Eugene F. Fama and Kenneth R. French, "The Capital Asset Pricing Model: Theory and Evidence",  
*Journal of Economic Perspectives*, Vol. 18, No. 3, Summer 2004 at 33 ("Fama & French").  
<http://pubs.aeaweb.org/doi/pdfplus/10.1257/0895330042162430>.

Figure 2 <http://pubs.aeaweb.org/doi/pdfplus/10.1257/0895330042162430>

### Average Annualized Monthly Return versus Beta for Value Weight Portfolios Formed on Prior Beta, 1928–2003



1

2

In addition, Morin observes that while the results of these tests support the notion that beta is related to security returns, the empirical SML described by the CAPM formula is not as steeply sloped as the predicted SML. Morin states:

3

4

5

6

7

With few exceptions, the empirical studies agree that ... low-beta securities earn returns somewhat higher than the CAPM would predict, and high-beta securities earn less than predicted.<sup>42</sup>

8

\* \* \*

9

10

Therefore, the empirical evidence suggests that the expected return on a security is related to its risk by the following approximation:

11

$$K = R_F + x \beta(R_M - R_F) + (1-x) \beta(R_M - R_F)$$

12

13

where  $x$  is a fraction to be determined empirically. The value of  $x$  that best explains the observed relationship [is]  $\text{Return} = 0.0829 +$

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<sup>42</sup> Morin, at 207.

1 0.0520  $\beta$  is between 0.25 and 0.30. If  $x = 0.25$ , the equation  
2 becomes:

$$3 \quad K = R_F + 0.25(R_M - R_F) + 0.75 \beta(R_M - R_F)^{43}$$

4 Fama and French provide similar support for the ECAPM when they state:

5 The early tests firmly reject the Sharpe-Lintner version of the CAPM.  
6 There is a positive relation between beta and average return, but it  
7 is too 'flat.'... The regressions consistently find that the intercept is  
8 greater than the average risk-free rate... and the coefficient on beta  
9 is less than the average excess market return... This is true in the  
10 early tests... as well as in more recent cross-section regressions  
11 tests, like Fama and French (1992).<sup>44</sup>

12 Finally, Fama and French further note:

13 Confirming earlier evidence, the relation between beta and average  
14 return for the ten portfolios is much flatter than the Sharpe-Linter  
15 CAPM predicts. The returns on low beta portfolios are too high, and  
16 the returns on the high beta portfolios are too low. For example, the  
17 predicted return on the portfolio with the lowest beta is 8.3 percent  
18 per year; the actual return as 11.1 percent. The predicted return on  
19 the portfolio with the highest beta is 16.8 percent per year; the actual  
20 is 13.7 percent.<sup>45</sup>

21  
22 Clearly, the justification from Morin, Fama, and French along with their  
23 reviews of other academic research on the CAPM, validate the use of the ECAPM.

24 In view of theory and practical research, I have applied both the traditional CAPM  
25 and the ECAPM to the companies in the Utility Proxy Group and averaged the  
26 results.

27 **Q. What beta did you use in your CAPM analysis?**

28 A. With respect to beta, I considered two methods of calculation: 1) the average beta  
29 of the Utility Proxy Group companies reported by Bloomberg Professional  
30 Services; and 2) the average beta of the Utility Proxy Group companies as reported

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43 Morin, at 221.

44 Fama & French, at 32.

45 Fama & French, at 33.

1 by *Value Line*. While both of those services adjust their calculated (or “raw”) betas  
2 to reflect the tendency of beta to regress to the market mean of 1.00, *Value Line*  
3 calculates beta over a five-year period, while Bloomberg’s calculation is based on  
4 two years of data.

5 **Q. Please describe your selection of a risk-free rate of return.**

6 A. Discussed previously, the risk-free rate adopted for both applications of the CAPM  
7 is 3.96%. This risk-free rate is based on the average of the *Blue Chip* consensus  
8 forecast of the expected yields on 30-year U.S. Treasury bonds for the six quarters  
9 ending with the first calendar quarter of 2024, and long-term projections for the  
10 years 2024 to 2028 and 2029 to 2033.

11 **Q. Please explain the estimation of the expected risk premium for the market  
12 used in your CAPM analyses.**

13 A. The basis of the market risk premium is explained in detail in note 1 on page 2 of  
14 Schedule DWD-5. As discussed previously, the market risk premium is derived  
15 from an average of:

- 16 (i) Ibbotson-based market risk premiums;
- 17 (ii) *Value Line* data-based market risk premiums; and
- 18 (iii) Bloomberg data-based market risk premiums.

19 The long-term income return on U.S. Government Securities of 5.02% was  
20 deducted from the SBBI - 2022 monthly historical total market return of 12.37%,  
21 which results in an historical market equity risk premium of 7.35%.<sup>46</sup> I applied a  
22 linear OLS regression to the monthly annualized historical returns on the S&P 500  
23 relative to historical yields on long-term U.S. Government Securities from SBBI -

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<sup>46</sup> SBBI – 2022, at 256-258, 274-276.

1        2022. That regression analysis yielded a market equity risk premium of 8.65%.  
2        The PRPM market equity risk premium is 10.89% and is derived using the PRPM  
3        relative to the yields on long-term U.S. Treasury securities from January 1926  
4        through October 2022.

5                The *Value Line* Summary and Index-derived forecasted total market equity  
6        risk premium is derived by deducting the forecasted risk-free rate of 3.96%,  
7        discussed above, from the *Value Line* Summary and Index projected total annual  
8        market return of 16.40%, resulting in a forecasted total market equity risk premium  
9        of 12.44%. The S&P 500 projected market equity risk premium using *Value Line*  
10       data is derived by subtracting the projected risk-free rate of 3.96% from the  
11       projected total return of the S&P 500 of 16.41%. The resulting market equity risk  
12       premium is 12.45%.

13                The S&P 500 projected market equity risk premium using Bloomberg data  
14        is derived by subtracting the projected risk-free rate of 3.96% from the projected  
15        total return of the S&P 500 of 12.05%. The resulting market equity risk premium  
16        is 8.09%.

17                These six market risk premiums, when averaged, resulted in an average  
18        total market equity risk premium of 9.98%.

1  
2

**Table 7: Summary of the Calculation of the Market Risk Premium for Use in the CAPM<sup>47</sup>**

Historical Spread Between Total Returns of Large Stocks and Long-Term Government Bond Yields (1926 – 2021)	7.35%
Regression Analysis on Historical Data	8.65%
PRPM Analysis on Historical Data	10.89%
Prospective Equity Risk Premium using Total Market Returns from <i>Value Line</i> Summary & Index less Projected 30-Year Treasury Bond Yields	12.44%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from <i>Value Line</i> for the S&P 500 less Projected 30-Year Treasury Bond Yields	12.45%
Prospective Equity Risk Premium using Measures of Capital Appreciation and Income Returns from Bloomberg Professional Services for the S&P 500 less Projected 30-Year Treasury Bond Yields	<u>8.09%</u>
<b>Average</b>	<u>9.98%</u>

3 **Q. What are the results of your application of the traditional and empirical**  
4 **CAPM to the Utility Proxy Group?**

5 A. As shown on page 1 of Schedule DWD-5, the mean result of my CAPM/ECAPM  
6 analysis is 12.14%, the median is 11.85%, and the average of the two is 12.00%.  
7 Consistent with my reliance on the average of mean and median DCF results  
8 discussed above, the indicated common equity cost rate using the CAPM/ECAPM  
9 is 12.00%.

<sup>47</sup> As shown on page 2 of Schedule DWD-5.

1           D.    COMMON EQUITY COST RATES FOR A PROXY GROUP OF  
2           DOMESTIC, NON-PRICE REGULATED COMPANIES BASED ON THE  
3           DCF, RPM, AND CAPM

4    **Q.    Why did you also consider a proxy group of domestic, non-price regulated**  
5           **companies?**

6    A.    In the *Hope* and *Bluefield* cases, the U.S. Supreme Court did not specify that  
7           comparable risk companies had to be utilities. Since the purpose of rate regulation  
8           is to be a substitute for the competition of the marketplace, non-price regulated  
9           firms operating in the competitive marketplace make an excellent proxy if they are  
10          comparable in total risk to the Utility Proxy Group being used to estimate the cost  
11          of common equity. The selection of such domestic, non-price regulated  
12          competitive firms theoretically and empirically results in a proxy group which is  
13          comparable in total risk to the Utility Proxy Group.

14   **Q.    How did you select non-price regulated companies that are comparable in**  
15          **total risk to the Utility Proxy Group?**

16   A.    In order to select a proxy group of domestic, non-price regulated companies similar  
17          in total risk to the Utility Proxy Group, I relied on beta and related statistics derived  
18          from *Value Line* regression analyses of weekly market prices over the most recent  
19          260 weeks (*i.e.*, five years). Using these selection criteria resulted in a proxy group  
20          of 27 domestic, non-price regulated firms comparable in total risk to the Utility  
21          Proxy Group. Total risk is the sum of non-diversifiable market risk and diversifiable  
22          company-specific risks. The following criteria were used in the selection of the  
23          domestic, non-price regulated firms:

- 24          (i)    They must be covered by *Value Line*;
- 25          (ii)   They must be domestic, non-price regulated companies, *i.e.*, non-utilities;

1 (iii) Their beta must lie within plus or minus two standard deviations of the  
2 average unadjusted beta of the Utility Proxy Group; and

3 (iv) The residual standard errors of the *Value Line* regressions which gave rise  
4 to the unadjusted betas must lie within plus or minus two standard  
5 deviations of the average residual standard error of the Utility Proxy Group.

6 Betas are a measure of market or systematic risk, which is not diversifiable.

7 The residual standard errors of the regressions were used to measure each firm's  
8 company-specific, diversifiable risk. Companies that have similar betas and similar  
9 residual standard errors resulting from the same regression analyses have similar  
10 total investment risk.

11 **Q. Have you prepared a schedule which shows the data from which you**  
12 **selected the 27 domestic, non-price regulated companies that are**  
13 **comparable in total risk to the Utility Proxy Group?**

14 A. Yes, the basis of my selection, and both proxy groups' regression statistics, are  
15 shown in Schedule DWD-6.

16 **Q. Did you calculate common equity cost rates using the DCF, RPM, and CAPM**  
17 **for the Non-Price Regulated Proxy Group?**

18 A. Yes. Because the DCF, RPM, and CAPM have been applied in an identical  
19 manner as described above, I will not repeat the details of the rationale and  
20 application of each model. One exception is in the application of the RPM, where  
21 I did not use public utility-specific equity risk premiums, nor did I apply the PRPM  
22 to the individual companies.

23 Page 2 of Schedule DWD-7 contains the derivation of the DCF cost rates.

24 As shown, the indicated common equity cost rate using the DCF for the Non-Price

1 Regulated Proxy Group comparable in total risk to the Utility Proxy Group, is  
2 11.29%.

3 Pages 3 through 5 of DWD-7 contain the data and calculations that support  
4 the 12.76% RPM cost rate. As shown on line 1 of page 3 of Schedule DWD-7, the  
5 consensus prospective yield on Moody's Baa rated corporate bonds for the six  
6 quarters ending in the first quarter of 2024, and for the years 2024 to 2028 and  
7 2029 to 2033, is 6.25%.<sup>48</sup> Since the Non-Price Regulated Proxy Group has an  
8 average Moody's long-term issuer rating of Baa1, a 0.17% downward adjustment  
9 of the prospective Baa2 rated corporate bond yield is necessary to reflect a  
10 difference in ratings.<sup>49</sup>

11 When the beta-adjusted risk premium of 6.68%<sup>50</sup> relative to the Non-Price  
12 Regulated Proxy Group is added to the adjusted prospective Baa1 rated corporate  
13 bond yield of 6.08%, the indicated RPM cost rate is 12.76%.

14 Page 6 contains the inputs and calculations that support my indicated  
15 CAPM/ECAPM cost rate of 11.94%.

16 **Q. What is the cost rate of common equity based on the Non-Price Regulated**  
17 **Proxy Group comparable in total risk to the Utility Proxy Group?**

18 A. As shown on page 1 of Schedule DWD-7, the results of the DCF, RPM, and CAPM  
19 applied to the Non-Price Regulated Proxy Group comparable in total risk to the  
20 Utility Proxy Group are 11.29%, 12.76%, and 11.94%, respectively. The average

---

<sup>48</sup> *Blue Chip Financial Forecasts*, June 1, 2022, at p. 14 and November 1, 2022, at p. 2.

<sup>49</sup> The 0.17% downward adjustment is equal to one-third of the spread between A2 and Baa2 corporate bond yields, as illustrated in note 2 on page 3 of Schedule DWD-7.

<sup>50</sup> Derived on page 5 of Schedule DWD-7.

1 of the mean and median of these models is 11.97%, which I used as the indicated  
2 common equity cost rate for the Non-Price Regulated Proxy Group.

3 **VIII. CONCLUSION OF COMMON EQUITY COST RATE BEFORE ADJUSTMENT**

4 **Q. What is the indicated range of common equity cost rates before**  
5 **adjustments?**

6 A. Based on the results of the application of multiple cost of common equity models  
7 to the Utility Proxy Group, my recommended range of ROEs attributable to the  
8 Utility Proxy Group is between 10.36% and 11.36%. The indicated range is equal  
9 to 50 basis points above and below the midpoint of my results.

10 I used multiple cost of common equity models as primary tools in arriving at  
11 my recommended common equity cost rate, because no single model is so  
12 inherently precise that it can be relied on solely to the exclusion of other  
13 theoretically sound models. The use of multiple models adds reliability to the  
14 estimation of the common equity cost rate, and the prudence of using multiple cost  
15 of common equity models is supported in both the financial literature and  
16 regulatory precedent.

17 As discussed previously, after determining the indicated range of ROE  
18 attributable to a comparable group, there must be an evaluation of relative risk  
19 between that group and the target company to determine whether it is appropriate  
20 to apply adjustments to the comparable group's indicated ROE to better reflect the  
21 target company's specific risks.

1 **IX. ADJUSTMENTS TO THE COMMON EQUITY COST RATE**

2 **A. BUSINESS RISK ADJUSTMENT**

3 **Q. Does Confluence Rivers' smaller size compared with the Utility Proxy Group**  
4 **increase its business risk?**

5 A. Yes. Confluence Rivers' smaller size relative to the Utility Proxy Group companies  
6 indicates greater relative business risk for the Company because, all else being  
7 equal, size has a material bearing on risk.

8           Size affects business risk because smaller companies generally are less  
9 able to cope with significant events that affect sales, revenues, and earnings. For  
10 example, smaller companies face more risk exposure to business cycles and  
11 economic conditions, both nationally and locally. Additionally, the loss of revenues  
12 from a few larger customers would have a greater effect on a small company than  
13 on a bigger company with a larger, more diverse, customer base.

14           As further evidence illustrates that smaller firms are riskier, investors  
15 generally demand greater returns from smaller firms to compensate for less  
16 marketability and liquidity of their securities. Duff & Phelps' (now Kroll) discusses  
17 the nature of the small-size phenomenon, providing an indication of the magnitude  
18 of the size premium based on several measures of size. In discussing "Size as a  
19 Predictor of Equity Premiums," Kroll states:

20           The size effect is based on the empirical observation that companies  
21 of smaller size are associated with greater risk and, therefore, have  
22 greater cost of capital [sic]. The "size" of a company is one of the  
23 most important risk elements to consider when developing cost of  
24 equity capital estimates for use in valuing a business simply because  
25 size has been shown to be a *predictor* of equity returns. In other  
26 words, there is a significant (negative) relationship between size and

1 historical equity returns - as size *decreases*, returns tend to *increase*,  
2 and vice versa. (footnote omitted) (emphasis in original)<sup>51</sup>

3 Furthermore, in “The Capital Asset Pricing Model: Theory and Evidence,”  
4 Fama and French note size is indeed a risk factor which must be reflected when  
5 estimating the cost of common equity. On page 38, they note:

6 . . . the higher average returns on small stocks and high book-to-  
7 market stocks reflect unidentified state variables that produce  
8 undiversifiable risks (covariances) in returns not captured in the  
9 market return and are priced separately from market betas.<sup>52</sup>

10 Based on this evidence, Fama and French proposed their three-factor  
11 model which includes a size variable in recognition of the effect size has on the  
12 cost of common equity.

13 Also, it is a basic financial principle that the use of funds invested, and not  
14 the source of funds, is what gives rise to the risk of any investment.<sup>53</sup> Eugene  
15 Brigham, a well-known authority, states:

16 A number of researchers have observed that portfolios of small-firms  
17 (sic) have earned consistently higher average returns than those of  
18 large-firm stocks; this is called the “small-firm effect.” On the surface,  
19 it would seem to be advantageous to the small firms to provide  
20 average returns in a stock market that are higher than those of larger  
21 firms. In reality, it is bad news for the small firm; **what the small-  
22 firm effect means is that the capital market demands higher  
23 returns on stocks of small firms than on otherwise similar  
24 stocks of the large firms.** (emphasis added)<sup>54</sup>

25 Consistent with the financial principle of risk and return discussed above,  
26 increased relative risk due to small size must be considered in the allowed rate of

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51 Kroll: Cost of Capital Navigator: U.S. Cost of Capital Module, “Size as a Predictor of Equity Returns,” at 1

52 Fama & French, at 25-43.

53 Richard A. Brealey and Stewart C. Myers, Principles of Corporate Finance (McGraw-Hill Book Company, 1996), at 204-205, 229.

54 Eugene F. Brigham, Fundamentals of Financial Management, Fifth Edition (The Dryden Press, 1989), at 623.

1 return on common equity. Therefore, the Commission’s authorization of a cost  
2 rate of common equity in this proceeding must appropriately reflect the unique risks  
3 of Confluence Rivers, including its small size, which is justified and supported  
4 above by evidence in the financial literature.

5 **Q. Is there a way to quantify a relative risk adjustment due to Confluence Rivers’  
6 greater business risk relative to the Utility Proxy Group?**

7 A. Yes. In the absence of other empirical methods, I compared Confluence Rivers’  
8 and the Utility Proxy Group’s relative size, as measured by an estimated market  
9 capitalization of common equity for Confluence Rivers.

10 **Table 8: Size as Measured by Market Capitalization for the Company and**  
11 **the Utility Proxy Group**  
12

	<b>Market Capitalization* (\$ Millions)</b>	<b>Times Greater Than the Company</b>
Confluence Rivers	\$38.085	
Utility Proxy Group Median	\$3,337.436	87.6x
*From page 1 of Schedule DWD-8.		

13 The Company’s estimated market capitalization was at \$38.085 million as  
14 of October 31, 2022, compared with the median market capitalization of the Utility  
15 Proxy Group of \$3.34 billion as of October 31, 2022. The Utility Proxy Group’s  
16 market capitalization is 87.6 times the size of Confluence Rivers’ estimated market  
17 capitalization.

18 As a result, it is necessary to upwardly adjust the indicated range of  
19 common equity cost rates to reflect Confluence Rivers’ greater risk due to its  
20 smaller relative size. The determination is based on the size premiums for  
21 portfolios of New York Stock Exchange, American Stock Exchange, and NASDAQ

1 listed companies ranked by deciles for the 1926 to 2021 period. The average size  
2 premium for the Utility Proxy Group with a market capitalization of \$3.34 billion falls  
3 in the 5<sup>th</sup> decile, while Confluence Rivers' market capitalization of \$38.085 million  
4 places the Company in the 10<sup>th</sup> decile. The size premium spread between the 5<sup>th</sup>  
5 decile and the 10<sup>th</sup> decile is 3.91%. Even though a 3.91% upward size adjustment  
6 is indicated, I applied a size premium of 1.00% to Confluence Rivers' indicated  
7 range of common equity cost rates.

8 **B. Financial Risk Adjustment**

9 **Q. You mentioned above that Confluence Rivers' capital structure contained**  
10 **less financial risk than that of the Utility Proxy Group. Can the lesser**  
11 **financial risk of Confluence Rivers' capital structure be quantified?**

12 A. Yes. The relationship between leverage and financial risk has been formalized by  
13 financial economists. Franco Modigliani and Merton Miller demonstrated that the  
14 cost of common equity may be expressed as:

$$k_{e,L} = k_{e,U} + (k_{e,U} - k_d)(1 - T)(D/E)$$

16 Where:  $k_{e,U}$  = Cost of common equity for an unlevered firm

17  $k_{e,L}$  = Cost of common equity for a levered firm

18  $k_d$  = Cost of debt (interest rate)

19  $D$  = Level of debt

20  $E$  = Level of equity

21  $T$  = Income tax rate

22 The equation above expresses the cost of common equity for a levered firm as  
23 the cost of common equity for an unlevered firm, which reflects business risk only, plus  
24 a premium for financial risk.

1 Robert Hamada<sup>55</sup> proposed an equivalent leverage relationship in the  
2 context of the CAPM equation. Here, because the only firm-specific factor used is  
3 beta, the relationship between leverage and the cost of common equity reduces to  
4 a relationship between beta and leverage:<sup>56</sup>

$$\beta_L = \beta_U [1 + (1 - T) \frac{D}{E}]$$

5  
6 Where:  $\beta_L$  = the levered equity beta

7  $\beta_U$  = the unlevered equity beta

8 Confluence Rivers' capital structure consists of 31.44% long-term debt and  
9 68.56% common equity. As shown on page 1 of Schedule DWD-9, the 2021  
10 capital structure of the Utility Proxy Group company with the highest (top of the  
11 range) common equity ratio consisted of 62.44% common equity.

12 Also, as discussed above, financial risk, or leverage, affects the cost of  
13 capital, including the cost of common equity; the greater the degree of financial  
14 leverage, the greater the concentration of business risk on common shareholders,  
15 increasing their required return to compensate them for bearing that risk.  
16 Indications of the magnitude of financial leverage's effect on the common equity  
17 cost rate is given by the Modigliani-Miller ("M&M") method and the Hamada  
18 equation, which are derived on pages 1 and 2 of Schedule DWD-9, respectively.

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<sup>55</sup> R. S. Hamada, "The Effect of the Firm's Capital Structure on the Systematic Risk of Common Stocks", *The Journal of Finance* 27 No. 2, May 1972, at pages 435 to 452.

<sup>56</sup> The leverage relationship in the Hamada equation is equivalent to that in the M&M method in that if the assumptions for leverage, capital costs and income tax rate used in the M&M method are applied to the Hamada equation, the resulting levered equity beta will produce the same cost of common equity using the CAPM. However, the Hamada equation is more restrictive than the M&M method, since the Hamada equation assumes that the beta of debt is zero. Under that assumption, the cost of corporate debt is identical to the risk-free rate of return. Whenever that assumption does not hold (which generally is the case), the cost of common equity measured from the Hamada equation will differ from the M&M method.

1 The M&M method holds the pretax weighted average cost of capital  
 2 (“WACC”) constant regardless of capital structure. As shown and explained on  
 3 page 1 of Schedule DWD-9, applying the M&M method results in indicated  
 4 adjustments to the common equity cost rate of negative 0.53% relative to the  
 5 common equity cost rate, based on the next financially risky Water Proxy  
 6 Company. In other words, applying a common equity cost rate of 10.86% (which  
 7 reflects the financial risk of the high end of the Water Proxy Group’s 2021 capital  
 8 structure, as represented by the midpoint of its unadjusted indicated return on  
 9 equity range), results in a pretax WACC of 11.42% as shown in page 1 of Schedule  
 10 DWD-9. Applying that 11.42% pretax WACC to Confluence Rivers’ proposed  
 11 capital structure, which contains less financial risk than the Utility Proxy Group’s  
 12 lowest risk capital structure, results in a common equity cost rate of 10.34%. This  
 13 indicates a downward adjustment of 0.53% based on the differences in financial  
 14 risk between Confluence Rivers and the Utility Proxy Group.

15 **Table 10: Summary of the Calculation of the M&M Financial Adjustment<sup>57</sup>**

	<b><u>Utility Proxy Group</u></b>
ROE based on High End of Proxy Group Equity Ratios (Midpoint of unadjusted ROE Range)	10.86%
Resulting Pre-Tax WACC	11.42%
ROE based on Pre-Tax WACC applied to Confluence Rivers’ Proposed Capital Structure	10.34%
Indicated Financial Risk Adjustment	<u>-0.53%</u>

16 Applying the Hamada equation, which involves un-levering the Utility Proxy  
 17 Groups’ betas based on the Utility Proxy Group’s least financially risky actual

<sup>57</sup> As shown on page 1 of Schedule DWD-9.

1 capital structure, then re-levering the beta using Confluence Rivers' recommended  
 2 capital structure, and recalculating the Utility Proxy Group's CAPM, is shown and  
 3 explained on page 2 of Schedule DWD-9. The Hamada equation results in a  
 4 financial risk adjustment of -0.50% for the Utility Proxy Group, which is the  
 5 difference between the CAPM result for the Utility Proxy Group applicable to its  
 6 capital structure, 11.74% (line 9), and the CAPM result applicable to Confluence  
 7 Rivers' recommended capital structure, 11.24% (line 10), respectively.

8 **Table 11: Summary of the Calculation of the Hamada Financial Adjustment<sup>58</sup>**

	<b><u>Utility Proxy Group</u></b>
Long-Term Debt (Least Risky Proxy Company)	37.56%
Common Equity (Least Risky Proxy Company)	62.44%
Proxy Group Beta	0.78
Un-Levered Beta	0.54
Re-Levered Beta	0.73
Risk-Free Rate	3.96%
CAPM Based on Proxy Group Capital Structure	11.74%
CAPM Based on Confluence Rivers' Capital Structure (Re-Levered Beta)	11.24%
Indicated Financial Risk Adjustment	<u>-0.50%</u>

9  
 10 Therefore, a downward adjustment of 0.51% (the average adjustment  
 11 based on the M&M and Hamada applications) to the indicated range of common  
 12 equity cost rate is necessary to reflect the greater financial risk inherent in  
 13 Confluence Rivers' recommended capital structure ratios compared with that of  
 14 the Utility Proxy Group.

<sup>58</sup> As shown on page 2 of Schedule DWD-9.

1 **Q. What is the indicated range of common equity cost rates after adjustment for**  
2 **the Confluence Rivers' smaller size and lesser financial risk relative to the**  
3 **Utility Proxy Group?**

4 A. After applying the 1.00% size adjustment and the negative 0.51% financial risk  
5 adjustment to the indicated range of common equity cost rates between 10.36%  
6 and 11.36%, based on the Utility Proxy Group results, a range of common equity  
7 cost rates between 10.85% and 11.85% is applicable to Confluence Rivers.

8

9 **X. CONCLUSION**

10 **Q. Using the just and reasonable standard applicable in utility rate cases, what**  
11 **is your recommended return on investor-supplied capital for Confluence**  
12 **Rivers?**

13 A. Given the Company's actual capital structure which consists of 31.44% long-term  
14 debt at an embedded debt cost rate of 6.60% and 68.56% common equity at my  
15 recommended ROE of 11.35%, I conclude that an appropriate return on investor-  
16 supplied capital for the Company is 9.86%. A common equity cost rate of 11.35%  
17 is consistent with the *Hope* and *Bluefield* standard of a just and reasonable return  
18 which ensures the integrity of presently invested capital and enables the attraction  
19 of needed new capital on reasonable terms. It also ensures that Confluence Rivers  
20 will be able to continue providing safe, adequate, and reliable service to the benefit  
21 of its customers. Thus, it balances the interests of both customers and the  
22 Company.

23 **Q. Does this conclude your Direct Testimony?**

24 A. Yes, it does.

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF MISSOURI**

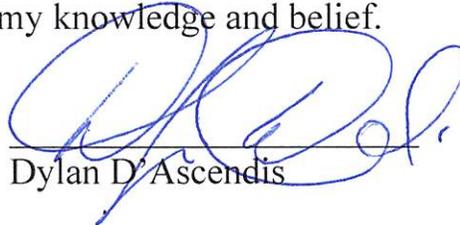
In the Matter of Confluence Rivers Utility )  
Operating Company, Inc.'s Request for Authority )  
to Implement a General Rate Increase for Water ) **File No. WR-2023-0006**  
Service and Sewer Service Provided in Missouri ) **File No. SR-2023-0007**  
Service Areas. )

**AFFIDAVIT OF DYLAN D'ASCENDIS**

**STATE OF NEW JERSEY** )  
 ) **ss**  
**COUNTY OF** )

Dylan D'Ascendis, of lawful age and being first duly sworn, deposes and states:

1. My name is Dylan D'Ascendis. I am a Partner with ScottMadden, Inc. I have been retained to provide testimony in this proceeding by Confluence Rivers Utility Operating Company, LLC.
2. Attached hereto and made a part hereof for all purposes is my direct testimony.
3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.

  
\_\_\_\_\_  
Dylan D'Ascendis

Subscribed and sworn to me this 16 day of December, 2022

  
\_\_\_\_\_  
Notary Public

My commission expires 6/9/2024.

**Margaret A Clancy**  
Notary Public of New Jersey  
My Commission Expires 6/9/2024

### *Summary*

Dylan is an experienced consultant and a Certified Rate of Return Analyst (CRRA) and Certified Valuation Analyst (CVA). Dylan joined ScottMadden in 2016 and has become a leading expert witness with respect to cost of capital and capital structure. He has served as a consultant for investor-owned and municipal utilities and authorities for 14 years. Dylan has testified as an expert witness on over 125 occasions regarding rate of return, cost of service, rate design, and valuation before more than 35 regulatory jurisdictions in the United States and Canada, an American Arbitration Association panel, and the Superior Court of Rhode Island. He also maintains the benchmark index against which the Hennessy Gas Utility Mutual Fund performance is measured. Dylan holds a B.A. in economic history from the University of Pennsylvania and an M.B.A. with concentrations in finance and international business from Rutgers University.

### *Areas of Specialization*

- Regulation and Rates
- Rate of Return
- Valuation
- Mutual Fund Benchmarking
- Capital Market Risk
- Regulatory Strategy
- Cost of Service

### *Recent Expert Testimony Submission/Appearance*

- Regulatory Commission of Alaska – Capital Structure
- Federal Energy Regulatory Commission – Rate of Return
- Public Utility Commission of Texas – Return on Equity
- Hawaii Public Utilities Commission – Cost of Service / Rate Design
- Pennsylvania Public Utility Commission - Valuation

### *Recent Assignments*

- Provided expert testimony on the cost of capital for ratemaking purposes before numerous state utility regulatory agencies
- Sponsored valuation testimony for a large municipal water company in front of an American Arbitration Association Board to justify the reasonability of their lease payments to the City
- Co-authored a valuation report on behalf of a large investor-owned utility company in response to a new state regulation which allowed the appraised value of acquired assets into rate base

### *Recent Articles and Speeches*

- Co-Author of: “Decoupling, Risk Impacts and the Cost of Capital”, co-authored with Richard A. Michelfelder, Ph.D., Rutgers University and Pauline M. Ahern. The Electricity Journal, March, 2020
- Co-Author of: “Decoupling Impact and Public Utility Conservation Investment”, co-authored with Richard A. Michelfelder, Ph.D., Rutgers University and Pauline M. Ahern. Energy Policy Journal, 130 (2019), 311-319
- “Establishing Alternative Proxy Groups”, before the Society of Utility and Regulatory Financial Analysts: 51st Financial Forum, April 4, 2019, New Orleans, LA
- “Past is Prologue: Future Test Year”, Presentation before the National Association of Water Companies 2017 Southeast Water Infrastructure Summit, May 2, 2017, Savannah, GA.
- Co-author of: “Comparative Evaluation of the Predictive Risk Premium Model™, the Discounted Cash Flow Model and the Capital Asset Pricing Model”, co-authored with Richard A. Michelfelder, Ph.D., Rutgers University, Pauline M. Ahern, and Frank J. Hanley, The Electricity Journal, May, 2013
- “Decoupling: Impact on the Risk and Cost of Common Equity of Public Utility Stocks”, before the Society of Utility and Regulatory Financial Analysts: 45th Financial Forum, April 17-18, 2013, Indianapolis, IN

Sponsor	Date	Case/Applicant	Docket No.	Subject
<b>Regulatory Commission of Alaska</b>				
ENSTAR Natural Gas Company	08/22	ENSTAR Natural Gas Company	Docket No. TA334-4	Rate of Return
Cook Inlet Natural Gas Storage Alaska, LLC	07/21	Cook Inlet Natural Gas Storage Alaska, LLC	Docket No. TA45-733	Capital Structure
Alaska Power Company	09/20	Alaska Power Company; Goat Lake Hydro, Inc.; BBL Hydro, Inc.	Tariff Nos. TA886-2; TA6-521; TA4-573	Capital Structure
Alaska Power Company	07/16	Alaska Power Company	Docket No. TA857-2	Rate of Return
<b>Alberta Utilities Commission</b>				
AltaLink, L.P., and EPCOR Distribution & Transmission, Inc.	01/20	AltaLink, L.P., and EPCOR Distribution & Transmission, Inc.	2021 Generic Cost of Capital, Proceeding ID. 24110	Rate of Return
<b>Arizona Corporation Commission</b>				
EPCOR Water Arizona, Inc.	08/22	EPCOR Water Arizona, Inc.	Docket No. WS-01303A-22-0236	Rate of Return
EPCOR Water Arizona, Inc.	06/20	EPCOR Water Arizona, Inc.	Docket No. WS-01303A-20-0177	Rate of Return
Arizona Water Company	12/19	Arizona Water Company – Western Group	Docket No. W-01445A-19-0278	Rate of Return
Arizona Water Company	08/18	Arizona Water Company – Northern Group	Docket No. W-01445A-18-0164	Rate of Return
<b>Arkansas Public Service Commission</b>				
Southwestern Electric Power Co.	07/21	Southwestern Electric Power Co.	Docket No. 21-070-U	Return on Equity
CenterPoint Energy Resources Corp.	05/21	CenterPoint Arkansas Gas	Docket No. 21-004-U	Return on Equity
<b>Colorado Public Utilities Commission</b>				
Atmos Energy Corporation	08/22	Atmos Energy Corporation	Docket No. 22AL-0348G	Rate of Return
Summit Utilities, Inc.	04/18	Colorado Natural Gas Company	Docket No. 18AL-0305G	Rate of Return
Atmos Energy Corporation	06/17	Atmos Energy Corporation	Docket No. 17AL-0429G	Rate of Return
<b>Delaware Public Service Commission</b>				
Delmarva Power & Light Co.	01/22	Delmarva Power & Light Co.	Docket No. 22-002 (Gas)	Return on Equity
Delmarva Power & Light Co.	11/20	Delmarva Power & Light Co.	Docket No. 20-0149 (Electric)	Return on Equity
Delmarva Power & Light Co.	10/20	Delmarva Power & Light Co.	Docket No. 20-0150 (Gas)	Return on Equity
Tidewater Utilities, Inc.	11/13	Tidewater Utilities, Inc.	Docket No. 13-466	Capital Structure
<b>Public Service Commission of the District of Columbia</b>				
Washington Gas Light Company	04/22	Washington Gas Light Company	Formal Case No. 1169	Rate of Return
Washington Gas Light Company	09/20	Washington Gas Light Company	Formal Case No. 1162	Rate of Return
<b>Federal Energy Regulatory Commission</b>				
LS Power Grid California, LLC	10/20	LS Power Grid California, LLC	Docket No. ER21-195-000	Rate of Return
<b>Florida Public Service Commission</b>				
Tampa Electric Company	04/21	Tampa Electric Company	Docket No. 20210034-EI	Return on Equity
Peoples Gas System	09/20	Peoples Gas System	Docket No. 20200051-GU	Rate of Return
Utilities, Inc. of Florida	06/20	Utilities, Inc. of Florida	Docket No. 20200139-WS	Rate of Return
<b>Hawaii Public Utilities Commission</b>				
Launiupoko Irrigation Company, Inc.	12/20	Launiupoko Irrigation Company, Inc.	Docket No. 2020-0217 / Transferred to 2020-0089	Capital Structure
Lanai Water Company, Inc.	12/19	Lanai Water Company, Inc.	Docket No. 2019-0386	Cost of Service / Rate Design

Sponsor	Date	Case/Applicant	Docket No.	Subject
Manele Water Resources, LLC	08/19	Manele Water Resources, LLC	Docket No. 2019-0311	Cost of Service / Rate Design
Kaupulehu Water Company	02/18	Kaupulehu Water Company	Docket No. 2016-0363	Rate of Return
Aqua Engineers, LLC	05/17	Puhi Sewer & Water Company	Docket No. 2017-0118	Cost of Service / Rate Design
Hawaii Resources, Inc.	09/16	Laie Water Company	Docket No. 2016-0229	Cost of Service / Rate Design
<b>Illinois Commerce Commission</b>				
Utility Services of Illinois, Inc.	02/21	Utility Services of Illinois, Inc.	Docket No. 21-0198	Rate of Return
Ameren Illinois Company d/b/a Ameren Illinois	07/20	Ameren Illinois Company d/b/a Ameren Illinois	Docket No. 20-0308	Return on Equity
Utility Services of Illinois, Inc.	11/17	Utility Services of Illinois, Inc.	Docket No. 17-1106	Cost of Service / Rate Design
Aqua Illinois, Inc.	04/17	Aqua Illinois, Inc.	Docket No. 17-0259	Rate of Return
Utility Services of Illinois, Inc.	04/15	Utility Services of Illinois, Inc.	Docket No. 14-0741	Rate of Return
<b>Indiana Utility Regulatory Commission</b>				
Aqua Indiana, Inc.	03/16	Aqua Indiana, Inc. Aboite Wastewater Division	Docket No. 44752	Rate of Return
Twin Lakes, Utilities, Inc.	08/13	Twin Lakes, Utilities, Inc.	Docket No. 44388	Rate of Return
<b>Kansas Corporation Commission</b>				
Atmos Energy Corporation	07/19	Atmos Energy Corporation	19-ATMG-525-RTS	Rate of Return
<b>Kentucky Public Service Commission</b>				
Water Service Corporation of KY	06/22	Water Service Corporation of KY	2022-00147	Rate of Return
Atmos Energy Corporation	07/21	Atmos Energy Corporation	2021-00304	PRP Rider Rate
Atmos Energy Corporation	06/21	Atmos Energy Corporation	2021-00214	Rate of Return
Duke Energy Kentucky, Inc.	06/21	Duke Energy Kentucky, Inc.	2021-00190	Return on Equity
Bluegrass Water Utility Operating Company	10/20	Bluegrass Water Utility Operating Company	2020-00290	Return on Equity
<b>Louisiana Public Service Commission</b>				
Utilities, Inc. of Louisiana	05/21	Utilities, Inc. of Louisiana	Docket No. U-36003	Rate of Return
Southwestern Electric Power Company	12/20	Southwestern Electric Power Company	Docket No. U-35441	Return on Equity
Atmos Energy	04/20	Atmos Energy	Docket No. U-35535	Rate of Return
Louisiana Water Service, Inc.	06/13	Louisiana Water Service, Inc.	Docket No. U-32848	Rate of Return
<b>Maine Public Utilities Commission</b>				
Summit Natural Gas of Maine, Inc.	03/22	Summit Natural Gas of Maine, Inc.	Docket No. 2022-00025	Rate of Return
The Maine Water Company	09/21	The Maine Water Company	Docket No. 2021-00053	Rate of Return
<b>Maryland Public Service Commission</b>				
Washington Gas Light Company	08/20	Washington Gas Light Company	Case No. 9651	Rate of Return
FirstEnergy, Inc.	08/18	Potomac Edison Company	Case No. 9490	Rate of Return
<b>Massachusetts Department of Public Utilities</b>				
Unitil Corporation	12/19	Fitchburg Gas & Electric Co. (Elec.)	D.P.U. 19-130	Rate of Return
Unitil Corporation	12/19	Fitchburg Gas & Electric Co. (Gas)	D.P.U. 19-131	Rate of Return
Liberty Utilities	07/15	Liberty Utilities d/b/a New England Natural Gas Company	Docket No. 15-75	Rate of Return
<b>Minnesota Public Utilities Commission</b>				
Northern States Power Company	11/01	Northern States Power Company	Docket No. G002/GR-21-678	Return on Equity
Northern States Power Company	10/21	Northern States Power Company	Docket No. E002/GR-21-630	Return on Equity

Sponsor	Date	Case/Applicant	Docket No.	Subject
Northern States Power Company	11/20	Northern States Power Company	Docket No. E002/GR-20-723	Return on Equity
<b>Mississippi Public Service Commission</b>				
Great River Utility Operating Co.	07/22	Great River Utility Operating Co.	Docket No. 2022-UN-86	Rate of Return
Atmos Energy	03/19	Atmos Energy	Docket No. 2015-UN-049	Capital Structure
Atmos Energy	07/18	Atmos Energy	Docket No. 2015-UN-049	Capital Structure
<b>Missouri Public Service Commission</b>				
Spire Missouri, Inc.	12/20	Spire Missouri, Inc.	Case No. GR-2021-0108	Return on Equity
Indian Hills Utility Operating Company, Inc.	10/17	Indian Hills Utility Operating Company, Inc.	Case No. SR-2017-0259	Rate of Return
Raccoon Creek Utility Operating Company, Inc.	09/16	Raccoon Creek Utility Operating Company, Inc.	Case No. SR-2016-0202	Rate of Return
<b>Public Utilities Commission of Nevada</b>				
Southwest Gas Corporation	09/21	Southwest Gas Corporation	Docket No. 21-09001	Return on Equity
Southwest Gas Corporation	08/20	Southwest Gas Corporation	Docket No. 20-02023	Return on Equity
<b>New Hampshire Public Utilities Commission</b>				
Aquarion Water Company of New Hampshire, Inc.	12/20	Aquarion Water Company of New Hampshire, Inc.	Docket No. DW 20-184	Rate of Return
<b>New Jersey Board of Public Utilities</b>				
Middlesex Water Company	05/21	Middlesex Water Company	Docket No. WR21050813	Rate of Return
Atlantic City Electric Company	12/20	Atlantic City Electric Company	Docket No. ER20120746	Return on Equity
FirstEnergy	02/20	Jersey Central Power & Light Co.	Docket No. ER20020146	Rate of Return
Aqua New Jersey, Inc.	12/18	Aqua New Jersey, Inc.	Docket No. WR18121351	Rate of Return
Middlesex Water Company	10/17	Middlesex Water Company	Docket No. WR17101049	Rate of Return
Middlesex Water Company	03/15	Middlesex Water Company	Docket No. WR15030391	Rate of Return
The Atlantic City Sewerage Company	10/14	The Atlantic City Sewerage Company	Docket No. WR14101263	Cost of Service / Rate Design
Middlesex Water Company	11/13	Middlesex Water Company	Docket No. WR1311059	Capital Structure
<b>New Mexico Public Regulation Commission</b>				
Southwestern Public Service Co.	01/21	Southwestern Public Service Co.	Case No. 20-00238-UT	Return on Equity
<b>North Carolina Utilities Commission</b>				
Carolina Water Service, Inc.	07/22	Carolina Water Service, Inc.	Docket No. W-354 Sub 400	Rate of Return
Aqua North Carolina, Inc.	06/22	Aqua North Carolina, Inc.	Docket No. W-218 Sub 573	Rate of Return
Carolina Water Service, Inc.	07/21	Carolina Water Service, Inc.	Docket No. W-354 Sub 384	Rate of Return
Piedmont Natural Gas Co., Inc.	03/21	Piedmont Natural Gas Co., Inc.	Docket No. G-9, Sub 781	Return on Equity
Duke Energy Carolinas, LLC	07/20	Duke Energy Carolinas, LLC	Docket No. E-7, Sub 1214	Return on Equity
Duke Energy Progress, LLC	07/20	Duke Energy Progress, LLC	Docket No. E-2, Sub 1219	Return on Equity
Aqua North Carolina, Inc.	12/19	Aqua North Carolina, Inc.	Docket No. W-218 Sub 526	Rate of Return
Carolina Water Service, Inc.	06/19	Carolina Water Service, Inc.	Docket No. W-354 Sub 364	Rate of Return
Carolina Water Service, Inc.	09/18	Carolina Water Service, Inc.	Docket No. W-354 Sub 360	Rate of Return
Aqua North Carolina, Inc.	07/18	Aqua North Carolina, Inc.	Docket No. W-218 Sub 497	Rate of Return
<b>North Dakota Public Service Commission</b>				
Northern States Power Company	09/21	Northern States Power Company	Case No. PU-21-381	Rate of Return
Northern States Power Company	11/20	Northern States Power Company	Case No. PU-20-441	Rate of Return
<b>Public Utilities Commission of Ohio</b>				
Duke Energy Ohio, Inc.	10/21	Duke Energy Ohio, Inc.	Case No. 21-887-EL-AIR	Return on Equity
Aqua Ohio, Inc.	07/21	Aqua Ohio, Inc.	Case No. 21-0595-WW-AIR	Rate of Return
Aqua Ohio, Inc.	05/16	Aqua Ohio, Inc.	Case No. 16-0907-WW-AIR	Rate of Return

Sponsor	Date	Case/Applicant	Docket No.	Subject
<b>Pennsylvania Public Utility Commission</b>				
Borough of Ambler	06/22	Borough of Ambler – Bureau of Water	Docket No. R-2022-3031704	Rate of Return
Citizens' Electric Company of Lewisburg	05/22	C&T Enterprises	Docket No. R-2022-3032369	Rate of Return
Valley Energy Company	05/22	C&T Enterprises	Docket No. R-2022-3032300	Rate of Return
Community Utilities of Pennsylvania, Inc.	04/21	Community Utilities of Pennsylvania, Inc.	Docket No. R-2021-3025207	Rate of Return
Vicinity Energy Philadelphia, Inc.	04/21	Vicinity Energy Philadelphia, Inc.	Docket No. R-2021-3024060	Rate of Return
Delaware County Regional Water Control Authority	02/20	Delaware County Regional Water Control Authority	Docket No. A-2019-3015173	Valuation
Valley Energy, Inc.	07/19	C&T Enterprises	Docket No. R-2019-3008209	Rate of Return
Wellsboro Electric Company	07/19	C&T Enterprises	Docket No. R-2019-3008208	Rate of Return
Citizens' Electric Company of Lewisburg	07/19	C&T Enterprises	Docket No. R-2019-3008212	Rate of Return
Steelton Borough Authority	01/19	Steelton Borough Authority	Docket No. A-2019-3006880	Valuation
Mahoning Township, PA	08/18	Mahoning Township, PA	Docket No. A-2018-3003519	Valuation
SUEZ Water Pennsylvania Inc.	04/18	SUEZ Water Pennsylvania Inc.	Docket No. R-2018-000834	Rate of Return
Columbia Water Company	09/17	Columbia Water Company	Docket No. R-2017-2598203	Rate of Return
Veolia Energy Philadelphia, Inc.	06/17	Veolia Energy Philadelphia, Inc.	Docket No. R-2017-2593142	Rate of Return
Emporium Water Company	07/14	Emporium Water Company	Docket No. R-2014-2402324	Rate of Return
Columbia Water Company	07/13	Columbia Water Company	Docket No. R-2013-2360798	Rate of Return
Penn Estates Utilities, Inc.	12/11	Penn Estates, Utilities, Inc.	Docket No. R-2011-2255159	Capital Structure / Long-Term Debt Cost Rate
<b>South Carolina Public Service Commission</b>				
Blue Granite Water Co.	12/19	Blue Granite Water Company	Docket No. 2019-292-WS	Rate of Return
Carolina Water Service, Inc.	02/18	Carolina Water Service, Inc.	Docket No. 2017-292-WS	Rate of Return
Carolina Water Service, Inc.	06/15	Carolina Water Service, Inc.	Docket No. 2015-199-WS	Rate of Return
Carolina Water Service, Inc.	11/13	Carolina Water Service, Inc.	Docket No. 2013-275-WS	Rate of Return
United Utility Companies, Inc.	09/13	United Utility Companies, Inc.	Docket No. 2013-199-WS	Rate of Return
Utility Services of South Carolina, Inc.	09/13	Utility Services of South Carolina, Inc.	Docket No. 2013-201-WS	Rate of Return
Tega Cay Water Services, Inc.	11/12	Tega Cay Water Services, Inc.	Docket No. 2012-177-WS	Capital Structure
<b>South Dakota Public Service Commission</b>				
Northern States Power Company	06/22	Northern States Power Company	Docket No. EL22-017	Rate of Return
<b>Tennessee Public Utility Commission</b>				
Piedmont Natural Gas Company	07/20	Piedmont Natural Gas Company	Docket No. 20-00086	Return on Equity
<b>Public Utility Commission of Texas</b>				
Oncor Electric Delivery Co. LLC	05/22	Oncor Electric Delivery Co. LLC	Docket No. 53601	Return on Equity
Southwestern Public Service Co.	02/21	Southwestern Public Service Co.	Docket No. 51802	Return on Equity
Southwestern Electric Power Co.	10/20	Southwestern Electric Power Co.	Docket No. 51415	Rate of Return
<b>Virginia State Corporation Commission</b>				
Washington Gas Light Company	06/22	Washington Gas Light Company	PUR-2022-00054	Return on Equity
Virginia Natural Gas, Inc.	04/21	Virginia Natural Gas, Inc.	PUR-2020-00095	Return on Equity
Massanutten Public Service Corporation	12/20	Massanutten Public Service Corporation	PUE-2020-00039	Return on Equity
Aqua Virginia, Inc.	07/20	Aqua Virginia, Inc.	PUR-2020-00106	Rate of Return



Sponsor	Date	Case/Applicant	Docket No.	Subject
WGL Holdings, Inc.	07/18	Washington Gas Light Company	PUR-2018-00080	Rate of Return
Atmos Energy Corporation	05/18	Atmos Energy Corporation	PUR-2018-00014	Rate of Return
Aqua Virginia, Inc.	07/17	Aqua Virginia, Inc.	PUR-2017-00082	Rate of Return
Massanutten Public Service Corp.	08/14	Massanutten Public Service Corp.	PUE-2014-00035	Rate of Return / Rate Design
<b>Public Service Commission of West Virginia</b>				
Monongahela Power Company and The Potomac Edison Company	12/21	Monongahela Power Company and The Potomac Edison Company	Case No. 21-0857-E-CN (ELG)	Return on Equity
Monongahela Power Company and The Potomac Edison Company	11/21	Monongahela Power Company and The Potomac Edison Company	Case No. 21-0813-E-P (Solar)	Return on Equity

Confluence Rivers (MO) Utility Operating Company, Inc.  
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Dylan W. D'Ascendis, CRRRA, CVA

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Confluence Rivers (MO) Utility Operating Company, Inc.  
Recommended Capital Structure and Cost Rates  
for Ratemaking Purposes

<u>Type Of Capital</u>	<u>Ratios (1)</u>	<u>Cost Rate</u>	<u>Weighted Cost Rate</u>
Long-Term Debt	31.44%	6.60% (1)	2.08%
Common Equity	<u>68.56%</u>	11.35% (2)	<u>7.78%</u>
Total	<u>100.00%</u>		<u>9.86%</u>

Notes:

(1) Company provided.

(2) From page 2 of this Schedule.

Confluence Rivers (MO) Utility Operating Company, Inc.  
Brief Summary of Common Equity Cost Rate

<u>Line No.</u>	<u>Principal Methods</u>	<u>Proxy Group of Six Water Companies</u>
1.	Discounted Cash Flow Model (DCF) (1)	9.73%
2.	Risk Premium Model (RPM) (2)	11.84%
3.	Capital Asset Pricing Model (CAPM) (3)	12.00%
4.	Market Models Applied to Comparable Risk, Non-Price Regulated Companies (4)	<u>11.97%</u>
5.	Indicated Common Equity Cost Rate before Adjustment for Unique Risk	10.36% - 11.36%
7.	Business Risk Adjustment (5)	1.00%
6.	Financial Risk Adjustment (6)	<u>-0.51%</u>
8.	Indicated Common Equity Cost Rate after Adjustment	<u>10.85% - 11.85%</u>
9.	Recommended Common Equity Cost Rate	<u>11.35%</u>

- Notes: (1) From page 1 of 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) Business risk adjustment to reflect Confluence Rivers' unique risk compared to the Utility Proxy Group as detailed in the accompanying Direct Testimony.  
(6) From Schedule DWD-9.

Proxy Group of Six Water Companies  
CAPITALIZATION AND FINANCIAL STATISTICS (1)  
2017 - 2021, Inclusive

	2021	2020	2019	2018	2017	
	(MILLIONS OF DOLLARS)					
<u>Capitalization Statistics</u>						
<u>Amount of Capital Employed</u>						
Total Permanent Capital	\$5,897.865	\$5,348.616	\$4,493.345	\$3,706.817	\$3,275.675	
Short-Term Debt	\$155.749	\$340.249	\$220.672	\$214.758	\$215.958	
Total Capital Employed	<u>\$6,053.614</u>	<u>\$5,688.865</u>	<u>\$4,714.017</u>	<u>\$3,921.575</u>	<u>\$3,491.633</u>	
<u>Indicated Average Capital Cost Rates (2)</u>						
Total Debt	3.51 %	3.78 %	4.01 %	4.55 %	4.62 %	
Preferred Stock	5.76 %	5.76 %	5.84 %	5.92 %	5.91 %	
<u>Capital Structure Ratios</u>						
Based on Total Permanent Capital:						
Long-Term Debt	50.40 %	50.92 %	47.81 %	45.58 %	46.01 %	48.14 %
Preferred Stock	0.05	0.06	0.06	0.11	0.12	0.08
Common Equity	49.55	49.02	52.13	54.31	53.87	51.78
Total	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>	<u>100.00 %</u>
Based on Total Capital:						
Total Debt, Including Short-Term Debt	52.56 %	54.67 %	51.78 %	49.31 %	49.87 %	51.64 %
Preferred Stock	0.05	0.06	0.07	0.10	0.11	0.07
Common Equity	47.39	45.28	48.16	50.60	50.02	48.29
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	3.20 %	3.24 %	2.64 %	3.33 %	3.79 %	3.24 %
Market / Average Book Ratio	352.63	315.40	332.39	304.57	296.61	320.32
Dividend Yield	1.67	1.83	1.77	1.97	2.02	1.85
Dividend Payout Ratio	52.51	56.85	74.00	59.40	54.53	59.46
<u>Rate of Return on Average Book Common Equity</u>	11.22 %	10.24 %	9.22 %	9.99 %	11.34 %	10.40 %
<u>Total Debt / EBITDA (3)</u>	5.05 x	5.57 x	5.92 x	4.37 x	3.48 x	4.88 x
<u>Funds from Operations / Total Debt (4)</u>	11.39 %	12.12 %	14.53 %	22.17 %	23.56 %	16.75 %
<u>Total Debt / Total Capital</u>	52.56 %	54.67 %	51.78 %	49.31 %	49.87 %	51.64 %

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  
2017 - 2021, Inclusive

	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>5 YEAR AVERAGE</u>
<u>American States Water Company</u>						
Long-Term Debt	37.56 %	40.72 %	31.87 %	36.54 %	37.75 %	36.89 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	62.44	59.28	68.13	63.46	62.25	63.11
Total Capital	<u>100.00 %</u>					
<u>American Water Works Company, Inc.</u>						
Long-Term Debt	58.75 %	59.93 %	58.59 %	56.55 %	55.81 %	57.93 %
Preferred Stock	0.02	0.02	0.03	0.05	0.07	0.04
Common Equity	41.23	40.05	41.38	43.40	44.12	42.03
Total Capital	<u>100.00 %</u>					
<u>California Water Service Group</u>						
Long-Term Debt	47.28 %	46.04 %	50.90 %	52.74 %	43.40 %	48.07 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	52.72	53.96	49.10	47.26	56.60	51.93
Total Capital	<u>100.00 %</u>					
<u>Essential Utilities Inc.</u>						
Long-Term Debt	53.28 %	54.42 %	44.23 %	56.06 %	52.26 %	52.05 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	46.72	45.58	55.77	43.94	47.74	47.95
Total Capital	<u>100.00 %</u>					
<u>Middlesex Water Company</u>						
Long-Term Debt	46.87 %	44.61 %	42.20 %	38.94 %	38.65 %	42.25 %
Preferred Stock	0.30	0.33	0.37	0.59	0.64	0.45
Common Equity	52.83	55.06	57.43	60.47	60.71	57.30
Total Capital	<u>100.00 %</u>					
<u>SIW Group</u>						
Long-Term Debt	59.69 %	59.79 %	59.05 %	32.67 %	48.20 %	51.88 %
Preferred Stock	0.00	0.00	0.00	0.00	0.00	0.00
Common Equity	40.31	40.21	40.95	67.33	51.80	48.12
Total Capital	<u>100.00 %</u>					
<u>Proxy Group of Six Water Companies</u>						
Long-Term Debt	50.57 %	50.92 %	47.81 %	45.58 %	46.01 %	48.18 %
Preferred Stock	0.05	0.06	0.06	0.11	0.12	0.08
Common Equity	49.38	49.02	52.13	54.31	53.87	51.74
Total Capital	<u>100.00 %</u>					

Source of Information  
Annual Forms 10-K

Confluence Rivers (MO) Utility Operating Company, Inc.  
Indicated Common Equity Cost Rate Using the Discounted Cash Flow Model for the  
Proxy Group of Six Water Companies

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Proxy Group of Six Water Companies	Average Dividend Yield (1)	Value Line Projected Five Year Growth in EPS (2)	Zack's Five Year Projected Growth Rate in EPS (3)	Yahoo! Finance Projected Five Year Growth in EPS (4)	Average Projected Five Year Growth in EPS (3)	Adjusted Dividend Yield (4)	Indicated Common Equity Cost Rate (5)
American States Water Company	1.87 %	5.50 %	NA %	4.40 %	4.95 %	1.92 %	6.87 %
American Water Works Company, Inc.	1.81	3.00	8.10	8.30	6.47	1.87	8.34
California Water Service Group	1.72	6.50	NA	11.70	9.10	1.80	10.90
Essential Utilities Inc.	2.49	10.00	6.10	6.80	7.63	2.58	10.21
Middlesex Water Company	1.45	4.50	NA	2.70	3.60	1.48	5.08
SJW Group	2.25	14.00	NA	9.80	11.90	2.38	14.28
						Average	<u>9.28 %</u>
						Median	<u>9.28 %</u>
						Average of Mean and Median	<u>9.28 %</u>
						Average of Mean and Median Excluding Middlesex Water (6)	<u>10.17 %</u>
						Indicated DCF Result	<u>9.73 %</u>

NA= Not Available

Notes:

- (1) Indicated dividend at 10/31/2022 divided by the average closing price of the last 60 trading days ending 10/31/2022 for each company.
- (2) From pages 2 through 7 of this Schedule.
- (3) Average of columns 2 through 4 excluding negative growth rates.
- (4) This reflects a growth rate component equal to one-half the conclusion of growth rate (from column 5) x column 1 to reflect the periodic payment of dividends (Gordon Model) as opposed to the continuous payment. Thus, for American States Water Company,  $1.87\% \times (1 + (1/2 \times 4.95\%)) = 1.92\%$ .
- (5) Column 5 + column 6.
- (6) The indicated DCF cost rate of Middlesex Water Company is excluded as it is below the yield of A-rated public utility bonds.

Source of Information:

Value Line Investment Survey  
www.zacks.com Downloaded on 10/31/2022  
www.yahoo.com Downloaded on 10/31/2022

AMER. STATES WATER NYSE-AWR				RECENT PRICE	82.11	P/E RATIO	31.9 (Trailing: 36.8 Median: 27.0)	RELATIVE P/E RATIO	2.22	DIV'D YLD	2.0%	VALUE LINE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
<b>TIMELINESS</b> 4 Lowered 6/10/22	High: 18.2	24.1	33.1	38.7	44.1	47.2	58.4	69.6	96.6	103.8	103.4	Target Price Range 2025 2026 2027																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
<b>SAFETY</b> 2 Raised 7/20/12	Low: 15.3	17.0	24.0	27.0	35.8	37.3	41.1	50.1	65.1	70.1	71.2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
<b>TECHNICAL</b> 3 Raised 8/19/22	<b>LEGENDS</b> ..... 18.00 x "Cash Flow" p sh .... Relative Price Strength 2-for-1 split 9/13 Options: Yes Shaded area indicates recession																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
<b>BETA</b> .65 (1.00 = Market)	<b>18-Month Target Price Range</b> Low-High Midpoint (% to Mid) \$71-\$134 \$103 (25%)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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LLC</th><th>25-27</th> </tr> </thead> <tbody> <tr> <td>7.88</td><td>8.75</td><td>9.21</td><td>9.74</td><td>10.71</td><td>11.12</td><td>12.12</td><td>12.19</td><td>12.17</td><td>12.56</td><td>11.92</td><td>12.01</td><td>11.88</td><td>12.86</td><td>13.24</td><td>13.51</td><td>13.70</td><td>14.00</td><td>Revenues per sh</td><td>18.15</td> </tr> <tr> <td>1.45</td><td>1.65</td><td>1.69</td><td>1.70</td><td>2.11</td><td>2.13</td><td>2.48</td><td>2.65</td><td>2.67</td><td>2.81</td><td>2.70</td><td>2.96</td><td>2.84</td><td>3.26</td><td>3.34</td><td>3.64</td><td>3.90</td><td>3.90</td><td>"Cash Flow" per sh</td><td>4.75</td> </tr> <tr> <td>.67</td><td>.81</td><td>.78</td><td>.81</td><td>1.11</td><td>1.12</td><td>1.41</td><td>1.61</td><td>1.57</td><td>1.61</td><td>1.62</td><td>1.88</td><td>1.72</td><td>2.28</td><td>2.33</td><td>2.55</td><td>2.45</td><td>2.60</td><td>Earnings per sh <sup>A</sup></td><td>3.25</td> </tr> <tr> <td>.46</td><td>.48</td><td>.50</td><td>.51</td><td>.52</td><td>.55</td><td>.64</td><td>.76</td><td>.83</td><td>.87</td><td>.91</td><td>.99</td><td>1.06</td><td>1.16</td><td>1.28</td><td>1.40</td><td>1.53</td><td>1.62</td><td>Div'd Decl'd per sh <sup>B</sup></td><td>2.15</td> </tr> <tr> <td>1.95</td><td>1.45</td><td>2.23</td><td>2.09</td><td>2.12</td><td>2.13</td><td>1.77</td><td>2.52</td><td>1.89</td><td>2.39</td><td>3.55</td><td>3.08</td><td>3.44</td><td>4.12</td><td>3.54</td><td>3.91</td><td>4.10</td><td>4.00</td><td>Cap'l Spending per sh</td><td>4.25</td> </tr> <tr> <td>8.32</td><td>8.77</td><td>8.97</td><td>9.70</td><td>10.13</td><td>10.84</td><td>11.80</td><td>12.72</td><td>13.24</td><td>12.77</td><td>13.52</td><td>14.45</td><td>15.19</td><td>16.33</td><td>17.39</td><td>18.57</td><td>20.15</td><td>21.35</td><td>Book Value per sh <sup>D</sup></td><td>23.75</td> </tr> <tr> <td>34.10</td><td>34.46</td><td>34.60</td><td>37.06</td><td>37.26</td><td>37.70</td><td>38.53</td><td>38.72</td><td>38.29</td><td>36.50</td><td>36.57</td><td>36.68</td><td>36.76</td><td>36.85</td><td>36.89</td><td>36.94</td><td>37.25</td><td>37.50</td><td>Common Shs Outst'g <sup>C</sup></td><td>37.50</td> </tr> <tr> <td>27.7</td><td>24.0</td><td>22.6</td><td>21.2</td><td>15.7</td><td>15.4</td><td>14.3</td><td>17.2</td><td>20.1</td><td>24.6</td><td>25.6</td><td>25.7</td><td>34.0</td><td>34.4</td><td>34.3</td><td>33.2</td><td><i>Bold figures are Value Line estimates</i></td><td></td><td>Avg Ann'l P/E Ratio</td><td>25.0</td> </tr> <tr> <td>1.50</td><td>1.27</td><td>1.36</td><td>1.41</td><td>1.00</td><td>.97</td><td>.91</td><td>.97</td><td>1.06</td><td>1.24</td><td>1.34</td><td>1.29</td><td>1.84</td><td>1.83</td><td>1.76</td><td>1.82</td><td></td><td></td><td>Relative P/E Ratio</td><td>1.40</td> </tr> <tr> <td>2.5%</td><td>2.5%</td><td>2.9%</td><td>2.9%</td><td>3.0%</td><td>3.2%</td><td>3.1%</td><td>2.7%</td><td>2.6%</td><td>2.2%</td><td>2.2%</td><td>2.0%</td><td>1.8%</td><td>1.5%</td><td>1.6%</td><td>1.7%</td><td></td><td></td><td>Avg Ann'l Div'd Yield</td><td>2.6%</td> </tr> <tr> <td colspan="4"><b>CAPITAL STRUCTURE as of 6/30/22</b></td> <td>466.9</td><td>472.1</td><td>465.8</td><td>458.6</td><td>436.1</td><td>440.6</td><td>436.8</td><td>473.9</td><td>488.2</td><td>498.9</td><td>510</td><td>525</td><td>510</td><td>525</td><td>Revenues (\$mill)</td><td>680</td> </tr> <tr> <td colspan="4">Total Debt \$670.8 mill. Due in 5 Yrs \$33.5 mill.</td> <td>54.1</td><td>62.7</td><td>61.1</td><td>60.5</td><td>59.7</td><td>69.4</td><td>63.9</td><td>84.3</td><td>86.4</td><td>94.3</td><td>91.0</td><td>98.0</td><td>91.0</td><td>98.0</td><td>Net Profit (\$mill)</td><td>120</td> </tr> <tr> <td colspan="4">LT Debt \$446.9 mill. LT Interest \$24.0 mill. (39% of Cap'l)</td> <td>39.9%</td><td>36.3%</td><td>38.4%</td><td>38.4%</td><td>36.8%</td><td>36.0%</td><td>22.0%</td><td>22.6%</td><td>24.6%</td><td>24.4%</td><td>24.0%</td><td>24.0%</td><td>24.0%</td><td>24.0%</td><td>Income Tax Rate</td><td>24.0%</td> </tr> <tr> <td colspan="4"><b>Leases, Uncapitalized:</b> Annual rentals \$2.6 mill.</td> <td>42.2%</td><td>39.8%</td><td>39.1%</td><td>41.1%</td><td>39.4%</td><td>38.0%</td><td>40.5%</td><td>44.4%</td><td>47.2%</td><td>46.1%</td><td>46.5%</td><td>45.5%</td><td>45.5%</td><td>45.5%</td><td>Long-Term Debt Ratio</td><td>52.0%</td> </tr> <tr> <td colspan="4"><b>Pension Assets-12/21</b> \$233.5 mill.</td> <td>57.8%</td><td>60.2%</td><td>60.9%</td><td>58.9%</td><td>60.6%</td><td>62.0%</td><td>59.5%</td><td>55.6%</td><td>52.8%</td><td>53.9%</td><td>53.5%</td><td>54.5%</td><td>54.5%</td><td>54.5%</td><td>Common Equity Ratio</td><td>48.0%</td> </tr> <tr> <td colspan="4"><b>Prd Stock</b> None</td> <td>787.0</td><td>818.4</td><td>832.6</td><td>791.5</td><td>815.3</td><td>854.9</td><td>938.4</td><td>1082.5</td><td>1216.2</td><td>1272.6</td><td>1400</td><td>1450</td><td>1400</td><td>1450</td><td>Total Capital (\$mill)</td><td>1710</td> </tr> <tr> <td colspan="4"><b>Common Stock</b> 36,956,824 shs. as of 7/29/22</td> <td>917.8</td><td>981.5</td><td>1003.5</td><td>1060.8</td><td>1150.9</td><td>1205.0</td><td>1296.3</td><td>1415.7</td><td>1512.0</td><td>1626.0</td><td>1720</td><td>1800</td><td>1720</td><td>1800</td><td>Net Plant (\$mill)</td><td>2025</td> </tr> <tr> <td colspan="4"><b>MARKET CAP:</b> \$3.0 billion (Mid Cap)</td> <td>8.3%</td><td>8.9%</td><td>8.6%</td><td>9.0%</td><td>8.6%</td><td>9.3%</td><td>7.9%</td><td>8.9%</td><td>8.0%</td><td>8.3%</td><td>7.5%</td><td>8.0%</td><td>7.5%</td><td>8.0%</td><td>Return on Total Cap'l</td><td>8.0%</td> </tr> <tr> <td colspan="4"><b>CURRENT POSITION</b> 2020 2021 6/30/22 (\$MILL.)</td> <td>11.9%</td><td>12.7%</td><td>12.0%</td><td>13.0%</td><td>12.1%</td><td>13.1%</td><td>11.4%</td><td>14.0%</td><td>13.5%</td><td>13.8%</td><td>12.5%</td><td>12.5%</td><td>12.5%</td><td>12.5%</td><td>Return on Shr. Equity</td><td>13.5%</td> </tr> <tr> <td colspan="4">Cash Assets 36.7 5.0 10.8</td> <td>11.9%</td><td>12.7%</td><td>12.0%</td><td>13.0%</td><td>12.1%</td><td>13.1%</td><td>11.4%</td><td>14.0%</td><td>13.5%</td><td>13.8%</td><td>12.5%</td><td>12.5%</td><td>12.5%</td><td>12.5%</td><td>Return on Com Equity</td><td>13.5%</td> </tr> <tr> <td colspan="4">Accts Receivable 29.2 34.4 27.1</td> <td>6.6%</td><td>6.8%</td><td>5.7%</td><td>6.0%</td><td>5.3%</td><td>6.2%</td><td>4.5%</td><td>6.9%</td><td>6.1%</td><td>6.2%</td><td>4.5%</td><td>4.5%</td><td>4.5%</td><td>4.5%</td><td>Retained to Com Eq</td><td>4.5%</td> </tr> <tr> <td colspan="4">Other 91.2 98.7 101.1</td> <td>45%</td><td>47%</td><td>53%</td><td>54%</td><td>56%</td><td>52%</td><td>61%</td><td>55%</td><td>55%</td><td>62%</td><td>62%</td><td>62%</td><td>62%</td><td>62%</td><td>All Div'ds to Net Prof</td><td>66%</td> </tr> <tr> <td colspan="4">Current Assets 157.1 138.1 139.0</td> <td colspan="16"><b>BUSINESS:</b> American States Water Co. operates as a holding company. Through its principal subsidiary, Golden State Water Co., it supplies water to 262,770 customers in 10 California counties. Service areas include the metropolitan areas of Los Angeles and Orange Counties. The company also provides electricity to 24,656 customers in Big Bear Lake and San Bernardino Cnty. Provides water &amp; wastewater services to U.S. military bases through its ASUS subsidiary. Sold Chaparral City Wtr. of AZ. (6/11). Employs 808. BlackRock, Inc. owns 17.7% of out. shares; State St., 13.7%; off. &amp; dir., 0.9% (4/22 Proxy). Chairman: Lloyd Ross. Pres. &amp; CEO: Robert Sprowls. Inc: CA. Address: 630 East Foothill Blvd., San Dimas, CA 91773. Tel.: 909-394-3600. Internet: www.aswater.com.</td> </tr> <tr> <td colspan="4">Accts Payable 63.8 65.9 71.9</td> <td colspan="16"><b>American States Water had another difficult quarter.</b> In the June interim, the company's share net came in at \$0.54, versus last year's \$0.72 showing. About \$0.10 a share of the shortfall was the result of old rates still being in effect. Recall that the company's Golden States Water utility has already reached a settlement regarding higher rates with the state's Office of Public Advocate. The California Public Utility Commission (CPUC) has yet to approve the deal. Typically, the CPUC goes along with the Public Advocate's recommendation. (Indeed, as a body, it can be tougher on utilities than the CPUC.) Also, with the rate increase not in effect yet, third-quarter income will be hurt as well. It is important to note, however, that once the agreement is finalized, the utility will be able to collect these funds retroactive to the beginning of 2022. <b>We have lowered our earnings estimates for both 2022 and 2023.</b> Assuming the CPUC makes a final ruling by the end of the year, we have still reduced our share-net estimate by a dime for this year and next. The main reason being that American States has to adjust the valuation of its portfolio of assets set aside for the pension program each quarter. Losses were incurred that impacted the June period by \$0.10 a share. Moreover, we think the third quarter will cause another asset writedown, as both the bond and equity markets slumped. <b>Nonutility operations could be a growth catalyst out to 2025 to 2027.</b> Through its ASUS subsidiary, American States provides water and waste treatment services to U.S. military bases. As the armed forces continue to privatize their water systems, we believe that ASUS will keep winning a fair amount of the 50-year contracts that are being put out for competitive bidding. This business is not regulated, so earnings here can exceed those in its other operations. <b>These shares do not hold much appeal at the recent quotation.</b> In the near term, the equity is ranked to underperform the broader market averages in the coming year. Furthermore, over the three-to five-year pull, AWR's total return potential is well below that of the Value Line median.</td> </tr> <tr> <td colspan="4">Debt Due .4 31.4 223.9</td> <td colspan="16"><b>James A. Flood</b> <span style="float: right;"><b>October 7, 2022</b></span></td> </tr> <tr> <td colspan="4">Other 54.4 58.3 52.9</td> <td colspan="16"></td> </tr> <tr> <td colspan="4">Current Liab. 118.6 155.6 348.7</td> <td colspan="16"></td> </tr> <tr> <td colspan="4"><b>ANNUAL RATES</b> Past Past Est'd '19-'21 of change (per sh) 10 Yrs. 5 Yrs. to '25-'27</td> <td colspan="16"></td> </tr> <tr> <td colspan="4">Revenues 2.5% 1.5% 5.5%</td> <td colspan="16"></td> </tr> <tr> <td colspan="4">"Cash Flow" 5.5% 4.5% 5.5%</td> <td colspan="16"></td> </tr> <tr> <td colspan="4">Earnings 9.0% 8.5% 5.5%</td> <td colspan="16"></td> </tr> <tr> <td colspan="4">Dividends 9.5% 8.0% 9.0%</td> <td colspan="16"></td> </tr> <tr> <td colspan="4">Book Value 5.5% 6.0% 5.5%</td> <td colspan="16"></td> </tr> <tr> <td colspan="4"><b>QUARTERLY REVENUES (\$ mill.)</b></td> <td colspan="16"></td> </tr> <tr> <td>Cal-endar</td> <td>Mar.31</td> <td>Jun.30</td> <td>Sep.30</td> <td>Dec.31</td> <td>Full Year</td> <td colspan="14"></td> </tr> <tr> <td>2019</td> <td>101.7</td> <td>124.7</td> <td>134.5</td> <td>113.0</td> <td>473.9</td> <td colspan="14"></td> </tr> <tr> <td>2020</td> <td>109.1</td> <td>121.3</td> <td>133.6</td> <td>124.2</td> <td>488.2</td> <td colspan="14"></td> </tr> <tr> <td>2021</td> <td>117.1</td> <td>128.4</td> <td>136.8</td> <td>116.6</td> <td>498.9</td> <td colspan="14"></td> </tr> <tr> <td>2022</td> <td>108.6</td> <td>122.6</td> <td>143.8</td> <td>135</td> <td>510</td> <td colspan="14"></td> </tr> <tr> <td>2023</td> <td>112</td> <td>130</td> <td>145</td> <td>138</td> <td>525</td> <td colspan="14"></td> </tr> <tr> <td colspan="4"><b>EARNINGS PER SHARE <sup>A</sup></b></td> <td colspan="16"></td> </tr> <tr> <td>Cal-endar</td> <td>Mar.31</td> <td>Jun.30</td> <td>Sep.30</td> <td>Dec.31</td> <td>Full Year</td> <td colspan="14"></td> </tr> <tr> <td>2019</td> <td>.35</td> <td>.72</td> <td>.76</td> <td>.45</td> <td>2.28</td> <td colspan="14"></td> </tr> <tr> <td>2020</td> <td>.38</td> <td>.69</td> <td>.72</td> <td>.54</td> <td>2.33</td> <td colspan="14"></td> </tr> <tr> <td>2021</td> <td>.52</td> <td>.72</td> <td>.76</td> <td>.55</td> <td>2.55</td> <td colspan="14"></td> </tr> <tr> <td>2022</td> <td>.38</td> <td>.54</td> <td>.65</td> <td>.88</td> <td>2.45</td> <td colspan="14"></td> </tr> <tr> <td>2023</td> <td>.50</td> <td>.75</td> <td>.75</td> <td>.60</td> <td>2.60</td> <td colspan="14"></td> </tr> <tr> <td colspan="4"><b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b></td> <td colspan="16"></td> </tr> <tr> <td>Cal-endar</td> <td>Mar.31</td> <td>Jun.30</td> <td>Sep.30</td> <td>Dec.31</td> <td>Full Year</td> <td colspan="14"></td> </tr> <tr> <td>2018</td> <td>.255</td> <td>.255</td> <td>.275</td> <td>.275</td> <td>1.06</td> <td colspan="14"></td> </tr> <tr> <td>2019</td> <td>.275</td> <td>.275</td> <td>.305</td> <td>.305</td> <td>1.16</td> <td colspan="14"></td> </tr> <tr> <td>2020</td> <td>.305</td> <td>.305</td> <td>.335</td> <td>.335</td> <td>1.28</td> <td colspan="14"></td> </tr> <tr> <td>2021</td> <td>.335</td> <td>.335</td> <td>.365</td> <td>.365</td> <td>1.40</td> <td colspan="14"></td> </tr> <tr> <td>2022</td> <td>.365</td> <td>.365</td> <td>.3975</td> <td></td> <td></td> <td colspan="14"></td> </tr> </tbody> </table>													2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27	7.88	8.75	9.21	9.74	10.71	11.12	12.12	12.19	12.17	12.56	11.92	12.01	11.88	12.86	13.24	13.51	13.70	14.00	Revenues per sh	18.15	1.45	1.65	1.69	1.70	2.11	2.13	2.48	2.65	2.67	2.81	2.70	2.96	2.84	3.26	3.34	3.64	3.90	3.90	"Cash Flow" per sh	4.75	.67	.81	.78	.81	1.11	1.12	1.41	1.61	1.57	1.61	1.62	1.88	1.72	2.28	2.33	2.55	2.45	2.60	Earnings per sh <sup>A</sup>	3.25	.46	.48	.50	.51	.52	.55	.64	.76	.83	.87	.91	.99	1.06	1.16	1.28	1.40	1.53	1.62	Div'd Decl'd per sh <sup>B</sup>	2.15	1.95	1.45	2.23	2.09	2.12	2.13	1.77	2.52	1.89	2.39	3.55	3.08	3.44	4.12	3.54	3.91	4.10	4.00	Cap'l Spending per sh	4.25	8.32	8.77	8.97	9.70	10.13	10.84	11.80	12.72	13.24	12.77	13.52	14.45	15.19	16.33	17.39	18.57	20.15	21.35	Book Value per sh <sup>D</sup>	23.75	34.10	34.46	34.60	37.06	37.26	37.70	38.53	38.72	38.29	36.50	36.57	36.68	36.76	36.85	36.89	36.94	37.25	37.50	Common Shs Outst'g <sup>C</sup>	37.50	27.7	24.0	22.6	21.2	15.7	15.4	14.3	17.2	20.1	24.6	25.6	25.7	34.0	34.4	34.3	33.2	<i>Bold figures are Value Line estimates</i>		Avg Ann'l P/E Ratio	25.0	1.50	1.27	1.36	1.41	1.00	.97	.91	.97	1.06	1.24	1.34	1.29	1.84	1.83	1.76	1.82			Relative P/E Ratio	1.40	2.5%	2.5%	2.9%	2.9%	3.0%	3.2%	3.1%	2.7%	2.6%	2.2%	2.2%	2.0%	1.8%	1.5%	1.6%	1.7%			Avg Ann'l Div'd Yield	2.6%	<b>CAPITAL STRUCTURE as of 6/30/22</b>				466.9	472.1	465.8	458.6	436.1	440.6	436.8	473.9	488.2	498.9	510	525	510	525	Revenues (\$mill)	680	Total Debt \$670.8 mill. Due in 5 Yrs \$33.5 mill.				54.1	62.7	61.1	60.5	59.7	69.4	63.9	84.3	86.4	94.3	91.0	98.0	91.0	98.0	Net Profit (\$mill)	120	LT Debt \$446.9 mill. LT Interest \$24.0 mill. (39% of Cap'l)				39.9%	36.3%	38.4%	38.4%	36.8%	36.0%	22.0%	22.6%	24.6%	24.4%	24.0%	24.0%	24.0%	24.0%	Income Tax Rate	24.0%	<b>Leases, Uncapitalized:</b> Annual rentals \$2.6 mill.				42.2%	39.8%	39.1%	41.1%	39.4%	38.0%	40.5%	44.4%	47.2%	46.1%	46.5%	45.5%	45.5%	45.5%	Long-Term Debt Ratio	52.0%	<b>Pension Assets-12/21</b> \$233.5 mill.				57.8%	60.2%	60.9%	58.9%	60.6%	62.0%	59.5%	55.6%	52.8%	53.9%	53.5%	54.5%	54.5%	54.5%	Common Equity Ratio	48.0%	<b>Prd Stock</b> None				787.0	818.4	832.6	791.5	815.3	854.9	938.4	1082.5	1216.2	1272.6	1400	1450	1400	1450	Total Capital (\$mill)	1710	<b>Common Stock</b> 36,956,824 shs. as of 7/29/22				917.8	981.5	1003.5	1060.8	1150.9	1205.0	1296.3	1415.7	1512.0	1626.0	1720	1800	1720	1800	Net Plant (\$mill)	2025	<b>MARKET CAP:</b> \$3.0 billion (Mid Cap)				8.3%	8.9%	8.6%	9.0%	8.6%	9.3%	7.9%	8.9%	8.0%	8.3%	7.5%	8.0%	7.5%	8.0%	Return on Total Cap'l	8.0%	<b>CURRENT POSITION</b> 2020 2021 6/30/22 (\$MILL.)				11.9%	12.7%	12.0%	13.0%	12.1%	13.1%	11.4%	14.0%	13.5%	13.8%	12.5%	12.5%	12.5%	12.5%	Return on Shr. Equity	13.5%	Cash Assets 36.7 5.0 10.8				11.9%	12.7%	12.0%	13.0%	12.1%	13.1%	11.4%	14.0%	13.5%	13.8%	12.5%	12.5%	12.5%	12.5%	Return on Com Equity	13.5%	Accts Receivable 29.2 34.4 27.1				6.6%	6.8%	5.7%	6.0%	5.3%	6.2%	4.5%	6.9%	6.1%	6.2%	4.5%	4.5%	4.5%	4.5%	Retained to Com Eq	4.5%	Other 91.2 98.7 101.1				45%	47%	53%	54%	56%	52%	61%	55%	55%	62%	62%	62%	62%	62%	All Div'ds to Net Prof	66%	Current Assets 157.1 138.1 139.0				<b>BUSINESS:</b> American States Water Co. operates as a holding company. Through its principal subsidiary, Golden State Water Co., it supplies water to 262,770 customers in 10 California counties. Service areas include the metropolitan areas of Los Angeles and Orange Counties. The company also provides electricity to 24,656 customers in Big Bear Lake and San Bernardino Cnty. Provides water & wastewater services to U.S. military bases through its ASUS subsidiary. Sold Chaparral City Wtr. of AZ. (6/11). Employs 808. BlackRock, Inc. owns 17.7% of out. shares; State St., 13.7%; off. & dir., 0.9% (4/22 Proxy). Chairman: Lloyd Ross. Pres. & CEO: Robert Sprowls. Inc: CA. Address: 630 East Foothill Blvd., San Dimas, CA 91773. Tel.: 909-394-3600. Internet: www.aswater.com.																Accts Payable 63.8 65.9 71.9				<b>American States Water had another difficult quarter.</b> In the June interim, the company's share net came in at \$0.54, versus last year's \$0.72 showing. About \$0.10 a share of the shortfall was the result of old rates still being in effect. Recall that the company's Golden States Water utility has already reached a settlement regarding higher rates with the state's Office of Public Advocate. The California Public Utility Commission (CPUC) has yet to approve the deal. Typically, the CPUC goes along with the Public Advocate's recommendation. (Indeed, as a body, it can be tougher on utilities than the CPUC.) Also, with the rate increase not in effect yet, third-quarter income will be hurt as well. It is important to note, however, that once the agreement is finalized, the utility will be able to collect these funds retroactive to the beginning of 2022. <b>We have lowered our earnings estimates for both 2022 and 2023.</b> Assuming the CPUC makes a final ruling by the end of the year, we have still reduced our share-net estimate by a dime for this year and next. The main reason being that American States has to adjust the valuation of its portfolio of assets set aside for the pension program each quarter. Losses were incurred that impacted the June period by \$0.10 a share. Moreover, we think the third quarter will cause another asset writedown, as both the bond and equity markets slumped. <b>Nonutility operations could be a growth catalyst out to 2025 to 2027.</b> Through its ASUS subsidiary, American States provides water and waste treatment services to U.S. military bases. As the armed forces continue to privatize their water systems, we believe that ASUS will keep winning a fair amount of the 50-year contracts that are being put out for competitive bidding. This business is not regulated, so earnings here can exceed those in its other operations. <b>These shares do not hold much appeal at the recent quotation.</b> In the near term, the equity is ranked to underperform the broader market averages in the coming year. Furthermore, over the three-to five-year pull, AWR's total return potential is well below that of the Value Line median.																Debt Due .4 31.4 223.9				<b>James A. Flood</b> <span style="float: right;"><b>October 7, 2022</b></span>																Other 54.4 58.3 52.9																				Current Liab. 118.6 155.6 348.7																				<b>ANNUAL RATES</b> Past Past Est'd '19-'21 of change (per sh) 10 Yrs. 5 Yrs. to '25-'27																				Revenues 2.5% 1.5% 5.5%																				"Cash Flow" 5.5% 4.5% 5.5%																				Earnings 9.0% 8.5% 5.5%																				Dividends 9.5% 8.0% 9.0%																				Book Value 5.5% 6.0% 5.5%																				<b>QUARTERLY REVENUES (\$ mill.)</b>																				Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year															2019	101.7	124.7	134.5	113.0	473.9															2020	109.1	121.3	133.6	124.2	488.2															2021	117.1	128.4	136.8	116.6	498.9															2022	108.6	122.6	143.8	135	510															2023	112	130	145	138	525															<b>EARNINGS PER SHARE <sup>A</sup></b>																				Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year															2019	.35	.72	.76	.45	2.28															2020	.38	.69	.72	.54	2.33															2021	.52	.72	.76	.55	2.55															2022	.38	.54	.65	.88	2.45															2023	.50	.75	.75	.60	2.60															<b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b>																				Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year															2018	.255	.255	.275	.275	1.06															2019	.275	.275	.305	.305	1.16															2020	.305	.305	.335	.335	1.28															2021	.335	.335	.365	.365	1.40															2022	.365	.365	.3975																
2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
7.88	8.75	9.21	9.74	10.71	11.12	12.12	12.19	12.17	12.56	11.92	12.01	11.88	12.86	13.24	13.51	13.70	14.00	Revenues per sh	18.15																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
1.45	1.65	1.69	1.70	2.11	2.13	2.48	2.65	2.67	2.81	2.70	2.96	2.84	3.26	3.34	3.64	3.90	3.90	"Cash Flow" per sh	4.75																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
.67	.81	.78	.81	1.11	1.12	1.41	1.61	1.57	1.61	1.62	1.88	1.72	2.28	2.33	2.55	2.45	2.60	Earnings per sh <sup>A</sup>	3.25																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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1.95	1.45	2.23	2.09	2.12	2.13	1.77	2.52	1.89	2.39	3.55	3.08	3.44	4.12	3.54	3.91	4.10	4.00	Cap'l Spending per sh	4.25																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
8.32	8.77	8.97	9.70	10.13	10.84	11.80	12.72	13.24	12.77	13.52	14.45	15.19	16.33	17.39	18.57	20.15	21.35	Book Value per sh <sup>D</sup>	23.75																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
34.10	34.46	34.60	37.06	37.26	37.70	38.53	38.72	38.29	36.50	36.57	36.68	36.76	36.85	36.89	36.94	37.25	37.50	Common Shs Outst'g <sup>C</sup>	37.50																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
27.7	24.0	22.6	21.2	15.7	15.4	14.3	17.2	20.1	24.6	25.6	25.7	34.0	34.4	34.3	33.2	<i>Bold figures are Value Line estimates</i>		Avg Ann'l P/E Ratio	25.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
1.50	1.27	1.36	1.41	1.00	.97	.91	.97	1.06	1.24	1.34	1.29	1.84	1.83	1.76	1.82			Relative P/E Ratio	1.40																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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<b>CAPITAL STRUCTURE as of 6/30/22</b>				466.9	472.1	465.8	458.6	436.1	440.6	436.8	473.9	488.2	498.9	510	525	510	525	Revenues (\$mill)	680																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
Total Debt \$670.8 mill. Due in 5 Yrs \$33.5 mill.				54.1	62.7	61.1	60.5	59.7	69.4	63.9	84.3	86.4	94.3	91.0	98.0	91.0	98.0	Net Profit (\$mill)	120																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
LT Debt \$446.9 mill. LT Interest \$24.0 mill. (39% of Cap'l)				39.9%	36.3%	38.4%	38.4%	36.8%	36.0%	22.0%	22.6%	24.6%	24.4%	24.0%	24.0%	24.0%	24.0%	Income Tax Rate	24.0%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
<b>Leases, Uncapitalized:</b> Annual rentals \$2.6 mill.				42.2%	39.8%	39.1%	41.1%	39.4%	38.0%	40.5%	44.4%	47.2%	46.1%	46.5%	45.5%	45.5%	45.5%	Long-Term Debt Ratio	52.0%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
<b>Pension Assets-12/21</b> \$233.5 mill.				57.8%	60.2%	60.9%	58.9%	60.6%	62.0%	59.5%	55.6%	52.8%	53.9%	53.5%	54.5%	54.5%	54.5%	Common Equity Ratio	48.0%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
<b>Prd Stock</b> None				787.0	818.4	832.6	791.5	815.3	854.9	938.4	1082.5	1216.2	1272.6	1400	1450	1400	1450	Total Capital (\$mill)	1710																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
<b>Common Stock</b> 36,956,824 shs. as of 7/29/22				917.8	981.5	1003.5	1060.8	1150.9	1205.0	1296.3	1415.7	1512.0	1626.0	1720	1800	1720	1800	Net Plant (\$mill)	2025																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
<b>MARKET CAP:</b> \$3.0 billion (Mid Cap)				8.3%	8.9%	8.6%	9.0%	8.6%	9.3%	7.9%	8.9%	8.0%	8.3%	7.5%	8.0%	7.5%	8.0%	Return on Total Cap'l	8.0%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
<b>CURRENT POSITION</b> 2020 2021 6/30/22 (\$MILL.)				11.9%	12.7%	12.0%	13.0%	12.1%	13.1%	11.4%	14.0%	13.5%	13.8%	12.5%	12.5%	12.5%	12.5%	Return on Shr. Equity	13.5%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
Cash Assets 36.7 5.0 10.8				11.9%	12.7%	12.0%	13.0%	12.1%	13.1%	11.4%	14.0%	13.5%	13.8%	12.5%	12.5%	12.5%	12.5%	Return on Com Equity	13.5%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
Accts Receivable 29.2 34.4 27.1				6.6%	6.8%	5.7%	6.0%	5.3%	6.2%	4.5%	6.9%	6.1%	6.2%	4.5%	4.5%	4.5%	4.5%	Retained to Com Eq	4.5%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
Other 91.2 98.7 101.1				45%	47%	53%	54%	56%	52%	61%	55%	55%	62%	62%	62%	62%	62%	All Div'ds to Net Prof	66%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
Current Assets 157.1 138.1 139.0				<b>BUSINESS:</b> American States Water Co. operates as a holding company. Through its principal subsidiary, Golden State Water Co., it supplies water to 262,770 customers in 10 California counties. Service areas include the metropolitan areas of Los Angeles and Orange Counties. The company also provides electricity to 24,656 customers in Big Bear Lake and San Bernardino Cnty. Provides water & wastewater services to U.S. military bases through its ASUS subsidiary. Sold Chaparral City Wtr. of AZ. (6/11). Employs 808. BlackRock, Inc. owns 17.7% of out. shares; State St., 13.7%; off. & dir., 0.9% (4/22 Proxy). Chairman: Lloyd Ross. Pres. & CEO: Robert Sprowls. Inc: CA. Address: 630 East Foothill Blvd., San Dimas, CA 91773. Tel.: 909-394-3600. Internet: www.aswater.com.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
Accts Payable 63.8 65.9 71.9				<b>American States Water had another difficult quarter.</b> In the June interim, the company's share net came in at \$0.54, versus last year's \$0.72 showing. About \$0.10 a share of the shortfall was the result of old rates still being in effect. Recall that the company's Golden States Water utility has already reached a settlement regarding higher rates with the state's Office of Public Advocate. The California Public Utility Commission (CPUC) has yet to approve the deal. Typically, the CPUC goes along with the Public Advocate's recommendation. (Indeed, as a body, it can be tougher on utilities than the CPUC.) Also, with the rate increase not in effect yet, third-quarter income will be hurt as well. It is important to note, however, that once the agreement is finalized, the utility will be able to collect these funds retroactive to the beginning of 2022. <b>We have lowered our earnings estimates for both 2022 and 2023.</b> Assuming the CPUC makes a final ruling by the end of the year, we have still reduced our share-net estimate by a dime for this year and next. The main reason being that American States has to adjust the valuation of its portfolio of assets set aside for the pension program each quarter. Losses were incurred that impacted the June period by \$0.10 a share. Moreover, we think the third quarter will cause another asset writedown, as both the bond and equity markets slumped. <b>Nonutility operations could be a growth catalyst out to 2025 to 2027.</b> Through its ASUS subsidiary, American States provides water and waste treatment services to U.S. military bases. As the armed forces continue to privatize their water systems, we believe that ASUS will keep winning a fair amount of the 50-year contracts that are being put out for competitive bidding. This business is not regulated, so earnings here can exceed those in its other operations. <b>These shares do not hold much appeal at the recent quotation.</b> In the near term, the equity is ranked to underperform the broader market averages in the coming year. Furthermore, over the three-to five-year pull, AWR's total return potential is well below that of the Value Line median.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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(A) Primary earnings. Excludes nonrecurring gains/(losses); '06, 3c; '08, (14c); '10, (23c); '11, 10c. Next earnings report due early Nov. (B) Dividends historically paid in early March, June, September, and December. (C) In millions, adjusted for split. (D) Includes intangibles. As of 12/31/21; \$1.1 million/\$0.03 a share.

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Company's Financial Strength	A
Stock's Price Stability	100
Price Growth Persistence	85
Earnings Predictability	95

AMERICAN WATER NYSE-AWK				RECENT PRICE	P/E RATIO	(Trailing: 19.2)	RELATIVE P/E RATIO	DIV'D YLD	VALUE LINE											
<b>TIMELINESS</b> 2 Raised 9/16/22 <b>SAFETY</b> 3 New 7/25/08 <b>TECHNICAL</b> 3 Raised 10/7/22 <b>BETA</b> .90 (1.00 = Market)				High: 32.8 Low: 25.2	39.4 31.3	45.1 37.0	56.2 41.1	61.2 48.4	85.2 58.9	92.4 70.0	98.2 76.0	129.9 88.0	172.6 92.0	189.6 131.0	189.3 129.5	<b>2.0%</b>	<b>2.15</b>	<b>31.0</b>	<b>2.15</b>	<b>2.0%</b>
<b>18-Month Target Price Range</b> Low-High Midpoint (% to Mid) \$132-\$255 \$194 (40%)																				
<b>2025-27 PROJECTIONS</b> High Price 185 (+35%) Low Price 125 (-10%) Ann'l Total Return 10% Nil				% TOT. RETURN 8/22 THIS STOCK INDEX 1 yr. -17.2 -12.0 3 yr. 21.7 43.2 5 yr. 99.2 54.9																
<b>Institutional Decisions</b> 4Q2021 1Q2022 2Q2022 to Buy 526 450 469 to Sell 369 473 415 Hld's(000) 156569 156704 151931				Percent shares traded: 21, 14, 7																
<b>2006<sup>F</sup> 2007<sup>E</sup> 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023</b>				<b>© VALUE LINE PUB. LLC 25-27</b>																
<b>Revenues per sh</b> 27.10 <b>"Cash Flow" per sh</b> 10.10 <b>Earnings per sh<sup>A</sup></b> 5.75 <b>Div'd Decl'd per sh<sup>B</sup></b> 3.55 <b>Cap'l Spending per sh</b> 11.50 <b>Book Value per sh<sup>D</sup></b> 57.80 <b>Common Shs Outst'g<sup>C</sup></b> 190.00				<b>Revenues per sh</b> 27.10 <b>"Cash Flow" per sh</b> 10.10 <b>Earnings per sh<sup>A</sup></b> 5.75 <b>Div'd Decl'd per sh<sup>B</sup></b> 3.55 <b>Cap'l Spending per sh</b> 11.50 <b>Book Value per sh<sup>D</sup></b> 57.80 <b>Common Shs Outst'g<sup>C</sup></b> 190.00																
<b>AVG ANNUAL P/E RATIO</b> 27.0 <b>RELATIVE P/E RATIO</b> 1.50 <b>AVG ANNUAL DIV'D YIELD</b> 2.3%				<b>AVG ANNUAL P/E RATIO</b> 27.0 <b>RELATIVE P/E RATIO</b> 1.50 <b>AVG ANNUAL DIV'D YIELD</b> 2.3%																
<b>CAPITAL STRUCTURE as of 6/30/22</b> Total Debt \$11621 mil. Due in 5 Yrs \$1849 mil. LT Debt \$11023 mil. LT Interest \$414 mil. (59% of Cap'l)				<b>Revenues (\$mill)</b> 5150 <b>Net Profit (\$mill)</b> 1095 <b>Income Tax Rate</b> 24.0% <b>AFUDC % to Net Profit</b> 5.0% <b>Long-Term Debt Ratio</b> 60.0% <b>Common Equity Ratio</b> 40.0% <b>Total Capital (\$mill)</b> 22000 <b>Net Plant (\$mill)</b> 26000 <b>Return on Total Cap'l</b> 6.0% <b>Return on Shr. Equity</b> 10.5% <b>Return on Com Equity</b> 10.5% <b>Retained to Com Eq</b> 4.0% <b>All Div's to Net Prof</b> 62%																
<b>Leases, Uncapitalized:</b> Annual rentals \$12.0 mill. <b>Pension Assets 12/21</b> \$2294.0 mill. <b>Prd Stock</b> \$3.0 mill. <b>Prd Div'd</b> \$2 mill.				<b>Leases, Uncapitalized:</b> Annual rentals \$12.0 mill. <b>Pension Assets 12/21</b> \$2294.0 mill. <b>Prd Stock</b> \$3.0 mill. <b>Prd Div'd</b> \$2 mill.																
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<b>James A. Flood</b>				<b>October 7, 2022</b>																

(A) Diluted earnings. Excludes nonrecurring losses: '08, \$4.62; '09, \$2.63; '11, \$0.07. Disc. oper.: '06, (\$0.04); '11, \$0.03; '12, (\$0.10); '13, (\$0.01). GAAP used as of 2014. Includes \$2.70 sh. gain from sale of HOS sub.in Q4 '21. Next earnings report due late Oct. (C) In millions. (D) Includes intangibles. On 12/31/21: \$1.231 billion, \$6.67/share. (E) Pro forma numbers for '06 & '07. Company's Financial Strength B++ Stock's Price Stability 80 Price Growth Persistence 100 Earnings Predictability 80 To subscribe call 1-800-VALUELINE

CALIFORNIA WATER NYSE-CWT				RECENT PRICE	55.60	P/E RATIO	31.2 (Trailing: 33.7; Median: 27.0)	RELATIVE P/E RATIO	2.17	DIV'D YLD	1.8%	VALUE LINE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
<b>TIMELINESS</b> 4 Lowered 8/12/22	High: 19.4	19.3	23.4	26.4	26.0	36.8	46.2	49.1	57.5	57.4	72.1	72.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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LLC</th> <th>25-27</th> </tr> </thead> <tbody> <tr> <td>8.10</td> <td>8.88</td> <td>9.90</td> <td>10.82</td> <td>11.05</td> <td>12.00</td> <td>13.34</td> <td>12.23</td> <td>12.50</td> <td>12.29</td> <td>12.70</td> <td>13.89</td> <td>14.53</td> <td>14.72</td> <td>15.78</td> <td>14.72</td> <td>15.45</td> <td>16.55</td> <td>Revenues per sh</td> <td>17.90</td> </tr> <tr> <td>1.36</td> <td>1.56</td> <td>1.86</td> <td>1.93</td> <td>1.93</td> <td>2.07</td> <td>2.32</td> <td>2.21</td> <td>2.47</td> <td>2.22</td> <td>2.34</td> <td>3.00</td> <td>3.11</td> <td>3.14</td> <td>3.88</td> <td>3.91</td> <td>3.20</td> <td>3.70</td> <td>"Cash Flow" per sh</td> <td>4.15</td> </tr> <tr> <td>.67</td> <td>.75</td> <td>.95</td> <td>.98</td> <td>.91</td> <td>.86</td> <td>1.02</td> <td>1.02</td> <td>1.19</td> <td>.94</td> <td>1.01</td> <td>1.40</td> <td>1.36</td> <td>1.31</td> <td>1.97</td> <td>1.96</td> <td>1.70</td> <td>2.15</td> <td>Earnings per sh <sup>A</sup></td> <td>2.55</td> </tr> <tr> <td>.58</td> <td>.58</td> <td>.59</td> <td>.59</td> <td>.60</td> <td>.62</td> <td>.63</td> <td>.64</td> <td>.65</td> <td>.67</td> <td>.69</td> <td>.72</td> <td>.75</td> <td>.79</td> <td>.85</td> <td>.92</td> <td>1.00</td> <td>1.08</td> <td>Div'd Decl'd per sh <sup>B</sup></td> <td>1.25</td> </tr> <tr> <td>2.14</td> <td>1.84</td> <td>2.41</td> <td>2.66</td> <td>2.97</td> <td>2.83</td> <td>3.04</td> <td>2.58</td> <td>2.76</td> <td>3.69</td> <td>4.77</td> <td>5.40</td> <td>5.65</td> <td>5.64</td> <td>5.93</td> <td>5.46</td> <td>5.85</td> <td>6.00</td> <td>Cap'l Spending per sh</td> <td>6.45</td> </tr> <tr> <td>9.07</td> <td>9.25</td> <td>9.72</td> <td>10.13</td> <td>10.45</td> <td>10.76</td> <td>11.28</td> <td>12.54</td> <td>13.11</td> <td>13.41</td> <td>13.75</td> <td>14.44</td> <td>15.19</td> <td>16.07</td> <td>18.30</td> <td>21.92</td> <td>22.35</td> <td>23.55</td> <td>Book Value per sh <sup>C</sup></td> <td>25.50</td> </tr> <tr> <td>41.31</td> <td>41.33</td> <td>41.45</td> <td>41.53</td> <td>41.67</td> <td>41.82</td> <td>41.98</td> <td>47.74</td> <td>47.81</td> <td>47.88</td> <td>47.97</td> <td>48.01</td> <td>48.07</td> <td>48.53</td> <td>50.33</td> <td>53.72</td> <td>53.75</td> <td>52.00</td> <td>Common Shs Outst'g <sup>D</sup></td> <td>50.00</td> </tr> <tr> <td>29.2</td> <td>26.1</td> <td>19.8</td> <td>19.7</td> <td>20.3</td> <td>21.3</td> <td>17.9</td> <td>20.1</td> <td>19.7</td> <td>24.8</td> <td>29.6</td> <td>26.9</td> <td>30.3</td> <td>39.3</td> <td>24.9</td> <td>30.5</td> <td colspan="2">Bold figures are Value Line estimates</td> <td>Avg Ann'l P/E Ratio</td> <td>24.0</td> </tr> <tr> <td>1.58</td> <td>1.39</td> <td>1.19</td> <td>1.31</td> <td>1.29</td> <td>1.34</td> <td>1.14</td> <td>1.13</td> <td>1.04</td> <td>1.25</td> <td>1.55</td> <td>1.35</td> <td>1.64</td> <td>2.09</td> <td>1.28</td> <td>1.67</td> <td colspan="2"></td> <td>Relative P/E Ratio</td> <td>1.30</td> </tr> <tr> <td>2.9%</td> <td>3.0%</td> <td>3.1%</td> <td>3.1%</td> <td>3.2%</td> <td>3.4%</td> <td>3.5%</td> <td>3.1%</td> <td>2.8%</td> <td>2.9%</td> <td>2.3%</td> <td>1.9%</td> <td>1.8%</td> <td>1.5%</td> <td>1.7%</td> <td>1.5%</td> <td colspan="2"></td> <td>Avg Ann'l Div'd Yield</td> <td>2.0%</td> </tr> <tr> <td colspan="4"><b>CAPITAL STRUCTURE as of 6/30/22</b></td> <td colspan="12">           Total Debt \$1130.0 mill. Due in 5 Yrs \$357.0 mill.            LT Debt \$1054.2 mill. LT Interest \$40.0 mill.            (Total interest coverage: 4.9x) (47% of Cap'l)         </td> </tr> <tr> <td colspan="4"><b>Pension Assets-12/21</b> \$810.5 mill.</td> <td colspan="12">           Oblig. \$887.5 mill.         </td> </tr> <tr> <td colspan="4"><b>Pfd Stock</b> None</td> <td colspan="12"></td> </tr> <tr> <td colspan="4"><b>Common Stock</b> 54,356,000 shs.</td> <td colspan="12"></td> </tr> <tr> <td colspan="4"><b>MARKET CAP: \$3.0 billion (Mid Cap)</b></td> <td colspan="12"></td> </tr> <tr> <td colspan="4"><b>CURRENT POSITION</b></td> <td>2020</td> <td>2021</td> <td>6/30/22</td> <td colspan="12"></td> </tr> <tr> <td colspan="4"><b>(SMILL)</b></td> <td></td> <td></td> <td></td> <td colspan="12"></td> </tr> <tr> <td colspan="4">Cash Assets</td> <td>44.6</td> <td>78.4</td> <td>61.7</td> <td colspan="12"></td> </tr> <tr> <td colspan="4">Other</td> <td>221.4</td> <td>222.1</td> <td>215.0</td> <td colspan="12"></td> </tr> <tr> <td colspan="4">Current Assets</td> <td>266.0</td> <td>300.5</td> <td>276.7</td> <td colspan="12"></td> </tr> <tr> <td colspan="4">Accts Payable</td> <td>131.7</td> <td>144.4</td> <td>139.7</td> <td colspan="12"></td> </tr> <tr> <td colspan="4">Debt Due</td> <td>375.1</td> <td>40.2</td> <td>75.8</td> <td colspan="12"></td> </tr> <tr> <td colspan="4">Other</td> <td>81.9</td> <td>72.0</td> <td>70.6</td> <td colspan="12"></td> </tr> <tr> <td colspan="4">Current Liab.</td> <td>588.7</td> <td>256.6</td> <td>286.1</td> <td colspan="12"></td> </tr> <tr> <td colspan="4"><b>ANNUAL RATES</b></td> <td>Past 10 Yrs.</td> <td>Past 5 Yrs.</td> <td>Est'd '19-'21 to '25-'27</td> <td colspan="12"></td> </tr> <tr> <td colspan="4">of change (per sh)</td> <td></td> <td></td> <td></td> <td colspan="12"></td> </tr> <tr> <td colspan="4">Revenues</td> <td>3.0%</td> <td>4.0%</td> <td>3.0%</td> <td colspan="12"></td> </tr> <tr> <td colspan="4">"Cash Flow"</td> <td>6.5%</td> <td>9.0%</td> <td>2.0%</td> <td colspan="12"></td> </tr> <tr> <td colspan="4">Earnings</td> <td>6.5%</td> <td>11.0%</td> <td>6.5%</td> <td colspan="12"></td> </tr> <tr> <td colspan="4">Dividends</td> <td>3.5%</td> <td>5.0%</td> <td>6.5%</td> <td colspan="12"></td> </tr> <tr> <td colspan="4">Book Value</td> <td>6.0%</td> <td>7.0%</td> <td>5.0%</td> <td colspan="12"></td> </tr> <tr> <td colspan="4"><b>QUARTERLY REVENUES (\$ mill.)<sup>F</sup></b></td> <td>Mar.31</td> <td>Jun.30</td> <td>Sep.30</td> <td>Dec.31</td> <td>Full Year</td> <td colspan="12"></td> </tr> <tr> <td>2019</td> <td>126.1</td> <td>179.0</td> <td>232.6</td> <td>176.9</td> <td>714.6</td> <td colspan="12"></td> </tr> <tr> <td>2020</td> <td>125.6</td> <td>175.5</td> <td>304.1</td> <td>189.1</td> <td>794.3</td> <td colspan="12"></td> </tr> <tr> <td>2021</td> <td>147.7</td> <td>213.1</td> <td>256.7</td> <td>173.4</td> <td>790.9</td> <td colspan="12"></td> </tr> <tr> <td>2022</td> <td>173.0</td> <td>206.2</td> <td>255</td> <td>195.8</td> <td>830</td> <td colspan="12"></td> </tr> <tr> <td>2023</td> <td>175</td> <td>220</td> <td>265</td> <td>200</td> <td>860</td> <td colspan="12"></td> </tr> <tr> <td colspan="4"><b>EARNINGS PER SHARE <sup>A</sup></b></td> <td>Mar.31</td> <td>Jun.30</td> <td>Sep.30</td> <td>Dec.31</td> <td>Full Year</td> <td colspan="12"></td> </tr> <tr> <td>2019</td> <td>d.16</td> <td>.35</td> <td>.88</td> <td>.24</td> <td>1.31</td> <td colspan="12"></td> </tr> <tr> <td>2020</td> <td>d.42</td> <td>.11</td> <td>1.94</td> <td>.31</td> <td>1.97</td> <td colspan="12"></td> </tr> <tr> <td>2021</td> <td>d.06</td> <td>.75</td> <td>1.20</td> <td>.07</td> <td>1.96</td> <td colspan="12"></td> </tr> <tr> <td>2022</td> <td>.02</td> <td>.36</td> <td>1.07</td> <td>.25</td> <td>1.70</td> <td colspan="12"></td> </tr> <tr> <td>2023</td> <td>.10</td> <td>.55</td> <td>1.15</td> <td>.35</td> <td>2.15</td> <td colspan="12"></td> </tr> <tr> <td colspan="4"><b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b></td> <td>Mar.31</td> <td>Jun.30</td> <td>Sep.30</td> <td>Dec.31</td> <td>Full Year</td> <td colspan="12"></td> </tr> <tr> <td>2018</td> <td>.1875</td> <td>.1875</td> <td>.1875</td> <td>.1875</td> <td>.75</td> <td colspan="12"></td> </tr> <tr> <td>2019</td> <td>.1975</td> <td>.1975</td> <td>.1975</td> <td>.1975</td> <td>.79</td> <td colspan="12"></td> </tr> <tr> <td>2020</td> <td>.2125</td> <td>.2125</td> <td>.2125</td> <td>.2125</td> <td>.85</td> <td colspan="12"></td> </tr> <tr> <td>2021</td> <td>.230</td> <td>.230</td> <td>.230</td> <td>.230</td> <td>.92</td> <td colspan="12"></td> </tr> <tr> <td>2022</td> <td>.250</td> <td>.250</td> <td>.250</td> <td></td> <td></td> <td colspan="12"></td> </tr> </tbody> </table>													2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27	8.10	8.88	9.90	10.82	11.05	12.00	13.34	12.23	12.50	12.29	12.70	13.89	14.53	14.72	15.78	14.72	15.45	16.55	Revenues per sh	17.90	1.36	1.56	1.86	1.93	1.93	2.07	2.32	2.21	2.47	2.22	2.34	3.00	3.11	3.14	3.88	3.91	3.20	3.70	"Cash Flow" per sh	4.15	.67	.75	.95	.98	.91	.86	1.02	1.02	1.19	.94	1.01	1.40	1.36	1.31	1.97	1.96	1.70	2.15	Earnings per sh <sup>A</sup>	2.55	.58	.58	.59	.59	.60	.62	.63	.64	.65	.67	.69	.72	.75	.79	.85	.92	1.00	1.08	Div'd Decl'd per sh <sup>B</sup>	1.25	2.14	1.84	2.41	2.66	2.97	2.83	3.04	2.58	2.76	3.69	4.77	5.40	5.65	5.64	5.93	5.46	5.85	6.00	Cap'l Spending per sh	6.45	9.07	9.25	9.72	10.13	10.45	10.76	11.28	12.54	13.11	13.41	13.75	14.44	15.19	16.07	18.30	21.92	22.35	23.55	Book Value per sh <sup>C</sup>	25.50	41.31	41.33	41.45	41.53	41.67	41.82	41.98	47.74	47.81	47.88	47.97	48.01	48.07	48.53	50.33	53.72	53.75	52.00	Common Shs Outst'g <sup>D</sup>	50.00	29.2	26.1	19.8	19.7	20.3	21.3	17.9	20.1	19.7	24.8	29.6	26.9	30.3	39.3	24.9	30.5	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	24.0	1.58	1.39	1.19	1.31	1.29	1.34	1.14	1.13	1.04	1.25	1.55	1.35	1.64	2.09	1.28	1.67			Relative P/E Ratio	1.30	2.9%	3.0%	3.1%	3.1%	3.2%	3.4%	3.5%	3.1%	2.8%	2.9%	2.3%	1.9%	1.8%	1.5%	1.7%	1.5%			Avg Ann'l Div'd Yield	2.0%	<b>CAPITAL STRUCTURE as of 6/30/22</b>				Total Debt \$1130.0 mill. Due in 5 Yrs \$357.0 mill. LT Debt \$1054.2 mill. LT Interest \$40.0 mill. (Total interest coverage: 4.9x) (47% of Cap'l)												<b>Pension Assets-12/21</b> \$810.5 mill.				Oblig. \$887.5 mill.												<b>Pfd Stock</b> None																<b>Common Stock</b> 54,356,000 shs.																<b>MARKET CAP: \$3.0 billion (Mid Cap)</b>																<b>CURRENT POSITION</b>				2020	2021	6/30/22													<b>(SMILL)</b>																			Cash Assets				44.6	78.4	61.7													Other				221.4	222.1	215.0													Current Assets				266.0	300.5	276.7													Accts Payable				131.7	144.4	139.7													Debt Due				375.1	40.2	75.8													Other				81.9	72.0	70.6													Current Liab.				588.7	256.6	286.1													<b>ANNUAL RATES</b>				Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27													of change (per sh)																			Revenues				3.0%	4.0%	3.0%													"Cash Flow"				6.5%	9.0%	2.0%													Earnings				6.5%	11.0%	6.5%													Dividends				3.5%	5.0%	6.5%													Book Value				6.0%	7.0%	5.0%													<b>QUARTERLY REVENUES (\$ mill.)<sup>F</sup></b>				Mar.31	Jun.30	Sep.30	Dec.31	Full Year													2019	126.1	179.0	232.6	176.9	714.6													2020	125.6	175.5	304.1	189.1	794.3													2021	147.7	213.1	256.7	173.4	790.9													2022	173.0	206.2	255	195.8	830													2023	175	220	265	200	860													<b>EARNINGS PER SHARE <sup>A</sup></b>				Mar.31	Jun.30	Sep.30	Dec.31	Full Year													2019	d.16	.35	.88	.24	1.31													2020	d.42	.11	1.94	.31	1.97													2021	d.06	.75	1.20	.07	1.96													2022	.02	.36	1.07	.25	1.70													2023	.10	.55	1.15	.35	2.15													<b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b>				Mar.31	Jun.30	Sep.30	Dec.31	Full Year													2018	.1875	.1875	.1875	.1875	.75													2019	.1975	.1975	.1975	.1975	.79													2020	.2125	.2125	.2125	.2125	.85													2021	.230	.230	.230	.230	.92													2022	.250	.250	.250														
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29.2	26.1	19.8	19.7	20.3	21.3	17.9	20.1	19.7	24.8	29.6	26.9	30.3	39.3	24.9	30.5	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	24.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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<b>CAPITAL STRUCTURE as of 6/30/22</b>				Total Debt \$1130.0 mill. Due in 5 Yrs \$357.0 mill. LT Debt \$1054.2 mill. LT Interest \$40.0 mill. (Total interest coverage: 4.9x) (47% of Cap'l)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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<b>Common Stock</b> 54,356,000 shs.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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Cash Assets				44.6	78.4	61.7																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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<b>QUARTERLY REVENUES (\$ mill.)<sup>F</sup></b>				Mar.31	Jun.30	Sep.30	Dec.31	Full Year																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
2019	126.1	179.0	232.6	176.9	714.6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
2020	125.6	175.5	304.1	189.1	794.3																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
2021	147.7	213.1	256.7	173.4	790.9																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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<b>EARNINGS PER SHARE <sup>A</sup></b>				Mar.31	Jun.30	Sep.30	Dec.31	Full Year																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
2019	d.16	.35	.88	.24	1.31																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
2020	d.42	.11	1.94	.31	1.97																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
2021	d.06	.75	1.20	.07	1.96																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
2022	.02	.36	1.07	.25	1.70																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
2023	.10	.55	1.15	.35	2.15																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
<b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b>				Mar.31	Jun.30	Sep.30	Dec.31	Full Year																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
2018	.1875	.1875	.1875	.1875	.75																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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2020	.2125	.2125	.2125	.2125	.85																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
2021	.230	.230	.230	.230	.92																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
2022	.250	.250	.250																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		

(A) Basic EPS. Excl. nonrecurring gain (loss): '11, 4c. Next earnings report due early Nov.  
 (B) Dividends historically paid in late Feb., May, Aug., and Nov. ■ Div'd reinvestment plan  
 (C) Incl. intangible assets. In '21 : \$36.8 mill., \$0.69/sh.  
 (D) In millions, adjusted for split.  
 (E) Excludes non-regulated revenues.  
 Company's Financial Strength B++  
 Stock's Price Stability 95  
 Price Growth Persistence 85  
 Earnings Predictability 55  
 To subscribe call 1-800-VALUELINE

**California Water Service Group has made some moves since our early-July review.** First, the company's California- and Washington-based subsidiaries both inked deals to acquire water system assets of two adjacent utilities. The acquisitions, which are still pending customary closing conditions and regulatory approval, ought to bolster California Water's residential operating footprint in these areas. Meanwhile, in Texas, the company recently entered into a long-term water supply agreement with the Guadalupe Blanco River Authority. The deal is imperative to meeting residential water demand in the growing region, and is likely to require substantial pipeline infrastructure development. Lastly, management continues to make progress on its 2021 cost of capital review and general rate case filing.

**Earnings are apt to take a step back this year.** California Water posted net income of \$0.36 per share in the June period, roughly half that of the prior-year tally. The softer-than-expected showing can be attributed to costs associated with a change in deferred revenue, weaker customer water consumption, and an uptick in general and administrative expenses. That said, bottom-line comparisons are poised to improve over the back half of 2022, largely owing to prospects for customer rate increases. Even so, we are shaving \$0.30 from our current-year earnings estimate, to \$1.70 per share.

**Significant infrastructure investment is on the docket over the pull to late decade.** In addition to upgrading aging water delivery systems and treatment plants, California Water is allocating funds to shore up its preparation for unexpected wildfires and climate-related challenges. Meanwhile, the company's recently announced \$350-million stock buyback program is imminent.

**California Water shares lack investment appeal at this juncture.** The stock has slipped one notch on our Timeliness ranking scale, to 4 (Below Average). Moreover, much of the growth we envision three to five years hence appears to already be factored into the recent quotation. All told, subscribers would do well to remain on the sidelines, for now.

Nicholas Patrikis  
October 7, 2022

ESSENTIAL UTIL. NYSE-WTRG				RECENT PRICE	P/E RATIO	TRAILING (25.6)	RELATIVE P/E RATIO	DIV'D YLD	VALUE LINE										
TIMELINESS	3	Raised 9/16/22	High: 19.0	43.46	23.9	(Trailing: 25.6)	1.66	2.7%	Target Price Range										
SAFETY	3	Lowered 1/8/21	Low: 15.4			(Median: 25.0)			2025 2026 2027										
TECHNICAL	1	Raised 9/16/22	21.5																
BETA	.95	(1.00 = Market)	28.1																
18-Month Target Price Range																			
Low-High Midpoint (% to Mid)																			
\$38-\$72 \$55 (25%)																			
2025-27 PROJECTIONS																			
High	Price	Gain	Ann'l Total																
Low	70	(+60%)	Return																
	45	(+5%)	15%																
			4%																
Institutional Decisions																			
to Buy	4Q2021	1Q2022	2Q2022	Percent															
to Sell	313	292	277	shares															
Hld's(000)	178560	181504	183099	traded															
2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27
3.23	3.61	3.71	3.93	4.21	4.10	4.32	4.32	4.37	4.61	4.62	4.56	4.71	4.03	5.96	7.43	8.25	8.25	Revenues per sh	8.95
1.01	1.10	1.14	1.29	1.42	1.45	1.51	1.82	1.89	1.87	2.07	2.12	1.90	1.73	2.21	2.89	3.00	3.20	"Cash Flow" per sh	4.00
.56	.57	.58	.62	.72	.83	.87	1.16	1.20	1.14	1.32	1.35	1.08	1.04	1.12	1.67	1.80	1.95	Earnings per sh	2.25
.35	.38	.41	.44	.47	.50	.54	.58	.63	.69	.74	.79	.85	.91	.97	1.04	1.11	1.20	Div'd Decl'd per sh	1.55
1.64	1.43	1.58	1.66	1.89	1.90	1.98	1.73	1.84	2.07	2.16	2.69	2.78	2.49	3.41	4.04	3.95	3.85	Cap'l Spending per sh	3.80
5.57	5.85	6.26	6.50	6.81	7.21	7.90	8.63	9.27	9.78	10.43	11.02	11.28	17.58	19.09	20.50	21.45	22.30	Book Value per sh	26.90
165.41	166.75	169.21	170.61	172.46	173.60	175.43	177.93	178.59	176.54	177.39	177.71	178.09	220.76	245.39	252.87	255.00	260.00	Common Shs Outst'g	280.00
34.7	32.0	24.9	23.1	21.1	21.3	21.9	21.2	20.8	23.5	23.9	24.7	32.6	39.1	39.6	28.3	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	26.0
1.87	1.70	1.50	1.54	1.34	1.34	1.39	1.19	1.09	1.18	1.25	1.24	1.76	2.08	2.03	1.55			Relative P/E Ratio	1.45
1.8%	2.1%	2.8%	3.1%	3.1%	2.8%	2.8%	2.4%	2.5%	2.6%	2.3%	2.4%	2.4%	2.2%	2.2%	2.2%			Avg Ann'l Div'd Yield	2.7%
CAPITAL STRUCTURE as of 6/30/22				757.8	768.6	779.9	814.2	819.9	809.5	838.1	889.7	1462.7	1878.1	2110	2150	Revenues (\$mill)	2500		
Total Debt \$6213.3 mill. Due in 5 Yrs \$882.1 mill.				153.1	205.0	213.9	201.8	234.2	239.7	192.0	224.5	284.8	431.6	460	505	Net Profit (\$mill)	630		
LT Debt \$6087.7 mill. LT Interest \$216.0 mill. (53% of Cap'l)				39.0%	10.0%	10.5%	6.9%	8.2%	6.6%	--	--	--	4.0%	10.0%	Income Tax Rate	15.0%			
Pension Assets-12/21 \$433.1 mill. Oblig. \$452.9 mill.				--	1.1%	2.4%	3.1%	3.8%	6.3%	6.8%	7.2%	4.5%	4.8%	5.0%	5.0%	AFUDC % to Net Profit	6.0%		
Pfd Stock None				52.7%	48.9%	48.5%	50.3%	48.4%	50.6%	54.4%	43.1%	54.0%	52.7%	54.0%	54.5%	Long-Term Debt Ratio	53.0%		
Common Stock 262,170,763 shares as of 7/22/22				47.3%	51.1%	51.5%	49.7%	51.6%	49.4%	45.6%	56.9%	46.0%	47.3%	46.0%	45.5%	Common Equity Ratio	47.0%		
MARKET CAP: \$11.4 billion (Large Cap)				2929.7	3003.6	3216.0	3469.5	3587.7	3965.4	4407.8	6824.2	10192	10964	11975	12800	Total Capital (\$mill)	16000		
CURRENT POSITION (SMILL.)				3936.2	4167.3	4402.0	4688.9	5001.6	5399.9	5930.3	6345.8	9512.9	10252	10900	11600	Net Plant (\$mill)	13500		
Cash Assets				6.6%	8.0%	7.8%	6.9%	7.6%	7.1%	5.5%	4.2%	3.7%	4.8%	5.5%	5.5%	Return on Total Cap'l	5.5%		
Receivables				11.0%	13.4%	12.9%	11.7%	12.7%	12.2%	9.6%	5.8%	6.1%	8.3%	8.5%	8.5%	Return on Shr. Equity	8.5%		
Inventory (AvgCst)				11.0%	13.4%	12.9%	11.7%	12.7%	12.2%	9.6%	5.8%	6.1%	8.3%	8.5%	8.5%	Return on Com Equity	8.5%		
Other				61%	50%	52%	60%	56%	59%	71%	79%	84%	82%	62%	62%	Retained to Com Eq	2.5%		
Current Assets																		All Div's to Net Prof	69%
Accts Payable				<p><b>BUSINESS:</b> Essential Utilities, Inc. became the new name for Aqua America on Feb. 3, 2020, to reflect the acquisition of Peoples, a natural gas utility, which occurred in 3/20. In 2021, Aqua Amer. provided water and wastewater services to about 5 million people in PA, OH, TX, IL, NC, NJ, IN, VA NS WS. Employs 3,211. Acquired AquaSource, 7/13; N. Maine Util., 7/15; and others. Water respn. for 52% of revenues in 2021; residential, 30%; commercial, 8.0%; industrial, wastewater &amp; other, 14%. Gas 46%; other, 2.0%. Off. &amp; dir. own less than 1% of the common stock; BlackRock, 10.6%; Vanguard, 9.7%; Can. Pen. Plan 8.6% (3/22 proxy). Pres. &amp; CEO: Christopher Franklin, Inc.: PA Addr.: 762 W Lancaster Ave., Bryn Mawr, PA 19010. Tel.: 610-525-1400. Int.: www.essential.co.</p>															
Debt Due				<p><b>Essential Utilities' second-quarter earnings were in line with our expectations.</b> The water and gas utility posted share net of \$0.31, versus our \$0.32 estimate. Management reaffirmed the same guidance as before, so we are sticking with our previous bottom-line estimates of \$1.80 and 1.95 for 2022 and 2023, respectively. These figures represent a solid 8% increase for both this year and next.</p>															
Other				<p><b>A potential acquisition of a large wastewater project has been shelved, for now.</b> Last summer, Essential's Aqua America water subsidiary signed an exclusivity agreement with the Bucks County Water and Sewer Authority to discuss purchasing the asset for about \$1.1 billion. In early September, the negotiations were suddenly halted. Aqua continues to express interest in completing the transaction, however. In any case, it has already closed two acquisitions this year and agreed to buy parts, or all of the assets of seven different water systems. The price tag will total approximately \$365 million. <b>The policy of aggressively buying other water entities ought to help fuel</b></p>															
Current Liab.				<p><b>long-term growth.</b> America's water industry is incredibly fragmented with most water districts being run by small, undercapitalized municipal entities. Not only do they not have the funds required to replace old pipelines and treatment centers, but they are inefficient. When a bigger company, such as Aqua, takes over a smaller water authority, it can create significant efficiencies by eliminating many redundancies.</p>															
ANNUAL RATES				<p><b>The dividend was hiked by a healthy percentage.</b> The board increased the quarterly payout by 7%, to \$0.287 a share in the latest quarter.</p>															
Past 10 Yrs				<p><b>Shares of Essential do not look particularly attractive at this time.</b> In the year ahead, the equity is just ranked to perform in line with the broader market averages. Also, the stock's total return potential is well below that of the average equity under Value Line review. Similar to others in this industry, Essential has many appealing features, including well-defined earnings and dividend growth, but they all appear to be more than reflected in the recent quotation.</p>															
Past 5 Yrs				<p><i>James A. Flood</i> <span style="float: right;"><i>October 7, 2022</i></span></p>															
Est'd '19-'21 to '25-'27																			
Revenues																			
"Cash Flow"																			
Earnings																			
Dividends																			
Book Value																			
Cal-endar																			
QUARTERLY REVENUES (\$ mill.)																			
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(A) Diluted eps. Excl. nonrec. gains: '12, 18c. Excl. gain from disc. operations: '12, 7c; '13, 9c; '14, 11c. Quarterly EPS do not add in '19 due to a large change in the number of shares outstanding in the Dec. period. Next earnings report early November. (B) Dividends historically paid in early March, June, Sept., & Dec. ■ Div'd. reinvestment plan available (5% discount). (C) In millions, adjusted for stock split. (D) Includes intangibles: 12/31/21, \$1.231 bill./\$4.87 a share.

Company's Financial Strength	B++
Stock's Price Stability	90
Price Growth Persistence	90
Earnings Predictability	60

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MIDDLESEX WATER NDQ-MSEX				RECENT PRICE	81.76	P/E RATIO	35.5 (Trailing: 36.5 Median: 24.0)	RELATIVE P/E RATIO	2.47	DIV'D YLD	1.4%	VALUE LINE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
<b>TIMELINESS</b> 3 Raised 9/9/22	High: 19.4	19.6	22.5	23.7	28.0	44.5	46.7	60.3	67.7	76.1	121.4	121.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
<b>SAFETY</b> 2 New 10/21/11	Low: 16.5	17.5	18.6	19.1	21.2	25.0	32.2	34.0	51.0	48.8	67.1	75.8																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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<b>BETA</b> .70 (1.00 = Market)	<b>18-Month Target Price Range</b> Low-High Midpoint (% to Mid) \$77-\$160 \$119 (45%)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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LLC</th> <th>25-27</th> </tr> </thead> <tbody> <tr> <td>6.16</td> <td>6.50</td> <td>6.79</td> <td>6.75</td> <td>6.60</td> <td>6.50</td> <td>6.98</td> <td>7.19</td> <td>7.26</td> <td>7.77</td> <td>8.16</td> <td>8.00</td> <td>8.42</td> <td>7.72</td> <td>8.10</td> <td>8.17</td> <td><b>8.75</b></td> <td><b>8.95</b></td> <td>Revenues per sh</td> <td><b>9.15</b></td> </tr> <tr> <td>1.33</td> <td>1.49</td> <td>1.53</td> <td>1.40</td> <td>1.55</td> <td>1.46</td> <td>1.56</td> <td>1.72</td> <td>1.84</td> <td>1.97</td> <td>2.17</td> <td>2.24</td> <td>2.89</td> <td>2.90</td> <td>3.25</td> <td>3.28</td> <td><b>3.40</b></td> <td><b>3.50</b></td> <td>"Cash Flow" per sh</td> <td><b>3.85</b></td> </tr> <tr> <td>.82</td> <td>.87</td> <td>.89</td> <td>.72</td> <td>.96</td> <td>.84</td> <td>.90</td> <td>1.03</td> <td>1.13</td> <td>1.22</td> <td>1.38</td> <td>1.38</td> <td>1.96</td> <td>2.01</td> <td>2.18</td> <td>2.07</td> <td><b>2.45</b></td> <td><b>2.50</b></td> <td>Earnings per sh <sup>A</sup></td> <td><b>2.75</b></td> </tr> <tr> <td>.68</td> <td>.69</td> <td>.70</td> <td>.71</td> <td>.72</td> <td>.73</td> <td>.74</td> <td>.75</td> <td>.76</td> <td>.78</td> <td>.81</td> <td>.86</td> <td>.91</td> <td>.98</td> <td>1.04</td> <td>1.11</td> <td><b>1.18</b></td> <td><b>1.25</b></td> <td>Div'd Decl'd per sh <sup>B</sup></td> <td><b>1.40</b></td> </tr> <tr> <td>2.31</td> <td>1.66</td> <td>2.12</td> <td>1.49</td> <td>1.90</td> <td>1.50</td> <td>1.36</td> <td>1.26</td> <td>1.40</td> <td>1.59</td> <td>2.91</td> <td>3.08</td> <td>4.40</td> <td>5.11</td> <td>6.04</td> <td>4.53</td> <td><b>5.00</b></td> <td><b>5.25</b></td> <td>Cap'l Spending per sh</td> <td><b>6.00</b></td> </tr> <tr> <td>9.52</td> <td>10.05</td> <td>10.03</td> <td>10.33</td> <td>11.13</td> <td>11.27</td> <td>11.48</td> <td>11.82</td> <td>12.24</td> <td>12.74</td> <td>13.40</td> <td>14.02</td> <td>15.17</td> <td>18.57</td> <td>19.81</td> <td>20.99</td> <td><b>21.70</b></td> <td><b>22.40</b></td> <td>Book Value per sh</td> <td><b>22.80</b></td> </tr> <tr> <td>13.17</td> <td>13.25</td> <td>13.40</td> <td>13.52</td> <td>15.57</td> <td>15.70</td> <td>15.82</td> <td>15.96</td> <td>16.12</td> <td>16.23</td> <td>16.30</td> <td>16.35</td> <td>16.40</td> <td>17.43</td> <td>17.47</td> <td>17.52</td> <td><b>17.75</b></td> <td><b>17.85</b></td> <td>Common Shs Outst'g <sup>C</sup></td> <td><b>18.00</b></td> </tr> <tr> <td>22.7</td> <td>21.6</td> <td>19.8</td> <td>21.0</td> <td>17.8</td> <td>21.7</td> <td>20.8</td> <td>19.7</td> <td>18.5</td> <td>19.1</td> <td>25.6</td> <td>28.4</td> <td>22.2</td> <td>29.7</td> <td>30.1</td> <td>44.3</td> <td><b>Bold figures are Value Line estimates</b></td> <td></td> <td>Avg Ann'l P/E Ratio</td> <td><b>28.0</b></td> </tr> <tr> <td>1.23</td> <td>1.15</td> <td>1.19</td> <td>1.40</td> <td>1.13</td> <td>1.36</td> <td>1.32</td> <td>1.11</td> <td>.97</td> <td>.96</td> <td>1.34</td> <td>1.43</td> <td>1.20</td> <td>1.58</td> <td>1.55</td> <td>2.43</td> <td></td> <td></td> <td>Relative P/E Ratio</td> <td><b>1.30</b></td> </tr> <tr> <td>3.7%</td> <td>3.7%</td> <td>4.0%</td> <td>4.7%</td> <td>4.2%</td> <td>4.0%</td> <td>4.0%</td> <td>3.7%</td> <td>3.7%</td> <td>3.3%</td> <td>2.3%</td> <td>2.2%</td> <td>2.1%</td> <td>1.6%</td> <td>1.6%</td> <td>1.2%</td> <td></td> <td></td> <td>Avg Ann'l Div'd Yield</td> <td><b>1.8%</b></td> </tr> <tr> <td colspan="4"><b>CAPITAL STRUCTURE as of 6/30/22</b></td> <td>110.4</td> <td>114.8</td> <td>117.1</td> <td>126.0</td> <td>132.9</td> <td>130.8</td> <td>138.1</td> <td>134.6</td> <td>141.6</td> <td>143.1</td> <td><b>155</b></td> <td><b>160</b></td> <td>Revenues (\$mill)</td> <td><b>165</b></td> </tr> <tr> <td colspan="4">Total Debt \$313.2 mill. Due in 5 Yrs \$43.7 mill.</td> <td>14.4</td> <td>16.6</td> <td>18.4</td> <td>20.0</td> <td>22.7</td> <td>22.8</td> <td>32.5</td> <td>33.9</td> <td>38.4</td> <td>36.5</td> <td><b>44.0</b></td> <td><b>45.0</b></td> <td>Net Profit (\$mill)</td> <td><b>50.0</b></td> </tr> <tr> <td colspan="4">LT Debt \$305.4 mill. LT Interest \$7.5 mill.</td> <td>33.9%</td> <td>34.1%</td> <td>35.0%</td> <td>34.5%</td> <td>34.0%</td> <td>32.7%</td> <td>2.8%</td> <td>--</td> <td>2.8%</td> <td>2.8%</td> <td><b>21.0%</b></td> <td><b>21.0%</b></td> <td>Income Tax Rate</td> <td><b>21.0%</b></td> </tr> <tr> <td colspan="4">(Total interest coverage: 5.0x)</td> <td>3.4%</td> <td>1.9%</td> <td>1.7%</td> <td>1.9%</td> <td>2.7%</td> <td>3.1%</td> <td>1.4%</td> <td>3.4%</td> <td>3.9%</td> <td>3.9%</td> <td><b>2.5%</b></td> <td><b>2.5%</b></td> <td>AFUDC % to Net Profit</td> <td><b>2.5%</b></td> </tr> <tr> <td colspan="4">(45% of Cap'l)</td> <td>41.5%</td> <td>40.4%</td> <td>40.5%</td> <td>39.4%</td> <td>37.9%</td> <td>37.5%</td> <td>37.8%</td> <td>41.5%</td> <td>44.0%</td> <td>45.3%</td> <td><b>44.0%</b></td> <td><b>43.5%</b></td> <td>Long-Term Debt Ratio</td> <td><b>42.0%</b></td> </tr> <tr> <td colspan="4"><b>Pension Assets-12/21</b> \$100.8 mill.</td> <td>57.4%</td> <td>58.7%</td> <td>58.8%</td> <td>59.8%</td> <td>61.5%</td> <td>61.8%</td> <td>61.6%</td> <td>58.2%</td> <td>55.7%</td> <td>54.4%</td> <td><b>55.5%</b></td> <td><b>56.0%</b></td> <td>Common Equity Ratio</td> <td><b>57.5%</b></td> </tr> <tr> <td colspan="4">Oblig. \$113.7 mill.</td> <td>316.5</td> <td>321.4</td> <td>335.8</td> <td>345.4</td> <td>355.4</td> <td>370.7</td> <td>404.1</td> <td>556.7</td> <td>621.5</td> <td>676.3</td> <td><b>690</b></td> <td><b>710</b></td> <td>Total Capital (\$mill)</td> <td><b>715</b></td> </tr> <tr> <td colspan="4"><b>Pfd Stock</b> \$2.4 mill. Pfd Div'd: \$1 mill.</td> <td>435.2</td> <td>446.5</td> <td>465.4</td> <td>481.9</td> <td>517.8</td> <td>557.2</td> <td>618.5</td> <td>705.7</td> <td>796.6</td> <td>865.4</td> <td><b>875</b></td> <td><b>885</b></td> <td>Net Plant (\$mill)</td> <td><b>915</b></td> </tr> <tr> <td colspan="4"><b>Common Stock</b> 17,610,000 shs. as of 7/29/22</td> <td>5.4%</td> <td>5.9%</td> <td>6.3%</td> <td>6.6%</td> <td>7.1%</td> <td>6.9%</td> <td>8.9%</td> <td>6.7%</td> <td>6.8%</td> <td>6.0%</td> <td><b>6.5%</b></td> <td><b>6.5%</b></td> <td>Return on Total Cap'l</td> <td><b>7.5%</b></td> </tr> <tr> <td colspan="4"><b>MARKET CAP: \$1.4 billion (Small Cap)</b></td> <td>7.8%</td> <td>8.7%</td> <td>9.2%</td> <td>9.6%</td> <td>10.3%</td> <td>9.8%</td> <td>12.9%</td> <td>10.4%</td> <td>11.0%</td> <td>9.9%</td> <td><b>11.0%</b></td> <td><b>11.0%</b></td> <td>Return on Shr. Equity</td> <td><b>12.0%</b></td> </tr> <tr> <td colspan="4"></td> <td>7.8%</td> <td>8.7%</td> <td>9.3%</td> <td>9.6%</td> <td>10.3%</td> <td>9.9%</td> <td>13.0%</td> <td>10.4%</td> <td>11.1%</td> <td>9.9%</td> <td><b>11.5%</b></td> <td><b>11.0%</b></td> <td>Return on Com Equity</td> <td><b>12.0%</b></td> </tr> <tr> <td colspan="4"></td> <td>1.4%</td> <td>2.4%</td> <td>3.1%</td> <td>3.5%</td> <td>4.3%</td> <td>3.8%</td> <td>7.0%</td> <td>5.4%</td> <td>5.8%</td> <td>4.6%</td> <td><b>6.0%</b></td> <td><b>5.5%</b></td> <td>Retained to Com Eq</td> <td><b>6.0%</b></td> </tr> <tr> <td colspan="4"></td> <td>83%</td> <td>73%</td> <td>67%</td> <td>63%</td> <td>58%</td> <td>62%</td> <td>46%</td> <td>48%</td> <td>53%</td> <td><b>48%</b></td> <td><b>50%</b></td> <td>All Div's to Net Prof</td> <td><b>51%</b></td> </tr> <tr> <td colspan="4"><b>CURRENT POSITION (\$MILL)</b></td> <td colspan="16"> <b>BUSINESS:</b> 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 2021, the Middlesex System accounted for 59% of operating revenues. At 12/31/21, the company had 347 employees. Incorporated: NJ. President, CEO, and Chairman: Dennis W. Doll. Officers &amp; directors own 2.0% of the com. stock; BlackRock Inst. Trust Co., 7.8% (4/22 proxy). Add.: 485 C Route 1 South, Suite 400, Iselin, NJ 08830. Telephone: 732-634-1500. Int.: www.middlesexwater.com.         </td> </tr> <tr> <td colspan="4">Cash Assets</td> <td>4.5</td> <td>3.5</td> <td>4.3</td> <td colspan="16"> <b>Middlesex Water recently inked a deal to manage the Borough of Avalon, New Jersey's water and sewer utility operations.</b> The new 10-year contract, which went into effect on September 1, 2022, replaces the previous decade-long agreement, and includes provisions for maintenance and customer services. <b>Periodic rate hikes have more than offset the company's regulated Delaware wastewater divestment from earlier this year.</b> The latter resulted in approximately \$0.7 million in reduced revenues for the June period. However, the top line is benefiting notably from the latest round of customer rate increases. To wit, the New Jersey Board of Public Utilities recently approved another rate hike, largely due to aggressive infrastructure and distribution system investments. In sum, we now look for revenues of \$155 million this year (up from our previous call of \$153 million) and \$160 million in the next (up from \$158 million). <b>Strong bottom-line expansion is likely on tap for 2022, despite a modest reduction to our current-year profit forecast.</b> Earnings contracted about 20% year over year in the second quarter, to \$0.50 per share. Expiring income tax benefits and higher operating expenses weighed on the figure. Consequently, we are shaving a dime from our full-year 2022 bottom-line estimate, to \$2.45 per share. <b>Over the pull to late decade, leadership is poised to invest heavily on infrastructure-related upgrades.</b> Indeed, aging water delivery systems and pipelines are long overdue for replacement. Management is apt to focus on facility treatment enhancements as well. Overall, aggressive spending on public infrastructure projects suggests that additional rate hikes are probably in the cards further down the road. <b>Middlesex stock is ranked to mirror the broader market averages over the coming six to 12 months.</b> What's more, at the recent quotation, the equity lacks appeal over the 18-month and 3- to 5-year windows. Although the company is non-cyclical and pays a stable quarterly dividend that is well-covered by earnings, we think waiting for a better entry point is the prudent move here at this juncture.         </td> </tr> <tr> <td colspan="4">Other</td> <td>29.6</td> <td>30.9</td> <td>34.7</td> <td colspan="16"> <i>Nicholas Patrikis</i> <span style="float: right;">October 7, 2022</span> </td> </tr> <tr> <td colspan="4">Current Assets</td> <td>34.1</td> <td>34.4</td> <td>39.0</td> <td colspan="16"></td> </tr> <tr> <td colspan="4">Accts Payable</td> <td>30.4</td> <td>21.1</td> <td>24.2</td> <td colspan="16"></td> </tr> <tr> <td colspan="4">Debt Due</td> <td>9.3</td> <td>6.7</td> <td>7.8</td> <td colspan="16"></td> </tr> <tr> <td colspan="4">Other</td> <td>17.1</td> <td>28.8</td> <td>46.8</td> <td colspan="16"></td> </tr> <tr> <td colspan="4">Current Liab.</td> <td>56.8</td> <td>56.6</td> <td>78.8</td> <td colspan="16"></td> </tr> <tr> <td colspan="4"><b>ANNUAL RATES</b></td> <td>Past 10 Yrs.</td> <td>Past 5 Yrs.</td> <td>Est'd '19-'21 to '25-'27</td> <td colspan="16"></td> </tr> <tr> <td colspan="4">of change (per sh)</td> <td></td> <td></td> <td></td> <td colspan="16"></td> </tr> <tr> <td colspan="4">Revenues</td> <td>2.0%</td> <td>2.5%</td> <td>2.5%</td> <td colspan="16"></td> </tr> <tr> <td colspan="4">"Cash Flow"</td> <td>8.0%</td> <td>9.5%</td> <td>3.5%</td> <td colspan="16"></td> </tr> <tr> <td colspan="4">Earnings</td> <td>9.5%</td> <td>11.0%</td> <td>4.5%</td> <td colspan="16"></td> </tr> <tr> <td colspan="4">Dividends</td> <td>3.5%</td> <td>6.0%</td> <td>5.0%</td> <td colspan="16"></td> </tr> <tr> <td colspan="4">Book Value</td> <td>6.0%</td> <td>9.0%</td> <td>2.5%</td> <td colspan="16"></td> </tr> <tr> <td colspan="4"><b>QUARTERLY REVENUES (\$ mill.)</b></td> <td>Cal-endar</td> <td>Mar.31</td> <td>Jun. 30</td> <td>Sep. 30</td> <td>Dec. 31</td> <td>Full Year</td> <td colspan="11"></td> </tr> <tr> <td colspan="4">2019</td> <td>30.7</td> <td>33.4</td> <td>37.8</td> <td>32.7</td> <td>134.6</td> <td colspan="11"></td> </tr> <tr> <td colspan="4">2020</td> <td>31.8</td> <td>35.3</td> <td>39.9</td> <td>34.6</td> <td>141.6</td> <td colspan="11"></td> </tr> <tr> <td colspan="4">2021</td> <td>32.5</td> <td>36.7</td> <td>39.9</td> <td>34.0</td> <td>143.1</td> <td colspan="11"></td> </tr> <tr> <td colspan="4">2022</td> <td>36.2</td> <td>39.7</td> <td><b>41.0</b></td> <td><b>38.1</b></td> <td><b>155</b></td> <td colspan="11"></td> </tr> <tr> <td colspan="4">2023</td> <td><b>38.0</b></td> <td><b>41.0</b></td> <td><b>42.0</b></td> <td><b>39.0</b></td> <td><b>160</b></td> <td colspan="11"></td> </tr> <tr> <td colspan="4"><b>EARNINGS PER SHARE <sup>A</sup></b></td> <td>Cal-endar</td> <td>Mar.31</td> <td>Jun. 30</td> <td>Sep. 30</td> <td>Dec. 31</td> <td>Full Year</td> <td colspan="11"></td> </tr> <tr> <td colspan="4">2019</td> <td>.39</td> <td>.49</td> <td>.66</td> <td>.46</td> <td>2.01</td> <td colspan="11"></td> </tr> <tr> <td colspan="4">2020</td> <td>.44</td> <td>.55</td> <td>.72</td> <td>.47</td> <td>2.18</td> <td colspan="11"></td> </tr> <tr> <td colspan="4">2021</td> <td>.39</td> <td>.62</td> <td>.65</td> <td>.41</td> <td>2.07</td> <td colspan="11"></td> </tr> <tr> <td colspan="4">2022</td> <td>.68</td> <td>.50</td> <td><b>.75</b></td> <td><b>.52</b></td> <td><b>2.45</b></td> <td colspan="11"></td> </tr> <tr> <td colspan="4">2023</td> <td><b>.53</b></td> <td><b>.60</b></td> <td><b>.77</b></td> <td><b>.60</b></td> <td><b>2.50</b></td> <td colspan="11"></td> </tr> <tr> <td colspan="4"><b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b></td> <td>Cal-endar</td> <td>Mar.31</td> <td>Jun.30</td> <td>Sep.30</td> <td>Dec.31</td> <td>Full Year</td> <td colspan="11"></td> </tr> <tr> <td colspan="4">2018</td> <td>.22375</td> <td>.22375</td> <td>.22375</td> <td>.24</td> <td>.91</td> <td colspan="11"></td> </tr> <tr> <td colspan="4">2019</td> <td>.24</td> <td>.24</td> <td>.24</td> <td>.2562</td> <td>.98</td> <td colspan="11"></td> </tr> <tr> <td colspan="4">2020</td> <td>.2562</td> <td>.2562</td> <td>.2562</td> <td>.2725</td> <td>1.04</td> <td colspan="11"></td> </tr> <tr> <td colspan="4">2021</td> <td>.2725</td> <td>.2725</td> <td>.2725</td> <td>.29</td> <td>1.11</td> <td colspan="11"></td> </tr> <tr> <td colspan="4">2022</td> <td>.29</td> <td>.29</td> <td>.29</td> <td></td> <td></td> <td colspan="11"></td> </tr> </tbody> </table>													2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC	25-27	6.16	6.50	6.79	6.75	6.60	6.50	6.98	7.19	7.26	7.77	8.16	8.00	8.42	7.72	8.10	8.17	<b>8.75</b>	<b>8.95</b>	Revenues per sh	<b>9.15</b>	1.33	1.49	1.53	1.40	1.55	1.46	1.56	1.72	1.84	1.97	2.17	2.24	2.89	2.90	3.25	3.28	<b>3.40</b>	<b>3.50</b>	"Cash Flow" per sh	<b>3.85</b>	.82	.87	.89	.72	.96	.84	.90	1.03	1.13	1.22	1.38	1.38	1.96	2.01	2.18	2.07	<b>2.45</b>	<b>2.50</b>	Earnings per sh <sup>A</sup>	<b>2.75</b>	.68	.69	.70	.71	.72	.73	.74	.75	.76	.78	.81	.86	.91	.98	1.04	1.11	<b>1.18</b>	<b>1.25</b>	Div'd Decl'd per sh <sup>B</sup>	<b>1.40</b>	2.31	1.66	2.12	1.49	1.90	1.50	1.36	1.26	1.40	1.59	2.91	3.08	4.40	5.11	6.04	4.53	<b>5.00</b>	<b>5.25</b>	Cap'l Spending per sh	<b>6.00</b>	9.52	10.05	10.03	10.33	11.13	11.27	11.48	11.82	12.24	12.74	13.40	14.02	15.17	18.57	19.81	20.99	<b>21.70</b>	<b>22.40</b>	Book Value per sh	<b>22.80</b>	13.17	13.25	13.40	13.52	15.57	15.70	15.82	15.96	16.12	16.23	16.30	16.35	16.40	17.43	17.47	17.52	<b>17.75</b>	<b>17.85</b>	Common Shs Outst'g <sup>C</sup>	<b>18.00</b>	22.7	21.6	19.8	21.0	17.8	21.7	20.8	19.7	18.5	19.1	25.6	28.4	22.2	29.7	30.1	44.3	<b>Bold figures are Value Line estimates</b>		Avg Ann'l P/E Ratio	<b>28.0</b>	1.23	1.15	1.19	1.40	1.13	1.36	1.32	1.11	.97	.96	1.34	1.43	1.20	1.58	1.55	2.43			Relative P/E Ratio	<b>1.30</b>	3.7%	3.7%	4.0%	4.7%	4.2%	4.0%	4.0%	3.7%	3.7%	3.3%	2.3%	2.2%	2.1%	1.6%	1.6%	1.2%			Avg Ann'l Div'd Yield	<b>1.8%</b>	<b>CAPITAL STRUCTURE as of 6/30/22</b>				110.4	114.8	117.1	126.0	132.9	130.8	138.1	134.6	141.6	143.1	<b>155</b>	<b>160</b>	Revenues (\$mill)	<b>165</b>	Total Debt \$313.2 mill. Due in 5 Yrs \$43.7 mill.				14.4	16.6	18.4	20.0	22.7	22.8	32.5	33.9	38.4	36.5	<b>44.0</b>	<b>45.0</b>	Net Profit (\$mill)	<b>50.0</b>	LT Debt \$305.4 mill. LT Interest \$7.5 mill.				33.9%	34.1%	35.0%	34.5%	34.0%	32.7%	2.8%	--	2.8%	2.8%	<b>21.0%</b>	<b>21.0%</b>	Income Tax Rate	<b>21.0%</b>	(Total interest coverage: 5.0x)				3.4%	1.9%	1.7%	1.9%	2.7%	3.1%	1.4%	3.4%	3.9%	3.9%	<b>2.5%</b>	<b>2.5%</b>	AFUDC % to Net Profit	<b>2.5%</b>	(45% of Cap'l)				41.5%	40.4%	40.5%	39.4%	37.9%	37.5%	37.8%	41.5%	44.0%	45.3%	<b>44.0%</b>	<b>43.5%</b>	Long-Term Debt Ratio	<b>42.0%</b>	<b>Pension Assets-12/21</b> \$100.8 mill.				57.4%	58.7%	58.8%	59.8%	61.5%	61.8%	61.6%	58.2%	55.7%	54.4%	<b>55.5%</b>	<b>56.0%</b>	Common Equity Ratio	<b>57.5%</b>	Oblig. \$113.7 mill.				316.5	321.4	335.8	345.4	355.4	370.7	404.1	556.7	621.5	676.3	<b>690</b>	<b>710</b>	Total Capital (\$mill)	<b>715</b>	<b>Pfd Stock</b> \$2.4 mill. Pfd Div'd: \$1 mill.				435.2	446.5	465.4	481.9	517.8	557.2	618.5	705.7	796.6	865.4	<b>875</b>	<b>885</b>	Net Plant (\$mill)	<b>915</b>	<b>Common Stock</b> 17,610,000 shs. as of 7/29/22				5.4%	5.9%	6.3%	6.6%	7.1%	6.9%	8.9%	6.7%	6.8%	6.0%	<b>6.5%</b>	<b>6.5%</b>	Return on Total Cap'l	<b>7.5%</b>	<b>MARKET CAP: \$1.4 billion (Small Cap)</b>				7.8%	8.7%	9.2%	9.6%	10.3%	9.8%	12.9%	10.4%	11.0%	9.9%	<b>11.0%</b>	<b>11.0%</b>	Return on Shr. Equity	<b>12.0%</b>					7.8%	8.7%	9.3%	9.6%	10.3%	9.9%	13.0%	10.4%	11.1%	9.9%	<b>11.5%</b>	<b>11.0%</b>	Return on Com Equity	<b>12.0%</b>					1.4%	2.4%	3.1%	3.5%	4.3%	3.8%	7.0%	5.4%	5.8%	4.6%	<b>6.0%</b>	<b>5.5%</b>	Retained to Com Eq	<b>6.0%</b>					83%	73%	67%	63%	58%	62%	46%	48%	53%	<b>48%</b>	<b>50%</b>	All Div's to Net Prof	<b>51%</b>	<b>CURRENT POSITION (\$MILL)</b>				<b>BUSINESS:</b> 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 2021, the Middlesex System accounted for 59% of operating revenues. At 12/31/21, the company had 347 employees. Incorporated: NJ. President, CEO, and Chairman: Dennis W. Doll. Officers & directors own 2.0% of the com. stock; BlackRock Inst. Trust Co., 7.8% (4/22 proxy). Add.: 485 C Route 1 South, Suite 400, Iselin, NJ 08830. Telephone: 732-634-1500. Int.: www.middlesexwater.com.																Cash Assets				4.5	3.5	4.3	<b>Middlesex Water recently inked a deal to manage the Borough of Avalon, New Jersey's water and sewer utility operations.</b> The new 10-year contract, which went into effect on September 1, 2022, replaces the previous decade-long agreement, and includes provisions for maintenance and customer services. <b>Periodic rate hikes have more than offset the company's regulated Delaware wastewater divestment from earlier this year.</b> The latter resulted in approximately \$0.7 million in reduced revenues for the June period. However, the top line is benefiting notably from the latest round of customer rate increases. To wit, the New Jersey Board of Public Utilities recently approved another rate hike, largely due to aggressive infrastructure and distribution system investments. In sum, we now look for revenues of \$155 million this year (up from our previous call of \$153 million) and \$160 million in the next (up from \$158 million). <b>Strong bottom-line expansion is likely on tap for 2022, despite a modest reduction to our current-year profit forecast.</b> Earnings contracted about 20% year over year in the second quarter, to \$0.50 per share. Expiring income tax benefits and higher operating expenses weighed on the figure. Consequently, we are shaving a dime from our full-year 2022 bottom-line estimate, to \$2.45 per share. <b>Over the pull to late decade, leadership is poised to invest heavily on infrastructure-related upgrades.</b> Indeed, aging water delivery systems and pipelines are long overdue for replacement. Management is apt to focus on facility treatment enhancements as well. Overall, aggressive spending on public infrastructure projects suggests that additional rate hikes are probably in the cards further down the road. <b>Middlesex stock is ranked to mirror the broader market averages over the coming six to 12 months.</b> What's more, at the recent quotation, the equity lacks appeal over the 18-month and 3- to 5-year windows. Although the company is non-cyclical and pays a stable quarterly dividend that is well-covered by earnings, we think waiting for a better entry point is the prudent move here at this juncture.																Other				29.6	30.9	34.7	<i>Nicholas Patrikis</i> <span style="float: right;">October 7, 2022</span>																Current Assets				34.1	34.4	39.0																	Accts Payable				30.4	21.1	24.2																	Debt Due				9.3	6.7	7.8																	Other				17.1	28.8	46.8																	Current Liab.				56.8	56.6	78.8																	<b>ANNUAL RATES</b>				Past 10 Yrs.	Past 5 Yrs.	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13.17	13.25	13.40	13.52	15.57	15.70	15.82	15.96	16.12	16.23	16.30	16.35	16.40	17.43	17.47	17.52	<b>17.75</b>	<b>17.85</b>	Common Shs Outst'g <sup>C</sup>	<b>18.00</b>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
22.7	21.6	19.8	21.0	17.8	21.7	20.8	19.7	18.5	19.1	25.6	28.4	22.2	29.7	30.1	44.3	<b>Bold figures are Value Line estimates</b>		Avg Ann'l P/E Ratio	<b>28.0</b>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
1.23	1.15	1.19	1.40	1.13	1.36	1.32	1.11	.97	.96	1.34	1.43	1.20	1.58	1.55	2.43			Relative P/E Ratio	<b>1.30</b>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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<b>CAPITAL STRUCTURE as of 6/30/22</b>				110.4	114.8	117.1	126.0	132.9	130.8	138.1	134.6	141.6	143.1	<b>155</b>	<b>160</b>	Revenues (\$mill)	<b>165</b>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
Total Debt \$313.2 mill. Due in 5 Yrs \$43.7 mill.				14.4	16.6	18.4	20.0	22.7	22.8	32.5	33.9	38.4	36.5	<b>44.0</b>	<b>45.0</b>	Net Profit (\$mill)	<b>50.0</b>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
LT Debt \$305.4 mill. LT Interest \$7.5 mill.				33.9%	34.1%	35.0%	34.5%	34.0%	32.7%	2.8%	--	2.8%	2.8%	<b>21.0%</b>	<b>21.0%</b>	Income Tax Rate	<b>21.0%</b>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
(Total interest coverage: 5.0x)				3.4%	1.9%	1.7%	1.9%	2.7%	3.1%	1.4%	3.4%	3.9%	3.9%	<b>2.5%</b>	<b>2.5%</b>	AFUDC % to Net Profit	<b>2.5%</b>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
(45% of Cap'l)				41.5%	40.4%	40.5%	39.4%	37.9%	37.5%	37.8%	41.5%	44.0%	45.3%	<b>44.0%</b>	<b>43.5%</b>	Long-Term Debt Ratio	<b>42.0%</b>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
<b>Pension Assets-12/21</b> \$100.8 mill.				57.4%	58.7%	58.8%	59.8%	61.5%	61.8%	61.6%	58.2%	55.7%	54.4%	<b>55.5%</b>	<b>56.0%</b>	Common Equity Ratio	<b>57.5%</b>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
Oblig. \$113.7 mill.				316.5	321.4	335.8	345.4	355.4	370.7	404.1	556.7	621.5	676.3	<b>690</b>	<b>710</b>	Total Capital (\$mill)	<b>715</b>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
<b>Pfd Stock</b> \$2.4 mill. Pfd Div'd: \$1 mill.				435.2	446.5	465.4	481.9	517.8	557.2	618.5	705.7	796.6	865.4	<b>875</b>	<b>885</b>	Net Plant (\$mill)	<b>915</b>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
<b>Common Stock</b> 17,610,000 shs. as of 7/29/22				5.4%	5.9%	6.3%	6.6%	7.1%	6.9%	8.9%	6.7%	6.8%	6.0%	<b>6.5%</b>	<b>6.5%</b>	Return on Total Cap'l	<b>7.5%</b>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
<b>MARKET CAP: \$1.4 billion (Small Cap)</b>				7.8%	8.7%	9.2%	9.6%	10.3%	9.8%	12.9%	10.4%	11.0%	9.9%	<b>11.0%</b>	<b>11.0%</b>	Return on Shr. Equity	<b>12.0%</b>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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<b>CURRENT POSITION (\$MILL)</b>				<b>BUSINESS:</b> 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 2021, the Middlesex System accounted for 59% of operating revenues. At 12/31/21, the company had 347 employees. Incorporated: NJ. President, CEO, and Chairman: Dennis W. Doll. Officers & directors own 2.0% of the com. stock; BlackRock Inst. Trust Co., 7.8% (4/22 proxy). Add.: 485 C Route 1 South, Suite 400, Iselin, NJ 08830. Telephone: 732-634-1500. Int.: www.middlesexwater.com.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Cash Assets				4.5	3.5	4.3	<b>Middlesex Water recently inked a deal to manage the Borough of Avalon, New Jersey's water and sewer utility operations.</b> The new 10-year contract, which went into effect on September 1, 2022, replaces the previous decade-long agreement, and includes provisions for maintenance and customer services. <b>Periodic rate hikes have more than offset the company's regulated Delaware wastewater divestment from earlier this year.</b> The latter resulted in approximately \$0.7 million in reduced revenues for the June period. However, the top line is benefiting notably from the latest round of customer rate increases. To wit, the New Jersey Board of Public Utilities recently approved another rate hike, largely due to aggressive infrastructure and distribution system investments. In sum, we now look for revenues of \$155 million this year (up from our previous call of \$153 million) and \$160 million in the next (up from \$158 million). <b>Strong bottom-line expansion is likely on tap for 2022, despite a modest reduction to our current-year profit forecast.</b> Earnings contracted about 20% year over year in the second quarter, to \$0.50 per share. Expiring income tax benefits and higher operating expenses weighed on the figure. Consequently, we are shaving a dime from our full-year 2022 bottom-line estimate, to \$2.45 per share. <b>Over the pull to late decade, leadership is poised to invest heavily on infrastructure-related upgrades.</b> Indeed, aging water delivery systems and pipelines are long overdue for replacement. Management is apt to focus on facility treatment enhancements as well. Overall, aggressive spending on public infrastructure projects suggests that additional rate hikes are probably in the cards further down the road. <b>Middlesex stock is ranked to mirror the broader market averages over the coming six to 12 months.</b> What's more, at the recent quotation, the equity lacks appeal over the 18-month and 3- to 5-year windows. Although the company is non-cyclical and pays a stable quarterly dividend that is well-covered by earnings, we think waiting for a better entry point is the prudent move here at this juncture.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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2022				36.2	39.7	<b>41.0</b>	<b>38.1</b>	<b>155</b>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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(A) Diluted earnings. Next earnings report due early November. (B) Dividends historically paid in mid-Feb., May, Aug., and November. Div'd reinvestment plan available. (C) In millions.

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

SJW GROUP NYSE-SJW				RECENT PRICE	59.57	P/E RATIO	28.9 (Trailing: 34.2; Median: 23.0)	RELATIVE P/E RATIO	2.01	DIV'D YLD	2.4%	VALUE LINE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
<b>TIMELINESS</b> 4 Lowered 8/12/22	High: 26.8	26.9	30.1	33.7	35.7	56.9	69.3	68.4	74.5	75.0	73.7	73.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
<b>SAFETY</b> 3 New 4/22/11	Low: 20.9	22.6	24.5	25.5	27.5	28.6	45.4	51.3	53.9	45.6	58.0	55.7																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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<b>2025-27 PROJECTIONS</b> <table border="1"> <thead> <tr> <th>High</th> <th>Price</th> <th>Gain</th> <th>Ann'l Total</th> </tr> <tr> <th>Low</th> <th>90</th> <th>(+50%)</th> <th>Return</th> </tr> <tr> <th></th> <th>60</th> <th>(Nil)</th> <th>13%</th> </tr> <tr> <th></th> <th></th> <th></th> <th>3%</th> </tr> </thead> </table>													High	Price	Gain	Ann'l Total	Low	90	(+50%)	Return		60	(Nil)	13%				3%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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<b>Institutional Decisions</b> <table border="1"> <thead> <tr> <th></th> <th>4Q2021</th> <th>1Q2022</th> <th>2Q2022</th> <th>Percent</th> </tr> <tr> <th>to Buy</th> <td>98</td> <td>93</td> <td>78</td> <td>15</td> </tr> <tr> <th>to Sell</th> <td>68</td> <td>80</td> <td>104</td> <td>10</td> </tr> <tr> <th>Hlds(000)</th> <td>21890</td> <td>21360</td> <td>21790</td> <td>5</td> </tr> </thead> </table>														4Q2021	1Q2022	2Q2022	Percent	to Buy	98	93	78	15	to Sell	68	80	104	10	Hlds(000)	21890	21360	21790	5																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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LLC 25-27</th> </tr> </thead> <tbody> <tr> <td>10.35</td><td>11.25</td><td>12.12</td><td>11.68</td><td>11.62</td><td>12.85</td><td>14.01</td><td>13.73</td><td>15.76</td><td>14.97</td><td>16.61</td><td>18.97</td><td>14.00</td><td>14.78</td><td>19.77</td><td>19.01</td><td>20.00</td><td>20.85</td><td>Revenues per sh</td><td>22.15</td> </tr> <tr> <td>2.38</td><td>2.30</td><td>2.44</td><td>2.21</td><td>2.38</td><td>2.80</td><td>2.97</td><td>2.90</td><td>4.42</td><td>3.86</td><td>4.76</td><td>5.24</td><td>3.29</td><td>3.13</td><td>5.28</td><td>5.13</td><td>3.60</td><td>4.15</td><td>"Cash Flow" per sh</td><td>4.90</td> </tr> <tr> <td>1.19</td><td>1.04</td><td>1.08</td><td>.81</td><td>.84</td><td>1.11</td><td>1.18</td><td>1.12</td><td>2.54</td><td>1.85</td><td>2.57</td><td>2.86</td><td>1.82</td><td>.82</td><td>2.14</td><td>2.03</td><td>1.95</td><td>2.50</td><td>Earnings per sh <sup>A</sup></td><td>3.25</td> </tr> <tr> <td>.57</td><td>.61</td><td>.65</td><td>.66</td><td>.68</td><td>.69</td><td>.71</td><td>.73</td><td>.75</td><td>.78</td><td>.81</td><td>1.04</td><td>1.12</td><td>1.20</td><td>1.28</td><td>1.36</td><td>1.44</td><td>1.52</td><td>Div'd Decl'd per sh <sup>B</sup></td><td>1.76</td> </tr> <tr> <td>3.87</td><td>6.62</td><td>3.79</td><td>3.17</td><td>5.65</td><td>3.75</td><td>5.67</td><td>4.68</td><td>5.02</td><td>5.24</td><td>6.95</td><td>7.26</td><td>5.08</td><td>6.25</td><td>7.44</td><td>8.32</td><td>7.50</td><td>8.00</td><td>Cap'l Spending per sh</td><td>7.75</td> </tr> <tr> <td>12.48</td><td>12.90</td><td>13.99</td><td>13.66</td><td>13.75</td><td>14.20</td><td>14.71</td><td>15.92</td><td>17.75</td><td>18.83</td><td>20.61</td><td>22.57</td><td>31.31</td><td>31.27</td><td>32.12</td><td>34.28</td><td>36.65</td><td>39.15</td><td>Book Value per sh</td><td>40.85</td> </tr> <tr> <td>18.28</td><td>18.36</td><td>18.18</td><td>18.50</td><td>18.55</td><td>18.59</td><td>18.67</td><td>20.17</td><td>20.29</td><td>20.38</td><td>20.46</td><td>20.52</td><td>28.40</td><td>28.46</td><td>28.56</td><td>30.18</td><td>30.00</td><td>30.00</td><td>Common Shs Outst'g <sup>C</sup></td><td>30.00</td> </tr> <tr> <td>23.5</td><td>33.4</td><td>26.2</td><td>28.7</td><td>29.1</td><td>21.2</td><td>20.4</td><td>24.3</td><td>11.2</td><td>16.6</td><td>15.7</td><td>18.8</td><td>32.7</td><td>NMF</td><td>30.0</td><td>32.9</td><td colspan="2"><i>Bold figures are Value Line estimates</i></td><td>Avg Ann'l P/E Ratio</td><td>23.0</td> </tr> <tr> <td>1.27</td><td>1.77</td><td>1.58</td><td>1.91</td><td>1.85</td><td>1.33</td><td>1.30</td><td>1.37</td><td>.59</td><td>.84</td><td>.82</td><td>.95</td><td>1.77</td><td>NMF</td><td>1.54</td><td>1.80</td><td colspan="2"></td><td>Relative P/E Ratio</td><td>1.30</td> </tr> <tr> <td>2.0%</td><td>1.7%</td><td>2.3%</td><td>2.8%</td><td>2.8%</td><td>2.9%</td><td>3.0%</td><td>2.7%</td><td>2.6%</td><td>2.5%</td><td>2.0%</td><td>1.9%</td><td>1.9%</td><td>1.9%</td><td>2.0%</td><td>2.0%</td><td colspan="2"></td><td>Avg Ann'l Div'd Yield</td><td>2.3%</td> </tr> <tr> <td colspan="4"><b>CAPITAL STRUCTURE as of 6/30/22</b></td> <td>261.5</td><td>276.9</td><td>319.7</td><td>305.1</td><td>339.7</td><td>389.2</td><td>397.7</td><td>420.5</td><td>564.5</td><td>573.7</td><td>600</td><td>625</td><td>Revenues (\$mill)</td><td>665</td> </tr> <tr> <td colspan="4">Total Debt \$1494.7 mill. Due in 5 Yrs \$39.0 mill.</td> <td>22.3</td><td>23.5</td><td>51.8</td><td>37.9</td><td>52.8</td><td>59.2</td><td>38.8</td><td>23.4</td><td>61.5</td><td>60.5</td><td>59.0</td><td>75.0</td><td>Net Profit (\$mill)</td><td>98.0</td> </tr> <tr> <td colspan="4">LT Debt \$1455.7 mill. LT Interest \$50.0 mill.</td> <td>41.1%</td><td>38.7%</td><td>32.5%</td><td>38.1%</td><td>38.8%</td><td>36.7%</td><td>20.6%</td><td>26.4%</td><td>12.0%</td><td>12.2%</td><td>21.5%</td><td>21.0%</td><td>Income Tax Rate</td><td>21.0%</td> </tr> <tr> <td colspan="4">(LT Interest Coverage: 3.6x)</td> <td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>2.0%</td><td>1.5%</td><td>1.5%</td><td>1.5%</td><td>AFUDC % to Net Profit</td><td>1.5%</td> </tr> <tr> <td colspan="4"></td> <td>55.0%</td><td>51.1%</td><td>51.6%</td><td>49.8%</td><td>50.7%</td><td>48.2%</td><td>32.7%</td><td>59.1%</td><td>58.4%</td><td>59.1%</td><td>57.5%</td><td>54.0%</td><td>Long-Term Debt Ratio</td><td>45.0%</td> </tr> <tr> <td colspan="4"></td> <td>45.0%</td><td>48.9%</td><td>48.4%</td><td>50.2%</td><td>49.3%</td><td>51.8%</td><td>67.3%</td><td>40.9%</td><td>41.6%</td><td>40.9%</td><td>42.5%</td><td>46.0%</td><td>Common Equity Ratio</td><td>55.0%</td> </tr> <tr> <td colspan="4"></td> <td>610.2</td><td>656.2</td><td>744.5</td><td>764.6</td><td>855.0</td><td>894.3</td><td>1320.7</td><td>2173.6</td><td>2204.7</td><td>2527.5</td><td>2575</td><td>2550</td><td>Total Capital (\$mill)</td><td>2225</td> </tr> <tr> <td colspan="4"><b>Pension Assets-12/21</b> \$310.2 mill.</td> <td>831.6</td><td>898.7</td><td>963.0</td><td>1036.8</td><td>1146.4</td><td>1239.3</td><td>1328.8</td><td>2206.5</td><td>2334.9</td><td>2497.5</td><td>2565</td><td>2650</td><td>Net Plant (\$mill)</td><td>2825</td> </tr> <tr> <td colspan="4">Oblig. \$383.8 mill.</td> <td>5.0%</td><td>5.0%</td><td>8.3%</td><td>6.3%</td><td>7.4%</td><td>7.9%</td><td>3.9%</td><td>1.8%</td><td>4.0%</td><td>3.5%</td><td>3.0%</td><td>3.5%</td><td>Return on Total Cap'l</td><td>5.0%</td> </tr> <tr> <td colspan="4"><b>Pfd Stock None.</b></td> <td>8.1%</td><td>7.3%</td><td>14.4%</td><td>9.9%</td><td>12.5%</td><td>12.8%</td><td>4.4%</td><td>2.6%</td><td>6.7%</td><td>5.8%</td><td>5.5%</td><td>6.5%</td><td>Return on Shr. Equity</td><td>8.0%</td> </tr> <tr> <td colspan="4"><b>Common Stock</b> 30,248,000 shs.</td> <td>8.1%</td><td>7.3%</td><td>14.4%</td><td>9.9%</td><td>12.5%</td><td>12.8%</td><td>4.4%</td><td>2.6%</td><td>6.7%</td><td>5.8%</td><td>5.5%</td><td>6.5%</td><td>Return on Com Equity</td><td>8.0%</td> </tr> <tr> <td colspan="4"><b>MARKET CAP: \$1.8 billion (Small Cap)</b></td> <td>3.3%</td><td>2.8%</td><td>10.2%</td><td>5.7%</td><td>8.6%</td><td>8.2%</td><td>1.8%</td><td>NMF</td><td>2.7%</td><td>2.0%</td><td>1.5%</td><td>2.5%</td><td>Retained to Com Eq</td><td>3.5%</td> </tr> <tr> <td colspan="4"><b>CURRENT POSITION</b></td> <td>59%</td><td>62%</td><td>29%</td><td>42%</td><td>31%</td><td>36%</td><td>60%</td><td>NMF</td><td>59%</td><td>66%</td><td>74%</td><td>61%</td><td>All Div'ds to Net Prof</td><td>54%</td> </tr> <tr> <td colspan="4"><b>(SMILL.)</b></td> <td colspan="13"> <b>BUSINESS:</b> SJW Group engages in the production, purchase, storage, purification, distribution, and retail sale of water. It provides water service to approximately 231,000 connections with a total population of roughly one million people in the San Jose area and 16,000 connections that reach about 49,000 residents in the region between San Antonio and Austin, Texas. The company merged with Connecticut Water (10/19) which provides service to approx. 138,000 connections with a total population of 450,000 people. Has 751 employees. Officers and directors own about 8.0% of outstanding shares (3/22 proxy). Chairman &amp; CEO: Eric Thornburg. Incorporated: California. Address: 110 West Taylor Street, San Jose, CA 95110. Telephone: (408) 279-7800. Internet: www.sjwater.com.         </td> </tr> <tr> <td colspan="4">Cash Assets</td> <td>9.3</td><td>10.9</td><td>12.0</td><td colspan="13"> <b>SJW Group reported weaker-than-anticipated second-quarter bottom-line results.</b> The East and West coast water utility operator earned \$0.38 per share in the June period. Indeed, the figure, which was well short of consensus estimates, contracted about 45% year over year. On top of a softer revenue performance during the period (on an annual basis), higher administrative expenses, depreciation, and interest on long-term obligations weighed on the result. All told, despite management reaffirming an upbeat outlook for the remainder of the year, we are lowering our 2022 earnings estimate by \$0.55, to \$1.95 per share, which would mark the company's second-consecutive year of share profit declines. <b>We think 2023 holds more promise.</b> To start, modest revenue growth ought to be underpinned by further customer rate hikes and a wider base. Regarding the former, SJW Group expects the currently pending 2021 California General Rate Case decision to be reached by the end of this year, which would allow the company to not only boost rates, but recoup revenues retroactively. Rate increases in Con-necticut, Maine, and Texas were also recently approved by regulators. Moreover, prospects for a healthier economic backdrop should support increased water consumption. Elsewhere, we envision a notable earnings recovery in 2023. Leadership is likely to focus on curtailing operating expenses and lowering debt obligations. <b>Aggressive infrastructure investment remains on tap over the 3- to 5-year stretch.</b> For this year, top brass has utilized roughly half of its \$223 million capital investment budget. Funds are allocated across all operating regions, and support aging pipeline replacement, facility and treatment plant upgrades, as well as the company's advanced metering initiative. By late decade, SJW Group intends to spend approximately \$1.3 billion on infrastructure upgrades. <b>Investors should turn the page, for now.</b> SJW stock is unfavorably ranked (4) for relative year-ahead price performance. What's more, at the recent quotation, total return potential over the pull to 2025-2027 leaves much to be desired.         </td> </tr> <tr> <td colspan="4">Accts Receivable</td> <td>58.1</td><td>53.7</td><td>58.8</td> <td colspan="13"> <b>Nicholas Patrikis</b> </td> </tr> <tr> <td colspan="4">Other</td> <td>59.9</td><td>69.5</td><td>68.0</td> <td colspan="13"> <b>October 7, 2022</b> </td> </tr> <tr> <td colspan="4">Current Assets</td> <td>127.3</td><td>134.1</td><td>138.8</td> <td colspan="13"> <b>October 7, 2022</b> </td> </tr> <tr> <td colspan="4">Accts Payable</td> <td>34.2</td><td>30.4</td><td>26.6</td> <td colspan="13"> <b>October 7, 2022</b> </td> </tr> <tr> <td colspan="4">Debt Due</td> <td>76.2</td><td>39.1</td><td>39.0</td> <td colspan="13"> <b>October 7, 2022</b> </td> </tr> <tr> <td colspan="4">Other</td> <td>240.4</td><td>133.8</td><td>212.2</td> <td colspan="13"> <b>October 7, 2022</b> </td> </tr> <tr> <td colspan="4">Current Liab.</td> <td>350.8</td><td>203.3</td><td>277.8</td> <td colspan="13"> <b>October 7, 2022</b> </td> </tr> <tr> <td colspan="4"><b>ANNUAL RATES</b></td> <td>Past 10 Yrs.</td> <td>Past 5 Yrs.</td> <td>Est'd '19-'21 to '25-'27</td> <td colspan="13"> <b>ANNUAL RATES</b> Past 10 Yrs. Past 5 Yrs. Est'd '19-'21 to '25-'27         </td> </tr> <tr> <td colspan="4">of change (per sh)</td> <td>4.0%</td> <td>2.5%</td> <td>3.5%</td> <td colspan="13"> <b>ANNUAL RATES</b> Past 10 Yrs. Past 5 Yrs. Est'd '19-'21 to '25-'27         </td> </tr> <tr> <td colspan="4">Revenues</td> <td>6.0%</td> <td>5%</td> <td>2.5%</td> <td colspan="13"> <b>ANNUAL RATES</b> Past 10 Yrs. Past 5 Yrs. Est'd '19-'21 to '25-'27         </td> </tr> <tr> <td colspan="4">"Cash Flow"</td> <td>6.0%</td> <td>-6.5%</td> <td>14.0%</td> <td colspan="13"> <b>ANNUAL RATES</b> Past 10 Yrs. Past 5 Yrs. Est'd '19-'21 to '25-'27         </td> </tr> <tr> <td colspan="4">Earnings</td> <td>6.5%</td> <td>10.5%</td> <td>5.5%</td> <td colspan="13"> <b>ANNUAL RATES</b> Past 10 Yrs. Past 5 Yrs. Est'd '19-'21 to '25-'27         </td> </tr> <tr> <td colspan="4">Dividends</td> <td>9.0%</td> <td>11.5%</td> <td>4.0%</td> <td colspan="13"> <b>ANNUAL RATES</b> Past 10 Yrs. Past 5 Yrs. Est'd '19-'21 to '25-'27         </td> </tr> <tr> <td colspan="4">Book Value</td> <td colspan="13"> <b>ANNUAL RATES</b> Past 10 Yrs. Past 5 Yrs. Est'd '19-'21 to '25-'27         </td> </tr> <tr> <td colspan="4"><b>QUARTERLY REVENUES (\$ mill.)</b></td> <td>Full Year</td> <td colspan="13"> <b>QUARTERLY REVENUES (\$ mill.)</b> Full Year         </td> </tr> <tr> <td>Cal-endar</td> <td>Mar.31</td> <td>Jun.30</td> <td>Sep.30</td> <td>Dec.31</td> <td>Full Year</td> <td colspan="13"> <b>QUARTERLY REVENUES (\$ mill.)</b> Full Year         </td> </tr> <tr> <td>2019</td> <td>77.7</td> <td>103.0</td> <td>114.0</td> <td>125.8</td> <td>420.5</td> <td colspan="13"> <b>QUARTERLY REVENUES (\$ mill.)</b> Full Year         </td> </tr> <tr> <td>2020</td> <td>115.8</td> <td>147.2</td> <td>165.9</td> <td>135.6</td> <td>564.5</td> <td colspan="13"> <b>QUARTERLY REVENUES (\$ mill.)</b> Full Year         </td> </tr> <tr> <td>2021</td> <td>114.8</td> <td>152.2</td> <td>166.9</td> <td>139.8</td> <td>573.7</td> <td colspan="13"> <b>QUARTERLY REVENUES (\$ mill.)</b> Full Year         </td> </tr> <tr> <td>2022</td> <td>124.3</td> <td>149.0</td> <td>175</td> <td>151.7</td> <td>600</td> <td colspan="13"> <b>QUARTERLY REVENUES (\$ mill.)</b> Full Year         </td> </tr> <tr> <td>2023</td> <td>130</td> <td>160</td> <td>180</td> <td>155</td> <td>625</td> <td colspan="13"> <b>QUARTERLY REVENUES (\$ mill.)</b> Full Year         </td> </tr> <tr> <td colspan="4"><b>EARNINGS PER SHARE <sup>A</sup></b></td> <td>Full Year</td> <td colspan="13"> <b>EARNINGS PER SHARE <sup>A</sup></b> Full Year         </td> </tr> <tr> <td>Cal-endar</td> <td>Mar.31</td> <td>Jun.30</td> <td>Sep.30</td> <td>Dec.31</td> <td>Full Year</td> <td colspan="13"> <b>EARNINGS PER SHARE <sup>A</sup></b> Full Year         </td> </tr> <tr> <td>2019</td> <td>.21</td> <td>.47</td> <td>.33</td> <td>0.19</td> <td>.82</td> <td colspan="13"> <b>EARNINGS PER SHARE <sup>A</sup></b> Full Year         </td> </tr> <tr> <td>2020</td> <td>.08</td> <td>.69</td> <td>.91</td> <td>.46</td> <td>2.14</td> <td colspan="13"> <b>EARNINGS PER SHARE <sup>A</sup></b> Full Year         </td> </tr> <tr> <td>2021</td> <td>.09</td> <td>.69</td> <td>.64</td> <td>.60</td> <td>2.03</td> <td colspan="13"> <b>EARNINGS PER SHARE <sup>A</sup></b> Full Year         </td> </tr> <tr> <td>2022</td> <td>.12</td> <td>.38</td> <td>.75</td> <td>.70</td> <td>1.95</td> <td colspan="13"> <b>EARNINGS PER SHARE <sup>A</sup></b> Full Year         </td> </tr> <tr> <td>2023</td> <td>.23</td> <td>.57</td> <td>.95</td> <td>.75</td> <td>2.50</td> <td colspan="13"> <b>EARNINGS PER SHARE <sup>A</sup></b> Full Year         </td> </tr> <tr> <td colspan="4"><b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b></td> <td>Full Year</td> <td colspan="13"> <b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b> Full Year         </td> </tr> <tr> <td>Cal-endar</td> <td>Mar.31</td> <td>Jun.30</td> <td>Sep.30</td> <td>Dec.31</td> <td>Full Year</td> <td colspan="13"> <b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b> Full Year         </td> </tr> <tr> <td>2018</td> <td>.28</td> <td>.28</td> <td>.28</td> <td>.28</td> <td>1.12</td> <td colspan="13"> <b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b> Full Year         </td> </tr> <tr> <td>2019</td> <td>.30</td> <td>.30</td> <td>.30</td> <td>.30</td> <td>1.20</td> <td colspan="13"> <b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b> Full Year         </td> </tr> <tr> <td>2020</td> <td>.32</td> <td>.32</td> <td>.32</td> <td>.32</td> <td>1.28</td> <td colspan="13"> <b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b> Full Year         </td> </tr> <tr> <td>2021</td> <td>.34</td> <td>.34</td> <td>.34</td> <td>.34</td> <td>1.36</td> <td colspan="13"> <b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b> Full Year         </td> </tr> <tr> <td>2022</td> <td>.36</td> <td>.36</td> <td>.36</td> <td></td> <td></td> <td colspan="13"> <b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b> Full Year         </td> </tr> </tbody> </table>													2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	© VALUE LINE PUB. LLC 25-27		10.35	11.25	12.12	11.68	11.62	12.85	14.01	13.73	15.76	14.97	16.61	18.97	14.00	14.78	19.77	19.01	20.00	20.85	Revenues per sh	22.15	2.38	2.30	2.44	2.21	2.38	2.80	2.97	2.90	4.42	3.86	4.76	5.24	3.29	3.13	5.28	5.13	3.60	4.15	"Cash Flow" per sh	4.90	1.19	1.04	1.08	.81	.84	1.11	1.18	1.12	2.54	1.85	2.57	2.86	1.82	.82	2.14	2.03	1.95	2.50	Earnings per sh <sup>A</sup>	3.25	.57	.61	.65	.66	.68	.69	.71	.73	.75	.78	.81	1.04	1.12	1.20	1.28	1.36	1.44	1.52	Div'd Decl'd per sh <sup>B</sup>	1.76	3.87	6.62	3.79	3.17	5.65	3.75	5.67	4.68	5.02	5.24	6.95	7.26	5.08	6.25	7.44	8.32	7.50	8.00	Cap'l Spending per sh	7.75	12.48	12.90	13.99	13.66	13.75	14.20	14.71	15.92	17.75	18.83	20.61	22.57	31.31	31.27	32.12	34.28	36.65	39.15	Book Value per sh	40.85	18.28	18.36	18.18	18.50	18.55	18.59	18.67	20.17	20.29	20.38	20.46	20.52	28.40	28.46	28.56	30.18	30.00	30.00	Common Shs Outst'g <sup>C</sup>	30.00	23.5	33.4	26.2	28.7	29.1	21.2	20.4	24.3	11.2	16.6	15.7	18.8	32.7	NMF	30.0	32.9	<i>Bold figures are Value Line estimates</i>		Avg Ann'l P/E Ratio	23.0	1.27	1.77	1.58	1.91	1.85	1.33	1.30	1.37	.59	.84	.82	.95	1.77	NMF	1.54	1.80			Relative P/E Ratio	1.30	2.0%	1.7%	2.3%	2.8%	2.8%	2.9%	3.0%	2.7%	2.6%	2.5%	2.0%	1.9%	1.9%	1.9%	2.0%	2.0%			Avg Ann'l Div'd Yield	2.3%	<b>CAPITAL STRUCTURE as of 6/30/22</b>				261.5	276.9	319.7	305.1	339.7	389.2	397.7	420.5	564.5	573.7	600	625	Revenues (\$mill)	665	Total Debt \$1494.7 mill. Due in 5 Yrs \$39.0 mill.				22.3	23.5	51.8	37.9	52.8	59.2	38.8	23.4	61.5	60.5	59.0	75.0	Net Profit (\$mill)	98.0	LT Debt \$1455.7 mill. LT Interest \$50.0 mill.				41.1%	38.7%	32.5%	38.1%	38.8%	36.7%	20.6%	26.4%	12.0%	12.2%	21.5%	21.0%	Income Tax Rate	21.0%	(LT Interest Coverage: 3.6x)				--	--	--	--	--	--	--	--	2.0%	1.5%	1.5%	1.5%	AFUDC % to Net Profit	1.5%					55.0%	51.1%	51.6%	49.8%	50.7%	48.2%	32.7%	59.1%	58.4%	59.1%	57.5%	54.0%	Long-Term Debt Ratio	45.0%					45.0%	48.9%	48.4%	50.2%	49.3%	51.8%	67.3%	40.9%	41.6%	40.9%	42.5%	46.0%	Common Equity Ratio	55.0%					610.2	656.2	744.5	764.6	855.0	894.3	1320.7	2173.6	2204.7	2527.5	2575	2550	Total Capital (\$mill)	2225	<b>Pension Assets-12/21</b> \$310.2 mill.				831.6	898.7	963.0	1036.8	1146.4	1239.3	1328.8	2206.5	2334.9	2497.5	2565	2650	Net Plant (\$mill)	2825	Oblig. \$383.8 mill.				5.0%	5.0%	8.3%	6.3%	7.4%	7.9%	3.9%	1.8%	4.0%	3.5%	3.0%	3.5%	Return on Total Cap'l	5.0%	<b>Pfd Stock None.</b>				8.1%	7.3%	14.4%	9.9%	12.5%	12.8%	4.4%	2.6%	6.7%	5.8%	5.5%	6.5%	Return on Shr. Equity	8.0%	<b>Common Stock</b> 30,248,000 shs.				8.1%	7.3%	14.4%	9.9%	12.5%	12.8%	4.4%	2.6%	6.7%	5.8%	5.5%	6.5%	Return on Com Equity	8.0%	<b>MARKET CAP: \$1.8 billion (Small Cap)</b>				3.3%	2.8%	10.2%	5.7%	8.6%	8.2%	1.8%	NMF	2.7%	2.0%	1.5%	2.5%	Retained to Com Eq	3.5%	<b>CURRENT POSITION</b>				59%	62%	29%	42%	31%	36%	60%	NMF	59%	66%	74%	61%	All Div'ds to Net Prof	54%	<b>(SMILL.)</b>				<b>BUSINESS:</b> SJW Group engages in the production, purchase, storage, purification, distribution, and retail sale of water. It provides water service to approximately 231,000 connections with a total population of roughly one million people in the San Jose area and 16,000 connections that reach about 49,000 residents in the region between San Antonio and Austin, Texas. The company merged with Connecticut Water (10/19) which provides service to approx. 138,000 connections with a total population of 450,000 people. Has 751 employees. Officers and directors own about 8.0% of outstanding shares (3/22 proxy). Chairman & CEO: Eric Thornburg. Incorporated: California. Address: 110 West Taylor Street, San Jose, CA 95110. Telephone: (408) 279-7800. Internet: www.sjwater.com.													Cash Assets				9.3	10.9	12.0	<b>SJW Group reported weaker-than-anticipated second-quarter bottom-line results.</b> The East and West coast water utility operator earned \$0.38 per share in the June period. Indeed, the figure, which was well short of consensus estimates, contracted about 45% year over year. On top of a softer revenue performance during the period (on an annual basis), higher administrative expenses, depreciation, and interest on long-term obligations weighed on the result. All told, despite management reaffirming an upbeat outlook for the remainder of the year, we are lowering our 2022 earnings estimate by \$0.55, to \$1.95 per share, which would mark the company's second-consecutive year of share profit declines. <b>We think 2023 holds more promise.</b> To start, modest revenue growth ought to be underpinned by further customer rate hikes and a wider base. Regarding the former, SJW Group expects the currently pending 2021 California General Rate Case decision to be reached by the end of this year, which would allow the company to not only boost rates, but recoup revenues retroactively. Rate increases in Con-necticut, Maine, and Texas were also recently approved by regulators. Moreover, prospects for a healthier economic backdrop should support increased water consumption. Elsewhere, we envision a notable earnings recovery in 2023. Leadership is likely to focus on curtailing operating expenses and lowering debt obligations. <b>Aggressive infrastructure investment remains on tap over the 3- to 5-year stretch.</b> For this year, top brass has utilized roughly half of its \$223 million capital investment budget. Funds are allocated across all operating regions, and support aging pipeline replacement, facility and treatment plant upgrades, as well as the company's advanced metering initiative. By late decade, SJW Group intends to spend approximately \$1.3 billion on infrastructure upgrades. <b>Investors should turn the page, for now.</b> SJW stock is unfavorably ranked (4) for relative year-ahead price performance. What's more, at the recent quotation, total return potential over the pull to 2025-2027 leaves much to be desired.													Accts Receivable				58.1	53.7	58.8	<b>Nicholas Patrikis</b>													Other				59.9	69.5	68.0	<b>October 7, 2022</b>													Current Assets				127.3	134.1	138.8	<b>October 7, 2022</b>													Accts Payable				34.2	30.4	26.6	<b>October 7, 2022</b>													Debt Due				76.2	39.1	39.0	<b>October 7, 2022</b>													Other				240.4	133.8	212.2	<b>October 7, 2022</b>													Current Liab.				350.8	203.3	277.8	<b>October 7, 2022</b>													<b>ANNUAL RATES</b>				Past 10 Yrs.	Past 5 Yrs.	Est'd '19-'21 to '25-'27	<b>ANNUAL RATES</b> Past 10 Yrs. Past 5 Yrs. Est'd '19-'21 to '25-'27													of change (per sh)				4.0%	2.5%	3.5%	<b>ANNUAL RATES</b> Past 10 Yrs. Past 5 Yrs. Est'd '19-'21 to '25-'27													Revenues				6.0%	5%	2.5%	<b>ANNUAL RATES</b> Past 10 Yrs. Past 5 Yrs. Est'd '19-'21 to '25-'27													"Cash Flow"				6.0%	-6.5%	14.0%	<b>ANNUAL RATES</b> Past 10 Yrs. Past 5 Yrs. Est'd '19-'21 to '25-'27													Earnings				6.5%	10.5%	5.5%	<b>ANNUAL RATES</b> Past 10 Yrs. Past 5 Yrs. Est'd '19-'21 to '25-'27													Dividends				9.0%	11.5%	4.0%	<b>ANNUAL RATES</b> Past 10 Yrs. Past 5 Yrs. Est'd '19-'21 to '25-'27													Book Value				<b>ANNUAL RATES</b> Past 10 Yrs. Past 5 Yrs. Est'd '19-'21 to '25-'27													<b>QUARTERLY REVENUES (\$ mill.)</b>				Full Year	<b>QUARTERLY REVENUES (\$ mill.)</b> Full Year													Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year	<b>QUARTERLY REVENUES (\$ mill.)</b> Full Year													2019	77.7	103.0	114.0	125.8	420.5	<b>QUARTERLY REVENUES (\$ mill.)</b> Full Year													2020	115.8	147.2	165.9	135.6	564.5	<b>QUARTERLY REVENUES (\$ mill.)</b> Full Year													2021	114.8	152.2	166.9	139.8	573.7	<b>QUARTERLY REVENUES (\$ mill.)</b> Full Year													2022	124.3	149.0	175	151.7	600	<b>QUARTERLY REVENUES (\$ mill.)</b> Full Year													2023	130	160	180	155	625	<b>QUARTERLY REVENUES (\$ mill.)</b> Full Year													<b>EARNINGS PER SHARE <sup>A</sup></b>				Full Year	<b>EARNINGS PER SHARE <sup>A</sup></b> Full Year													Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year	<b>EARNINGS PER SHARE <sup>A</sup></b> Full Year													2019	.21	.47	.33	0.19	.82	<b>EARNINGS PER SHARE <sup>A</sup></b> Full Year													2020	.08	.69	.91	.46	2.14	<b>EARNINGS PER SHARE <sup>A</sup></b> Full Year													2021	.09	.69	.64	.60	2.03	<b>EARNINGS PER SHARE <sup>A</sup></b> Full Year													2022	.12	.38	.75	.70	1.95	<b>EARNINGS PER SHARE <sup>A</sup></b> Full Year													2023	.23	.57	.95	.75	2.50	<b>EARNINGS PER SHARE <sup>A</sup></b> Full Year													<b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b>				Full Year	<b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b> Full Year													Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31	Full Year	<b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b> Full Year													2018	.28	.28	.28	.28	1.12	<b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b> Full Year													2019	.30	.30	.30	.30	1.20	<b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b> Full Year													2020	.32	.32	.32	.32	1.28	<b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b> Full Year													2021	.34	.34	.34	.34	1.36	<b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b> Full Year													2022	.36	.36	.36			<b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b> Full Year												
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23.5	33.4	26.2	28.7	29.1	21.2	20.4	24.3	11.2	16.6	15.7	18.8	32.7	NMF	30.0	32.9	<i>Bold figures are Value Line estimates</i>		Avg Ann'l P/E Ratio	23.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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<b>CAPITAL STRUCTURE as of 6/30/22</b>				261.5	276.9	319.7	305.1	339.7	389.2	397.7	420.5	564.5	573.7	600	625	Revenues (\$mill)	665																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Total Debt \$1494.7 mill. Due in 5 Yrs \$39.0 mill.				22.3	23.5	51.8	37.9	52.8	59.2	38.8	23.4	61.5	60.5	59.0	75.0	Net Profit (\$mill)	98.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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				610.2	656.2	744.5	764.6	855.0	894.3	1320.7	2173.6	2204.7	2527.5	2575	2550	Total Capital (\$mill)	2225																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
<b>Pension Assets-12/21</b> \$310.2 mill.				831.6	898.7	963.0	1036.8	1146.4	1239.3	1328.8	2206.5	2334.9	2497.5	2565	2650	Net Plant (\$mill)	2825																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
Oblig. \$383.8 mill.				5.0%	5.0%	8.3%	6.3%	7.4%	7.9%	3.9%	1.8%	4.0%	3.5%	3.0%	3.5%	Return on Total Cap'l	5.0%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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<b>Common Stock</b> 30,248,000 shs.				8.1%	7.3%	14.4%	9.9%	12.5%	12.8%	4.4%	2.6%	6.7%	5.8%	5.5%	6.5%	Return on Com Equity	8.0%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
<b>MARKET CAP: \$1.8 billion (Small Cap)</b>				3.3%	2.8%	10.2%	5.7%	8.6%	8.2%	1.8%	NMF	2.7%	2.0%	1.5%	2.5%	Retained to Com Eq	3.5%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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<b>(SMILL.)</b>				<b>BUSINESS:</b> SJW Group engages in the production, purchase, storage, purification, distribution, and retail sale of water. It provides water service to approximately 231,000 connections with a total population of roughly one million people in the San Jose area and 16,000 connections that reach about 49,000 residents in the region between San Antonio and Austin, Texas. The company merged with Connecticut Water (10/19) which provides service to approx. 138,000 connections with a total population of 450,000 people. Has 751 employees. Officers and directors own about 8.0% of outstanding shares (3/22 proxy). Chairman & CEO: Eric Thornburg. Incorporated: California. Address: 110 West Taylor Street, San Jose, CA 95110. Telephone: (408) 279-7800. Internet: www.sjwater.com.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
Cash Assets				9.3	10.9	12.0	<b>SJW Group reported weaker-than-anticipated second-quarter bottom-line results.</b> The East and West coast water utility operator earned \$0.38 per share in the June period. Indeed, the figure, which was well short of consensus estimates, contracted about 45% year over year. On top of a softer revenue performance during the period (on an annual basis), higher administrative expenses, depreciation, and interest on long-term obligations weighed on the result. All told, despite management reaffirming an upbeat outlook for the remainder of the year, we are lowering our 2022 earnings estimate by \$0.55, to \$1.95 per share, which would mark the company's second-consecutive year of share profit declines. <b>We think 2023 holds more promise.</b> To start, modest revenue growth ought to be underpinned by further customer rate hikes and a wider base. Regarding the former, SJW Group expects the currently pending 2021 California General Rate Case decision to be reached by the end of this year, which would allow the company to not only boost rates, but recoup revenues retroactively. Rate increases in Con-necticut, Maine, and Texas were also recently approved by regulators. Moreover, prospects for a healthier economic backdrop should support increased water consumption. Elsewhere, we envision a notable earnings recovery in 2023. Leadership is likely to focus on curtailing operating expenses and lowering debt obligations. <b>Aggressive infrastructure investment remains on tap over the 3- to 5-year stretch.</b> For this year, top brass has utilized roughly half of its \$223 million capital investment budget. Funds are allocated across all operating regions, and support aging pipeline replacement, facility and treatment plant upgrades, as well as the company's advanced metering initiative. By late decade, SJW Group intends to spend approximately \$1.3 billion on infrastructure upgrades. <b>Investors should turn the page, for now.</b> SJW stock is unfavorably ranked (4) for relative year-ahead price performance. What's more, at the recent quotation, total return potential over the pull to 2025-2027 leaves much to be desired.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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2020	115.8	147.2	165.9	135.6	564.5	<b>QUARTERLY REVENUES (\$ mill.)</b> Full Year																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
2021	114.8	152.2	166.9	139.8	573.7	<b>QUARTERLY REVENUES (\$ mill.)</b> Full Year																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
2022	124.3	149.0	175	151.7	600	<b>QUARTERLY REVENUES (\$ mill.)</b> Full Year																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
2023	130	160	180	155	625	<b>QUARTERLY REVENUES (\$ mill.)</b> Full Year																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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2019	.21	.47	.33	0.19	.82	<b>EARNINGS PER SHARE <sup>A</sup></b> Full Year																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
2020	.08	.69	.91	.46	2.14	<b>EARNINGS PER SHARE <sup>A</sup></b> Full Year																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
2021	.09	.69	.64	.60	2.03	<b>EARNINGS PER SHARE <sup>A</sup></b> Full Year																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
2022	.12	.38	.75	.70	1.95	<b>EARNINGS PER SHARE <sup>A</sup></b> Full Year																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
2023	.23	.57	.95	.75	2.50	<b>EARNINGS PER SHARE <sup>A</sup></b> Full Year																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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2019	.30	.30	.30	.30	1.20	<b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b> Full Year																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
2020	.32	.32	.32	.32	1.28	<b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b> Full Year																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
2021	.34	.34	.34	.34	1.36	<b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b> Full Year																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
2022	.36	.36	.36			<b>QUARTERLY DIVIDENDS PAID <sup>B</sup></b> Full Year																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		

(A) Diluted earnings. Excludes nonrecurring losses: '06, \$16.36; '08, \$1.22; '10, \$0.46. GAAP accounting as of 2013. Next earnings report due early November. Quarterly eggs 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.  
 (D) Paid special dividend of \$0.17 per share on 11/17.  
 Company's Financial Strength B+  
 Stock's Price Stability 85  
 Price Growth Persistence 85  
 Earnings Predictability 45  
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Confluence Rivers (MO) Utility Operating Company, Inc.  
Summary of Risk Premium Models for the  
Proxy Group of Six Water Companies

	<u>Proxy Group of Six Water Companies</u>
Predictive Risk Premium Model (PRPM) (1)	12.20 %
Risk Premium Using an Adjusted Total Market Approach (2)	<u>11.48</u>
Average	<u><u>11.84 %</u></u>

Notes:

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

Confluence Rivers (MO) Utility Operating Company, Inc.  
Indicated ROE  
Derived by the Predictive Risk Premium Model (1)

	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Proxy Group of Six Water Companies	LT Average Predicted Variance	Spot Predicted Variance	Recommended Variance (2)	GARCH Coefficient	Predicted Risk Premium (3)	Risk-Free Rate (4)	Indicated ROE (5)
American States Water Company	0.38%	0.41%	0.38%	1.8762	8.99%	3.96%	12.95%
American Water Works Company, Inc.	0.29%	0.42%	0.29%	4.3376	15.91%	3.96%	NMF
California Water Service Group	0.33%	0.51%	0.33%	1.9400	7.97%	3.96%	11.93%
Essential Utilities Inc.	0.45%	0.72%	0.45%	2.1737	12.33%	3.96%	NMF
Middlesex Water Company	0.33%	0.86%	0.33%	1.9845	8.26%	3.96%	12.22%
SJW Group	0.42%	0.44%	0.42%	1.5394	8.05%	3.96%	12.01%
						Average	12.28%
						Median	12.12%
						Average of Mean and Median	12.20%

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 Services.
- (2) Recommended variance based on the long-term average predicted variance.
- (3)  $(1 + (\text{Column [3]} * \text{Column [4]}^{12}) - 1)$ .
- (4) From note 2 on page 2 of Schedule DWD-5.
- (5) Column [5] + Column [6].

Confluence Rivers (MO) Utility Operating Company, Inc.  
Indicated Common Equity Cost Rate  
Through Use of a Risk Premium Model  
Using an Adjusted Total Market Approach

<u>Line No.</u>		<u>Proxy Group of Six Water Companies</u>
1.	Prospective Yield on Aaa Rated Corporate Bonds (1)	5.24 %
2.	Adjustment to Reflect Yield Spread Between Aaa Rated Corporate Bonds and A2 Rated Public Utility Bonds	<u>0.39</u> (2)
3.	Adjusted Prospective Yield on A2 Rated Public Utility Bonds	5.63 %
4.	Adjustment to Reflect Bond Rating Difference of Proxy Group (3)	<u>0.11</u>
5.	Adjusted Prospective Bond Yield	5.74 %
6.	Equity Risk Premium (4)	<u>5.74</u>
7.	Risk Premium Derived Common Equity Cost Rate	<u><u>11.48</u></u> %

- Notes:
- (1) Consensus forecast of Moody's Aaa Rated Corporate bonds from Blue Chip Financial Forecasts (see pages 9 and 10 of this Schedule).
  - (2) The average yield spread of A2 rated public utility bonds over Aaa rated corporate bonds of 0.39% from page 4 of this Schedule.
  - (3) Adjustment to reflect the A3 Moody's LT issuer rating of the Utility Proxy Group as shown on page 5 of this Schedule. The 0.11% upward adjustment is derived by taking 1/3 of the spread between A2 and Baa2 Public Utility Bonds ( $1/3 * 0.32\% = 0.11\%$ ) as derived from page 4 of this Schedule.
  - (4) From page 7 of this Schedule.

Confluence Rivers (MO) Utility Operating Company, Inc.  
Interest Rates and Bond Spreads for  
Moody's Corporate and Public Utility Bonds

Selected Bond Yields

	[1]	[2]	[3]
	Aaa Rated Corporate Bond	A2 Rated Public Utility Bond	Baa2 Rated Public Utility Bond
Oct-2022	5.10 %	5.88 %	6.18 %
Sep-2022	5.59	5.28	5.61
Aug-2022	4.07	4.76	5.09
Average	<u>4.92 %</u>	<u>5.31 %</u>	<u>5.63 %</u>

Selected Bond Spreads

A2 Rated Public Utility Bonds Over Aaa Rated Corporate Bonds:

0.39 % (1)

Baa2 Rated Public Utility Bonds Over A2 Rated Public Utility Bonds:

0.32 % (2)

Notes:

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

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

Source of Information:

Bloomberg Professional Services

Confluence Rivers (MO) Utility Operating Company, Inc.  
Comparison of Long-Term Issuer Ratings for  
Proxy Group of Six Water Companies

	Moody's		Standard & Poor's	
	Long-Term Issuer Rating October 2022		Long-Term Issuer Rating October 2022	
<u>Proxy Group of Six Water Companies</u>	Long-Term Issuer Rating	Numerical Weighting (1)	Long-Term Issuer Rating	Numerical Weighting (1)
American States Water Company (2)	A2	6.0	A+	5.0
American Water Works Company, Inc. (3)	A3	7.0	A	6.0
California Water Service Group	NR	--	A+	5.0
Essential Utilities Inc. (4)	Baa1	8.0	A	6.0
Middlesex Water Company	NR	--	A	6.0
SJW Group (5)	NR	--	A-	7.0
Average	<u>A3</u>	<u>7.0</u>	<u>A</u>	<u>5.8</u>

Notes:

- (1) From page 6 of this Schedule.
- (2) Ratings that of Golden State Water Company.
- (3) Ratings that of New Jersey American Water Co., and Pennsylvania American Water Co.
- (4) Ratings that of PNG Companies and Aqua Pennsylvania, Inc. (S&P).
- (5) Ratings are that of San Jose Water Company, Connecticut Water Inc. and Connecticut Water Service Inc.

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 &amp; 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-

Confluence Rivers (MO) Utility Operating Company, Inc.  
Judgment of Equity Risk Premium for the  
Proxy Group of Six Water Companies

Line No.		Proxy Group of Six Water Companies
1.	Calculated equity risk premium based on the total market using the beta approach (1)	6.77 %
2.	Mean equity risk premium based on a study using the holding period returns of public utilities with A2 rated bonds (2)	4.70
3.	Average equity risk premium	5.74 %

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

Confluence Rivers (MO) Utility Operating Company, Inc.  
Derivation of Equity Risk Premium Based on the Total Market Approach  
Using the Beta for the  
Proxy Group of Six Water Companies

<u>Line No.</u>	<u>Equity Risk Premium Measure</u>	<u>Proxy Group of Six Water Companies</u>
1.	Ibbotson Equity Risk Premium (1)	6.13 %
2.	Regression on Ibbotson Risk Premium Data	7.02 (2)
3.	Ibbotson Equity Risk Premium based on PRPM (3)	9.79
4.	Equity Risk Premium Based on Value Line Summary and Index	11.16 (4)
5.	Equity Risk Premium Based on Value Line S&P 500 Companies	11.17 (5)
6.	Equity Risk Premium Based on Bloomberg S&P 500 Companies	<u>6.81 (6)</u>
7.	Conclusion of Equity Risk Premium	8.68 %
8.	Adjusted Beta (7)	<u>0.78</u>
9.	Forecasted Equity Risk Premium	<u><u>6.77 %</u></u>

Notes:

- (1) Based on the arithmetic mean historical monthly returns on large company common stocks from Kroll 2022 SBBI® Yearbook minus the arithmetic mean monthly yield of Moody's average Aaa and Aa2 corporate bonds from 1928-2021.
- (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 Aa2 rated corporate bond yields from 1928-2021 referenced in Note 1 above. Using the equation generated from the regression, an expected equity risk premium is calculated using the average consensus forecast of Aaa corporate bonds of 5.24% (from page 3 of this Schedule).
- (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 Aa2 corporate monthly bond yields, from January 1928 through October 2022.
- (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 5.24% (from page 3 of this Schedule) from the projected 3-5 year total annual market return of 16.40% (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 16.41% 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 5.24% results in an expected equity risk premium of 11.17%.
- (6) Using data from the Bloomberg Professional Service for the S&P 500, an expected total return of 12.05% 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 5.24% results in an expected equity risk premium of 6.81%.
- (7) Average of mean and median beta from Schedule DWD-5.

Sources of Information:

Kroll 2022 SBBI® Yearbook  
Industrial Manual and Mergent Bond Record Monthly Update.  
Value Line Summary and Index  
Blue Chip Financial Forecasts, June 1, 2022 and November 1, 2022  
Bloomberg Professional Services

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

Interest Rates	History								Consensus Forecasts-Quarterly Avg.						
	Average For Week Ending				Average For Month				Latest Qtr	4Q 2022	1Q 2023	2Q 2023	3Q 2023	4Q 2023	1Q 2024
	Oct 21	Oct 14	Oct 7	Sep 30	Sep	Aug	Jul	3Q 2022	2022	2023	2023	2023	2023	2023	2024
Federal Funds Rate	3.08	3.08	3.08	3.08	2.56	2.33	1.68	2.19	3.9	4.6	4.7	4.6	4.4	4.1	
Prime Rate	6.25	6.25	6.25	6.25	5.73	5.50	4.85	5.36	6.9	7.6	7.7	7.6	7.4	7.1	
SOFR	3.04	3.04	3.04	2.98	2.50	2.28	1.60	2.13	3.7	4.5	4.6	4.5	4.3	4.0	
Commercial Paper, 1-mo.	3.31	3.16	3.08	3.07	2.80	2.33	1.90	2.34	4.0	4.6	4.6	4.5	4.3	4.0	
Treasury bill, 3-mo.	4.05	3.74	3.46	3.37	3.22	2.72	2.30	2.75	4.1	4.6	4.6	4.5	4.3	4.0	
Treasury bill, 6-mo.	4.43	4.24	4.02	3.90	3.71	3.15	2.87	3.24	4.4	4.8	4.7	4.5	4.3	4.0	
Treasury bill, 1 yr.	4.57	4.38	4.15	4.07	3.89	3.28	3.02	3.40	4.5	4.7	4.7	4.5	4.3	4.0	
Treasury note, 2 yr.	4.51	4.38	4.18	4.20	3.86	3.25	3.04	3.38	4.4	4.5	4.4	4.1	3.9	3.7	
Treasury note, 5 yr.	4.32	4.18	3.98	4.06	3.70	3.03	2.96	3.23	4.2	4.3	4.1	4.0	3.8	3.6	
Treasury note, 10 yr.	4.12	3.95	3.75	3.83	3.52	2.90	2.90	3.11	4.0	4.0	3.9	3.8	3.7	3.6	
Treasury note, 30 yr.	4.16	3.95	3.78	3.76	3.56	3.13	3.10	3.26	4.0	4.1	4.1	4.0	3.9	3.9	
Corporate Aaa bond	5.56	5.37	5.16	5.19	4.87	4.35	4.39	4.54	5.3	5.5	5.4	5.4	5.3	5.1	
Corporate Baa bond	6.38	6.19	5.96	6.00	5.64	5.08	5.15	5.29	6.3	6.5	6.5	6.4	6.3	6.2	
State & Local bonds	4.59	4.52	4.53	4.58	4.31	3.84	3.82	3.99	4.6	4.8	4.7	4.6	4.5	4.4	
Home mortgage rate	6.94	6.92	6.66	6.70	6.11	5.22	5.41	5.58	6.8	6.9	6.7	6.6	6.4	6.2	

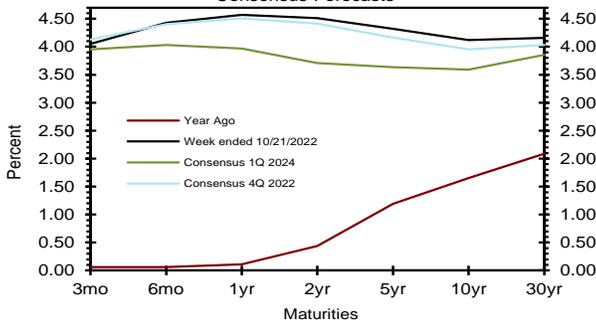
  

Key Assumptions	History								Consensus Forecasts-Quarterly					
	4Q 2020	1Q 2021	2Q 2021	3Q 2021	4Q 2021	1Q 2022	2Q 2022	3Q 2022	4Q 2022	1Q 2023	2Q 2023	3Q 2023	4Q 2023	1Q 2024
	2020	2021	2021	2021	2021	2022	2022	2022	2022	2023	2023	2023	2023	2024
Fed's AFE \$ Index	105.1	103.4	102.9	105.0	107.0	108.4	113.7	119.0	123.2	123.2	122.0	120.4	119.6	118.9
Real GDP	3.9	6.3	7.0	2.7	7.0	-1.6	-0.6	2.6	0.4	-0.4	-0.1	0.9	1.2	1.5
GDP Price Index	2.5	5.2	6.3	6.2	6.8	8.3	9.0	4.1	4.6	3.8	3.1	2.7	2.7	2.3
Consumer Price Index	2.2	4.1	8.2	6.7	7.9	9.2	10.5	5.7	4.8	4.0	3.0	2.8	2.6	2.4
PCE Price Index	1.6	4.5	6.4	5.6	6.2	7.5	7.3	4.2	4.3	3.6	2.8	2.6	2.4	2.3

Forecasts for interest rates and the Federal Reserve's Advanced Foreign Economics Index represent averages for the quarter. Forecasts for Real GDP, GDP Price Index, CPI and PCE 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, A-rated, yield to maturity; Mortgage rates from Freddie Mac, 30-year, fixed; SOFR from the New York Fed. All interest rate data are sourced from Haver Analytics. Historical data for Fed's Major Currency Index are from FRSR H.10. Historical data for Real GDP, GDP Price Index and PCE Price Index are from the Bureau of Economic Analysis (BEA). Consumer Price Index history is from the Department of Labor's Bureau of Labor Statistics (BLS)..

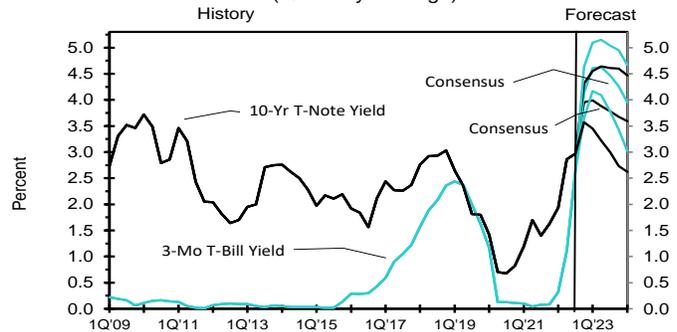
#### U.S. Treasury Yield Curve

Week ended Oct 21, 2022 & Year Ago vs.  
4Q 2022 & 1Q 2024  
Consensus Forecasts



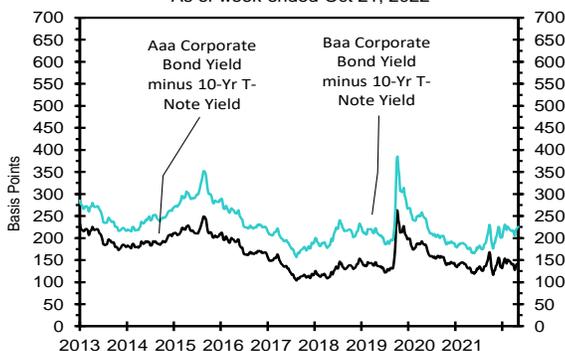
#### US 3-Mo T-Bills & 10-Yr T-Note Yield

(Quarterly Average)



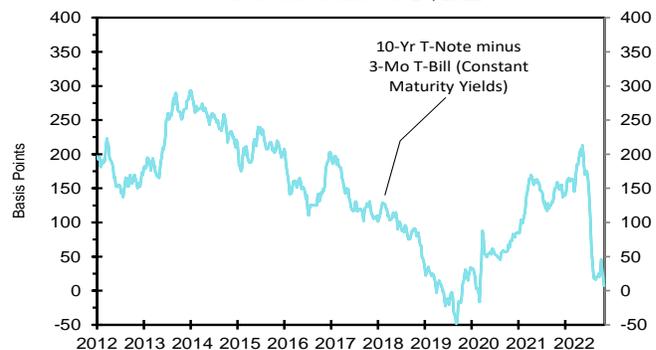
#### Corporate Bond Spreads

As of week ended Oct 21, 2022



#### U.S. Treasury Yield Curve

As of week ended Oct 21, 2022



## 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 2023 through 2028 and averages for the five-year periods 2024-2028 and 2029-2033. Apply these projections cautiously. Few if any economic, demographic and political forces can be evaluated accurately over such long time spans.

		----- Average For The Year -----					Five-Year Averages		
		2023	2024	2025	2026	2027	2028	2024-2028	2029-2033
1. Federal Funds Rate	<b>CONSENSUS</b>	<b>3.0</b>	<b>2.7</b>	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	<b>2.6</b>	<b>2.5</b>
	Top 10 Average	3.5	3.3	3.0	2.8	2.8	2.8	3.0	2.8
	Bottom 10 Average	2.6	2.1	2.0	2.2	2.2	2.2	2.2	2.1
2. Prime Rate	<b>CONSENSUS</b>	<b>6.1</b>	<b>5.9</b>	<b>5.7</b>	<b>5.6</b>	<b>5.6</b>	<b>5.6</b>	<b>5.7</b>	<b>5.6</b>
	Top 10 Average	6.6	6.4	6.1	6.0	6.0	6.0	6.1	5.9
	Bottom 10 Average	5.6	5.3	5.2	5.3	5.3	5.3	5.3	5.2
3. SOFR	<b>CONSENSUS</b>	<b>3.0</b>	<b>2.8</b>	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	<b>2.6</b>	<b>2.5</b>
	Top 10 Average	3.4	3.3	3.0	2.9	2.8	2.8	3.0	2.8
	Bottom 10 Average	2.7	2.2	2.0	2.2	2.2	2.2	2.2	2.1
4. Commercial Paper, 1-Mo	<b>CONSENSUS</b>	<b>3.2</b>	<b>2.9</b>	<b>2.6</b>	<b>2.6</b>	<b>2.6</b>	<b>2.6</b>	<b>2.7</b>	<b>2.6</b>
	Top 10 Average	3.5	3.4	3.1	2.9	2.9	2.9	3.0	2.9
	Bottom 10 Average	2.8	2.5	2.3	2.4	2.4	2.3	2.3	2.3
5. Treasury Bill Yield, 3-Mo	<b>CONSENSUS</b>	<b>3.0</b>	<b>2.8</b>	<b>2.6</b>	<b>2.6</b>	<b>2.6</b>	<b>2.5</b>	<b>2.6</b>	<b>2.5</b>
	Top 10 Average	3.6	3.4	3.1	3.1	3.0	2.9	3.1	2.9
	Bottom 10 Average	2.5	2.2	2.0	2.1	2.2	2.2	2.1	2.2
6. Treasury Bill Yield, 6-Mo	<b>CONSENSUS</b>	<b>3.2</b>	<b>2.9</b>	<b>2.7</b>	<b>2.7</b>	<b>2.7</b>	<b>2.6</b>	<b>2.7</b>	<b>2.6</b>
	Top 10 Average	3.8	3.6	3.2	3.2	3.1	3.0	3.2	3.0
	Bottom 10 Average	2.6	2.2	2.1	2.2	2.3	2.3	2.2	2.3
7. Treasury Bill Yield, 1-Yr	<b>CONSENSUS</b>	<b>3.2</b>	<b>3.0</b>	<b>2.9</b>	<b>2.9</b>	<b>2.8</b>	<b>2.8</b>	<b>2.9</b>	<b>2.8</b>
	Top 10 Average	3.9	3.8	3.5	3.4	3.3	3.2	3.4	3.2
	Bottom 10 Average	2.6	2.4	2.2	2.4	2.4	2.4	2.3	2.4
8. Treasury Note Yield, 2-Yr	<b>CONSENSUS</b>	<b>3.4</b>	<b>3.2</b>	<b>3.1</b>	<b>3.1</b>	<b>3.0</b>	<b>3.0</b>	<b>3.1</b>	<b>3.0</b>
	Top 10 Average	4.3	4.1	3.8	3.6	3.5	3.5	3.7	3.5
	Bottom 10 Average	2.7	2.4	2.3	2.5	2.6	2.5	2.4	2.5
9. Treasury Note Yield, 5-Yr	<b>CONSENSUS</b>	<b>3.5</b>	<b>3.4</b>	<b>3.3</b>	<b>3.3</b>	<b>3.3</b>	<b>3.2</b>	<b>3.3</b>	<b>3.3</b>
	Top 10 Average	4.3	4.2	4.1	3.9	3.8	3.8	3.9	3.8
	Bottom 10 Average	2.8	2.6	2.5	2.7	2.7	2.7	2.6	2.8
10. Treasury Note Yield, 10-Yr	<b>CONSENSUS</b>	<b>3.5</b>	<b>3.5</b>	<b>3.4</b>	<b>3.5</b>	<b>3.5</b>	<b>3.4</b>	<b>3.5</b>	<b>3.5</b>
	Top 10 Average	4.4	4.4	4.2	4.2	4.1	4.1	4.2	4.1
	Bottom 10 Average	2.8	2.5	2.6	2.9	2.9	2.8	2.7	2.8
11. Treasury Bond Yield, 30-Yr	<b>CONSENSUS</b>	<b>3.8</b>	<b>3.8</b>	<b>3.8</b>	<b>3.9</b>	<b>3.8</b>	<b>3.8</b>	<b>3.8</b>	<b>3.9</b>
	Top 10 Average	4.6	4.7	4.5	4.5	4.4	4.5	4.5	4.5
	Bottom 10 Average	3.0	2.9	3.0	3.3	3.2	3.2	3.1	3.2
12. Corporate Aaa Bond Yield	<b>CONSENSUS</b>	<b>5.0</b>	<b>5.0</b>	<b>4.9</b>	<b>5.0</b>	<b>5.0</b>	<b>4.9</b>	<b>4.9</b>	<b>5.0</b>
	Top 10 Average	5.7	5.7	5.6	5.5	5.5	5.5	5.5	5.6
	Bottom 10 Average	4.4	4.2	4.3	4.4	4.4	4.4	4.3	4.4
13. Corporate Baa Bond Yield	<b>CONSENSUS</b>	<b>6.0</b>	<b>5.9</b>	<b>5.8</b>	<b>5.9</b>	<b>5.9</b>	<b>5.9</b>	<b>5.9</b>	<b>5.9</b>
	Top 10 Average	6.6	6.6	6.4	6.3	6.3	6.3	6.4	6.4
	Bottom 10 Average	5.4	5.3	5.2	5.4	5.4	5.4	5.3	5.4
14. State & Local Bonds Yield	<b>CONSENSUS</b>	<b>4.3</b>	<b>4.3</b>	<b>4.2</b>	<b>4.3</b>	<b>4.3</b>	<b>4.3</b>	<b>4.3</b>	<b>4.3</b>
	Top 10 Average	5.0	5.0	4.8	4.8	4.7	4.7	4.8	4.8
	Bottom 10 Average	3.7	3.7	3.7	3.9	3.9	3.9	3.8	3.9
15. Home Mortgage Rate	<b>CONSENSUS</b>	<b>5.7</b>	<b>5.5</b>	<b>5.4</b>	<b>5.4</b>	<b>5.4</b>	<b>5.4</b>	<b>5.4</b>	<b>5.4</b>
	Top 10 Average	6.4	6.4	6.1	6.0	6.0	6.0	6.1	6.0
	Bottom 10 Average	4.9	4.7	4.6	4.8	4.8	4.8	4.7	4.8
A. Fed's AFE Nominal \$ Index	<b>CONSENSUS</b>	<b>113.8</b>	<b>112.8</b>	<b>111.9</b>	<b>111.0</b>	<b>110.6</b>	<b>110.4</b>	<b>111.3</b>	<b>109.8</b>
	Top 10 Average	115.6	114.7	114.0	113.4	113.1	112.8	113.6	112.7
	Bottom 10 Average	112.2	111.0	109.9	108.8	108.2	107.9	109.2	107.4
		----- Year-Over-Year, % Change -----					Five-Year Averages		
		2023	2024	2025	2026	2027	2028	2024-2028	2029-2033
B. Real GDP	<b>CONSENSUS</b>	<b>2.0</b>	<b>2.0</b>	<b>2.1</b>	<b>2.1</b>	<b>2.1</b>	<b>2.1</b>	<b>2.1</b>	<b>2.0</b>
	Top 10 Average	2.6	2.4	2.4	2.4	2.4	2.4	2.4	2.3
	Bottom 10 Average	1.5	1.5	1.8	1.8	1.8	1.8	1.7	1.8
C. GDP Chained Price Index	<b>CONSENSUS</b>	<b>3.0</b>	<b>2.4</b>	<b>2.3</b>	<b>2.3</b>	<b>2.2</b>	<b>2.2</b>	<b>2.3</b>	<b>2.2</b>
	Top 10 Average	3.7	2.8	2.7	2.6	2.6	2.6	2.7	2.6
	Bottom 10 Average	2.3	2.0	1.9	1.9	1.9	1.9	1.9	1.9
D. Consumer Price Index	<b>CONSENSUS</b>	<b>3.2</b>	<b>2.4</b>	<b>2.4</b>	<b>2.4</b>	<b>2.3</b>	<b>2.3</b>	<b>2.4</b>	<b>2.3</b>
	Top 10 Average	4.1	3.0	2.9	2.8	2.7	2.7	2.8	2.7
	Bottom 10 Average	2.3	1.8	2.0	2.0	1.9	1.9	1.9	1.9
E. PCE Price Index	<b>CONSENSUS</b>	<b>3.0</b>	<b>2.3</b>	<b>2.3</b>	<b>2.3</b>	<b>2.3</b>	<b>2.2</b>	<b>2.3</b>	<b>2.3</b>
	Top 10 Average	3.8	2.8	2.8	2.7	2.7	2.6	2.7	2.7
	Bottom 10 Average	2.2	1.8	1.9	1.9	1.9	1.8	1.9	1.9

Confluence Rivers (MO) Utility Operating Company, Inc.  
Derivation of Mean Equity Risk Premium Based Studies  
Using Holding Period Returns and  
Projected Market Appreciation of the S&P Utility Index

<u>Line No.</u>		<u>Implied Equity Risk Premium</u>
1.	Historical Equity Risk Premium (1)	4.28 %
2.	Regression of Historical Equity Risk Premium (2)	5.01
3.	Forecasted Equity Risk Premium Based on PRPM (3)	5.51
4.	Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (Value Line Data) (4)	3.97
5.	Forecasted Equity Risk Premium based on Projected Total Return on the S&P Utilities Index (Bloomberg Data) (5)	<u>4.75</u>
6.	Average Equity Risk Premium (6)	<u><u>4.70 %</u></u>

- Notes: (1) Based on S&P Public Utility Index monthly total returns and Moody's Public Utility Bond average monthly yields from 1928-2021. 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 A2 rated public utility bond yields from 1928 - 2021 referenced in note 1 above. Using the equation generated from the regression, an expected equity risk premium is calculated using the prospective A2 rated public utility bond yield of 5.63% (from line 3, page 3 of this Schedule).
- (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 A2 rated public utility bonds from January 1928 - October 2022.
- (4) Using data from Value Line for the S&P Utilities Index, an expected return of 9.60% was derived based on expected dividend yields and long-term growth estimates as a proxy for market appreciation. Subtracting the expected A2 rated public utility bond yield of 5.63%, calculated on line 3 of page 3 of this Schedule results in an equity risk premium of 3.97%. (9.60% - 5.63% = 3.97%)
- (5) Using data from Bloomberg Professional Service for the S&P Utilities Index, an expected return of 10.38% was derived based on expected dividend yields and long-term growth estimates as a proxy for market appreciation. Subtracting the expected A2 rated public utility bond yield of 5.63%, calculated on line 3 of page 3 of this Schedule results in an equity risk premium of 4.75%. (10.38% - 5.63% = 4.75%)
- (6) Average of lines 1 through 5.

Confluence Rivers (MO) Utility Operating Company, Inc.  
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 Company	0.65	0.76	0.71	9.98 %	3.96 %	11.04 %	11.77 %	11.41 %
American Water Works Company, Inc.	0.90	0.92	0.91	9.98	3.96	13.04	13.27	13.15
California Water Service Group	0.70	0.80	0.75	9.98	3.96	11.44	12.07	11.76
Essential Utilities Inc.	0.95	0.87	0.91	9.98	3.96	13.04	13.27	13.15
Middlesex Water Company	0.70	0.73	0.71	9.98	3.96	11.04	11.77	11.41
SJW Group	0.80	0.75	0.77	9.98	3.96	11.64	12.22	11.93
Mean			0.79			11.88 %	12.39 %	12.14 %
Median			0.76			11.54 %	12.14 %	11.85 %
Average of Mean and Median			0.78			11.71 %	12.27 %	12.00 %

Notes on page 2 of this Schedule.

Confluence Rivers (MO) Utility Operating Company, Inc.  
Notes to Accompany the Application of the CAPM and ECAPM

Notes:

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

Historical Data MRP Estimates:

Measure 1: Ibbotson Arithmetic Mean MRP (1926-2021)

Arithmetic Mean Monthly Returns for Large Stocks 1926-2021:	12.37 %
Arithmetic Mean Income Returns on Long-Term Government Bonds:	5.02
MRP based on Ibbotson Historical Data:	7.35 %

Measure 2: Application of a Regression Analysis to Ibbotson Historical Data (1926-2021)

8.65 %

Measure 3: Application of the PRPM to Ibbotson Historical Data: (January 1926 - October 2022)

10.89 %

Value Line MRP Estimates:

Measure 4: Value Line Projected MRP (Thirteen weeks ending November 04, 2022)

Total projected return on the market 3-5 years hence*:	16.40 %
Projected Risk-Free Rate (see note 2):	3.96
MRP based on Value Line Summary & Index:	12.44 %

\*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:	16.41 %
Projected Risk-Free Rate (see note 2):	3.96
MRP based on Value Line data	12.45 %

Measure 6: Bloomberg Projected MRP

Total return on the Market based on the S&P 500:	12.05 %
Projected Risk-Free Rate (see note 2):	3.96
MRP based on Bloomberg data	8.09 %

Average of Value Line, Ibbotson, and Bloomberg MRP: 9.98 %

- (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 9 and 10 of Schedule DWD-4.) The projection of the risk-free rate is illustrated below:

Fourth Quarter 2022	4.00 %
First Quarter 2023	4.10
Second Quarter 2023	4.10
Third Quarter 2023	4.00
Fourth Quarter 2023	3.90
First Quarter 2024	3.90
2024-2028	3.80
2029-2033	3.90
	3.96 %

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

Sources of Information:

Value Line Summary and Index  
Blue Chip Financial Forecasts, June 1, 2022 and November 1, 2022  
Kroll 2022 SBBi@ Yearbook  
Bloomberg Professional Services

Confluence Rivers (MO) Utility Operating Company, Inc.  
Basis of Selection of the Group of Non-Price Regulated Companies  
Comparable in Total Risk to the Utility Proxy Group

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

The Non-Price Regulated Proxy Group companies were then selected based on the unadjusted beta range of 0.49 – 0.77 and residual standard error of the regression range of 2.8333 – 3.3793 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 Water Utility Proxy Group's residual standard error of the regression is 0.1365. 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

$$\text{Thus, } 0.1365 = \frac{3.1063}{\sqrt{518}} = \frac{3.1063}{22.7596}$$

Source of Information: Value Line, Inc., September 2022  
Value Line Investment Survey (Standard Edition)

Confluence Rivers (MO) Utility Operating Company, Inc.  
Basis of Selection of Comparable Risk  
Domestic Non-Price Regulated Companies

	[1]	[2]	[3]	[4]
	Value Line Adjusted Beta	Unadjusted Beta	Residual Standard Error of the Regression	Standard Deviation of Beta
<u>Proxy Group of Six Water Companies</u>				
American States Water Company	0.65	0.44	2.6059	0.0604
American Water Works Company, Inc.	0.90	0.78	3.3488	0.0776
California Water Service Group	0.70	0.48	3.1091	0.0721
Essential Utilities Inc.	0.95	0.91	2.7564	0.0639
Middlesex Water Company	0.70	0.51	3.4761	0.0806
SJW Group	0.80	0.65	3.3417	0.0775
Average	<u>0.78</u>	<u>0.63</u>	<u>3.1063</u>	<u>0.0720</u>
Beta Range (+/- 2 std. Devs. of Beta) 2 std. Devs. of Beta	0.49 0.14	0.77		
Residual Std. Err. Range (+/- 2 std. Devs. of the Residual Std. Err.)	2.8333	3.3793		
Std. dev. of the Res. Std. Err.	0.1365			
2 std. devs. of the Res. Std. Err.	0.2730			

Source of Information: Valueline Proprietary Database, September 2022

Confluence Rivers (MO) Utility Operating Company, Inc.  
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 Twenty-Seven Non-Price Regulated Companies</u>	<u>Value Line Adjusted Beta</u>	<u>Unadjusted Beta</u>	<u>Residual Standard Error of the Regression</u>	<u>Standard Deviation of Beta</u>
Balchem Corp.	0.75	0.56	3.3474	0.0776
Becton, Dickinson	0.75	0.59	2.9969	0.0695
Black Knight, Inc.	0.75	0.56	3.1415	0.0728
Booz Allen Hamilton	0.85	0.76	3.1644	0.0733
Bristol-Myers Squibb	0.85	0.70	2.9185	0.0676
C.H. Robinson	0.70	0.54	3.3437	0.0775
Chemed Corp.	0.80	0.66	2.8403	0.0658
CSG Systems Int'l	0.75	0.56	2.8967	0.0671
CSW Industrials	0.85	0.76	3.0218	0.0700
Heartland Express	0.70	0.51	3.0304	0.0702
Henry (Jack) & Assoc	0.85	0.70	2.9759	0.0690
Lilly (Eli)	0.80	0.63	3.3732	0.0782
McCormick & Co.	0.75	0.62	3.0694	0.0711
Merck & Co.	0.80	0.63	2.9122	0.0675
Monster Beverage	0.85	0.76	2.9657	0.0687
NewMarket Corp.	0.75	0.59	2.9165	0.0676
Northrop Grumman	0.80	0.67	3.3239	0.0770
Oracle Corp.	0.80	0.67	2.8812	0.0668
Pfizer, Inc.	0.80	0.69	2.9056	0.0673
Progressive Corp.	0.75	0.60	3.0605	0.0709
Quest Diagnostics	0.80	0.62	3.2991	0.0765
RLI Corp.	0.75	0.62	2.9185	0.0676
Rollins, Inc.	0.85	0.71	3.2681	0.0758
Selective Ins. Group	0.85	0.76	3.0002	0.0695
Watsco, Inc.	0.85	0.73	2.8872	0.0669
Werner Enterprises	0.75	0.56	3.3343	0.0773
Western Union	0.80	0.68	3.0050	0.0697
Average	<u>0.79</u>	<u>0.65</u>	<u>3.0666</u>	<u>0.0711</u>
Proxy Group of Six Water Companies	<u>0.78</u>	<u>0.63</u>	<u>3.1063</u>	<u>0.0720</u>

Source of Information:

Valueline Proprietary Database, September 2022

Confluence Rivers (MO) Utility Operating Company, Inc.  
Summary of Cost of Equity Models Applied to  
Proxy Group of Twenty-Seven Non-Price Regulated Companies  
Comparable in Total Risk to the  
Proxy Group of Six Water Companies

<u>Principal Methods</u>	<u>Proxy Group of Twenty-Seven Non-Price Regulated Companies</u>
Discounted Cash Flow Model (DCF) (1)	11.29 %
Risk Premium Model (RPM) (2)	12.76
Capital Asset Pricing Model (CAPM) (3)	11.94
	Mean <u>12.00 %</u>
	Median <u>11.94 %</u>
	Average of Mean and Median <u>11.97 %</u>

Notes:

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

Confluence Rivers (MO) Utility Operating Company, Inc.  
DCF Results for the Proxy Group of Non-Price-Regulated Companies Comparable in Total Risk to the  
Proxy Group of Six Water Companies

	[1]	[2]	[3]	[4]	[6]	[7]	[8]
Proxy Group of Twenty-Seven Non-Price Regulated Companies	Average Dividend Yield	Value Line Projected Five Year Growth in EPS	Zack's Five Year Projected Growth Rate in EPS	Yahoo! Finance Projected Five Year Growth in EPS	Average Projected Five Year Growth Rate in EPS	Adjusted Dividend Yield	Indicated Common Equity Cost Rate (1)
Balchem Corp.	0.49	14.50	NA	24.00	19.25	0.54	19.79
Becton, Dickinson	1.43	4.50	7.70	4.80	5.67	1.47	7.14
Black Knight, Inc.	-	10.50	10.20	10.15	10.28	-	NA
Booz Allen Hamilton	1.77	7.00	7.50	7.50	7.33	1.83	9.16
Bristol-Myers Squibb	3.02	NA	5.80	4.00	4.90	3.09	7.99
C.H. Robinson	2.08	8.50	9.00	6.14	7.88	2.16	10.04
Chemed Corp.	0.33	7.00	7.10	7.10	7.07	0.34	7.41
CSG Systems Int'l	1.85	12.00	NA	(5.00)	12.00	1.96	13.96
CSW Industrials	0.54	11.50	NA	12.00	11.75	0.57	12.32
Heartland Express	0.53	8.50	NA	13.30	10.90	0.56	11.46
Henry (Jack) & Assoc	1.01	9.00	9.00	14.00	10.67	1.06	11.73
Lilly (Eli)	1.22	11.50	19.80	17.66	16.32	1.32	17.64
McCormick & Co.	1.84	5.00	5.30	5.10	5.13	1.89	7.02
Merck & Co.	3.07	8.00	10.20	10.80	9.67	3.22	12.89
Monster Beverage	-	10.50	10.30	14.18	11.66	-	NA
NewMarket Corp.	2.80	(1.50)	NA	7.70	7.70	2.91	10.61
Northrop Grumman	1.41	6.50	2.20	3.00	3.90	1.44	5.34
Oracle Corp.	1.79	9.00	8.00	10.80	9.27	1.87	11.14
Pfizer, Inc.	3.49	6.50	12.50	NA	9.50	3.66	13.16
Progressive Corp.	0.32	6.50	19.20	29.47	18.39	0.35	18.74
Quest Diagnostics	2.03	3.50	NA	(14.82)	3.50	2.07	5.57
RLI Corp.	0.93	12.00	NA	9.80	10.90	0.98	11.88
Rollins, Inc.	1.43	10.50	NA	8.20	9.35	1.50	10.85
Selective Ins. Group	1.33	9.50	5.70	13.40	9.53	1.39	10.92
Watsco, Inc.	3.23	11.50	NA	15.00	13.25	3.44	16.69
Werner Enterprises	1.30	9.00	3.50	6.53	6.34	1.34	7.68
Western Union	6.42	8.00	NA	(2.74)	8.00	6.68	14.68
						Mean	11.43
						Median	11.14
						Average of Mean and Median	11.29

NA= Not Available  
NMF= Not Meaningful Figure

(1) The application of the DCF model to the domestic, non-price regulated comparable risk companies is identical to the application of the DCF to the utility proxy group. The dividend yield is derived by using the 60 day average price and the spot indicated dividend as of October 31, 2022. 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.zacks.com, and www.yahoo.com (excluding any negative growth rates) and then adding that growth rate to the adjusted dividend yield.

Value Line Investment Survey  
www.zacks.com Downloaded on 10/31/2022  
www.yahoo.com Downloaded on 10/31/2022

Source of Information:

Confluence Rivers (MO) Utility Operating Company, Inc.  
Indicated Common Equity Cost Rate  
Through Use of a Risk Premium Model  
Using an Adjusted Total Market Approach

<u>Line No.</u>		<u>Proxy Group of Twenty-Seven Non- Price Regulated Companies</u>
1.	Prospective Yield on Baa2 Rated Corporate Bonds (1)	6.25 %
2.	Adjustment to Reflect Bond rating Difference of Non-Price Regulated Companies (2)	<u>(0.17)</u>
3.	Adjusted Prospective Bond Yield	6.08
4.	Equity Risk Premium (3)	<u>6.68</u>
5.	Risk Premium Derived Common Equity Cost Rate	<u><u>12.76 %</u></u>

Notes: (1) Average forecast of Baa2 corporate bonds based upon the consensus of nearly 50 economists reported in Blue Chip Financial Forecasts dated June 1, 2022 and November 1, 2022 (see pages 9 and 10 of Schedule DWD-4). The estimates are detailed below.

Fourth Quarter 2022	6.30 %
First Quarter 2023	6.50
Second Quarter 2023	6.50
Third Quarter 2023	6.40
Fourth Quarter 2023	6.30
First Quarter 2024	6.20
2024-2028	5.90
2029-2033	<u>5.90</u>
Average	<u><u>6.25 %</u></u>

(2) The average yield spread of Baa rated corporate bonds over A corporate bonds for the three months ending October 2022 . To reflect the Baa1 average rating of the non-utility proxy group, the prospective yield on Baa corporate bonds must be adjusted by 1/3 of the spread between A and Baa corporate bond yields as shown below:

	A Corp. Bond Yield		Baa Corp. Bond Yield		Spread
Oct-22	5.74 %		6.26 %		0.52 %
Sep-22	5.18		5.68		0.50
Aug-22	4.65		5.15		<u>0.50</u>
	Average yield spread				<u>0.51</u>
	1/3 of spread				<u><u>0.17</u></u>

(3) From page 5 of this Schedule.

Confluence Rivers (MO) Utility Operating Company, Inc.  
Comparison of Long-Term Issuer Ratings for the  
Proxy Group of Twenty-Seven Non-Price Regulated Companies of Comparable risk to the  
Proxy Group of Six Water Companies

<u>Proxy Group of Twenty-Seven Non-Price Regulated Companies</u>	Moody's Long-Term Issuer Rating October 2022		Standard & Poor's Long-Term Issuer Rating October 2022	
	Long-Term Issuer Rating	Numerical Weighting (1)	Long-Term Issuer Rating	Numerical Weighting (1)
Balchem Corp.	NA	--	NA	--
Becton, Dickinson	Baa2	9.0	BBB	9.0
Black Knight, Inc.	Ba3 *+	13.0	BB *+	12.0
Booz Allen Hamilton	NA	--	NA	--
Bristol-Myers Squibb	A2	6.0	A+	5.0
C.H. Robinson	Baa2	9.0	BBB+	8.0
Chemed Corp.	WR	--	NR	--
CSG Systems Int'l	NA	--	BB+	11.0
CSW Industrials	NA	--	NA	--
Heartland Express	NA	--	NA	--
Henry (Jack) & Assoc	NA	--	NA	--
Lilly (Eli)	A2	6.0	A+	5.0
McCormick & Co.	Baa2	9.0	BBB	9.0
Merck & Co.	A1	5.0	A+	5.0
Monster Beverage	NA	--	NA	--
NewMarket Corp.	Baa2	9.0	BBB+	8.0
Northrop Grumman	Baa1	8.0	BBB+	8.0
Oracle Corp.	Baa2 *-	9.0	BBB	9.0
Pfizer, Inc.	A2	6.0	A+	5.0
Progressive Corp.	A2	6.0	A	6.0
Quest Diagnostics	Baa2	9.0	BBB+	8.0
RLI Corp.	Baa2	9.0	BBB	9.0
Rollins, Inc.	NA	--	NA	--
Selective Ins. Group	Baa2	9.0	BBB	9.0
Watsco, Inc.	NA	--	NA	--
Werner Enterprises	NA	--	NA	--
Western Union	Baa2	9.0	BBB	9.0
Average	Baa1	8.2	BBB+	7.9

Notes:

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

Source of Information:

Bloomberg Professional Services

Confluence Rivers (MO) Utility Operating Company, Inc.  
Derivation of Equity Risk Premium Based on the Total Market Approach  
Using the Beta for  
Proxy Group of Twenty-Seven 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 Twenty-Seven Non- Price Regulated Companies</u>
1.	Ibbotson Equity Risk Premium (1)	6.13 %
2.	Regression on Ibbotson Risk Premium Data (2)	7.02
3.	Ibbotson Equity Risk Premium based on PRPM (3)	9.79
4.	Equity Risk Premium Based on <u>Value Line</u> Summary and Index (4)	11.16
5	Equity Risk Premium Based on <u>Value Line</u> S&P 500 Companies (5)	11.17
6.	Equity Risk Premium Based on Bloomberg S&P 500 Companies (6)	<u>6.81</u>
7.	Conclusion of Equity Risk Premium	8.68 %
8.	Adjusted Beta (7)	<u>0.77</u>
9.	Forecasted Equity Risk Premium	<u><u>6.68 %</u></u>

Notes:

- (1) From note 1 of page 8 of Schedule DWD-4.
- (2) From note 2 of page 8 of Schedule DWD-4.
- (3) From note 3 of page 8 of Schedule DWD-4.
- (4) From note 4 of page 8 of Schedule DWD-4.
- (5) From note 5 of page 8 of Schedule DWD-4.
- (6) From note 6 of page 8 of Schedule DWD-4.
- (7) Average of mean and median beta from page 6 of this Schedule.

Sources of Information:

Kroll 2022 SBBI® Yearbook  
Value Line Summary and Index  
Blue Chip Financial Forecasts, June 1, 2022 and November 1, 2022  
Bloomberg Professional Services

Confluence Rivers (MO) Utility Operating Company, Inc.  
Traditional CAPM and ECAPM Results for the Proxy Group of Non-Price-Regulated Companies Comparable in Total Risk to the  
Proxy Group of Six Water Companies

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
Proxy Group of Twenty-Seven 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)
Balchem Corp.	0.75	0.92	0.84	9.98 %	3.96 %	12.34 %	12.74 %	12.54 %
Becton, Dickinson	0.75	0.67	0.71	9.98	3.96	11.04	11.77	11.41
Black Knight, Inc.	0.75	0.58	0.67	9.98	3.96	10.65	11.47	11.06
Booz Allen Hamilton	0.85	0.83	0.84	9.98	3.96	12.34	12.74	12.54
Bristol-Myers Squibb	0.85	0.53	0.69	9.98	3.96	10.85	11.62	11.23
C.H. Robinson	0.70	0.83	0.77	9.98	3.96	11.64	12.22	11.93
Chemed Corp.	0.80	0.74	0.77	9.98	3.96	11.64	12.22	11.93
CSG Systems Int'l	0.70	0.80	0.75	9.98	3.96	11.44	12.07	11.76
CSW Industrials	0.85	0.83	0.84	9.98	3.96	12.34	12.74	12.54
Heartland Express	0.70	0.70	0.70	9.98	3.96	10.95	11.69	11.32
Henry (Jack) & Assoc	0.80	0.76	0.78	9.98	3.96	11.74	12.29	12.02
Lilly (Eli)	0.80	0.71	0.76	9.98	3.96	11.54	12.14	11.84
McCormick & Co.	0.75	0.71	0.73	9.98	3.96	11.24	11.92	11.58
Merck & Co.	0.80	0.48	0.64	9.98	3.96	10.35	11.24	10.80
Monster Beverage	0.85	0.79	0.82	9.98	3.96	12.14	12.59	12.37
NewMarket Corp.	0.75	0.62	0.69	9.98	3.96	10.85	11.62	11.23
Northrop Grumman	0.80	0.70	0.75	9.98	3.96	11.44	12.07	11.76
Oracle Corp.	0.80	1.03	0.91	9.98	3.96	13.04	13.27	13.15
Pfizer, Inc.	0.80	0.75	0.78	9.98	3.96	11.74	12.29	12.02
Progressive Corp.	0.75	0.74	0.75	9.98	3.96	11.44	12.07	11.76
Quest Diagnostics	0.80	0.67	0.73	9.98	3.96	11.24	11.92	11.58
RLI Corp.	0.75	0.81	0.78	9.98	3.96	11.74	12.29	12.02
Rollins, Inc.	0.85	0.90	0.87	9.98	3.96	12.64	12.97	12.80
Selective Ins. Group	0.85	0.72	0.79	9.98	3.96	11.84	12.37	12.11
Watsco, Inc.	0.85	0.99	0.92	9.98	3.96	13.14	13.34	13.24
Werner Enterprises	0.75	0.80	0.77	9.98	3.96	11.64	12.22	11.93
Western Union	0.80	0.77	0.79	9.98	3.96	11.84	12.37	12.11
Mean			<u>0.77</u>			<u>11.66 %</u>	<u>12.23 %</u>	<u>11.95 %</u>
Median			<u>0.77</u>			<u>11.64 %</u>	<u>12.22 %</u>	<u>11.93 %</u>
Average of Mean and Median			<u>0.77</u>			<u>11.65 %</u>	<u>12.23 %</u>	<u>11.94 %</u>

Notes:

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

Confluence Rivers (MO) Utility Operating Company, Inc.  
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 October 31, 2022 (1) (millions)	[2] Applicable Decile of the NYSE/AMEX/ NASDAQ (2)	[3] Applicable Size Premium (3)	[4] Spread from Applicable Size Premium (4)
1.	\$ 38,085	10	4.80%	
2.	\$ 3,337,436	5	0.89%	3.91%

Decile	Market Capitalization of (millions)		Market Capitalization of Largest Company (millions)	Size Premium (Return in Excess of CAPM)*
	Smallest Company	Largest Company		
Largest	\$ 36,160,584	\$ 2,324,390,219		-0.22%
2	16,759,390	36,099,221		0.43%
3	8,216,356	16,738,364		0.55%
4	5,019,883	8,212,638		0.54%
5	3,281,009	5,003,747		0.89%
6	2,170,315	3,276,553		1.18%
7	1,306,402	2,164,524		1.34%
8	629,118	1,306,038		1.21%
9	290,002	627,803		2.10%
Smallest	10,588	289,007		4.80%

\*From 2022 Kroll Cost of Capital Navigator

Notes:

- (1) From page 2 of this Schedule.
- (2) Gleaned from Columns [B] and [C] on the bottom of this page. The appropriate decile (Column [A]) corresponds to the market capitalization of the proxy group, which is found in Column [1].
- (3) Corresponding risk premium to the decile is provided in Column [D] on the bottom of this page.
- (4) Line No. 1 Column [3] - Line No. 2 Column [3]. For example, the 3.91% in Column [4], Line No. 2 is derived as follows 3.91% = 4.8% - 0.89%.

Confluence Rivers (MO) Utility Operating Company, Inc.  
Market Capitalization of Confluence Rivers (MO) Utility Operating Company, Inc. and the  
Proxy Group of Six Water Companies

Company	Exchange	[1] Common Stock Shares Outstanding at Fiscal Year End 2021 (millions)	[2] Book Value per Share at Fiscal Year End 2021 (1)	[3] Total Common Equity at Fiscal Year End 2021 (millions)	[4] Closing Stock Market Price on October 31, 2022	[5] Market-to-Book Ratio on October 31, 2022 (2)	[6] Market Capitalization on October 31, 2022 (3) (millions)
Confluence Rivers (MO) Utility Operating Company, Inc.		NA	NA	\$ 11,835 (4)	NA		
Based upon Proxy Group of Six Water Companies						321.8 (5)	\$ 38,085 (6)
Proxy Group of Six Water Companies							
American States Water Company	NYSE	36,936	\$ 18,571	\$ 685,947	\$ 90.460	487.1 %	\$ 3,341,256
American Water Works Company, Inc.	NYSE	181,611	40,185	7,298,000	145,340	361.7	26,395,356
California Water Service Group	NYSE	53,716	22,023	1,182,980	62,060	281.8	3,333,615
Essential Utilities Inc.	NYSE	252,868	20,503	5,184,450	44,220	215.7	11,181,806
Middlesex Water Company	NASDAQ	17,522	20,987	367,726	89,470	426.3	1,567,693
SIW Group	NYSE	30,181	34,277	1,034,519	70,680	206.2	2,133,218
Median		45,326	\$ 21,505	\$ 1,108,750	\$ 80,075	321.8 %	\$ 3,337,436

NA= Not Available

Notes: (1) Column 3 / Column 1.

(2) Column 4 / Column 2.

(3) Column 1 \* Column 4.

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

(5) The market-to-book ratio of Confluence Rivers (MO) Utility Operating Company, Inc. on October 31, 2022 is assumed to be equal to the market-to-book ratio of Proxy Group of Six Water Companies on October 31, 2022 as appropriate.

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

Source of Information: 2021 Annual Forms 10K  
Bloomberg Financial Services

Confluence Rivers (MO) Utility Operating Company, Inc.  
Return on Common Equity Implied Based on  
Capital Structure of Proxy Group of Six Water Companies  
and Weighted Average Cost of Capital

[1] <u>Description</u>	[2] <u>Weight (%)</u>	[3] <u>Cost</u>	[4] <u>Weighted Cost</u>	[5] <u>Pre-Tax Weighted Cost</u>
<b>High End of Proxy Group of Six Water Companies</b>				
Debt	37.56%	(1) 6.60%	(2) 2.48%	2.48%
Common Equity	62.44%	10.86%	(3) 6.78%	8.94% (4)
Weighted Average Cost of Capital			<u>9.26%</u>	<u>11.42%</u>
<b>Capital Structure of Confluence Rivers</b>				
Debt	31.44%	(2) 6.60%	2.08%	2.08%
Common Equity	68.56%	10.34%	7.09%	9.34% (5)
Weighted Average Cost of Capital			<u>9.16%</u>	<u>11.42%</u> (6)
Indicated ROE Adjustment		<b>-0.53%</b>		

Notes:

- (1) High End of capital structures from Proxy Group of Six Water Companies, as shown on page 2 of Schedule DWD-2.
- (2) Company provided.
- (3) From page 2 of Schedule DWD-1.
- (4) Assuming an effective composite Federal and State income tax rate of 24.16%, the pre-tax weighted cost of common equity based on the Proxy Group of Water Companies, 10.86% common equity cost rate before adjustment and actual capital structure is 8.94%.  $8.94\% = 6.78\% / (1 - 0.2416)$ .
- (5) Pre-tax weighted cost rate of common equity equals the pre-tax overall weighted cost rate (11.42%) minus the weighted cost rate of debt based on Confluence River's proposed actual capital structure, 2.08%.  $11.42\% - 2.08\% = 9.34\%$ .
- (6) Pre-tax weighted overall cost of capital based on Mr. D'Ascendis's proposed overall rate of return.

Confluence Rivers (MO) Utility Operating Company, Inc.  
Calculation of Indicated Financial Risk Adjustment Based upon Proxy Group of Six Water  
Companies  
Using the Hamada Equation

Line No.	<u>Type of Capital</u>	Capital Structure of Confluence Rivers (1)	High End of Proxy Group of Six Water Companies (2)
1.	Long-Term Debt	31.44%	37.56%
2.	Common Equity	<u>68.56%</u>	<u>62.44%</u>
3.	Total	100.00%	100.00%
4.	Beta (3)		0.78
5.	Un-levered beta (4)		0.54
6.	Re-Levered beta (5)		0.73
7.	Market Risk Premium (6)		9.98
8.	Risk-Free Rate (7)		3.96
9.	Indicated CAPM based on High End of Equity Range (8)		11.74
10.	Indicated CAPM based on Confluence River's Capital Structure (9)		11.24
11.	Indicated Financial Risk Adjustment (10)		(0.50)

Notes:

- (1) From page 1 of Schedule DWD-1.
- (2) High End of capital structures from Proxy Group of Six Water Companies, as shown on page 2 of Schedule DWD-2.
- (3) Utility Proxy Group Beta from Schedule DWD-5, page 1.
- (4) The un-levered beta is calculated as follows:

$$b_u = \frac{b_l}{[1 + \frac{D}{E}(1 - T)]}$$

$$.52 = \frac{.76}{[1 + \frac{37.56\%}{62.44\%}(1 - 24.16\%)]}$$

Where:  
 $b_l$  = levered beta  
D = Debt Ratio  
E = Equity Ratio  
T = Corporate Tax Rate

- (5) The beta is then re-levered using Confluence River's requested Capital Structure

$$b_l = b_u[1 + \frac{D}{E}(1 - T)]$$

$$.70 = .52[1 + \frac{31.44\%}{68.56\%}(1 - 24.16\%)]$$

- (6) Market Risk Premium from Schedule DWD-5, page 1.
- (7) Risk-Free Rate from Schedule DWD-5, page 1.
- (8) Line 4 \* Line 7 + Line 8.
- (9) Line 6 \* Line 7 + Line 8.
- (10) Line 10 - Line 9.