

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

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2019

Or

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

For the transition period from _____ to _____

Commission File number 1-6659

ESSENTIAL UTILITIES, INC.

(Exact name of registrant as specified in its charter)

Pennsylvania

(State or other jurisdiction of incorporation or organization)

23-1702594

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

762 W Lancaster Avenue, Bryn Mawr, Pennsylvania

(Address of principal executive offices)

19010-3489

(Zip Code)

(610) 527-8000

(Registrant's telephone number, including area code)

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

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

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

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

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

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

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

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

Large accelerated filer ☒

Non-accelerated filer ☐

Emerging growth company ☐

Accelerated filer ☐

Small reporting company ☐

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

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

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

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

DOCUMENTS INCORPORATED BY REFERENCE

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

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Apr 21 2020

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain statements in this Annual Report on Form 10-K (the “Annual Report”) are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 that are made based upon, among other things, our current assumptions, expectations, plans, and beliefs concerning future events and their potential effect on us. These forward-looking statements involve risks, uncertainties and other factors, many of which are outside our control that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by these forward-looking statements. In some cases you can identify forward-looking statements where statements are preceded by, followed by or include the words “believes,” “expects,” “anticipates,” “plans,” “future,” “potential,” “probably,” “predictions,” “intends,” “will,” “continue,” “in the event” or the negative of such terms or similar expressions. Forward-looking statements in this Annual Report include, but are not limited to, statements regarding:

- ☐ recovery of capital expenditures and expenses in rates;
- ☐ projected capital expenditures and related funding requirements;
- ☐ our capability to pursue timely rate increase requests;
- ☐ expectations regarding the impact of the pending Peoples Gas Acquisition, including statements regarding closing of the transaction or the impact of the transaction on the Company;
- ☐ developments, trends and consolidation in the water, wastewater, and natural gas utility and infrastructure industries;
- ☐ opportunities for future acquisitions, both within and outside the water, wastewater, and natural gas industries, the success of pending acquisitions and the impact of future acquisitions;
- ☐ the capacity of our water supplies, water facilities, wastewater facilities;
- ☐ the availability and cost of capital financing;
- ☐ dividend payment projections;
- ☐ the impact of geographic diversity on our exposure to unusual weather;
- ☐ the impact of conservation awareness of customers and more efficient fixtures and appliances on water usage per customer;
- ☐ our authority to carry on our business without unduly burdensome restrictions;
- ☐ the continuation of investments in strategic ventures;
- ☐ our ability to obtain fair market value for condemned assets;
- ☐ the impact of fines and penalties;
- ☐ the impact of changes in and compliance with governmental laws, regulations and policies, including those dealing with the environment, health and water quality, taxation, and public utility regulation;
- ☐ the impact of decisions of governmental and regulatory bodies, including decisions to raise or lower rates and decisions regarding potential acquisitions;
- ☐ the development of new services and technologies by us or our competitors;
- ☐ the availability of qualified personnel;
- ☐ the condition of our assets;
- ☐ the impact of legal proceedings;
- ☐ general economic conditions;
- ☐ acquisition-related costs and synergies;
- ☐ the sale of water and wastewater divisions; and
- ☐ the impact of federal and/or state tax policies and the regulatory treatment of the effects of those policies;
- ☐ the amount of income tax deductions for qualifying utility asset improvements and the Internal Revenue Service’s ultimate acceptance of the deduction methodology.

Because forward-looking statements involve risks and uncertainties, there are important factors that could cause actual results to differ materially from those expressed or implied by these forward-looking statements, including but not limited to:

- ☐ conditions to the completion of the Peoples Gas Acquisition may not be satisfied or waived on a timely basis, or at all;
- ☐ the diversion of our management's time and resources caused by the pendency of the Peoples Gas Acquisition;
- ☐ our ability to manage the expansion of our business, including our ability to manage our expanded operations following the closing of the Peoples Gas Acquisition;
- ☐ our ability to treat and supply water or collect and treat wastewater;
- ☐ the continuous and reliable operation of our information technology systems, including the impact of cyber security attacks or other cyber-related events;
- ☐ our ability to integrate and otherwise realize all of the anticipated benefits of businesses, technologies or services which we may acquire;
- ☐ changes in general economic, business, credit and financial market conditions;
- ☐ changes in governmental laws, regulations and policies, including those dealing with taxation, the environment, health and water quality, and public utility regulation;
- ☐ the profitability of future acquisitions;
- ☐ changes to the rules or our assumptions underlying our determination of what qualifies for an income tax deduction for qualifying utility asset improvements;
- ☐ the decisions of governmental and regulatory bodies, including decisions on rate increase requests and decisions regarding potential acquisitions;
- ☐ our ability to file rate cases on a timely basis to minimize regulatory lag;
- ☐ abnormal weather conditions, including those that result in water use restrictions;
- ☐ changes in, or unanticipated, capital requirements;
- ☐ changes in our credit rating or the market price of our common stock;
- ☐ changes in valuation of strategic ventures;
- ☐ the phase-out of the London Interbank Offered Rate ("LIBOR"), or the replacement of LIBOR with a different reference rate or modification of the method used to calculate LIBOR, which may adversely affect interest rates;
- ☐ the extent to which we are able to develop and market new and improved services;
- ☐ the effect of the loss of major customers;
- ☐ our ability to retain the services of key personnel and to hire qualified personnel as we expand;
- ☐ labor disputes;
- ☐ increasing difficulties in obtaining insurance and increased cost of insurance;
- ☐ cost overruns relating to improvements to, or the expansion of, our operations;
- ☐ increases in the costs of goods and services; civil disturbance or terroristic threats or acts;
- ☐ changes in accounting pronouncements;
- ☐ litigation and claims; and
- ☐ changes in environmental conditions, including the effects of climate change.

Given these risks and uncertainties, you should not place undue reliance on any forward-looking statements. You should read this Annual Report completely and with the understanding that our actual future results, performance and achievements may be materially different from what we expect. These forward-looking statements represent assumptions, expectations, plans, and beliefs only as of the date of this Annual Report. Except for our ongoing obligations to disclose certain information under the federal securities laws, we are not obligated, and assume no obligation, to update these forward-looking statements, even though our situation may change in the future. For further information or other factors which could affect our financial results and such forward-looking statements, see *Item 1A – Risk Factors*. We qualify all of our forward-looking statements by these cautionary statements.

PART I

Item 1. *Business*

Name Change

On February 3, 2020, Aqua America, Inc. changed its corporate name to Essential Utilities, Inc. to align the name of the Company with the anticipated business plan of the Company following the pending acquisition of Peoples Gas and to reflect the proposed combination of regulated water utilities and natural gas utilities that offer essential utility services to customers. After completion of the acquisition, the water and wastewater utility services will be provided through Essential Utilities' Aqua companies and the natural gas utility services will be provided through its Peoples natural gas companies.

The Company

Essential Utilities, Inc. (referred to as “Essential Utilities”, the “Company”, “we”, “us”, or “our”), a Pennsylvania corporation, is the holding company for regulated utilities providing water or wastewater services to an estimated three million people in Pennsylvania, Ohio, Texas, Illinois, North Carolina, New Jersey, Indiana, and Virginia. Our largest operating subsidiary is Aqua Pennsylvania, Inc., which accounted for approximately 54% of our operating revenues and approximately 72% of our Regulated water segment's income for 2019. As of December 31, 2019, Aqua Pennsylvania provided water or wastewater services to approximately one-half of the total number of water and wastewater customers we serve. Aqua Pennsylvania's service territory is located in the suburban areas in counties north and west of the City of Philadelphia and in 27 other counties in Pennsylvania. Our other regulated water utility subsidiaries provide similar services in seven additional states. In addition, the Company's market-based activities are conducted through Aqua Infrastructure, LLC and Aqua Resources Inc. Aqua Infrastructure provides non-utility raw water supply services for firms in the natural gas drilling industry. Aqua Resources manages a water system operating and maintenance contract; and offers, through a third-party, water and sewer line protection solutions and repair services to households. In 2017, we completed the sale of business units that were reported within Aqua Resources, one which installed and tested devices that prevent the contamination of potable water and another that constructed, maintained, and repaired water and wastewater systems.

Essential Utilities, which prior to its name change on February 3, 2020 was known as Aqua America, Inc. was formed in 1968 as a holding company for its primary subsidiary, Aqua Pennsylvania, formerly known as Philadelphia Suburban Water Company. In the early 1990s, we embarked on a growth through acquisition strategy focused on water and wastewater operations. Our most significant water transactions to date have been the merger with Consumers Water Company in 1999, the acquisition of the regulated water and wastewater operations of AquaSource, Inc. in 2003, the acquisition of Heater Utilities, Inc. in 2004, and the acquisition of American Water Works Company, Inc.'s regulated water and wastewater operations in Ohio in 2012. Since the early 1990s, our business strategy has been primarily directed toward the regulated water and wastewater utility industry, where we have more than quadrupled the number of regulated customers we serve, and have extended our regulated operations from southeastern Pennsylvania to include our current regulated utility operations throughout Pennsylvania and in seven additional states. During 2010 through 2013, we sold our utility operations in six states, pursuant to a portfolio rationalization strategy to focus our operations in areas where we have critical mass and economic growth potential. Currently, the Company seeks to acquire businesses in the U.S. regulated sector, which includes water and wastewater utilities and other regulated utilities, and to pursue growth ventures in market-based activities, such as infrastructure opportunities that are supplementary and complementary to our regulated utility businesses. On October 22, 2018, we entered into a purchase agreement to acquire, from LDC Funding LLC, the parent company of PNG Companies, a natural gas distribution company consisting of Peoples Natural Gas Company LLC, Peoples Gas Company LLC, Peoples Gas West Virginia, Inc., Peoples Gas Kentucky, Inc., and Delta Natural Gas Company Inc. expanding the Company's regulated utility business to include natural gas distribution. This acquisition is referred to as the “Peoples Gas Acquisition,” and collectively these businesses are referred to as “Peoples.” Peoples serves approximately 747,000 gas utility customers in western Pennsylvania, West Virginia, and Kentucky. Approval from the United States Federal Trade Commission was obtained in December 2018, and approvals from the public utility commissions of Kentucky, West Virginia, and Pennsylvania were obtained in March 2019, April 2019, and January 2020, respectively. This acquisition is expected to close on March 16, 2020, and it is anticipated that this acquisition will result in the recording of goodwill.

The descriptions of our business and operations, financial results, and operational data included in this Annual Report are historical and do not include Peoples or otherwise give effect to our pending acquisition of Peoples.

The following table reports our operating revenues, by principal state, for our Regulated water segment, which includes both water and wastewater utility services, and Other and eliminations for the year ended December 31, 2019:

	Operating Revenues (000's)	Operating Revenues (%)
Pennsylvania	\$ 479,473	53.9%
Ohio	107,799	12.1%
Texas	73,007	8.2%
Illinois	74,903	8.4%
North Carolina	56,452	6.3%
Other states (1)	94,796	10.7%
Regulated water segment total	886,430	99.6%
Other and eliminations	3,262	0.4%
Consolidated	<u>\$ 889,692</u>	<u>100.0%</u>

(1) Includes our operating subsidiaries in the following states: New Jersey, Indiana, and Virginia.

The Company has identified ten operating segments and has one reportable segment named the Regulated water segment. The reportable segment is comprised of eight operating segments for our water and wastewater regulated utility companies, aligned with the states where we provide these services. These operating segments are aggregated into one reportable segment since each of the Company's operating segments has the following similarities: economic characteristics, nature of services, production processes, customers, water distribution or wastewater collection methods, and the nature of the regulatory environment. Further, Aqua Resources and Aqua Infrastructure are not quantitatively significant to be reportable and are included as a component of "Other," in addition to corporate costs that have not been allocated to the Regulated water segment, because they would not be recoverable as a cost of utility service, and intersegment eliminations. Information concerning revenues, net income, identifiable assets and related financial information for the Regulated water segment and Other and eliminations for 2019, 2018, and 2017, is set forth in *Management's Discussion and Analysis of Financial Condition and Results of Operations* and in Note 18 – *Segment Information* in the *Notes to Consolidated Financial Statements* which is contained in Item 8 of this Annual Report.

The following table summarizes our operating revenues, by utility customer class, for the Regulated water segment and Other and eliminations for the year ended December 31, 2019:

	Operating Revenues (000's)	Operating Revenues (%)
Residential water	\$ 518,192	58.2%
Commercial water	145,599	16.4%
Fire protection	33,589	3.8%
Industrial water	30,667	3.4%
Other water	39,353	4.4%
Total water	767,400	86.2%
Wastewater	105,204	11.8%
Other utility	13,826	1.6%
Regulated water segment total	886,430	99.6%
Other and eliminations	3,262	0.4%
Consolidated	\$ 889,692	100.0%

Our utility customer base is diversified among residential water, commercial water, fire protection, industrial water, other water, wastewater customers, and other utility customers (consisting of contracted services that are associated with the utility operations). Residential water and wastewater customers make up the largest component of our utility customer base, with these customers representing approximately 69%, 67%, and 70% of our water and wastewater revenues for 2019, 2018, and 2017, respectively. Substantially all of our utility customers are metered, which allows us to measure and bill for our customers' water consumption. Water consumption per customer is affected by local weather conditions during the year, especially during late spring, summer, and early fall. In general, during these seasons, an extended period of dry weather increases consumption, while above average rainfall decreases consumption. Also, an increase in the average temperature generally causes an increase in water consumption. On occasion, abnormally dry weather in our service areas can result in governmental authorities declaring drought warnings and imposing water use restrictions in the affected areas, which could reduce water consumption. See "Business – Water Utility Supplies, and Facilities and Wastewater Utility Facilities" for a discussion of water use restrictions that may impact water consumption during abnormally dry weather. The geographic diversity of our utility customer base reduces the effect of our exposure to extreme or unusual weather conditions in any one area of our service territory. Water usage is also affected by changing consumption patterns by our customers, resulting from such causes as increased water conservation and the installation of water saving devices and appliances that can result in decreased water usage. It is estimated that in the event we experience a 0.50% decrease in residential water consumption it would result in a decrease in annual residential water revenue of approximately \$2,600,000 and would likely be partially offset by a reduction in incremental water production expenses such as chemicals and power.

Our growth in revenues over the past five years is primarily a result of increases in water and wastewater rates and customer growth. See *Economic Regulation* for a discussion of water and wastewater rates. The increase in our utility customer base has been due to customers added through acquisitions, partnerships with developers, and organic growth (excluding dispositions) as shown below:

Year	Utility Customer Growth Rate
2019	2.1%
2018	2.3%
2017	1.1%
2016	1.6%
2015	1.9%

In 2019 and 2018, our customer count increased by 21,108 and 22,741 customers, respectively, primarily due to utility systems that we acquired and organic growth. Overall, for the five year period of 2015 through 2019, our utility customer base, adjusted to exclude customers associated with utility system dispositions, increased at an annual compound rate of 1.8%. During the five year period ended December 31, 2019, our utility customer base including customers associated with utility system acquisitions and dispositions increased from 940,119 at January 1, 2015 to 1,026,704 at December 31, 2019.

Acquisitions and Other Growth Ventures

We believe that acquisitions will continue to be an important source of customer growth for us. We intend to continue to pursue acquisitions of government-owned and regulated water and wastewater systems that provide services in areas near our existing service territories or in new service areas. We engage in continuing activities with respect to potential acquisitions, including calling on prospective sellers, performing analyses of and due diligence on acquisition candidates, making preliminary acquisition proposals, and negotiating the terms of potential acquisitions. Further, we are also seeking other potential business opportunities, including but not limited to, partnering with public and regulated utilities to invest in infrastructure projects, growing our market-based activities by acquiring businesses that provide water and wastewater or other utility-related services, and investing in infrastructure projects.

According to the U.S. Environmental Protection Agency (“EPA”), based on the 2017 U.S. Census American Housing Survey, approximately 89% of the U.S. population obtains its water from community water systems, and 11% of the U.S. population obtains its water from private wells. With approximately 50,000 community water systems in the U.S. (81% of which serve less than 3,300 customers), the water industry is the most fragmented of the major utility industries (telephone, natural gas, electric, water and wastewater). The majority of these community water systems are government-owned, and the balance of the systems are regulated utilities. The nation’s water systems range in size from large government-owned systems, such as the New York City water system, which serves approximately 8.4 million people, to small systems, where a few customers share a common well. In the states where we operate regulated water utilities, we believe there are approximately 14,000 community water systems of widely-varying size, with the majority of the population being served by government-owned water systems.

Although not as fragmented as the water industry, the wastewater industry in the U.S. also presents opportunities for consolidation. According to the EPA’s most recent survey of wastewater treatment facilities (which includes both government-owned facilities and regulated utility systems) in 2012, there were approximately 15,000 such facilities in the nation serving approximately 76% of the U.S. population. The remaining population represents individual homeowners with their own treatment facilities; for example, community on-lot disposal systems and septic tank systems. A majority of wastewater facilities are government-owned rather than regulated utilities. The EPA’s survey also indicated that, in 2012, there were approximately 4,000 wastewater facilities in operation in the states where we operate regulated utilities.

Because of the fragmented nature of the water and wastewater utility industries, we believe there are many potential water and wastewater system acquisition candidates throughout the U.S. We believe the factors driving consolidation of these systems are:

- ☐ the benefits of economies of scale;
- ☐ the increasing cost and complexity of environmental regulations;
- ☐ the need for substantial capital investment;
- ☐ the need for technical and managerial expertise;
- ☐ the desire to improve water quality and service;
- ☐ limited access to cost-effective financing;
- ☐ the monetizing of public assets to support, in some cases, the declining financial condition of municipalities; and
- ☐ the use of system sale proceeds by a municipality to accomplish other public purposes.

We are actively exploring opportunities to expand our utility operations through acquisitions or other growth ventures. During the five year period ended December 31, 2019, we expanded our utility operations by completing 56 acquisitions or other growth ventures. Additionally, in October 2018, we entered into an agreement to acquire Peoples, which will

expand the Company's regulated utility business to include natural gas distribution. This acquisition is expected to close on March 16, 2020.

Water Utility Supplies and Facilities and Wastewater Utility Facilities

Our water utility operations obtain their water supplies from surface water sources, underground aquifers, and water purchased from other water suppliers. Our water supplies are primarily self-supplied and processed at twenty-one surface water treatment plants located in four states, and numerous well stations located in the states in which we conduct business. Approximately 6.0% of our water supplies are provided through water purchased from other water suppliers. It is our policy to obtain and maintain the permits necessary to obtain the water we distribute.

We believe that the capacities of our sources of supply, and our water treatment, pumping and distribution facilities, are generally sufficient to meet the present requirements of our customers under normal conditions. We plan system improvements and additions to capacity in response to normal replacement and renewal needs, changing regulatory standards, changing patterns of consumption, and increased demand from customer growth. The various state utility commissions have generally recognized the operating and capital costs associated with these improvements in setting water and wastewater rates.

On occasion, drought warnings and water use restrictions are issued by governmental authorities for portions of our service territories in response to extended periods of dry weather conditions. The timing and duration of the warnings and restrictions can have an impact on our water revenues and net income. In general, water consumption in the summer months is more affected by drought warnings and restrictions because discretionary and recreational use of water is at its highest during the summer months. At other times of the year, warnings and restrictions generally have less of an effect on water consumption. Portions of our northern and central Texas service areas have conservation-based water restrictions. Drought warnings and watches result in the public being asked to voluntarily reduce water consumption.

We believe that our wastewater treatment facilities are generally adequate to meet the present requirements of our customers under normal conditions. Additionally, we own several wastewater collection systems that convey the wastewater to municipally-owned facilities for treatment. Changes in regulatory requirements can be reflected in revised permit limits and conditions when permits are renewed, typically on a five year cycle, or when treatment capacity is expanded. Capital improvements are planned and budgeted to meet normal replacement and renewal needs, anticipated changes in regulations, needs for increased capacity related to projected growth, and to reduce inflow and infiltration to collection systems. The various state utility commissions have generally recognized the operating and capital costs associated with these improvements in setting wastewater rates for current and new customers. It is our policy to obtain and maintain the permits necessary for the treatment of the wastewater that we return to the environment.

Economic Regulation

Most of our water and wastewater utility operations are subject to regulation by their respective state utility commissions, which have broad administrative power and authority to regulate billing rates, determine franchise areas and conditions of service, approve acquisitions and authorize the issuance of securities. The utility commissions also establish uniform systems of accounts and approve the terms of contracts with affiliates and customers, business combinations with other utility systems, and loans and other financings. The policies of the utility commissions often differ from state to state, and may change over time. A small number of our water and wastewater utility operations are subject to rate regulation by county or city governments. The profitability of our utility operations is influenced to a great extent by the timeliness and adequacy of rate allowances we are granted by the respective utility commissions or authorities in the various states in which we operate.

Rate Case Management Capability – We maintain a rate case management capability, the objective of which is to provide that the tariffs of our utility operations reflect, to the extent practicable, the timely recovery of increases in costs of operations, capital expenditures, interest expense, taxes, energy, materials, and compliance with environmental regulations. We file rate increase requests to recover and earn a fair return on the infrastructure investments that we make in improving or replacing our facilities and to recover expense increases. In the states in which we operate, we are primarily subject to economic regulation by the following state utility commissions:

<u>State</u>	<u>Utility Commission</u>
Pennsylvania	Pennsylvania Public Utility Commission
Ohio	Public Utilities Commission of Ohio
Texas	Public Utility Commission of Texas
Illinois	Illinois Commerce Commission
North Carolina	North Carolina Utilities Commission
New Jersey	New Jersey Board of Public Utilities
Indiana	Indiana Utility Regulatory Commission
Virginia	Virginia State Corporation Commission

Our water and wastewater operations are comprised of 47 rate divisions, each of which requires a separate rate filing for the evaluation of the cost of service, including the recovery of investments, in connection with the establishment of rates for that rate division. When feasible and beneficial to our utility customers, we will seek approval from the applicable state regulatory commission to consolidate rate divisions to achieve a more even distribution of costs over a larger customer base. All of the states in which we operate permit us to file a revenue requirement for some form of consolidated rates for all, or some of the rate divisions in that state.

In Virginia, we may seek authorization to bill our utility customers in accordance with a rate filing that is pending before the respective regulatory commission, which would allow for interim rates. As of December 31, 2019, we have no billings under interim rate arrangements for rate case filings in progress. Furthermore, some utility commissions authorize the use of expense deferrals and amortization in order to provide for an impact on our operating income by an amount that approximates the requested amount in a rate request. In these states, the additional revenue billed and collected prior to the final regulatory commission ruling is subject to refund to customers based on the outcome of the ruling. The revenue recognized and the expenses deferred by us reflect an estimate as to the final outcome of the ruling. If the request is denied completely or in part, we could be required to refund to customers some or all of the revenue billed to date and write-off some or all of the deferred expenses.

Revenue Surcharges – Seven states in which we operate water utilities, and six states in which we operate wastewater utilities, permit us to add an infrastructure rehabilitation surcharge to their respective bills to offset the additional depreciation and capital costs associated with capital expenditures related to replacing and rehabilitating infrastructure systems. Without this surcharge, a water and wastewater utility absorbs all of the depreciation and capital costs of these projects between base rate increases. The gap between the time that a capital project is completed and the recovery of its costs in rates is known as regulatory lag. This surcharge is intended to substantially reduce regulatory lag, which often acted as a disincentive for water and wastewater utilities to rehabilitate their infrastructure. In addition, our subsidiaries in some states use a surcharge or credit on their bills to reflect changes in costs, such as changes in state tax rates, other taxes and purchased water costs, until such time as the new cost levels are incorporated into base rates.

Currently, New Jersey allows for an infrastructure rehabilitation surcharge for water utilities, while Pennsylvania, Illinois, Ohio, Indiana, Virginia, and North Carolina allow for the use of an infrastructure rehabilitation surcharge for both water and wastewater utility systems. The infrastructure rehabilitation surcharge typically adjusts periodically based on additional qualified capital expenditures completed or anticipated in a future period, and is capped at a percentage of base rates, generally at 5% to 12.75%, and is reset to zero when new base rates that reflect the costs of those additions become effective or when a utility's earnings exceed a regulatory benchmark. This surcharge provided revenues of \$16,006,579 in 2019, \$31,835,811 in 2018, and \$10,255,284 in 2017.

Income Tax Accounting Change – In December 2012, Aqua Pennsylvania adopted an income tax accounting change, implemented on Essential Utilities' 2012 federal income tax return, which was filed in September 2013. This accounting

change allows a tax deduction for qualifying utility asset improvements that were formerly capitalized for tax purposes, and was implemented in response to a June 2012 rate order issued by the Pennsylvania Public Utility Commission. The Pennsylvania rate order requires use of the flow-through method of income tax benefits which results in a reduction in current income tax expense as a result of the recognition of income tax benefits resulting from the accounting change. This tax accounting change and its treatment under the Pennsylvania rate order provided sufficient income tax benefits to permit the suspension of the Pennsylvania infrastructure rehabilitation surcharge from January 1, 2013 to September 30, 2017. Beginning on October 1, 2017, Aqua Pennsylvania initiated a water infrastructure rehabilitation surcharge for the capital invested since the last rate proceeding and filed a base rate case in August 2018. In February 2019, the Company filed a settlement for this base rate case. Incremental rates from this settlement of approximately \$47,000,000 went into effect in May 2019. The rate case settlement agreement provides for \$158,864,688 of income tax benefits, for water customers, annually, from the flow-through recognition of the Aqua Pennsylvania income tax accounting change, subject to a collar of \$3,000,000 above or below.

Fair Market Value Legislation – In April 2016, Pennsylvania enacted legislation allowing the public utility commission to utilize fair market value to set ratemaking rate base instead of the depreciated original cost of water or wastewater assets for certain qualifying municipal acquisitions. The legislation includes a process for engaging two independent utility valuation experts to perform appraisals that are filed with the public utility commission and then averaged and compared to the purchase price. The ratemaking rate base is the lower of the average of the appraisals or the purchase price and is subject to regulatory approval. Illinois, Indiana, New Jersey, North Carolina, Ohio, and Texas also have legislation that allows the use of fair market value under varying rules and circumstances, with Ohio's and Texas' legislation becoming effective in 2019. We believe that this legislation will encourage consolidation in the water and wastewater industry, providing municipalities with an option for exiting the business if they are dealing with challenges associated with their aging, deteriorating water and wastewater assets, do not have the expertise or technical capabilities to continue to comply with ever increasing environmental regulations or simply want to focus on other community priorities.

Revenue Stability Mechanisms – Revenue stability mechanisms separate the volume of water sold from our ability to meet our cost of service and infrastructure costs. These mechanisms allows us to recognize revenue based on a target amount established in the last rate case, and then record either a regulatory asset or liability based on the cumulative difference over time, which results in either a refund due to customers or a payment from customers. In Illinois, our operating subsidiary utilizes a revenue stability mechanism.

Competition

In general, we believe that Essential Utilities and its water and wastewater subsidiaries have valid authority, free from unduly burdensome restrictions, to enable us to carry on our business as presently conducted in the franchised or contracted areas we now serve. The rights to provide water or wastewater service to customers in a particular franchised service territory are generally non-exclusive, although the applicable utility commissions usually allow only one regulated utility to provide service to customers in a given area. In some instances, another water utility provides service to a separate area within the same political subdivision served by one of our subsidiaries. Therefore, as a regulated utility, there is little or no competition for the daily water and wastewater service we provide to our customers. Water and wastewater utilities may compete for the acquisition of other water and wastewater utilities or for acquiring new customers in new service territories. Competition for these acquisitions generally comes from nearby utilities, either other regulated utilities or municipal-owned utilities, and sometimes from strategic or financial purchasers seeking to enter or expand in the water and wastewater industry. We compete for new service territories and the acquisition of other utilities on the following bases:

- ☐ economic value;
- ☐ economies of scale;
- ☐ our ability to provide quality water and wastewater service;
- ☐ our existing infrastructure network;
- ☐ our ability to perform infrastructure improvements;
- ☐ our ability to comply with environmental, health, and safety regulations;
- ☐ our technical, regulatory, and operational expertise;
- ☐ our ability to access capital markets; and
- ☐ our cost of capital.

The addition of new service territories and the acquisition of other utilities by regulated utilities such as by the Company are generally subject to review and approval by the applicable state utility commissions.

In a very small number of instances, in one of our southern states, where there are municipally-owned water or wastewater systems near our operating divisions, the municipally-owned system may either have water distribution or wastewater collection mains that are located adjacent to our division's mains or may construct new mains that parallel our mains. In these rare circumstances, the municipally-owned system may attempt to voluntarily offer service to customers who are connected to our mains, resulting in our mains becoming surplus or underutilized without compensation.

In the states where our water subsidiaries operate, it is possible that portions of our subsidiaries' operations could be acquired by municipal governments by one or more of the following methods:

- ☐ eminent domain;
- ☐ the right of purchase given or reserved by a municipality or political subdivision when the original franchise was granted; and
- ☐ the right of purchase given or reserved under the law of the state in which the subsidiary was incorporated or from which it received its permit.

The price to be paid upon such an acquisition by the municipal government is usually determined in accordance with applicable law under eminent domain. In other instances, the price may be negotiated, fixed by appraisers selected by the parties or computed in accordance with a formula prescribed in the law of the state or in the particular franchise or charter. We believe that our operating subsidiaries would be entitled to fair market value for any assets that are condemned, and we believe the fair market value would be in excess of the book value for such assets.

Despite maintaining a program to monitor condemnation interests and activities that may affect us over time, one of our primary strategies continues to be to acquire additional water and wastewater systems, to maintain our existing systems where there is a business or a strategic benefit, and to actively oppose unilateral efforts by municipal governments to acquire any of our operations, particularly for less than the fair market value of our operations or where the municipal government seeks to acquire more than it is entitled to under the applicable law or agreement. On occasion, we may voluntarily agree to sell systems or portions of systems in order to help focus our efforts in areas where we have more critical mass and economies of scale or for other strategic reasons.

Environmental, Health and Safety Regulation

Provision of water and wastewater services is subject to regulation under the federal Safe Drinking Water Act, the Clean Water Act, and related state laws, and under federal and state regulations issued under these laws. These laws and regulations establish criteria and standards for drinking water and for wastewater discharges. In addition, we are subject to federal and state laws and other regulations relating to solid waste disposal, dam safety and other aspects of our operations. Capital expenditures and operating costs required as a result of water quality standards and environmental requirements have been traditionally recognized by state utility commissions as appropriate for inclusion in establishing rates.

From time to time, Essential Utilities has acquired, and may acquire, systems that have environmental compliance issues. Environmental compliance issues also arise in the course of normal operations or as a result of regulatory changes. Essential Utilities attempts to align capital budgeting and expenditures to address these issues in due course. We believe that the capital expenditures required to address outstanding environmental compliance issues have been budgeted in our capital program and represent approximately \$75,720,000, or approximately 3.2% of our expected total water and wastewater capital expenditures over the next five years. We are parties to agreements with regulatory agencies in Pennsylvania, Texas, and Virginia under which we have committed to make improvements for environmental compliance. These agreements are intended to provide the regulators with assurance that problems covered by these agreements will be addressed, and the agreements generally provide protection from fines, penalties and other actions while corrective measures are being implemented. We are actively working with state environmental officials in Pennsylvania, Texas, and Virginia to implement or amend regulatory agreements as necessary.

Safe Drinking Water Act - The Safe Drinking Water Act establishes criteria and procedures for the EPA to develop national quality standards for drinking water. Regulations issued pursuant to the Safe Drinking Water Act set standards regarding the amount of microbial and chemical contaminants and radionuclides in drinking water. Current requirements under the Safe Drinking Water Act are not expected to have a material impact on our business, financial condition, or results of operations as we have made and are making investments to meet existing water quality standards. We may, in the future, be required to change our method of treating drinking water at some sources of supply and make additional capital investments if additional regulations become effective.

Clean Water Act - The Clean Water Act regulates discharges from drinking water and wastewater treatment facilities into lakes, rivers, streams, and groundwater. It is our policy to obtain and maintain all required permits and approvals for the discharges from our water and wastewater facilities, and to comply with all conditions of those permits and other regulatory requirements. A program is in place to monitor facilities for compliance with permitting, monitoring and reporting for wastewater discharges. From time to time, discharge violations may occur which may result in fines. These fines and penalties, if any, are not expected to have a material impact on our business, financial condition, or results of operations. We are also parties to agreements with regulatory agencies in several states where we operate while improvements are being made to address wastewater discharge issues.

Solid Waste Disposal - The handling and disposal of waste generated from water and wastewater treatment facilities is governed by federal and state laws and regulations. A program is in place to monitor our facilities for compliance with regulatory requirements, and we are not aware of any significant environmental remediation costs necessary from our handling and disposal of waste material from our water and wastewater operations.

Dam Safety - Our subsidiaries own thirty dams, of which fifteen are classified as high hazard dams that are subject to the requirements of the federal and state regulations related to dam safety, which undergo regular inspections and an annual engineering inspection. After a thorough review and inspection of our dams by professional outside engineering firms, we believe that all fifteen dams are structurally sound and well-maintained, except as described below. These inspections provide recommendations for ongoing rehabilitation which we include in our capital improvement program.

We performed studies of our dams that identified five dams in Pennsylvania and two dams in Ohio requiring capital improvements. These capital improvements result from the adoption by state regulatory agencies of revised formulas for calculating the magnitude of a possible maximum flood event. The most significant capital improvement remaining to be performed in our dam improvement program is on one dam in Pennsylvania at a total estimated cost of \$13,300,000. Design for this dam commenced in 2013 and construction is expected to be completed in 2024.

A 2017 dam inspection in Illinois found cracks on two control gate mechanisms, and as a result, temporary gates were installed to eliminate reliance on the cracked control gates. An inspection of the other control gates was conducted in the fourth quarter of 2017, and it was determined that the dam's control gates should be replaced. All gates were reinforced in 2018 and five gates were replaced in 2019. The five remaining gates will be replaced in 2020 along with the rehabilitation of the concrete spillway. The entire project has a total estimated cost of \$26,000,000. We believe these capital investments will be recoverable in ratemaking.

One of our Ohio dams requiring capital improvements is no longer used for water supply and may be sold to a third party. Should that sale not be consummated, we will need to breach the dam or rehabilitate portions of the dam at a cost of up to approximately \$1,800,000.

Lead and Copper Rule – The events in Flint, Michigan, which commenced in 2014, and other communities have brought attention to the issue of lead in drinking water from home plumbing. Lead in drinking water can come from lead that leaches from service lines, home plumbing solder, and fixtures or faucets. Since the Lead and Copper Rule in 1992, we have been working to prevent lead leaching from home plumbing sources by reducing water corrosivity and adding chemicals that can prevent leaching of lead in pipes and homes. We have a program to evaluate all changes in water sources prior to initiating a change in water supply. We also focus on identifying and removing lead service lines and encouraging customers to replace the customer-owned portion of the service line if it is lead as they are identified during our main replacement program or during other maintenance activities. We are currently developing a lead service line inventory. We support the recommendations of The Lead Service Line Replacement Collaborative, a collaborative of leading water industry organizations that has recommended full replacement of lead service lines as a “best practice” to

reduce lead in drinking water, but we generally only have control over the company-owned portion of each service line. In cases where we are replacing a company-owned lead service line, our standard approach is to replace the company-owned portion and advise and encourage the customer to replace the customer-owned portion of the service line, all the way to the customer's home. In Pennsylvania, we may have the legal and regulatory authority to replace the customer-owned portion of the service line and will attempt to obtain customer permission to do so. We also advise customers of the potential health impacts of lead in drinking water, and conduct lead testing at homes following replacement of a lead service line. We do not plan on replacing customer-owned lead service lines at locations where our portion of the service line does not contain lead, but if we become aware of such situations we will notify the customer.

Partnership for Safe Water Program – Essential Utilities is a proud participant in the American Water Works Association's (AWWA) Partnership for Safe Water Program. This voluntary program is a commitment to excellence within the drinking water community above and beyond EPA's stringent treatment goals. All of our active surface water treatment plants (within Pennsylvania, Ohio, Illinois, and Virginia) maintain good standing in the program which includes many awards of achievement. The honors include the "Director's Award" (achieved at 5 systems) which recognizes plants that have: 1) completed a comprehensive self-assessment report, 2) created an action plan for continuous improvement, and 3) provided several evaluations of performance demonstrating operational excellence. Several of our systems have met these criteria annually and have received 5, 10, 15, and 20 year subscriber awards. Furthermore, our Roaring Creek Pennsylvania treatment plant has received the Phase IV Excellence Award, the highest honor achieved in the Partnership Program.

Safety Standards - Our facilities and operations may be subject to inspections by representatives of the Occupational Safety and Health Administration from time to time. We maintain safety policies and procedures to comply with the Occupational Safety and Health Administration's rules and regulations, but violations may occur from time to time, which may result in fines and penalties, which are not expected to have a material impact on our business, financial condition, or results of operations. We endeavor to correct such violations promptly when they come to our attention.

Security

We maintain security measures at our facilities, and collaborate with federal, state and local authorities and industry trade associations regarding information on possible threats and security measures for water and wastewater utility operations. The costs incurred are expected to be recoverable in water and wastewater rates and are not expected to have a material impact on our business, financial condition, or results of operations.

We also maintain cyber security protection measures with respect to our information technology, including our customer data, and, in some cases, the monitoring and operation of our treatment, storage and pumping facilities. We rely on our information technology systems in connection with the operation of our business, especially with respect to customer service and billing, accounting and, in some cases, the monitoring and operation of our treatment, storage and pumping facilities. In addition, we rely on our systems to track our utility assets and to manage maintenance and construction projects, materials and supplies, and our human resource functions.

Employee Relations

As of December 31, 2019, we employed a total of 1,583 full-time employees. Our subsidiaries are parties to 16 labor agreements with labor unions covering 544 employees. The labor agreements expire at various times between March 2020 and March 2025.

Available Information

We file annual, quarterly, current reports, proxy statements, and other information with the Securities and Exchange Commission ("SEC"). You may obtain our SEC filings from the SEC's web site at www.sec.gov.

Our internet web site address is www.essential.co. We make available free of charge through our web site's *Investor Relations* page all of our filings with the SEC, including our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and other information. These reports and information are available as soon as reasonably practicable after such material is electronically filed with the SEC.

In addition, you may request a copy of the foregoing filings, at no cost by writing or telephoning us at the following address or telephone number:

Investor Relations Department
Essential Utilities, Inc.
762 W. Lancaster Avenue
Bryn Mawr, PA 19010-3489
Telephone: 610-527-8000

Our Board of Directors has various committees including an audit committee, an executive compensation committee, a corporate governance committee, and a risk mitigation and investment policy committee. Each of these committees has a formal charter. We also have Corporate Governance Guidelines and a Code of Ethical Business Conduct. Copies of these charters, guidelines, and codes can be obtained free of charge from our *Investor Relations* page on our web site, www.essential.co. In the event we amend or waive any portion of the Code of Ethical Business Conduct that applies to any of our directors, executive officers, or senior financial officers, we will post that information on our web site.

The references to our web site and the SEC's web site are intended to be inactive textual references only, and the contents of those web sites are not incorporated by reference herein and should not be considered part of this or any other report that we file with or furnish to the SEC.

Item 1A. *Risk Factors*

In addition to the other information included in this Annual Report, the following factors should be considered in evaluating our business and future prospects. Any of the following risks, either alone or taken together, could materially harm our business, financial condition, and results of operations. If one or more of these or other risks or uncertainties materialize, or if our underlying assumptions prove to be incorrect, our business, financial condition, and results of operations could be materially harmed. The risk factors associated with the pending acquisition of Peoples have been included below to reflect the risks we foresee during the closing and initial integration of the Peoples Gas Acquisition.

Integrating the Peoples Gas Acquisition may disrupt or have a negative impact on our business.

We anticipate that the Peoples Gas Acquisition will close on March 16, 2020. We could have difficulty integrating the acquired assets, personnel and operations with our own. The Peoples Gas Acquisition is complex and we will devote significant time and resources to integrating the businesses. Risks that could impact us negatively include:

- ☐ the difficulty of integrating the acquired companies and their operations;
- ☐ the potential disruption of the ongoing businesses and distraction of our management and the management of the acquired companies;
- ☐ changes in our business focus and/or management;
- ☐ risks related to the natural gas distribution business;
- ☐ difficulties in maintaining uniform standards, controls, procedures and policies;
- ☐ the potential impairment of relationships with employees and partners as a result of any integration of new management personnel;
- ☐ the potential difficulty in managing an increased number of locations and employees;
- ☐ our ability to successfully manage Peoples; or
- ☐ the effect of any government regulations which relate to the business acquired.

If we are not successful in addressing these risks effectively, our business could be severely impaired.

Our water supply, including water provided to our customers, is subject to various contaminants which may result in disruption in our services, additional costs, loss of revenue, fines, laws and/or regulations, and litigation which could harm our business, reputation, financial condition, and results of operations.

Our water supplies, including water provided to our customers, are subject to possible contaminants, including those from:

- ☐ naturally occurring compounds or man-made substances;
- ☐ chemicals and other hazardous materials;
- ☐ lead and other materials;
- ☐ pharmaceuticals and personal care products; and
- ☐ possible deliberate or terrorist attacks.

Depending on the nature of the water contamination, we may have to interrupt the use of that water supply until we are able to substitute, where feasible, the flow of water from an uncontaminated water source, including if practicable, the purchase of water from other suppliers, or continue the water supply under restrictions on use for drinking or broader restrictions against all use except for basic sanitation and essential fire protection. We may experience a loss of revenue and incur significant costs, including, but not limited to, costs for water quality testing and monitoring, “do not consume” expenses, treatment of the contaminated source through modification of our current treatment facilities or development of new treatment methods, the purchase of alternative water supplies, or litigation related matters, including governmental enforcement actions. In addition, the costs we could incur to decontaminate a water source or our water distribution system and dispose of waste could also be significant. The costs resulting from the contamination may not be recoverable in rates we charge our customer, or may not be recoverable in a timely manner. Further, we may incur a loss of revenue in the event we elect to waive customer’s water and wastewater charges. If we are unable to adequately treat the contaminated water supply or substitute a water supply from an uncontaminated water source in a timely or cost-effective manner, there may be an adverse effect on our business, reputation, financial condition, and results of operations. We could also be subject to:

- ☐ claims for consequences arising out of human exposure to contamination and/or hazardous substances in our water supplies, including toxic torts;
- ☐ claims for other environmental damage;
- ☐ claims for customers’ business interruption as a result of an interruption in water service;
- ☐ claims for breach of contract;
- ☐ criminal enforcement actions;
- ☐ regulatory fines; or
- ☐ other claims.

We incur substantial costs on an ongoing basis to comply with all laws and regulations. New or stricter laws and/or regulations could increase our costs. Although we may seek to recover these costs through an increase in customer rates, there is no guarantee that the various state regulators would approve such an increase.

The events in Flint, Michigan, which commenced in 2014, and other communities have brought attention to the issue of lead in drinking water from home plumbing. We have been working to prevent lead leaching from home plumbing sources by reducing water corrosivity and adding chemicals that can prevent leaching of lead in pipes and homes. We have a program to evaluate all changes in water sources prior to initiating a change in water supply. In 2019, we initiated a do not consume advisory for some of our customers served by our Illinois subsidiary, which resulted in a loss of revenues and increased operating costs. We have filed a claim with our insurance carrier for costs and losses incurred in 2019 related to the do not consume advisory, and while we anticipate recovery of a portion of the costs and losses, no provision has yet been recognized for the insurance recovery. We also focus on identifying and removing lead service lines and encouraging customers to replace the customer-owned portion of the service line if it is lead as they are identified during our main replacement program or during other maintenance activities.

We are devoting our attention to various emerging contaminants, including the Per- and Polyfluoroalkyl Substances (PFAS) family of chemicals and other chemicals and substances that do not have any regulatory standard in drinking water. We comply with governmental agency guidance that recommend the standard of protection from these

contaminants, and we monitor proposed standards and other governmental agency guidance regarding these contaminants. Additionally, commencing in 2020, we initiated a company-wide program to address the contaminant uniformly across our regulated water utilities by selecting standards adopted or proposed by New Jersey, which are the most stringent standards adopted in any state in which we do business. As a result, we are planning a capital program in the range of tens of millions of dollars over several years to install mitigation technology at our water treatment facilities where the source water is found to exceed the standard we have determined to follow. There is no guarantee that the various state regulators would approve the costs associated with the treatment in our system of the emerging contaminants without the establishment of treatment standards by the appropriate governmental entities, or for standards set by other governmental entities.

We may incur costs to defend our position and/or incur reputational damage even if we are not liable for consequences arising out of human exposure to contamination and/or hazardous substances in our water supplies, other environmental damage, or our customer's business interruption. Our insurance policies may not be sufficient to cover the costs of our defense or, in the event we are liable, these claims, and losses incurred may make it difficult for us to secure insurance in the future at acceptable rates. Such claims or actions could harm our business, reputation, financial condition, and results of operations.

Transporting, distributing and storing natural gas involves numerous risks that may result in accidents and other operating risks and costs.

Natural gas transportation, distribution and storage activities inherently involve a variety of hazards and operational risks, such as leaks, accidental explosions, damage caused by third parties and mechanical problems, which could cause substantial financial losses. These risks could result in serious personal injury, loss of human life, significant damage to property, environmental pollution, impairment of operations and substantial losses. The location of pipelines and storage facilities near populated areas, including residential areas, commercial business centers and industrial sites, could increase the level of damages resulting from these risks. These activities may also subject the Company to litigation or administrative proceedings. Such litigation or proceedings could result in substantial monetary judgments, fines or penalties against the Company or otherwise be resolved on unfavorable terms.

Upon completion of the Peoples Gas Acquisition, we will be subject to federal and state laws and regulations requiring the Company to maintain certain safety and system integrity measures by identifying and managing storage and pipeline risks. In addition, companies that supply and transport gas to Peoples are also subject to similar regulations and other restrictions related to their activities. Compliance with these laws and regulations, or future changes in these laws and regulations, may, directly or indirectly, result in increased capital, operating and other costs which may not be recoverable in a timely manner or at all from customers in rates. In accordance with customary industry practices, we maintain insurance against a significant portion, but not all, of these risks and losses. To the extent any of these events occur or regulations change, it could adversely affect our business, reputation, financial condition, and results of operations.

We are increasingly dependent on the continuous and reliable operation of our information technology systems, and a disruption of these systems, resulting from cyber security attacks or other events, could harm our business.

We rely on our information technology systems in connection with the operation of our business, especially with respect to customer service and billing, accounting and, in some cases, the monitoring and operation of our treatment, storage and pumping facilities, and our natural gas pipelines. In addition, we rely on our systems to track our utility assets and to manage maintenance and construction projects, materials and supplies, and our human resource functions. We believe the addition of the Peoples information technology systems, and the integration of such systems with ours after closing will add additional complexity. A loss of these systems, or major problems with the operation of these systems, could harm our business, financial condition, and results of operations. Our information technology systems may be vulnerable to damage or interruption from the following types of cyber security attacks or other events:

- ☐ power loss, computer systems failures, and internet, telecommunications or data network failures;
- ☐ operator negligence or improper operation by, or supervision of, employees;
- ☐ physical and electronic loss of data;
- ☐ computer viruses, cyber security attacks, intentional security breaches, hacking, denial of service actions, misappropriation of data and similar events;

- ☐ difficulties in the implementation of upgrades or modification to our information technology systems; and
- ☐ hurricanes, fires, floods, earthquakes and other natural disasters.

Although we do not believe that our systems are at a materially greater risk of cyber security attacks than other similar organizations, our information technology systems may be vulnerable to damage or interruption from the types of cyber security attacks or other events listed above or other similar actions, and such incidents may go undetected for a period of time. Such cyber security attacks or other events may result in:

- ☐ the loss or compromise of customer, financial, employee, or operational data;
- ☐ disruption of billing, collections or normal field service activities;
- ☐ disruption of electronic monitoring and control of operational systems;
- ☐ delays in financial reporting and other normal management functions; and
- ☐ disruption in normal system operations.

Possible impacts associated with a cyber security attack or other events may include: remediation costs related to lost, stolen, or compromised data; repairs to data processing or physical systems; increased cyber security protection costs; adverse effects on our compliance with regulatory and environmental laws and regulation, including standards for drinking water; litigation; loss of revenue; and reputational damage. We maintain insurance to help defray costs associated with cyber security attacks or other events, but we cannot provide assurance that such insurance will provide coverage for any particular type of incident or event or that such insurance will be adequate, and losses incurred may make it difficult for us to secure insurance in the future at acceptable rates.

We have a cyber-security controls framework in place. We monitor our control effectiveness in an increasing threat landscape and continuously take action to improve our security posture. We cannot assure you that, despite such measures, a form of system failure or data security breach will not have a material adverse effect on our financial condition and results of operations.

Any failure of our water and wastewater treatment plants, network of water and wastewater pipes, or water reservoirs could result in damages that may harm our business, financial condition, and results of operations.

Our operating subsidiaries treat water and wastewater, distribute water and collect wastewater through an extensive network of pipes, and store water in reservoirs. A failure of a major treatment plant, pipe, or reservoir could result in claims for injuries or property damage. The failure of a major treatment plant, pipe, or reservoir may also result in the need to shut down some facilities or parts of our network in order to conduct repairs. Such failures and shutdowns may limit our ability to supply water in sufficient quality and quantities to our customers or collect and treat wastewater in accordance with standards prescribed by governmental regulators, including state utility commissions, and may harm our business, financial condition, and results of operations. Any business interruption or other losses might not be covered by insurance policies or be recoverable in rates, and such losses may make it difficult for us to secure insurance in the future at acceptable rates.

Our operations are geographically concentrated in Pennsylvania, which make us susceptible to risks affecting Pennsylvania.

Although we operate water and wastewater facilities in a number of states, our operations are concentrated in Pennsylvania. In addition, a significant portion of Peoples' natural gas business is located in Pennsylvania. As a result, our financial results are largely subject to political, resource supply, labor, utility cost and regulatory risks, economic conditions, natural disasters and other risks affecting Pennsylvania.

The Company has incurred significant additional indebtedness in connection with the pending Peoples Gas Acquisition. As a result, it may be more difficult for the Company to pay or refinance its debts or take other actions, and the Company may need to divert cash to fund debt service payments.

The Company has incurred significant additional indebtedness to finance the pending Peoples Gas Acquisition and to fund the debt refinancing of the Company's outstanding existing debt (the "Company Debt Refinancing"). Additionally, in connection with the pending Peoples Gas Acquisition, the Company currently intends to assume approximately \$1,106

million of Peoples' indebtedness. The increase in the Company's debt service obligations resulting from additional indebtedness could have a material adverse effect on the results of operations, financial condition and prospects of the company after the closing.

The Company's increased indebtedness could also:

- make it more difficult and/or costly for the Company to pay or refinance its debts as they become due, particularly during adverse economic and industry conditions, because a decrease in revenues or increase in costs could cause cash flow from operations to be insufficient to make scheduled debt service payments;
- limit the Company's flexibility to pursue other strategic opportunities or react to changes in its business and the industry sectors in which it operates and, consequently, put the Company at a competitive disadvantage to its competitors that have less debt;
- require a substantial portion of the Company's available cash to be used for debt service payments, thereby reducing the availability of its cash to fund working capital, capital expenditures, development projects, acquisitions, dividend payments and other general corporate purposes, which could harm the Company's prospects for growth;
- result in a downgrade in the credit ratings on the Company's indebtedness, which could limit the Company's ability to borrow additional funds on favorable terms or at all and increase the interest rates under its credit facilities and under any new indebtedness it may incur;
- make it more difficult for the Company to raise capital to fund working capital, make capital expenditures, pay dividends, pursue strategic initiatives or for other purposes;
- result in higher interest expense, which could be further increased in the event of increases in interest rates on the Company's current or future borrowings subject to variable rates of interest; and
- require that additional materially adverse terms, conditions or covenants be placed on the Company under its debt instruments, which covenants might include, for example, limitations on additional borrowings and specific restrictions on uses of its assets, as well as prohibitions or limitations on its ability to create liens, pay dividends, receive distributions from its subsidiaries, redeem or repurchase its stock or make investments, any of which could hinder its access to capital markets and limit or delay its ability to carry out its capital expenditure program or otherwise limit its flexibility in the conduct of its business and make it more vulnerable to economic downturns and adverse competitive and industry conditions.

The increased indebtedness in connection with the pending Peoples Gas Acquisition could cause us to place more reliance on cash flows from operations to pay principal and interest on debt and to satisfy our other obligations. Based on the current and expected results of operations and financial condition of the Company and the financing structure for the Peoples Gas Acquisition, the Company believes that its cash flows from operations, together with the proceeds from borrowings, and issuances of equity and debt securities in the capital markets will generate sufficient cash on a consolidated basis to make all of the principal and interest payments when such payments are due under the Company's and its current subsidiaries' existing credit facilities, indentures and other instruments governing their outstanding indebtedness, including the indebtedness we have incurred to fund the Peoples Gas Acquisition, and under the indebtedness of Peoples to be assumed as a result of the Peoples Gas Acquisition. However, the Company's expectation is based upon numerous estimates and assumptions and is subject to numerous uncertainties.

The rates we charge our customers are subject to regulation. If we are unable to obtain government approval of our requests for rate increases or if approved rate increases are untimely or inadequate to recover and earn a return on our capital investments, to recover expenses or taxes, or to take into account changes in water usage, our profitability may suffer.

The rates we charge our customers are subject to approval by utility commissions in the states in which we operate. We file rate increase requests, from time to time, to recover our investments in utility plant and expenses. Our ability to maintain and meet our financial objectives is dependent upon the recovery of, and return on, our capital investments and expenses through the rates we charge our customers. Once a rate increase petition is filed with a utility commission, the ensuing administrative and hearing process may be lengthy and costly, and our costs may not always be fully recoverable.

The timing of our rate increase requests are therefore partially dependent upon the estimated cost of the administrative process in relation to the investments and expenses that we hope to recover through the rate increase. In addition, the amount or frequency of rate increases may be decreased or lengthened as a result of many factors including changes in regulatory oversight in the states in which we operate utilities and income tax laws, including regulations regarding tax-basis depreciation as it applies to our capital expenditures or qualifying utility asset improvements. We can provide no assurances that any future rate increase request will be approved by the appropriate utility commission; and, if approved, we cannot guarantee that these rate increases will be granted in a timely or sufficient manner.

In Virginia, we may seek authorization to bill our water utility customers in accordance with a rate filing that is pending before the respective regulatory commission, which would allow for interim rates. Furthermore, some utility commissions authorize the use of expense deferrals and amortization in order to provide for an impact on our operating income by an amount that approximates the requested amount in a rate request. The additional revenue billed and collected prior to the final ruling is subject to refund to customers based on the outcome of the ruling. The revenue recognized and the expenses deferred by us reflect an estimate as to the final outcome of the ruling. If the request is denied completely or in part, we could be required to refund to customers some or all of the revenue billed to date, and write-off some or all of the deferred expenses.

Our business requires significant capital expenditures that are partially dependent on our ability to secure appropriate funding. Disruptions in the capital markets may limit our access to capital. If we are unable to obtain sufficient capital, or if the cost of borrowing increases, it may harm our business, financial condition, results of operations, and our ability to pay dividends.

Our business is capital intensive. In addition to the capital required to fund customer growth through our acquisition strategy, on an annual basis, and particularly the pending Peoples Gas Acquisition, we spend significant sums for additions to or replacement of property, plant and equipment. We obtain funds for our capital expenditures from operations, contributions and advances by developers and others, debt issuances, and equity issuances. We have paid dividends consecutively for 75 years and our Board of Directors recognizes the value that our common shareholders place on both our historical payment record and on our future anticipated dividend payments. Our ability to continue our growth through acquisition, including the Peoples Gas Acquisition, and to maintain and meet our financial objectives is dependent upon the availability of adequate capital, and we may not be able to access the capital markets on favorable terms or at all. Additionally, if in the future, our credit facilities are not renewed or our short-term borrowings are called for repayment, we would need to seek alternative financing sources; however, there can be no assurance that these alternative financing sources would be available on terms acceptable to us. In the event we are unable to obtain sufficient capital, we may need to take steps to conserve cash by reducing our capital expenditures or dividend payments and our ability to pursue acquisitions may be limited. The reduction in capital expenditures may result in reduced potential earnings growth, affect our ability to meet environmental laws and regulations, and limit our ability to improve or expand our utility systems to the level we believe appropriate. There is no guarantee that we will be able to obtain sufficient capital in the future on reasonable terms and conditions for expansion, construction and maintenance. In addition, delays in completing major capital projects could delay the recovery of the capital expenditures associated with such projects through rates.

If the cost of borrowing increases, we might not be able to recover increases in our cost of capital through rates. The inability to recover higher borrowing costs through rates, or the regulatory lag associated with the time that it takes to begin recovery, may harm our business, financial condition, results of operations and cash flows.

Federal and state environmental laws and regulations impose substantial compliance requirements on our operations. Our operating costs could be significantly increased in order to comply with new or stricter regulatory standards imposed by federal and state environmental agencies.

Our water and wastewater services are governed by various federal and state environmental protection and health and safety laws and regulations, including the federal Safe Drinking Water Act, the Clean Water Act, Clean Air Act, Resource Conservation and Recovery Act and similar state laws, and federal and state regulations issued under these laws by the EPA and state environmental regulatory agencies. These laws and regulations establish, among other things, criteria and standards for drinking water and for discharges into the waters of the U.S. as well as dam safety, air emissions, and residuals management. Pursuant to these laws, we are required to obtain various environmental permits from

environmental regulatory agencies for our operations. We cannot assure you that we will be at all times in total compliance with these laws, regulations and permits. If we fail to comply with these laws, regulations or permits, we could be fined or otherwise sanctioned by regulators and such noncompliance could result in civil suits. Environmental laws and regulations are complex and change frequently. These laws, and the enforcement thereof, have tended to become more stringent over time. While we have budgeted for future capital and operating expenditures to comply with these laws and our permits, it is possible that new or stricter standards could be imposed that will require additional capital expenditures or raise our operating costs. Although these expenditures and costs may be recovered in the form of higher rates, there can be no assurance that the various state utility commissions that govern our business would approve rate increases to enable us to recover such expenditures and costs. In summary, we cannot assure you that our costs of complying with, current and future environmental and health and safety laws will not harm our business, financial condition, and results of operations.

Additionally, following the Peoples Gas Acquisition, the discovery of presently unknown environmental conditions, including former manufactured gas plant sites, and claims under environmental laws and regulations may result in expenditures and liabilities, which could be material, and could materially harm our business, financial condition and results of operations.

Changes in our earnings may differ from changes in our rate base.

Our business is capital intensive and requires significant capital investments for additions to or replacement of property, plant and equipment. These capital investments create assets that are used and useful in providing regulated utility service, and as a result, increase our rate base, on which we generate earnings through the regulatory process. Changes in our reported earnings, however, may differ from changes in our rate base in a given period due to several factors, including rate case timing and the terms of such rate cases; over-or under-earnings in a given period due to changes in operating costs; the effects of tax rates or tax treatment of capital investments, including the effect of repair tax; capital expenditures that are not eligible for a DSIC between rate cases; and acquisitions which have not yet been included in rate base. We anticipate that we may experience periods in which growth in earnings is less than growth in rate base; such differences may be significant and may persist over multiple reporting periods.

Our inability to comply with debt covenants under our loan and debt agreements could result in prepayment obligations.

We are obligated to comply with debt covenants under some of our loan and debt agreements. In addition, we incurred additional indebtedness in connection with the Peoples Gas Acquisition, including the assumption of certain outstanding indebtedness of Peoples, and will be obligated to comply with the debt covenants under the agreements governing such indebtedness. Failure to comply with covenants under our loan and debt agreements could result in an event of default, which if not cured or waived, could result in us being required to repay or finance these borrowings before their due date, limit future borrowings, cause us to default on other obligations, and increase borrowing costs. If we are forced to repay or refinance (on less favorable terms) these borrowings, our business, financial condition, and results of operations could be harmed by reduced access to capital and increased costs and rates.

Our facilities could be the target of a possible terrorist or other deliberate attack which could harm our business, financial condition and results of operations.

In addition to the potential contamination of our water supply as described in a separate risk factor herein, we maintain security measures at our facilities and have heightened employee and public safety official awareness of potential threats to our utility systems. We have and will continue to bear increases in costs for security precautions to protect our facilities, operations, and supplies, most of which have been recoverable under state regulatory policies. While the costs of increases in security, including capital expenditures, may be significant, we expect these costs to continue to be recoverable in utility rates. Despite our security measures, we may not be in a position to control the outcome of terrorist events, or other attacks on our utility systems, should they occur. Such an event could harm our business, financial condition, and results of operations.

Our business is impacted by weather conditions and is subject to seasonal fluctuations, which could harm demand for water and natural gas services and our business, financial condition, and results of operations.

Demand for our water during the warmer months is generally greater than during cooler months due primarily to additional requirements for water in connection with irrigation systems, swimming pools, cooling systems, and other outside water use. Throughout the year, and particularly during typically warmer months, demand will vary with temperature, rainfall levels and rainfall frequency. In the event that temperatures during the typically warmer months are cooler than normal, if there is more rainfall than normal, or rainfall is more frequent than normal, the demand for our water may decrease and harm our business, financial condition, and results of operations. In Illinois, our operating subsidiary has adopted a revenue stability mechanism which allows us to recognize state PUC authorized revenue for a period which is not based upon the volume of water sold during that period, and effectively lessens the impact of weather and consumption variability.

We are aware that Peoples' revenues are temperature sensitive and vary from year-to-year, depending on weather conditions, with a substantial portion (approximately 74% in 2019) of Peoples' total throughput occurring in the first and fourth quarters of the year. As a result, warmer-than-normal-weather conditions can decrease the amount of natural gas Peoples sells in any year, which, following the closing of the Peoples Gas Acquisition, would adversely affect our business, financial condition, and results of operations.

Some scientific experts are predicting a worsening of weather volatility in the future, possibly created by the climate change greenhouse gases. Changing severe weather patterns could require additional expenditures to reduce the risk associated with any increasing storm, flood and drought occurrences.

The issue of climate change is receiving ever increasing attention worldwide. Many climate change predictions, if true, present several potential challenges to water and wastewater utilities, such as: increased frequency and duration of droughts, increased precipitation and flooding, potential degradation of water quality, and changes in demand for services. We maintain an ongoing facility planning process, and this planning or the enactment of new standards may result in the need for additional capital expenditures or raise our operating costs. Because of the uncertainty of weather volatility related to climate change, we cannot predict its potential impact on our business, financial condition, or results of operations. Although any potential expenditures and costs may be recovered in the form of higher rates, there can be no assurance that the various state utility commissions that govern our business would approve rate increases to enable us to recover such expenditures and costs. We cannot assure you that our costs of complying with any climate change weather related measures will not harm our business, financial condition, or results of operations.

Decreased residential customer water usage as a result of conservation efforts, and the impact of more efficient appliances and furnaces, may harm demand for our utility services and may reduce our revenues and earnings.

There has been a general decline in water usage per residential customer as a result of an increase in conservation awareness, and the impact of an increased use of more efficient plumbing fixtures and appliances. These gradual, long-term changes are normally taken into account by the utility commissions in setting rates, whereas short-term changes in water usage, if significant, may not be fully reflected in the rates we charge. We are dependent upon the revenue generated from rates charged to our residential customers for the volume of water used. If we are unable to obtain future rate increases to offset decreased residential customer water consumption to cover our investments, expenses, and return for which we initially sought the rate increase, our business, financial condition, and results of operations may be harmed.

Drought conditions and government imposed water use restrictions may impact our ability to serve our current and future customers, and may impact our customers' use of our water, which may harm our business, financial condition, and results of operations.

We depend on an adequate water supply to meet the present and future demands of our customers. Drought conditions could interfere with our sources of water supply and could harm our ability to supply water in sufficient quantities to our existing and future customers. An interruption in our water supply could harm our business, financial condition, and results of operations. Moreover, governmental restrictions on water usage during drought conditions may result in a decreased demand for our water, even if our water supplies are sufficient to serve our customers during these drought conditions, which may harm our business, financial condition, and results of operations.

The failure of, or the requirement to repair, upgrade or dismantle any of our dams or reservoirs may harm our business, financial condition, and results of operations.

Several of our water systems include impounding dams and reservoirs of various sizes. Although we believe our dam review program, which includes regular inspections and other engineering studies, will ensure our dams are structurally sound and well-maintained, the failure of a dam could result in significant downstream damage and could result in claims for property damage or for injuries or fatalities. We periodically inspect our dams and purchase liability insurance to cover such risks, but depending on the nature of the downstream damage and cause of the failure, the policy limits of insurance coverage may not be sufficient, and losses incurred may make it difficult for us to secure insurance in the future at acceptable rates. A dam failure could also result in damage to, or disruption of, our water treatment and pumping facilities that are often located downstream from our dams and reservoirs. Significant damage to these facilities, or a significant decline in the storage of the raw water impoundment, could affect our ability to provide water to our customers until the facilities and a sufficient raw water impoundment can be restored. The estimated costs to maintain our dams are included in our capital budget projections and, although such costs to date have been recoverable in rates, there can be no assurance that rate increases will be granted in a timely or sufficient manner to recover such costs in the future, if at all.

One of the important elements of our growth strategy is the acquisition of regulated utility systems. Any acquisition we decide to undertake may involve risks. Further, competition for acquisition opportunities from other regulated utilities, governmental entities, and strategic and financial buyers may hinder our ability to grow our business. Lastly, competition and industry trends could impact our ability to retain existing natural gas customers or acquire new customers, which could have an adverse impact on our business, results of operations and financial condition.

One important element of our growth strategy is the acquisition and integration of regulated utility systems in order to broaden our service areas. In addition, the pending acquisition of Peoples is an opportunity to broaden our services to include natural gas distribution and additional states of operation. We will not be able to acquire other businesses if we cannot identify suitable acquisition opportunities or reach mutually agreeable terms with acquisition candidates. It is our intent, when practical, to integrate any businesses we acquire with our existing operations. Investing in and integrating acquisitions could require us to incur significant costs and cause diversion of our management's time and resources, and we may be unable to successfully integrate our business with acquired businesses or to realize anticipated benefits of acquisitions. Acquisitions by us could also result in:

- ☐ dilutive issuances of our equity securities;
- ☐ incurrence of debt, contingent liabilities, and environmental liabilities;
- ☐ unanticipated capital expenditures;
- ☐ failure to maintain effective internal control over financial reporting;
- ☐ recording goodwill and other intangible assets for which we may never realize their full value and may result in an asset impairment that may negatively affect our results of operations;
- ☐ fluctuations in quarterly results;
- ☐ other acquisition related expenses; and
- ☐ exposure to unknown or unexpected risks and liabilities.

Some or all of these items could harm our business, financial condition, results of operations, and cash flows, and our ability to finance our business and to comply with regulatory requirements. The businesses we acquire, including Peoples, may not achieve sales and profitability that would justify our investment, and any difficulties we encounter in the integration process, including in the integration of processes necessary for internal control and financial reporting, could interfere with our operations, reduce our operating margins and harm our internal controls.

Some states in which we operate allow the respective public utility commissions to use fair market value to set ratemaking rate base instead of the traditional depreciated original cost of water or wastewater assets for certain qualifying municipal acquisitions. Depending on the state, there are varying rules and circumstances in which fair value is determined. A number of states' regulations allow ratemaking rate base to equal the lower of the average of the appraisals or the purchase price, subject to regulatory approval. There may be situations where we may pay more than the ultimate fair value of the utility assets as set by the regulatory commission, despite the fair value legislation suggesting its full recovery. In these situations,

goodwill may be recognized to the extent there is an excess purchase price over the fair value of net tangible and identifiable intangible assets acquired through acquisition. Our financial condition and results of operations can be harmed by an inability to earn a return on, and recover our purchase price as a component of rate base.

We compete with governmental entities, other regulated utilities, and strategic and financial buyers, for acquisition opportunities. As consolidation becomes more prevalent in the utility industry and competition for acquisitions increases, the prices for suitable acquisition candidates may increase to unacceptable levels and limit our ability to grow through acquisitions. In addition, our competitors may impede our growth by purchasing utilities near our existing operations, thereby preventing us from acquiring them. Governmental entities or environmental / social activist groups have challenged, and may in the future challenge our efforts to acquire new service territories, particularly from municipalities or municipal authorities. Higher purchase prices and resulting rates may limit our ability to invest additional capital for system maintenance and upgrades in an optimal manner. Our growth could be hindered if we are not able to compete effectively for new companies and/or service territories with other companies or strategic and financial buyers that have lower costs of operations or capital, or that submit more attractive bids. Any of these risks may harm our business, financial condition, and results of operations.

Following the closing of the Peoples Gas Acquisition, we believe we will face the risk that large natural gas customers may bypass gas distribution services by gaining distribution directly from interstate pipelines, other gas distributors or other energy sources. Increased competition or other changes in legislation, regulation or policies could have a material adverse effect on our business, financial condition or results of operations. Moreover, changes in wholesale natural gas prices compared with prices for electricity, fuel oil, coal, propane or other energy sources may affect the retention of natural gas customers and may adversely impact our future financial condition and results of operations.

The price of our common stock may be volatile. This volatility may affect the price at which you could sell our common stock, and the sale or resale of substantial amounts of our common stock could adversely affect the market price of our common stock.

The sale or issuance of substantial amounts of our common stock, or the perception that additional sales or issuances could occur, could adversely affect the market price of our common stock, even if the business is doing well. In addition, the availability for sale of substantial amounts of our common stock could adversely impact its market price. Shares of our common stock will also be issuable upon settlement or redemption of the purchase contracts and the number of shares may be substantial. The settlement rates for the purchase contracts will be subject to certain anti-dilution adjustments that could increase, potentially significantly, the number of shares of our common stock issuable upon such settlement or redemption. Any of the foregoing may also impair our ability to raise additional capital through the sale of our equity securities.

Our water or wastewater utility systems may be subject to condemnations or other methods of taking by governmental entities.

In the states where our subsidiaries operate water or wastewater utility systems, it is possible that portions of our subsidiaries' operations could be acquired by municipal governments by one or more of the following methods:

- ☐ eminent domain;
- ☐ the right of purchase given or reserved by a municipality or political subdivision when the original franchise was granted; and
- ☐ the right of purchase given or reserved under the law of the state in which the subsidiary was incorporated or from which it received its permit.

The price to be paid upon such an acquisition by the municipal government is usually determined in accordance with applicable law under eminent domain. In other instances, the price may be negotiated, fixed by appraisers selected by the parties or computed in accordance with a formula prescribed in the law of the state or in the particular franchise or charter. We believe that our operating subsidiaries would be entitled to receive fair market value for any assets that are condemned. However, there is no assurance that the fair market value received for assets condemned would be in excess of book value.

In a very small number of instances, in one of our southern states where there are municipally-owned water or wastewater systems near our operating divisions, the municipally-owned system may either have water distribution or wastewater collection mains that are located adjacent to our division's mains or may construct new mains that parallel our mains. In these circumstances, on occasion, the municipally-owned system may attempt to offer service to customers who are connected to our mains, resulting in our mains becoming surplus or underutilized without compensation.

The final determination of our income tax liability may be materially different from our income tax provision.

Significant judgment is required in determining our provision for income taxes. Our calculation of the provision for income taxes is subject to our interpretation of applicable business tax laws in the jurisdictions in which we file. In addition, our income tax returns are subject to periodic examination by the Internal Revenue Service and other taxing authorities. In December 2012, Aqua Pennsylvania changed its tax method of accounting to permit the expensing of qualifying utility asset improvement costs that were previously being capitalized and depreciated for tax purposes. Subsequently, the Company's Ohio and North Carolina regulated subsidiaries similarly changed their tax method of accounting. Our determination of what qualifies as a capital cost versus a tax deduction for utility asset improvements is subject to subsequent adjustment and may impact the income tax benefits that have been recognized.

On December 22, 2017, President Trump signed into law legislation referred to as the Tax Cuts and Jobs Act (the "TCJA"). The TCJA made significant changes to the Internal Revenue Code of 1986, as amended (the "Code"), and the taxation of business entities, and includes specific provisions related to regulated public utilities. Significant changes that impact the Company in the TCJA include a reduction in the corporate federal income tax rate from 35% to 21%, and a limitation on the utilization of net operating losses ("NOLs") arising after December 31, 2017 to 80% of taxable income with an indefinite carryforward. In addition, specific provisions related to regulated public utilities in the TCJA generally allow for the continued deductibility of interest expense, the elimination of full expensing for tax purposes of certain property acquired after September 27, 2017, and the continuation of certain rate normalization requirements for accelerated depreciation benefits. Since the tax effects of changes in tax law must be recognized in the period in which TCJA was enacted, our deferred income tax assets and liabilities were remeasured in the period of enactment. This generally results in amounts previously collected from utility customers for these deferred taxes to be refundable to such customers, generally through reductions in future rates. Public utility commissions in all states that the Company operates in have issued decisions that determined the appropriate accounting and rate treatments for the reduction in the Federal corporate income tax rate from 35% to 21%. The reduction in the Federal corporate income tax rate impacts two specific areas of corporate income tax that regulated water utilities must account for: (1) the income tax expense included in rates charged to customers; and (2) the excess accumulated deferred income tax liability accrued on the regulated utilities books. There was no material impact on the Company's financial statements as a result of the decisions.

Although we believe our income tax estimates, including any tax reserves for uncertain tax positions or valuation allowances on deferred tax assets are appropriate, there is no assurance that the final determination of our income tax liability will not be materially different; either higher or lower, from what is reflected in our income tax provision. In the event we are assessed additional income taxes, our business, financial condition, and results of operations could be harmed.

Wastewater operations entail significant risks and may impose significant costs.

Wastewater collection and treatment involve various unique risks. If collection or treatment systems fail or do not operate properly, or if there is a spill, untreated or partially treated wastewater could discharge onto property or into nearby streams and rivers, causing various damages and injuries, including environmental damage. These risks are most acute during periods of substantial rainfall or flooding, which are the main causes of wastewater overflow and system failure. Liabilities resulting from such damages and injuries could harm our business, financial condition, and results of operations.

Work stoppages and other labor relations matters could harm our operating results.

Approximately 35% of our regulated water segments' workforce is unionized under 16 labor contracts with labor unions, which expire between March 2020 and March 2025. In light of rising costs for healthcare and retirement benefits, contract negotiations in the future may be difficult. We are subject to a risk of work stoppages and other labor actions as

we negotiate with the unions to address these issues, which could harm our business, financial condition, and results of operations. We cannot assure you that issues with our labor forces will be resolved favorably to us in the future or that we will not experience work stoppages.

Significant or prolonged disruptions in the supply of important goods or services from third parties could harm our business, financial condition, and results of operations.

We are dependent on a continuing flow of important goods and services from suppliers for our businesses. A disruption or prolonged delays in obtaining important supplies or services, such as maintenance services, purchased water, chemicals, water pipe, valves, hydrants, electricity, or other materials, could harm our utility services and our ability to operate in compliance with all regulatory requirements, which could harm our business, financial condition, and results of operations. In some circumstances, we rely on third parties to provide important services (such as customer bill print and mail activities or utility service operations in some of our divisions) and a disruption in these services could harm our business, financial condition, and results of operations. Some possible reasons for a delay or disruption in the supply of important goods and services include:

- ☐ our suppliers may not provide materials that meet our specifications in sufficient quantities;
- ☐ our suppliers may provide us with water that does not meet applicable quality standards or is contaminated;
- ☐ our suppliers may face production delays due to natural disasters, strikes, lock-outs, or other such actions;
- ☐ one or more suppliers could make strategic changes in the lines of products and services they offer; and
- ☐ some of our suppliers, such as small companies, may be more likely to experience financial and operational difficulties than larger, well-established companies, because of their limited financial and other resources.

As a result of any of these factors, we may be required to find alternative suppliers for the materials and services on which we rely. Accordingly, we may experience delays in obtaining appropriate materials and services on a timely basis and in sufficient quantities from such alternative suppliers at a reasonable price, which could interrupt services to our customers and harm our business, financial condition, and results of operations.

We depend significantly on the services of the members of our management team, and the departure of any of those persons could cause our operating results to suffer.

Our success depends significantly on the continued individual and collective contributions of our management team. The loss of the services of any member of our management team or the inability to hire and retain experienced management personnel could harm our business, financial condition, and results of operations.

Climate change laws and regulations have been passed and are being proposed that require compliance with greenhouse gas emissions standards, as well as other climate change initiatives, which could impact our business, financial condition or results of operations.

Climate change is receiving ever increasing attention worldwide. Many scientists, legislators, and others attribute global warming to increased levels of greenhouse gases (“GHG”), including carbon dioxide. Climate change laws and regulations enacted and proposed limit GHG emissions from covered entities and require additional monitoring/reporting. We produce a corporate social responsibility report, which provides an overview of our energy usage and GHG emissions. At this time, the existing GHG laws and regulations are not expected to materially harm the Company’s operations or capital expenditures. While regulation on climate change could change in light of the current federal administration’s agenda, the uncertainty of future climate change regulatory requirements still remains. We cannot predict the potential impact of future laws and regulations on our business, financial condition, or results of operations. Although these future expenditures and costs for regulatory compliance may be recovered in the form of higher rates, there can be no assurance that the various state utility commissions that govern our business would approve rate increases to enable us to recover such expenditures and costs. Another potential risk related to climate change would be more frequent and more severe weather events, which could increase our costs to repair damaged facilities and restore service to our customers. If we are unable to provide utility services to our customers, our financial results would be impacted by lost revenues and we would have to seek regulatory approval to recover restoration costs.

General economic conditions may affect our financial condition and results of operations.

A general economic downturn may lead to a number of impacts on our business and may affect our financial condition and results of operations. Such impacts may include:

- a reduction in discretionary and recreational water use by our residential water customers, particularly during the summer months when such discretionary usage is normally at its highest;
- a decline in usage by industrial and commercial customers as a result of decreased business activity;
- an increased incidence of customers' inability to pay or delays in paying their utility bills, or an increase in customer bankruptcies, which may lead to higher bad debt expense and reduced cash flow;
- a lower natural customer growth rate due to a decline in new housing starts; and
- a decline in the number of active customers due to housing vacancies.

General economic turmoil may also lead to an investment market downturn, which may result in our pension and other post-retirement plans' asset market values suffering a decline and significant volatility. A decline in our plans' asset market values could increase our required cash contributions to the plans and expense in subsequent years.

The phase-out of LIBOR, or the replacement of LIBOR with a different reference rate or modification of the method used to calculate LIBOR, may adversely affect interest rates an increase our borrowing costs, which may have an adverse impact on our financial condition and results of operations.

LIBOR is an interest rate benchmark used as a reference rate for a wide range of financial transactions, including credit facilities. In July 2017, the United Kingdom's Financial Conduct Authority, which regulates LIBOR, announced that it intends to stop compelling banks to submit LIBOR rates after 2021. It is unclear whether or not LIBOR will cease to exist at that time (and if so, what reference rate will replace it) or if new methods of calculating LIBOR will be established such that it continues to exist after 2021. The Alternative Reference Rates Committee ("ARRC") has proposed that the Secured Overnight Financing Rate ("SOFR") is the rate that represents best practice as the alternative to LIBOR for use in financial contracts that are currently indexed to United States dollar LIBOR. ARRC has proposed a paced market transition plan to SOFR from LIBOR and organizations are currently working on industry wide and company specific transition plans as it relates to financial contracts exposed to LIBOR. Uncertainty exists as to the transition process and broad acceptance of SOFR as the primary alternative to LIBOR. Our revolving credit facility is indexed to LIBOR. At this time, we cannot predict the future impact of a departure from LIBOR as a reference rate, however, if future rates based upon the successor reference rate (or a new method of calculating LIBOR) are higher than LIBOR rates as currently determined, our borrowing costs would be increased and it may have a material adverse effect on our financial condition and results of operations.

We employ a portfolio rationalization strategy to focus our operations in areas where we have critical mass and economic growth potential and to divest operations where limited customer growth opportunities exist or where we are unable to achieve favorable operating results or a return on equity that we consider acceptable. Dispositions we decide to undertake may involve risks which could harm our business, operating results, and financial condition.

In the event we determine a division, utility system or business should be sold, we may be unable to reach terms that are agreeable to us or find a suitable buyer. If the business is part of our regulated operations, we may face additional challenges in obtaining regulatory approval for the disposition, and the regulatory approval obtained may include restrictive conditions. We may be required to continue to hold or assume residual liabilities with respect to the business sold. The negotiation of potential dispositions as well as the efforts to divest the acquired business could require us to incur significant costs and cause diversion of our management's time and resources. Any of these risks may harm our business, financial condition, and results of operations.

Federal and state environmental laws, regulatory initiatives relating to hydraulic fracturing, changes in technology or hydraulic fracturing processes, and volatility in natural gas prices, could result in reduced demand for raw water utilized in hydraulic fracturing and harm our joint venture business, financial condition, or results of operations.

We have invested in a joint venture for the construction and operation of a private pipeline system to supply raw water to natural gas drilling operations for hydraulic fracturing. Hydraulic fracturing involves the injection under pressure of water, along with other materials such as sand, into rock formations to stimulate natural gas production. In general, the environmental community has taken an interest in monitoring and understanding the potential environmental impact of hydraulic fracturing. Although hydraulic fracturing is currently regulated, in the event the use of hydraulic fracturing is further limited through regulation, our investment in the raw water pipeline may be harmed in the event that demand for raw water is reduced.

Changes in technology or hydraulic fracturing processes may occur which allows drillers to reuse injected water on a limited basis, or apply treatment processes to allow further reuse of water for drilling. These changes may reduce demand for raw water.

Item 1B *Unresolved Staff Comments*

None

Item 2. *Properties*

Our properties consist of water transmission and distribution mains and wastewater collection pipelines, water and wastewater treatment plants, pumping facilities, wells, tanks, meters, pipes, dams, reservoirs, buildings, vehicles, land, easements, rights-of-way, and other facilities and equipment used for the operation of our systems, including the collection, treatment, storage, and distribution of water and the collection and treatment of wastewater. Substantially all of our treatment, storage, and distribution properties are owned by our subsidiaries, and a substantial portion of our property is subject to liens of mortgage or indentures. These liens secure bonds, notes and other evidences of long-term indebtedness of our subsidiaries. For some properties that we acquired through the exercise of the power of eminent domain and other properties we purchased, we hold title for water supply purposes only. We own, operate and maintain over 13,000 miles of transmission and distribution mains, 21 surface water treatment plants, many well treatment stations, and 197 wastewater treatment plants. A small portion of the properties are leased under long-term leases.

The following table indicates our net property, plant and equipment, in thousands of dollars, as of December 31, 2019 in the principal states where we operate:

	Net Property, Plant and Equipment	
Pennsylvania	\$ 4,064,083	64.0%
Ohio	493,902	7.8%
Illinois	477,043	7.5%
North Carolina	402,230	6.3%
Texas	378,382	6.0%
Other (1)	530,150	8.4%
Consolidated	<u>\$ 6,345,790</u>	<u>100.0%</u>

(1) Consists primarily of our operating subsidiaries in the following states: New Jersey, Indiana, and Virginia.

We believe that our properties are generally maintained in good condition and in accordance with current standards of good water and wastewater industry practice. We believe that our facilities are adequate and suitable for the conduct of our business and to meet customer requirements under normal circumstances.

Our corporate offices are leased from our subsidiary, Aqua Pennsylvania, and are located in Bryn Mawr, Pennsylvania.

Item 3. *Legal Proceedings*

There are various legal proceedings in which we are involved. Although the results of legal proceedings cannot be predicted with certainty, there are no pending legal proceedings to which we or any of our subsidiaries is a party or to which any of our properties is the subject that we believe are material or are expected to materially harm our business, operating results, reputation, or financial condition.

Item 4. *Mine Safety Disclosures*

Not applicable.

PART II

Item 5. *Market for the Registrant's Common Stock, Related Stockholder Matters and Purchases of Equity Securities*

Our common stock is traded on the New York Stock Exchange under the ticker symbol WTRG. As of February 19, 2020 there were approximately 22,611 holders of record of our common stock.

The following table shows the cash dividends paid per share for the periods indicated:

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year
2019					
Dividend paid per common share	\$ 0.2190	\$ 0.2190	\$ 0.2343	\$ 0.2343	\$ 0.9066
Dividend declared per common share	0.2190	0.2190	0.2343	0.2343	0.9066
2018					
Dividend paid per common share	\$ 0.2047	\$ 0.2047	\$ 0.2190	\$ 0.2190	\$ 0.8474
Dividend declared per common share	0.2047	0.2047	0.2190	0.2190	0.8474

We have paid dividends consecutively for 75 years. On July 25, 2019, our Board of Directors authorized an increase of 7.0% in the September 1, 2019 quarterly dividend over the dividend Essential Utilities paid in the previous quarter. As a result of this authorization, beginning with the dividend payment in September 2019, the annualized dividend rate increased to \$0.9372 per share. This is the 29th dividend increase in the past 28 years and the 21st consecutive year that we have increased our dividend in excess of five percent. We presently intend to pay quarterly cash dividends in the future, on March 1, June 1, September 1, and December 1, subject to our earnings and financial condition, restrictions set forth in our debt instruments, regulatory requirements and such other factors as our Board of Directors may deem relevant. In 2019, our dividends paid represented 84.0% of net income; however, our net income was negatively impacted by transaction-related expenses for the Peoples Gas Acquisition.

Information with respect to restrictions set forth in our debt instruments is disclosed in Note 11 – *Long-term Debt and Loans Payable* in the *Notes to Consolidated Financial Statements* which is contained in Item 8 of this Annual Report.

During the fourth quarter of 2019, the Company did not repurchase any of its equity securities under any repurchase plan or program or under any equity incentive plans.

Item 6. Selected Financial Data

Summary of Selected Financial Data (Unaudited)

Essential Utilities, Inc. and Subsidiaries
(In thousands of dollars, except per share amounts)

Years ended December 31,	2019	2018	2017	2016	2015
PER COMMON SHARE:					
Net income:					
Basic	\$ 1.04	\$ 1.08	\$ 1.35	\$ 1.32	\$ 1.14
Diluted	1.04	1.08	1.35	1.32	1.14
Cash dividends declared and paid	0.9066	0.8474	0.7920	0.7386	0.6860
Return on Essential Utilities stockholders' equity	5.8%	9.6%	12.2%	12.7%	11.7%
Book value at year end	\$ 17.58	\$ 11.28	\$ 11.02	\$ 10.43	\$ 9.78
Market value at year end	46.94	34.19	39.23	30.04	29.80
INCOME STATEMENT HIGHLIGHTS:					
Operating revenues	\$ 889,692	\$ 838,091	\$ 809,525	\$ 819,875	\$ 814,204
Depreciation and amortization	156,476	146,673	136,724	133,008	128,737
Interest expense	125,383	99,054	88,543	80,811	76,808
Income before income taxes (1) (2)	211,526	178,319	256,652	255,160	216,752
Provision for income taxes (benefit)	(13,017)	(13,669)	16,914	20,978	14,962
Net income (1) (2)	224,543	191,988	239,738	234,182	201,790
BALANCE SHEET HIGHLIGHTS:					
Total assets	\$ 9,361,985	\$ 6,964,496	\$ 6,332,463	\$ 6,158,991	\$ 5,717,873
Property, plant and equipment, net	6,345,790	5,930,326	5,399,860	5,001,615	4,688,925
Essential Utilities stockholders' equity	3,880,860	2,009,364	1,957,621	1,850,068	1,725,930
Long-term debt, including current portion, excluding debt issuance costs (3)	3,077,400	2,563,660	2,143,127	1,910,633	1,779,205
Total debt, excluding debt issuance costs (3)	3,103,124	2,579,109	2,146,777	1,917,168	1,795,926
ADDITIONAL INFORMATION:					
Net cash flows from operating activities	\$ 338,523	\$ 368,522	\$ 381,318	\$ 396,163	\$ 370,794
Capital expenditures	550,273	495,737	478,089	382,996	364,689
Net cash expended for acquisitions of utility systems and other	59,687	145,693	5,860	9,423	28,989
Dividends on common stock	188,512	150,736	140,660	130,923	121,248
Number of utility customers served	1,026,704	1,005,590	982,849	972,265	957,866
Number of shareholders of common stock	22,752	23,476	23,511	24,750	25,269
Common shares outstanding (000)	220,759	178,092	177,714	177,394	176,544
Employees (full-time)	1,583	1,571	1,530	1,551	1,617

- (1) 2019 and 2018 results include mark-to-market fair value adjustment expense of \$18,756 (\$23,742 pre-tax) and \$47,225 (\$59,779 pre-tax) associated with our interest rate swap agreements that were entered into to mitigate interest rate risk associated with our debt issuances to fund a portion of the Peoples Gas Acquisition
- (2) 2015 results include Essential Utilities' share of a joint venture impairment charge of \$21,433 (\$32,975 pre-tax)
- (3) Debt issuance costs for the years ended December 31, 2019, 2018, 2017, 2016, and 2015 were \$29,022, \$20,651, \$21,605, \$22,357, and \$23,165, respectively

Item 7. *Management's Discussion and Analysis of Financial Condition and Results of Operations*

OVERVIEW

The following discussion and analysis of our financial condition and results of operations should be read together with our Consolidated Financial Statements and related Notes included in this Annual Report. This discussion contains forward-looking statements that are based on management's current expectations, estimates and projections about our business, operations and financial performance. All dollar amounts are in thousands of dollars, except per share amounts.

The Company

Essential Utilities, Inc., (referred to as "Essential Utilities", the "Company", "we", "us", or "our"), a Pennsylvania corporation, is the holding company for regulated utilities providing water or wastewater services to an estimated three million people in Pennsylvania, Ohio, Texas, Illinois, North Carolina, New Jersey, Indiana, and Virginia. On February 3, 2020, we changed our name from Aqua America, Inc. to Essential Utilities, Inc. to align the name of the Company with the anticipated business plan of the Company following the pending Peoples Gas Acquisition and to reflect the proposed combination of regulated water utilities and natural gas utilities that offer essential utility services to customers. After completion of the acquisition, the water and wastewater utility services will be provided through Essential Utilities' Aqua companies and the natural gas utility services will be provided through its Peoples natural gas companies. Essential Utilities plans to complete the Peoples Gas Acquisition on March 16, 2020. Our largest operating subsidiary is Aqua Pennsylvania, Inc., which accounted for approximately 54% of our operating revenues and approximately 72% of our Regulated water segment's income for 2019. As of December 31, 2019, Aqua Pennsylvania provided water or wastewater services to approximately one-half of the total number of water and wastewater customers we serve. Aqua Pennsylvania's service territory is located in the suburban areas in counties north and west of the City of Philadelphia and in 27 other counties in Pennsylvania. Our other regulated water utility subsidiaries provide similar services in seven additional states. In addition, the Company's market-based activities are conducted through Aqua Infrastructure, LLC and Aqua Resources, Inc. Aqua Infrastructure provides non-utility raw water supply services for firms in the natural gas drilling industry. Aqua Resources manages a water system operating and maintenance contract; and offers, through a third-party, water and sewer line protection solutions and repair services to households. In 2017 and 2016, Aqua Resources sold business units that had formerly provided non-regulated services related to the water and wastewater utility businesses.

Industry Mission

The mission of the regulated water utility industry is to provide quality and reliable water service at reasonable rates to customers, while earning a fair return for shareholders. A number of challenges face the industry, including:

- ☐ strict environmental, health and safety standards;
- ☐ aging utility infrastructure and the need for substantial capital investment;
- ☐ economic regulation by state, and/or, in some cases, local government;
- ☐ declining consumption per customer as a result of conservation;
- ☐ lawsuits and the need for insurance; and
- ☐ the impact of weather and sporadic drought conditions on water sales demand.

Economic Regulation

Most of our water and wastewater utility operations are subject to regulation by their respective state utility commissions, which have broad administrative power and authority to regulate billing rates, determine franchise areas and conditions of service, approve acquisitions, and authorize the issuance of securities. The utility commissions also generally establish uniform systems of accounts and approve the terms of contracts with affiliates and customers, business combinations with other utility systems, and loans and other financings. The policies of the utility commissions often differ from state to

state and may change over time. A small number of our operations are subject to rate regulation by county or city government. Over time, the regulatory party in a particular state may change, as was the case for our Texas operations where, in 2014, economic regulation changed from the Texas Commission on Environmental Quality to the Public Utility Commission of Texas. The profitability of our utility operations is influenced to a great extent by the timeliness and adequacy of rate allowances in the various states in which we operate. One consideration we may undertake in evaluating which states to focus our growth and investment strategy is whether a state provides for consolidated rates, a surcharge for replacing and rehabilitating infrastructure, fair value treatment of acquired utility systems, and other regulatory policies that promote infrastructure investment and efficiency in processing rate cases.

Rate Case Management Capability – We strive to achieve the industry’s mission by effective planning, efficient investments, and productive use of our resources. We maintain a rate case management capability to pursue timely and adequate returns on the capital investments that we make in improving our distribution system, treatment plants, information technology systems, and other infrastructure. This capital investment creates assets that are used and useful in providing utility service and is commonly referred to as rate base. Timely and adequate rate relief is important to our continued profitability and in providing a fair return to our shareholders; thus, providing access to capital markets to help fund these investments. Accordingly, the objective of our rate case management strategy is to provide that the rates of our utility operations reflect, to the extent practicable, the timely recovery of increases in costs of operations (primarily labor and employee benefits, electricity, chemicals, transportation, maintenance expenses, insurance and claims costs, and costs to comply with environmental regulations), capital, and taxes. In pursuing our rate case strategy, we consider the amount of net utility plant additions and replacements made since the previous rate decision, the changes in the cost of capital, changes in our capital structure, and changes in operating and other costs. Based on these assessments, our utility operations periodically file rate increase requests with their respective state utility commissions or local regulatory authorities. In general, as a regulated enterprise, our water and wastewater rates are established to provide full recovery of utility operating costs, taxes, interest on debt used to finance capital investments, and a return on equity used to finance capital investments. Our ability to recover our expenses in a timely manner and earn a return on equity employed in the business helps determine the profitability of the Company. As of December 31, 2019, the Company’s rate base is estimated to be \$5,000,000, which is comprised of:

- ☐ \$4,600,000 filed with respective state utility commissions or local regulatory authorities; and
- ☐ \$400,000 not yet filed with respective state utility commissions or local regulatory authorities.

Our water and wastewater operations are composed of 47 rate divisions, each of which requires a separate rate filing for the evaluation of the cost of service and recovery of investments in connection with the establishment of tariff rates for that rate division. When feasible and beneficial to our utility customers, we have sought approval from the applicable state utility commission to consolidate rate divisions to achieve a more even distribution of costs over a larger customer base. All of the eight states in which we operate currently permit us to file a revenue requirement using some form of consolidated rates for some or all of the rate divisions in that state.

Revenue Surcharges – Seven states in which we operate water utilities, and six states in which we operate wastewater utilities, permit us to add an infrastructure rehabilitation surcharge to their respective bills to offset the additional depreciation and capital costs associated with capital expenditures related to replacing and rehabilitating infrastructure systems. In our other states, water and wastewater utilities absorb all of the depreciation and capital costs of these projects between base rate increases without the benefit of additional revenues. The gap between the time that a capital project is completed and the recovery of its costs in rates is known as regulatory lag. This surcharge is intended to substantially reduce regulatory lag, which often acts as a disincentive for water and wastewater utilities to rehabilitate their infrastructure. In addition, some states permit our subsidiaries to use a surcharge or credit on their bills to reflect allowable changes in costs, such as changes in state tax rates, other taxes and purchased water costs, until such time as the new costs are fully incorporated in base rates.

Effects of Inflation – Recovery of the effects of inflation through higher water and wastewater rates is dependent upon receiving adequate and timely rate increases. However, rate increases are not retroactive and often lag increases in costs caused by inflation. On occasion, our regulated utility companies may enter into rate settlement agreements, which require us to wait for a period of time to file the next base rate increase request. These agreements may result in regulatory lag whereby inflationary increases in expenses may not yet be reflected in rates, or a gap may exist between

when a capital project is completed and the start of its recovery in rates. Even during periods of moderate inflation, the effects of inflation can have a negative impact on our operating results.

Growth-Through-Acquisition Strategy

Part of our strategy to meet the industry challenges is to actively explore opportunities to expand our utility operations through acquisitions of water and wastewater and other utilities either in areas adjacent to our existing service areas or in new service areas, and to explore acquiring market-based businesses that are complementary to our regulated water and wastewater operations. To complement our growth strategy, we routinely evaluate the operating performance of our individual utility systems, and in instances where limited economic growth opportunities exist or where we are unable to achieve favorable operating results or a return on equity that we consider acceptable, we will seek to sell the utility system and reinvest the proceeds in other utility systems. Consistent with this strategy, we are focusing our acquisitions and resources in states where we have critical mass of operations in an effort to achieve economies of scale and increased efficiency. Our growth-through-acquisition strategy allows us to operate more efficiently by sharing operating expenses over more utility customers and provides new locations for future earnings growth through capital investment. Another element of our growth strategy is the consideration of opportunities to expand by acquiring other utilities, including those that may be in a new state if they provide promising economic growth opportunities and a return on equity that we consider acceptable. Our ability to successfully execute this strategy historically and to meet the industry challenges has largely been due to our core competencies, financial position, and our qualified and trained workforce, which we strive to retain by treating employees fairly and providing our employees with development and growth opportunities.

On October 22, 2018, we entered into a purchase agreement to acquire, from LDC Funding LLC, the parent company of PNG Companies, a natural gas distribution company consisting of Peoples Natural Gas Company LLC, Peoples Gas Company LLC, Peoples Gas West Virginia, Inc., Peoples Gas Kentucky, Inc., and Delta Natural Gas Company Inc. (“Peoples”) to expand the Company’s regulated utility business to include natural gas distribution. Peoples serves approximately 747,000 gas utility customers in western Pennsylvania, West Virginia, and Kentucky. The Peoples Gas Acquisition, once consummated, will expand our regulated utility business to include natural gas distribution. At the closing of the Peoples Gas Acquisition, the Company will pay \$4,275,000 in cash, subject to adjustments for working capital, certain capital expenditures, transaction expenses and closing indebtedness as set forth in the acquisition agreement. The Company expects to assume approximately \$1,106,000 of Peoples’ indebtedness upon the closing of the Peoples Gas Acquisition, which would reduce the cash purchase by approximately \$1,106,000. The acquisition is subject to customary closing conditions set forth in the acquisition agreement, and is expected to close on March 16, 2020.

During 2019, we completed eight acquisitions, which along with the organic growth in our existing systems, represents 21,613 new customers. During 2018, we completed nine acquisitions, which along with the organic growth in our existing systems, represents 22,741 new customers. During 2017, we completed four acquisitions, which along with the organic growth in our existing systems, represents 10,584 new customers.

We believe that utility acquisitions, organic growth, and a potential expansion of our market-based business will continue to be the primary sources of growth for us. With approximately 50,000 community water systems in the U.S., 81% of which serve less than 3,300 customers, the water industry is the most fragmented of the major utility industries (telephone, natural gas, electric, water, and wastewater). In the states where we operate regulated water utilities, we believe there are approximately 14,000 community water systems of widely-varying size, with the majority of the population being served by government-owned water systems.

Although not as fragmented as the water industry, the wastewater industry in the U.S. also presents opportunities for consolidation. According to the U.S. Environmental Protection Agency’s (“EPA”) most recent survey of wastewater treatment facilities (which includes both government-owned facilities and regulated utility systems) in 2012, there were approximately 15,000 such facilities in the nation serving approximately 76% of the U.S. population. The remaining population represents individual homeowners with their own treatment facilities; for example, community on-lot disposal systems and septic tank systems. The vast majority of wastewater facilities are government-owned rather than regulated utilities. The EPA survey also indicated that, in 2012, there were approximately 4,000 wastewater facilities in operation in the states where we operate regulated utilities.

Because of the fragmented nature of the water and wastewater utility industries, we believe that there are many potential water and wastewater system acquisition candidates throughout the United States. We believe the factors driving the consolidation of these systems are:

- the benefits of economies of scale;
- the increasing cost and complexity of environmental regulations;
- the need for substantial capital investment;
- the need for technological and managerial expertise;
- the desire to improve water quality and service;
- limited access to cost-effective financing;
- the monetizing of public assets to support, in some cases, the declining financial condition of municipalities; and
- the use of system sale proceeds by a municipality to accomplish other public purposes.

We are actively exploring opportunities to expand our water and wastewater utility operations through regulated utility acquisitions or otherwise, including the management of publicly-owned facilities in a public-private partnership. We intend to continue to pursue acquisitions of government-owned and regulated water and wastewater utility systems that provide services in areas near our existing service territories or in new service areas. It is our intention to focus on growth opportunities in states where we have critical mass, which allows us to improve economies of scale through spreading our fixed costs over more customers – this cost efficiency should enable us to reduce the size of future rate increases. Currently, the Company seeks to acquire businesses in the U.S. regulated sector, which includes water and wastewater utilities and other regulated utilities, and to pursue growth ventures in market-based activities, by acquiring businesses that provide water and wastewater or other utility-related services and investing in infrastructure projects.

Sendout

Sendout represents the quantity of treated water delivered to our distribution systems. We use sendout as an indicator of customer demand. Weather conditions tend to impact water consumption, particularly during the late spring, summer, and early fall when discretionary and recreational use of water is at its highest. Consequently, a higher proportion of annual operating revenues are realized in the second and third quarters. In general, during this period, an extended period of hot and dry weather increases water consumption, while above-average rainfall and cool weather decreases water consumption. Conservation efforts, construction codes that require the use of low-flow plumbing fixtures, as well as mandated water use restrictions in response to drought conditions can reduce water consumption. We believe an increase in conservation awareness by our customers, including the increased use of more efficient plumbing fixtures and appliances, may continue to result in a long-term structural trend of declining water usage per customer. These gradual long-term changes are normally taken into account by the utility commissions in setting rates, whereas significant short-term changes in water usage, resulting from drought warnings, water use restrictions, or extreme weather conditions, may not be fully reflected in the rates we charge between rate proceedings. In Illinois, our operating subsidiary has adopted a revenue stability mechanism which allows us to recognize state PUC-authorized revenue for a period which is not based upon the volume of water sold during that period, and effectively lessens the impact of weather and consumption variability.

On occasion, drought warnings and water use restrictions are issued by governmental authorities for portions of our service territories in response to extended periods of dry weather conditions, regardless of our ability to meet unrestricted customer water demands. The timing and duration of the warnings and restrictions can have an impact on our water revenues and net income. In general, water consumption in the summer months is affected by drought warnings and restrictions to a higher degree because discretionary and recreational use of water is highest during the summer months, particularly in our northern service territories. At other times of the year, warnings and restrictions generally have less of an effect on water consumption. Portions of our northern and central Texas service areas have conservation water restrictions. Drought warnings and watches result in the public being asked to voluntarily reduce water consumption.

The geographic diversity of our utility customer base reduces the effect of our exposure to extreme or unusual weather conditions in any one area of the country. During the year ended December 31, 2019, our operating revenues were derived principally from the following states: approximately 54% in Pennsylvania, 12% in Ohio, 8% in Illinois, 8% in Texas, and 6% in North Carolina.

Performance Measures Considered by Management

We consider the following financial measures (and the period to period changes in these financial measures) to be the fundamental basis by which we evaluate our operating results:

- ☐ earnings per share;
- ☐ operating revenues;
- ☐ earnings before interest, taxes, and depreciation (“EBITD”);
- ☐ income adjusted to remove transaction-related expenses associated with the Peoples Gas Acquisition;
- ☐ earnings before income taxes;
- ☐ net income; and
- ☐ the dividend rate on common stock.

In addition, we consider other key measures in evaluating our utility business performance within our Regulated water segment:

- ☐ our number of utility customers;
- ☐ the ratio of operations and maintenance expense compared to operating revenues (this percentage is termed “operating expense ratio”);
- ☐ return on revenues (net income divided by operating revenues);
- ☐ rate base growth;
- ☐ return on equity (net income divided by stockholders’ equity); and
- ☐ the ratio of capital expenditures to depreciation expense.

Some of these measures, like EBITD, are non-GAAP financial measures. The Company believes that the non-GAAP financial measures provide management the ability to measure the Company’s financial operating performance across periods and as contrasted to historical financial results, which are more indicative of the Company’s ongoing performance and more comparable to measures reported by other companies. When the Company discloses such non-GAAP financial measures, we believe they are useful to investors as a more meaningful way to compare the Company’s operating performance against its historical financial results. We believe EBITD from continuing operations is a relevant and useful indicator of operating performance, as we measure it for management purposes because it provides a better understanding of our results of operations by highlighting our operations and the underlying profitability of our core business. Furthermore, we review the measure of earnings before unusual items that are not directly related to our core business, such as the measure of adjusted earnings to remove the Peoples Gas Acquisition expenses, such as transaction expenses and the change in fair value of interest rate swap agreements, which were recognized in 2019 and 2018, as well as the joint venture impairment charge (noncash), which was recognized in 2015. Refer to Note 11 – *Long-term Debt and Loans Payable* in this Annual Report for information regarding the interest rate swap agreements and “Management’s Discussion and Analysis of Financial Condition and Results of Operations – *Liquidity and Capital Resources – Joint Venture*” in this Annual Report for information regarding the impairment charge. We review these measurements regularly and compare them to historical periods, to our operating budget as approved by our Board of Directors, and to other publicly-traded water utilities.

Our operating expense ratio is one measure that we use to evaluate our operating efficiency and management effectiveness of our regulated operations. Our operating expense ratio is affected by a number of factors, including the following:

- ☐ **Regulatory lag** – Our rate filings are designed to provide for the recovery of increases in costs of operations (primarily labor and employee benefits, electricity, chemicals, transportation, maintenance expenses, insurance and claim costs, and costs to comply with environmental regulations), capital, and taxes. The revenue portion of the operating expense ratio can be impacted by the timeliness of recovery of, and the return on capital investments. The operating expense ratio is further influenced by regulatory lag (increases in operations and maintenance expenses not yet recovered in rates or a gap between the time that a capital project is completed and the start of its cost recovery in rates). The operating expense ratio is also influenced by decreases in operating revenues without a commensurate decrease in operations and maintenance expense, such as changes in customer water consumption as

(In thousands of dollars, except per share amounts)

impacted by adverse weather conditions, or conservation trends. Commencing in 2012, as a result of utility rates incorporating the effects of income tax benefits derived from deducting qualifying utility asset improvements for tax purposes that are capitalized for book purposes in Aqua Pennsylvania and consequently forgoing operating revenue increases until its next rate case became effective in May 2019. During periods of inflation, our operations and maintenance expenses may increase, impacting the operating expense ratio, as a result of regulatory lag, since our rate cases may not be filed timely and are not retroactive.

□ **Acquisitions** – In general, acquisitions of smaller undercapitalized utility systems in some areas may initially increase our operating expense ratio if the operating revenues generated by these operations do not reflect the true cost of service and are accompanied by a higher ratio of operations and maintenance expenses as compared to other operational areas of the company that are more densely populated and have integrated operations. In these cases, the acquired operations are characterized as having relatively higher operating costs to fixed capital costs, in contrast to the majority of our operations, which generally consist of larger, interconnected systems, with higher fixed capital costs (utility plant investment) and lower operating costs per customer. For larger acquisitions, such as the Peoples Gas Acquisition, we have incurred significant transaction expenses, which increase operations and maintenance expenses in periods prior to and in the period of the closing of the acquisition. In addition, we operate market-based subsidiary companies, Aqua Resources and Aqua Infrastructure. The cost-structure of these market-based companies differs from our utility companies in that, although they may generate free cash flow, these companies may at times have a higher ratio of operations and maintenance expenses to operating revenues and a lower capital investment and, consequently, a lower ratio of fixed capital costs versus operating revenues in contrast to our regulated operations. As a result, the operating expense ratio is not comparable between the businesses. These market-based subsidiary companies are not a component of our Regulated water segment.

We continue to evaluate initiatives to help control operating costs and improve efficiencies.

(In thousands of dollars, except per share amounts)

Consolidated Selected Financial and Operating Statistics

Our selected five year consolidated financial and operating statistics follow:

Years ended December 31,	2019	2018	2017	2016	2015
Utility customers:					
Residential water	822,817	815,663	807,872	801,190	791,404
Commercial water	41,892	41,532	40,956	40,582	40,151
Industrial water	1,339	1,340	1,338	1,349	1,353
Other water	18,984	19,273	19,430	19,036	17,420
Wastewater	141,672	127,782	113,253	110,108	107,538
Total utility customers	1,026,704	1,005,590	982,849	972,265	957,866
Operating revenues:					
Residential water	\$ 518,192	\$ 482,946	\$ 483,865	\$ 484,901	\$ 477,773
Commercial water	145,599	133,753	130,373	131,170	126,677
Industrial water	30,667	28,848	27,880	27,916	28,021
Other water	72,942	85,894	65,324	62,983	56,997
Wastewater	105,204	94,170	87,560	82,780	79,399
Other utility	13,826	9,027	9,903	10,357	10,746
Regulated water segment total	886,430	834,638	804,905	800,107	779,613
Other and eliminations	3,262	3,453	4,620	19,768	34,591
Consolidated operating revenues	\$ 889,692	\$ 838,091	\$ 809,525	\$ 819,875	\$ 814,204
Operations and maintenance expense	\$ 333,102	\$ 308,478	\$ 282,253	\$ 297,184	\$ 308,416
Change in fair value of interest rate swap agreements (1)	\$ 18,756	\$ 47,225	\$ -	\$ -	\$ -
Joint venture impairment charge (2)	\$ -	\$ -	\$ -	\$ -	\$ 21,433
Loss on debt extinguishment (3)	\$ 14,637	\$ -	\$ -	\$ -	\$ -
Net income	\$ 224,543	\$ 191,988	\$ 239,738	\$ 234,182	\$ 201,790
Capital expenditures	\$ 550,273	\$ 495,737	\$ 478,089	\$ 382,996	\$ 364,689

Operating Statistics

Selected operating results as a percentage of operating revenues:

Operations and maintenance	37.4%	36.8%	34.9%	36.2%	37.9%
Depreciation and amortization	17.6%	17.5%	16.9%	16.2%	15.8%
Taxes other than income taxes	6.7%	7.1%	7.0%	6.9%	6.8%
Interest expense	14.1%	11.8%	10.9%	9.9%	9.4%
Net income	25.2%	22.9%	29.6%	28.6%	24.8%
Return on Essential Utilities stockholders' equity	5.8%	9.6%	12.2%	12.7%	11.7%
Ratio of capital expenditures to depreciation expense	3.5	3.4	3.5	2.9	2.9
Effective tax rate	(6.2%)	(7.7%)	6.6%	8.2%	6.9%

- (1) Represents a mark-to-market fair value adjustment expense for 2019 of \$18,756 (\$23,742 pre-tax) and 2018 of \$47,225 (\$59,779 pre-tax) associated with our interest rate swap agreements that were entered into to mitigate interest rate risk associated with our April 2019 issuance of long-term debt to fund a portion of the Peoples Gas Acquisition.
- (2) Represents a \$21,433 (\$32,975 pre-tax) joint venture impairment charge. This amount represents our share of the impairment charge recognized by our joint venture that operates a private pipeline to supply raw water to firms with natural gas well drilling operations.
- (3) Represents a \$14,637 (\$18,528 pre-tax) loss on debt extinguishment associated with the early redemption of \$313,500 of the Company's long-term debt that occurred in May 2019.

RESULTS OF OPERATIONS

Net income varies over time as a result of increases in operating income, timing of transaction expenses for acquisitions, including fluctuations in fair value adjustments for interest rate swap agreements entered into in connection with the Peoples Gas Acquisition, and other factors described below. During the past five years, our operating revenues grew at a compound rate of 2.7% and operating expenses grew at a compound rate of 3.4%. Operating revenues have not increased over the past five years at the same levels historically experienced due to two factors. The Company's Pennsylvania operating subsidiary, Aqua Pennsylvania, had not filed a base rate case for an increase since 2011. Aqua Pennsylvania filed a base rate case in August 2018, and new customer rates were implemented in May 2019. Also, the TCJA reduced income tax expense as a result of a reduction in the corporate federal income tax rate. Operating revenues for 2019 were reduced by income tax savings in our Regulated water segment, so as to provide our utility customers with the benefits of the lower income tax expense. Operating expenses in 2019 grew higher than historic experience due to \$22,891 of transaction- related expenses for the Peoples Gas Acquisition.

Operating Segments

We have identified ten operating segments and we have one reportable segment based on the following:

- Eight segments are composed of our water and wastewater regulated utility operations in the eight states where we provide these services. These operating segments are aggregated into one reportable segment since each of these operating segments has the following similarities: economic characteristics, nature of services, production processes, customers, water distribution and/or wastewater collection methods, and the nature of the regulatory environment. Our single reportable segment is named the Regulated water segment.
- Two segments are not quantitatively significant to be reportable and are composed of Aqua Resources and Aqua Infrastructure. These segments are included as a component of "Other," in addition to corporate costs that have not been allocated to the Regulated water segment, because they would not be recoverable as a cost of utility service, and intersegment eliminations. Corporate costs include general and administrative expenses, and interest expense.

(In thousands of dollars, except per share amounts)

The following table provides the Regulated water segment and consolidated information for the years ended December 31, 2019, 2018, and 2017:

	2019			2018		
	Regulated Water	Other and Eliminations	Consolidated	Regulated Water	Other and Eliminations	Consolidated
Operating revenues	\$ 886,430	\$ 3,262	\$ 889,692	\$ 834,638	\$ 3,453	\$ 838,091
Operations and maintenance expense	315,052	18,050	333,102	292,232	16,246	308,478
Taxes other than income taxes	57,671	2,284	59,955	57,140	2,622	59,762
Earnings (loss) before interest, taxes, depreciation and amortization	<u>\$ 513,707</u>	<u>\$ (17,072)</u>	496,635	<u>\$ 485,266</u>	<u>\$ (15,415)</u>	469,851
Depreciation and amortization			156,476			146,673
Operating income			340,159			323,178
Other expense (income):						
Interest expense			125,383			99,054
Interest income			(25,406)			(152)
Allowance for funds used during construction			(16,172)			(13,023)
Change in fair value of interest rate swap agreements			23,742			59,779
Loss on debt extinguishment			18,528			-
Gain on sale of other assets			(923)			(714)
Equity earnings in joint venture			(2,210)			(2,081)
Other			5,691			1,996
Provision for income taxes (benefit)			(13,017)			(13,669)
Net income			<u>\$ 224,543</u>			<u>\$ 191,988</u>

	2017		
	Regulated Water	Other and Eliminations	Consolidated
Operating revenues	\$ 804,905	\$ 4,620	\$ 809,525
Operations and maintenance expense	282,009	244	282,253
Taxes other than income taxes	54,524	2,104	56,628
Earnings before interest, taxes, depreciation and amortization	<u>\$ 468,372</u>	<u>\$ 2,272</u>	470,644
Depreciation and amortization			136,724
Operating income			333,920
Other expense (income):			
Interest expense			88,543
Interest income			(202)
Allowance for funds used during construction			(15,211)
Gain on sale of other assets			(484)
Equity earnings in joint venture			(331)
Other			4,953
Provision for income taxes			16,914
Net income			<u>\$ 239,738</u>

Consolidated Results of Operations Comparison for 2019 and 2018

For the comparison of fiscal years 2018 and 2017, refer to Part II, Item 7 “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in our Annual Report on Form 10-K for our fiscal year ended December 31, 2018, filed with the SEC on February 26, 2019.

Operating Revenues – Operating revenues totaled \$889,692 in 2019, \$838,091 in 2018, and \$809,525 in 2017. Our Regulated water segment’s revenues totaled \$886,430 in 2019, \$834,638 in 2018, and \$804,905 in 2017. The growth in our Regulated water segment’s revenues over the past three years is a result of increases in our water and wastewater rates and our customer base. Rate increases implemented during the past three years have provided additional operating revenues of \$55,658 in 2019, \$8,362 in 2018, and \$6,143 in 2017. In 2019, we experienced a decrease in water and wastewater revenues of \$1,419 as a result of a do not consume advisory we initiated in 2019 for some of our customers served by our Illinois subsidiary, which we expect to continue into the second quarter of 2020. The number of customers increased at an annual compound rate of 1.8% over the past three years due to acquisitions and organic growth, adjusted to exclude customers associated with utility system dispositions. Acquisitions in our Regulated water segment have provided additional water and wastewater revenues of \$8,393 in 2019, \$3,877, in 2018, and \$1,695 in 2017.

On June 7, 2012, Aqua Pennsylvania reached a settlement agreement in its rate filing with the Pennsylvania Public Utility Commission, which in addition to a water rate increase, provided for a reduction in current income tax expense as a result of the recognition of qualifying income tax benefits upon Aqua Pennsylvania changing its tax accounting method to permit the expensing of qualifying utility asset improvement costs that historically had been capitalized and depreciated for book and tax purposes. In December 2012, Aqua Pennsylvania implemented this change which provides for the flow-through of income tax benefits that resulted in a substantial reduction in income tax expense and greater net income and cash flow. As a result, Aqua Pennsylvania was able to suspend its water Distribution System Improvement Charges from January 1, 2013 to September 30, 2017, when it resumed the use of a water Distribution System Improvement Charge on October 1, 2017. Aqua Pennsylvania was able to lengthen the amount of time until its next base rate case, which was filed in August 2018. During 2019, 2018, and 2017, the income tax accounting change resulted in income tax benefits of \$66,816, \$64,183, and \$84,766 that reduced the Company’s current income tax expense and increased net income. The Company recognized a tax deduction on its 2012 Federal tax return of \$380,000 for qualifying capital expenditures made prior to 2012. Based on the 2012 settlement agreement, beginning in 2013, the Company began to amortize 1/10th of these expenditures, or \$38,000 annually, which reduced income tax expense and increased the Company’s net income by \$16,274 for 2019, which is included in the income tax benefits noted previously. In accordance with the 2012 settlement agreement, this amortization is expected to reduce income tax expense during periods when qualifying parameters are met. In August 2018, Aqua Pennsylvania filed for a base rate increase in water and wastewater rates for its customers. In February 2019, Aqua Pennsylvania filed a settlement for this base rate case. Incremental rates from this settlement of approximately \$47,000 went into effect in May 2019.

Our operating subsidiaries received rate increases representing estimated annualized revenues of \$52,974 in 2019 resulting from four base rate decisions, \$11,558 in 2018 resulting from five base rate decisions, and \$7,558 in 2017 resulting from five base rate decisions. Revenues from these increases realized in the year of grant were \$32,287 in 2019, \$7,270 in 2018, and \$6,343 in 2017. As of December 31, 2019, our operating subsidiaries have filed three rate requests, which are being reviewed by the state utility commissions, proposing an aggregate increase of \$6,882 in annual revenues. During 2020, we intend to file three additional rate requests proposing an aggregate of approximately \$2,231 of increased annual revenues; the timing and extent to which our rate increase requests may be granted will vary by state.

Currently, New Jersey allows for an infrastructure rehabilitation surcharge for water utilities, while Pennsylvania, Illinois, Ohio, Indiana, Virginia, North Carolina allow for the use of an infrastructure rehabilitation surcharge for both water and wastewater utility systems. The rate increases under this surcharge typically adjust periodically based on additional qualified capital expenditures completed or anticipated in a future period. This surcharge is capped as a percentage of base rates, generally at 5% to 12.75% of base rates, and is reset to zero when new base rates that reflect the costs of those additions become effective or when a utility’s earnings exceed a regulatory benchmark. These surcharges provided revenues of \$16,007 in 2019, \$31,836 in 2018, and \$10,255 in 2017.

Our Regulated water segment also includes operating revenues of \$13,835 in 2019, \$9,427 in 2018, and \$9,903 in 2017 associated with revenues earned primarily from fees received from telecommunication operators that have put cellular antennas on our water towers, fees earned from municipalities for our operation of their water or wastewater treatment services or to perform billing services, and fees earned from developers for accessing our water mains.

In addition to the Regulated water segment operating revenues, we recognized market-based revenues that are associated with Aqua Resources and Aqua Infrastructure of \$3,395 in 2019, \$3,590 in 2018, and \$4,798 in 2017.

Operations and Maintenance Expenses – Operations and maintenance expenses totaled \$333,102 in 2019, \$308,478 in 2018, and \$282,253 in 2017. Most elements of operating costs are subject to the effects of inflation and changes in the number of customers served. Several elements are subject to the effects of changes in water consumption, weather, and the degree of water treatment required due to variations in the quality of the raw water. The principal elements of operating costs are labor and employee benefits, electricity, chemicals, transportation, maintenance expenses, insurance and claims costs, and costs to comply with environmental regulations. Electricity and chemical expenses vary in relationship to water consumption, raw water quality, and price changes. Maintenance expenses are sensitive to extremely cold weather, which can cause water mains to rupture, resulting in additional costs to repair the affected main.

Operations and maintenance expenses increased in 2019, as compared to 2018, by \$24,624 or 8.0%, primarily due to:

- transaction expenses of \$22,891, compared to expenses of \$14,184 incurred in the prior year, for the Peoples Gas Acquisition, primarily representing expenses associated with obtaining regulatory approvals, investment banking fees, including bridge financing, legal expenses, and integration planning;
- expenses of \$4,487 associated with remediating a do not consume advisory we initiated in 2019 for some of our customers served by our Illinois subsidiary. We expect that the expenses associated with remediating the advisory to continue in the second quarter of 2020. Further, the Company has determined that it is reasonably possible that a fine or penalty may be incurred, however, we cannot estimate the possible range of loss at this time and no liability has been accrued for these future costs. We have filed a claim with our insurance carrier for costs and losses incurred in 2019 related to the advisory, and while we anticipate recovery of a portion of the costs and losses, no provision has yet been recognized for the insurance recovery;
- the prior year effect of a favorable reduction to a regulatory liability of \$3,899;
- additional operating expenses associated with acquired utility systems and pending acquisitions of utility systems of \$3,385;
- an increase in postretirement benefits of \$1,973;
- an increase in water production costs of \$1,017; and
- the prior year effect of the write-off of a reserve of \$880 for the sale of a water system;
- offset by a decrease in insurance expenses of \$1,976 due to lower claims.

Taxes Other than Income Taxes – Taxes other than income taxes totaled \$59,995 in 2019, \$59,762 in 2018, and \$56,628 in 2017.

Depreciation and Amortization Expenses – Depreciation expense was \$158,179 in 2019, \$146,032 in 2018, and \$136,302 in 2017, and has increased principally as a result of the significant capital expenditures made to expand and improve our utility facilities, and our acquisitions of new utility systems.

Amortization expense (credit) was \$(1,703) in 2019, \$641 in 2018, and \$422 in 2017, and decreased in 2019 primarily due to the favorable effects of a one-time adjustment of \$3,385 resulting from a rate order received for our Pennsylvania subsidiary. Expenses associated with filing rate cases are deferred and amortized over periods that generally range from one to three years.

Interest Expense – Interest expense was \$125,383 in 2019, \$99,054 in 2018, and \$88,543 in 2017. Interest expense increased in 2019 primarily due to the following items:

- pre-acquisition interest expense of \$12,933 from the issuance of \$900,000 of long-term debt and \$119,081 of amortizing notes in April 2019 partially for funding of the Peoples Gas Acquisition;
- an increase in average borrowings; and
- overlapping interest expense incurred in the second quarter of 2019 of \$858 associated with \$313,500 of existing debt that was subsequently refinanced in May 2019 after receipt of the proceeds from the April 2019 issuance of \$900,000 of long-term debt;
- offset by a decrease in our effective interest rate.

The weighted average cost of fixed rate long-term debt was 4.09% at December 31, 2019, 4.31% at December 31, 2018, and 4.35% at December 31, 2017. The weighted average cost of fixed and variable rate long-term debt was 4.09% at December 31, 2019, 4.23% at December 31, 2018, and 4.29% at December 31, 2017.

Interest Income – Interest income was \$25,406 in 2019, \$152 in 2018, and \$202 in 2017. The increase in 2019 is primarily due to interest of \$23,377 earned on the proceeds from our April 2019 equity offerings. The decrease in 2018 is due to lower investment rates.

Allowance for Funds Used During Construction – The allowance for funds used during construction (“AFUDC”) was \$16,172 in 2019, \$13,023 in 2018, and \$15,211 in 2017, and varies as a result of changes in the average balance of utility plant construction work in progress, to which AFUDC is applied, changes in the AFUDC rate which is based predominantly on short-term interest rates, changes in the balance of short-debt, and changes in the amount of AFUDC related to equity. The increase in 2019 is primarily due to an increase in the average balance of utility plant construction work in progress, to which AFUDC is applied. The amount of AFUDC related to equity was \$11,941 in 2019, \$9,691 in 2018, and \$11,633 in 2017.

Change in Fair Value of Interest Rate Swap Agreements – The change in fair value of interest rate swap agreements of \$23,742 for 2019 and \$59,779 for 2018 represents the mark-to-market adjustment of our interest rate swap agreements that were entered into on October 23, 2018 to mitigate interest rate risk associated with an anticipated \$850,000 of debt issuances to fund a portion of the Peoples Gas Acquisition. The interest rate swap agreements did not qualify for hedge accounting, and any changes in the fair value of the swaps were included in earnings. On April 24, 2019, the Company settled the interest rate swap agreements upon issuance of \$900,000 of long-term debt to be used to finance \$436,000 of the purchase price of the Peoples Gas Acquisition, redeem \$313,500 of the Company’s existing debt, and fund other corporate expenses.

Loss on Debt Extinguishment – The loss on debt extinguishment of \$18,528 results from the extinguishment of \$313,500 of existing debt that was refinanced in May 2019.

Gain on Sale of Other Assets – Gain on sale of other assets totaled \$923 in 2019, \$714 in 2018, and \$484 in 2017, and consists of the sales of property, plant and equipment.

Equity Earnings in Joint Venture – Equity earnings in joint venture totaled \$2,210 in 2019, \$2,081 in 2018, and \$331 in 2017. The equity earnings in 2019 primarily resulted from the sale of raw water to firms in the natural gas drilling industry.

Other – Other totaled \$5,691 in 2019, \$1,996 in 2018, and \$4,953 in 2017, and represents the non-service cost components of our net periodic pension and postretirement benefit costs and, commencing in 2018, the change in fair value of our equity investments in the non-qualified pension plan. The increase in 2019 is primarily due to a decrease in the expected return on plan assets assumption for our pension plan.

(In thousands of dollars, except per share amounts)

Income Taxes – Our effective income tax rate was (6.2)% in 2019, (7.7)% in 2018, and 6.6% in 2017. The effective income tax rate for 2019, 2018, and 2017 was affected by the 2012 income tax accounting change for qualifying utility asset improvements at Aqua Pennsylvania which resulted in a \$66,816, \$64,183, and \$84,766 net reduction to the Company’s 2019, 2018, and 2017 Federal and state income tax expense, respectively. As of December 31, 2019, the Company has an unrecognized tax benefit related to the Company’s change in its tax accounting method for qualifying utility asset improvement costs, of which up to \$31,015 of these tax benefits would further reduce the Company’s effective income tax rate in the event the Company does sustain all, or a portion, of its tax position in the period this information is determined. Additionally, as a result of the TCJA, the reversal of excess deferred taxes of \$6,323 and \$313, which resulted in a reduction in base rates charged to customers, for our regulated subsidiaries contributed to the decrease in our effective income tax rate in 2019 and 2018, respectively.

Summary –

	Years ended December 31,		
	2019	2018	2017
Operating income	\$ 340,159	\$ 323,178	\$ 333,920
Net income	224,543	191,988	239,738
Diluted net income per share	1.04	1.08	1.35

The changes in diluted net income per share in 2019 and 2018 over the previous years were due to the aforementioned changes.

While the importance to the future realization of improved profitability relies on continued adequate rate increases reflecting increased operating costs and new capital improvements, other factors such as transaction expenses for acquisitions will likely cause changes in operating income, net income and diluted net income per share.

Although we have experienced increased income in the recent past, continued adequate rate increases reflecting increased operating costs and new capital investments, are important to the future realization of improved profitability.

(In thousands of dollars, except per share amounts)

Fourth Quarter Results – The following table provides our fourth quarter results:

	Three Months Ended December 31,	
	2019	2018
Operating revenues	\$ 226,042	\$ 205,747
Operations and maintenance	85,321	92,393
Depreciation	40,066	35,995
Amortization	437	163
Taxes other than income taxes	14,917	14,402
	140,741	142,953
Operating income	85,301	62,794
Other expense (income):		
Interest expense	33,142	26,388
Interest income	(7,287)	(39)
Allowance for funds used during construction	(3,892)	(4,513)
Change in fair value of interest rate swap agreements	-	59,779
Gain on sale of other assets	(480)	(116)
Equity earnings in joint venture	(292)	(573)
Other	1,006	631
Income (loss) before income taxes	63,104	(18,763)
Provision for income tax benefit	(1,123)	(15,106)
Net income (loss)	\$ 64,227	\$ (3,657)

The increase in operating revenues of \$20,295 was primarily due to:

- an increase in water and wastewater rates, net of infrastructure rehabilitation surcharges, of \$14,322;
- an increase in customer water consumption; and
- additional revenues of \$1,809 associated with a larger customer base due to organic growth and utility acquisitions, and other growth ventures;
- offset by a decrease in water and wastewater revenues of \$302 as a result of a do not consume advisory we initiated in 2019 for some of our customers served by our Illinois subsidiary. We expect this decrease in revenues to continue into the second quarter of 2020.

The decrease in operations and maintenance expense of \$7,072 was primarily due to:

- the effect of transaction expenses of \$14,184 incurred in the prior year quarter, compared to expenses incurred in the current year quarter of \$1,005, for the Peoples Gas Acquisition, primarily representing expenses associated with obtaining regulatory approvals, investment banking fees, legal expenses, and integration planning;
- offset by an increase in postretirement benefits of \$1,933;
- expenses of \$1,217 associated with remediating a do not consume advisory we initiated in 2019 for some of our customers served by our Illinois subsidiary. We expect that the expenses associated with remediating the advisory to continue in the second quarter of 2020; and
- additional operating costs associated with acquired utility systems of \$569.

Depreciation expense increased by \$4,071 primarily due to the utility plant placed in service since December 31, 2018.

(In thousands of dollars, except per share amounts)

Interest expense increased by \$6,754 primarily due to:

- pre-acquisition interest expense of \$4,684 from the issuance of \$900,000 of long-term debt and \$119,081 of amortizing notes in April 2019 partially for the Peoples Gas Acquisition; and
- an increase in our effective interest rate.

Interest income increased by \$7,248 primarily due to interest income of \$6,898 earned on the proceeds from our April 2019 equity offerings.

Allowance for funds used during construction (“AFUDC”) decreased by \$621, due to a decrease in the average balance of utility plant construction work in progress, to which AFUDC is applied.

The change in fair value of interest rate swap agreements of \$59,779 represents expense recognized in the fourth quarter of 2018 on the mark-to-market adjustment of our interest rate swap agreements that were entered into on October 23, 2018 to mitigate interest rate risk associated with an anticipated \$850,000 of debt issuances to fund a portion of the Peoples Gas Acquisition. The interest rate swap agreements did not qualify for hedge accounting, and any changes in the fair value of the swaps were included in earnings. On April 24, 2019, the Company settled the interest rate swap agreements upon issuance of \$900,000 of long-term debt to be used to finance \$436,000 of the purchase price of the Peoples Gas Acquisition, redeem \$313,500 of the Company’s existing debt, and fund other corporate purposes.

Equity earnings in joint venture decreased by \$281 due to a decrease in the sale of raw water to firms in the natural gas drilling industry.

Other increased by \$375 primarily due to a decrease in the expected return on plan assets assumption for our pension plan.

The provision for income taxes increased by \$13,983 primarily as a result of the increase in income before income taxes as a result of the factors described above.

LIQUIDITY AND CAPITAL RESOURCES

Consolidated Cash Flow and Capital Expenditures

Net operating cash flows, dividends paid on common stock, capital expenditures, including allowances for funds used during construction, and expenditures for acquiring water and wastewater systems for the five years ended December 31, 2019 were as follows:

	Net Operating Cash Flows	Dividends	Capital Expenditures	Acquisitions
2015	\$ 370,794	\$ 121,248	\$ 364,689	28,989
2016	396,163	130,923	382,996	9,423
2017	381,318	140,660	478,089	5,860
2018	368,522	150,736	495,737	145,693
2019	338,523	188,512	550,273	59,687
	<u>\$ 1,855,320</u>	<u>\$ 732,079</u>	<u>\$ 2,271,784</u>	<u>249,652</u>

Net cash flows from operating activities decreased from 2018 to 2019 primarily due to the payment for the settlement of the interest rate swap agreements of \$83,520, offset by an increase in net income. Net cash flows from operating activities decreased from 2017 to 2018 primarily due to a reduction in deferred income taxes and a change in working capital. Net income in 2018 was comparable to 2017, when excluding the after-tax effect of the change in the fair value of the interest rate swap agreements. Net cash flows from operating activities decreased from 2016 to 2017 due to an increase in

pension and other postretirement benefits contributions, changes in deferred income taxes and an increase in the amount of AFUDC related to equity funds of \$5,072 in 2017 compared to 2016. Net cash flows from operating activities increased from 2015 to 2016 primarily due to an increase in net income, a change in working capital, and a decrease in pension and other postretirement benefits contributions.

Included in capital expenditures for the five year period are: expenditures for the rehabilitation of existing water and wastewater systems, the expansion of our water and wastewater systems, modernization and replacement of existing treatment facilities, water meters, office facilities, information technology, vehicles, and equipment. During this five year period, we received \$37,029 of customer advances and contributions in aid of construction to finance new water mains and related facilities that are not included in the capital expenditures presented in the above table. In addition, during this period, we have made repayments of debt, which includes the net effect of borrowings and repayments under our long-term revolving credit facility, of \$1,733,743 and have refunded \$27,318 of customers' advances for construction. Dividends increased during the past five years as a result of annual increases in the dividends declared and paid and increases in the number of shares outstanding.

Our planned 2020 capital program, excluding the costs of new mains financed by advances and contributions in aid of construction, and including planned capital expenditures for Peoples after a planned closing on March 16, 2020, is estimated to be approximately \$921,000 in infrastructure improvements for the communities we serve. The 2020 capital program is expected to include \$475,100 for infrastructure rehabilitation surcharge qualified projects. On January 1, 2013, Aqua Pennsylvania reset its water infrastructure rehabilitation surcharge to zero resulting from the change in its tax method of accounting for qualifying utility asset improvements as described below. Although we were not eligible to use an infrastructure rehabilitation surcharge with our Aqua Pennsylvania water customers from January 1, 2013 to September 30, 2017, we were able to use the income tax savings derived from the qualifying utility asset improvements to maintain Aqua Pennsylvania's capital investment program. Our planned 2020 capital program in Pennsylvania is estimated to be approximately \$314,000, a portion of which is expected to be eligible as a deduction for qualifying utility asset improvements for Federal income tax purposes. Our overall 2020 capital program, including the Peoples Gas Acquisition, along with \$105,051 of debt repayments and \$99,080 of other contractual cash obligations, as reported in the section captioned "Management's Discussion and Analysis of Financial Condition and Results of Operations – *Contractual Obligations*", has been, or is expected to be, financed through internally-generated funds, our revolving credit facilities, and the issuance of long-term debt.

Future utility construction in the period 2021 through 2022, including recurring programs, such as the ongoing replacement or rehabilitation of water meters and water mains, water treatment plant upgrades, storage facility renovations, natural gas distribution meters and mains, pipes, service lines, and additional transmission mains to meet customer demands, excluding the costs of new mains financed by advances and contributions in aid of construction, is estimated to require aggregate expenditures of approximately \$1,806,000. We anticipate that approximately more than one-half of these expenditures will require external financing. We expect to refinance \$88,232 of long-term debt during this period as they become due with new issues of long-term debt, internally-generated funds, and our revolving credit facilities. The estimates discussed above do not include any amounts for possible future acquisitions of water and wastewater systems or the financing necessary to support them.

Our primary sources of liquidity are cash flows from operations (including the allowed deferral of Federal income tax payments), borrowings under various short-term lines of credit and other credit facilities, and customer advances and contributions in aid of construction. Our cash flow from operations, or internally-generated funds, is impacted by the timing of rate relief, water consumption, and changes in Federal tax laws with respect to the reduction in the corporate income tax rate, and accelerated tax depreciation or deductions for utility construction projects. We fund our capital and typical acquisitions through internally-generated funds, supplemented by short-term lines of credit. Over time, we partially repay or pay-down our short-term lines of credit with long-term debt. We financed a portion of the Peoples Gas Acquisition purchase price, and refinanced certain debt of the Company, with a mix of common equity, equity-linked securities, and debt financing, which included senior notes issued in capital markets transactions, and credit facilities. The ability to finance our future construction programs, as well as our acquisition activities, depends on our ability to attract the necessary external financing and maintain internally-generated funds. Timely rate orders permitting compensatory rates of return on invested capital will be required by our operating subsidiaries to achieve an adequate level of earnings and cash flow to enable them to secure the capital they will need to operate and to maintain satisfactory debt coverage ratios.

Acquisitions

Pursuant to the Company's growth strategy, on October 22, 2018, the Company entered into a purchase agreement to acquire, from LDC Funding LLC, the parent company of PNG Companies, a natural gas distribution company headquartered in Pittsburgh, Pennsylvania, serving approximately 747,000 gas utility customers in western Pennsylvania, West Virginia, and Kentucky. At the closing of the Peoples Gas Acquisition, the Company will pay \$4,275,000 in cash, subject to adjustments for working capital, certain capital expenditures, transaction expenses and closing indebtedness as set forth in the acquisition agreement. The Company expects to assume approximately \$1,106,000 of Peoples' indebtedness upon closing of the Peoples Gas Acquisition, which would reduce the cash purchase price by approximately \$1,106,000. The Company financed this acquisition through the April 2019 issuances of \$1,293,750 of common stock, \$900,000 of senior notes, \$690,000 of tangible equity units, and upon closing of the issuance of \$750,000 of common stock through a private placement, and borrowings on our revolving credit facility. On October 22, 2018, the Company obtained the Bridge Commitment from certain banks to provide senior unsecured bridge loans in an aggregate amount of up to \$5,100,000 to, among other things, backstop the Peoples Gas Acquisition purchase price and the refinancing of certain debt of the Company and of Peoples. As of December 31, 2019, we had terminated \$4,350,000 of commitments under the Bridge Commitment in connection with, among other things, the replacement of our unsecured revolving credit facility and the issuances of common stock, tangible equity units, and senior notes in April 2019. The obligation of an investor to fund the remaining amount under the Bridge Commitment is subject to the satisfaction of customary closing conditions. On October 23, 2018, the Company entered into interest rate swap agreements to mitigate interest rate risk associated with our planned issuance of long-term debt to fund a portion of the Peoples Gas Acquisition. The interest rate swaps were settled in April 2019 in conjunction with the issuance of long-term debt used to finance a portion of the purchase price of this acquisition. The interest rate swap agreements did not qualify for hedge accounting and any changes in the fair value of the swaps were included in our earnings. Approval from the United States Federal Trade Commission was obtained in December 2018, and approvals from the public utility commissions of Kentucky, West Virginia, and Pennsylvania were obtained in March 2019, April 2019, and January 2020, respectively. This acquisition is expected to close on March 16, 2020, once closing conditions are met, and it is anticipated that this transaction will result in the recording of goodwill. In the event that this acquisition is terminated due to certain breaches by the Company, a fee of \$120,000 would be payable to the seller as a reverse termination fee.

During the past five years, we have expended cash of \$249,652 and issued 439,943 shares of common stock, valued at \$12,845 at the time of acquisition, related to the acquisition of both water and wastewater utility systems.

In December 2019, the Company acquired the wastewater utility system assets of Cheltenham Township, Pennsylvania, which serves 9,887 customers. The total cash purchase price for the utility system was \$50,250. The purchase price allocation for this acquisition consisted primarily of acquired property, plant and equipment of \$44,558 and goodwill of \$5,692. Additionally, during 2019, we completed seven acquisitions of water and wastewater utility systems for \$9,437 in cash in four of the states in which we operate, adding 2,393 customers.

In September 2019, the Company entered into a purchase agreement to acquire the wastewater utility system assets of the Delaware County Regional Water Quality Control Authority ("DELCORA"), which consist of approximately 16,000

customers, or the equivalent of 198,000 retail customers, in 42 municipalities in Southeast Pennsylvania for \$276,500. The purchase price for this pending acquisition is subject to certain adjustments at closing, and is subject to regulatory approval, including the final determination of the fair value of the rate base acquired. The Company expects to finance this acquisition with a mix of common equity and debt financing.

In November 2018, the Company entered into a purchase agreement to acquire the wastewater utility system assets of East Norriton Township, Pennsylvania, which serves approximately 4,950 customers for \$21,000. The purchase price for this pending acquisition is subject to certain adjustments at closing, and is subject to regulatory approval, including the final determination of the fair value of the rate base acquired.

In addition to the Company's pending acquisitions of DELCORA and East Norriton Township, as part of the Company's growth-through-acquisition strategy, the Company has entered into purchase agreements to acquire the water or wastewater utility system assets of two municipalities, which will add approximately 5,306 customers in two of the states in which the Company operates, for a total combined purchase price in cash of \$37,000. We plan to finance the purchase price of these acquisitions by the issuance of long-term debt. The purchase price for these pending acquisitions is subject to certain adjustments at closing, and the pending acquisitions are subject to regulatory approvals, including the final determination of the fair value of the rate base acquired. Closings for our remaining acquisitions, with the exception of DELCORA and East Norriton Township, are expected to occur in the first half of 2020, respectively, subject to the timing of the regulatory approval process.

In July 2018, the Company acquired the wastewater utility system assets of Limerick Township, Pennsylvania which serves 5,497 customers. The total cash purchase price for the utility system was \$74,836. The purchase price allocation for this acquisition consisted primarily of acquired property, plant and equipment of \$64,759 and goodwill of \$10,790. Additionally, during 2018, we completed seven acquisitions of water and wastewater utility systems for \$42,519 in cash in three of the states in which we operate, adding 8,661 customers. Further, in December 2018, the Company acquired the Valley Creek Trunk Sewer System, serving area municipalities in Pennsylvania, from the Tredyffrin Township Municipal Authority for \$28,338. The purchase price allocation for this acquisition consisted primarily of property, plant and equipment of \$22,904 and goodwill of \$5,434. The system receives untreated wastewater from area municipalities, which is conveyed to the Valley Forge Treatment Plant. The system consists of 49,000 linear feet of gravity sewers, pump stations, and force mains.

In 2017, we completed four acquisitions of water and wastewater utility systems for \$5,860 in cash in two of the states in which we operate, adding 1,003 customers.

In January 2016, we acquired the water utility system assets of Superior Water Company, Inc., which provided public water service to 4,108 customers in portions of Berks, Chester, and Montgomery counties in Pennsylvania. The total purchase price for the utility system was \$16,750, which consisted of the issuance of 439,943 shares of the Company's common stock and \$3,905 in cash. Additionally, during 2016, we completed 18 acquisitions of water and wastewater utility systems for \$5,518 in cash in eight of the states in which we operate, adding 2,469 customers.

In April 2015, we acquired the water and wastewater utility system assets of North Maine Utilities, located in the Village of Glenview, Illinois serving 7,409 customers. The total purchase price consisted of \$23,079 in cash. Additionally, during 2015, we completed 14 acquisitions of water and wastewater utility systems for \$5,210 in cash in six of the states in which we operate, adding 3,170 customers.

We continue to pursue the acquisition of water and wastewater utility systems and explore other utility acquisitions that may be in a new state. Our typical acquisitions are expected to be financed with short-term debt with subsequent repayment from the proceeds of long-term debt, retained earnings, or equity issuances.

Joint Venture

Aqua Infrastructure, LLC is a partner in a joint venture with a firm that operates natural gas pipelines and processing plants for the operation of a private pipeline system to supply raw water to natural gas well drilling operations in the Marcellus Shale in north-central Pennsylvania (the "Joint Venture"). We own 49% of the Joint Venture. The 56 mile pipeline construction and permitted intake on the Susquehanna River cost \$109,000. As of December 31, 2019, our

capital contributions since inception in 2011 totaled \$53,643 in cash. This investment has been financed through the issuance of long-term debt. Our 49% investment in the Joint Venture is an unconsolidated affiliate and is accounted for under the equity method of accounting. Our initial investment is carried at cost. Subsequently, the carrying amount of our investment is adjusted to reflect capital contributions or distributions, our equity in earnings and losses since the commencement of the system's operations, and a decline in the fair value of our investment. In 2015, an impairment charge was recognized by the joint venture on its long-lived assets, of which the Company's share totaled \$32,975 (\$21,433 after-tax), representing our share of the noncash impairment charge as further described in Note 1 – *Summary of Significant Accounting Policies – Investment in Joint Venture* in this Annual Report.

Dispositions

We routinely review and evaluate areas of our business and operating divisions and, over time, may sell utility systems or portions of systems. In 2019, the Company sold a water system in Virginia that served approximately 500 customers, which resulted in proceeds of \$1,882, and recognized a gain on sale of \$405. In 2017, the Company sold two business units within Aqua Resources, which resulted in total proceeds of \$867, and recognized a net loss of \$324. In 2016, the Company sold two business units within Aqua Resources, which resulted in total proceeds of \$4,459, and recognized a net loss of \$543.

Sources of Capital

Since net operating cash flow plus advances and contributions in aid of construction have not been sufficient to fully fund our cash requirements including capital expenditures and our growth through acquisitions program, which includes financings planned for a portion of the Peoples Gas Acquisition, we issued \$3,294,175 of long-term debt, and obtained other short-term borrowings during the past five years. At December 31, 2019, we have a \$550,000 long-term revolving credit facility that expires in December 2023, of which \$17,124 was designated for letter of credit usage, \$532,876 was available for borrowing, and no borrowings were outstanding at December 31, 2019. Additionally, the facility expands by \$150,000 of capacity upon closing of the Peoples Gas Acquisition, which amount will be available to repay certain outstanding indebtedness and fees to close an existing credit facility of Peoples and for general corporate purposes. Further, the Company may request to expand the facility by an additional amount of up to \$300,000 upon the closing of the Peoples Gas Acquisition. In addition, we have short-term lines of credit of \$135,500, of which \$109,776 was available as of December 31, 2019. These short-term lines of credit are subject to renewal on an annual basis. Although we believe we will be able to renew these facilities, there is no assurance that they will be renewed, or what the terms of any such renewal will be.

In October 2018, we entered into a \$5,100,000 syndicated, committed bridge facility to support our agreement to acquire Peoples. Subsequently, \$4,350,000 has been terminated as no longer required, and we expect to terminate the remaining portion of the bridge facility as a result of a stock purchase agreement entered into to fund our acquisition. The bridge facility expires the earlier of closing of the acquisition or April 2020.

We financed the purchase price of the Peoples Gas Acquisition and refinanced certain debt with a mix of common equity, mandatory convertible equity units, debt financing, which included senior notes issued in capital markets transactions, and credit facilities. The purchase price for this acquisition is \$4,275,000, which will be reduced by the amount of outstanding indebtedness at closing, which is estimated to be \$1,106,000.

As a result of the proceeds raised from the April 2019 financings that were being held to fund the Peoples Gas Acquisition the Company has a positive working capital position as of December 31, 2019. However, historically, our consolidated balance sheet has had a negative working capital position, whereby routinely our current liabilities exceed our current assets. Management believes that internally-generated funds along with existing credit facilities and the proceeds from the issuance of long-term debt will be adequate to provide sufficient working capital to maintain normal operations and to meet our financing requirements for at least the next twelve months.

Our loan and debt agreements require us to comply with certain financial covenants, which among other things, subject to specific exceptions, limit the Company's ratio of consolidated total indebtedness to consolidated total capitalization, and require a minimum level of earnings coverage over interest expense. During 2019, we were in compliance with our debt covenants under our credit facilities. Failure to comply with our debt covenants could result in an event of default, which

could result in us being required to repay or refinance our borrowings before their due date, possibly limiting our future borrowings, and increasing our borrowing costs.

The Company has a universal “pay as you go” shelf registration statement, filed with the SEC in February 2018, which allows for the potential future offer and sale by us, from time to time, in one or more public offerings, of an indeterminate amount of our common stock, preferred stock, debt securities, and other securities specified therein at indeterminate prices. In April 2019, the Company issued 37,370,017 shares of common stock totaling \$1,263,099 and 13,800,000 tangible equity units totaling \$673,642 to finance a portion of the pending Peoples Gas Acquisition. Each tangible equity unit consists of a prepaid stock purchase contract and an amortizing note due April 30, 2022, each issued by the Company. Refer to Note 13 – *Stockholders’ Equity* for further information regarding these financings.

In addition, we have an acquisition shelf registration statement, which was filed with the SEC on February 27, 2015, to permit the offering from time to time of an aggregate of \$500,000 of our common stock and shares of preferred stock in connection with acquisitions. During 2016, we issued 439,943 shares of common stock totaling \$12,845 to acquire a water system. The balance remaining available for use under the acquisition shelf registration as of December 31, 2019 is \$487,155.

We will determine the form and terms of any further securities issued under the universal shelf registration statement and the acquisition shelf registration statement at the time of issuance.

We offer a Dividend Reinvestment and Direct Stock Purchase Plan (the “Plan”) that provides a convenient and economical way to purchase shares of the Company. Under the direct stock purchase portion of the Plan, shares are issued throughout the year. The dividend reinvestment portion of the Plan offers a five percent discount on the purchase of shares of common stock with reinvested dividends. As of the December 2019 dividend payment, holders of 7.3% of the common shares outstanding participated in the dividend reinvestment portion of the Plan. The shares issued under the Plan are either original issue shares or shares purchased by the Company’s transfer agent in the open-market. During the past five years, we have sold 513,765 original issue shares of common stock for net proceeds of \$17,640 through the dividend reinvestment portion of the Plan, and we used the proceeds to invest in our operating subsidiaries, to repay short-term debt, and for general corporate purposes. In 2019, 2018, and 2017, 183,731, 321,585, and 447,753 shares of common stock were purchased under the dividend reinvestment portion of the Plan by the Company’s transfer agent in the open-market for \$7,777, \$11,343, and \$15,168, respectively.

The Company’s Board of Directors had authorized us to repurchase our common stock, from time to time, in the open market or through privately negotiated transactions. In December 2014, the Company’s Board of Directors authorized a share buyback program of up to 1,000,000 shares to minimize share dilution through timely and orderly share repurchases. In December 2015, the Company’s Board of Directors added 400,000 shares to this program. In 2015, we repurchased 805,000 shares of our common stock in the open market for \$20,502. In 2016, we did not repurchase any shares of our common stock in the open market under this program. This program expired on December 31, 2016.

Off-Balance Sheet Financing Arrangements

We do not engage in any off-balance sheet financing arrangements. We do not have any interest in entities referred to as variable interest entities, which includes special purpose entities and other structured finance entities. For risk management purposes, the Company uses interest rate swap agreements. Refer to Note 11 – *Long-term Debt and Loans Payable* for further information regarding these agreements.

(In thousands of dollars, except per share amounts)

Contractual Obligations

The following table summarizes our contractual cash obligations as of December 31, 2019:

	Total	Payments Due By Period			
		Less than 1 year	1 - 3 years	3 - 5 years	More than 5 years
Long-term debt	\$ 3,077,400	\$ 105,051	\$ 88,232	\$ 33,040	\$ 2,851,077
Interest on fixed-rate, long-term debt (1)	125,840	3,745	3,246	1,639	117,210
Operating leases (2)	21,764	1,816	2,707	1,406	15,835
Unconditional purchase obligations (3)	29,595	5,211	10,427	9,524	4,433
Other purchase obligations (4)	73,764	73,764	-	-	-
Pension plan obligation (5)	13,542	13,542	-	-	-
Other obligations (6)	9,476	1,002	2,065	2,118	4,291
Total	<u>\$ 3,351,381</u>	<u>\$ 204,131</u>	<u>\$ 106,677</u>	<u>\$ 47,727</u>	<u>\$ 2,992,846</u>

(1) Represents interest payable on fixed rate, long-term debt. Amounts reported may differ from actual due to future refinancing of debt.

(2) Represents operating leases that are noncancelable, before expiration, for the lease of motor vehicles, buildings, land and other equipment.

(3) Represents our commitment to purchase minimum quantities of water as stipulated in agreements with other water purveyors. We use purchased water to supplement our water supply, particularly during periods of peak customer demand. Our actual purchases may exceed the minimum required levels.

(4) Represents an approximation of the open purchase orders for goods and services purchased in the ordinary course of business.

(5) Represents contributions to be made to pension plan.

(6) Represents expenditures estimated to be required under legal and binding contractual obligations.

In addition to these obligations, we pay refunds on customers' advances for construction over a specific period of time based on operating revenues related to developer-installed water mains or as new customers are connected to and take service from such mains. After all refunds are paid, any remaining balance is transferred to contributions in aid of construction. The refund amounts are not included in the above table because the refund amounts and timing are dependent upon several variables, including new customer connections, customer consumption levels and future rate increases, which cannot be accurately estimated. Portions of these refund amounts are payable annually through 2029 and amounts not paid by the contract expiration dates become non-refundable.

Lastly, in addition to the obligations disclosed in the contractual obligations table above, we have uncertain tax positions of \$18,671. Although we believe our tax positions comply with applicable law, we have made judgments as to the sustainability of each uncertain tax position based on its technical merits. Due to the uncertainty of future cash outflows, if any, associated with our uncertain tax positions, we are unable to make a reasonable estimate of the timing or amounts that may be paid. See Note 7 – *Income Taxes* in this Annual Report for further information on our uncertain tax positions.

We will fund these contractual obligations with cash flows from operations and liquidity sources held by or available to us.

(In thousands of dollars, except per share amounts)

The Company is routinely involved in legal matters, including both asserted and unasserted legal claims, during the ordinary course of business. See Note 9 – *Commitments and Contingencies* in this Annual Report for a discussion of the Company's legal matters. It is not always possible for management to make a meaningful estimate of the potential loss or range of loss associated with such litigation. Also, unanticipated changes in circumstances and/or revisions to the assessed probability of the outcomes of legal matters could result in expenses being incurred in future periods as well as an increase in actual cash required to resolve the legal matter.

Capitalization

The following table summarizes our capitalization during the past five years:

December 31,	2019	2018	2017	2016	2015
Long-term debt (1)	44.2%	56.1%	52.3%	50.8%	50.8%
Essential Utilities stockholders' equity	55.8%	43.9%	47.7%	49.2%	49.2%
	100.0%	100.0%	100.0%	100.0%	100.0%

(1) Includes current portion, as well as our borrowings under a variable rate revolving credit agreement of \$0 at December 31, 2019, \$370,000 at December 31, 2018, \$60,000 at December 31, 2017, \$25,000 at December 31, 2016, and \$60,000 at December 31, 2015.

Over the past five years, the changes in the capitalization ratios primarily resulted from the issuance of debt to finance our acquisitions and capital program, changes in net income, the issuance of common stock, and the declaration of dividends.

INCOME TAX MATTERS

Tax Cuts and Jobs Act of 2017

On December 22, 2017, President Trump signed the TCJA into law. Substantially all of the provisions of the TCJA are effective for tax years beginning after December 31, 2017, except as noted below. The TCJA includes significant changes to the Code and the taxation of business entities, and includes specific provisions related to regulated public utilities. Significant changes include a reduction in the corporate federal income tax rate from 35% to 21%, and a limitation on the utilization of NOLs arising after December 31, 2017 to 80% of taxable income with an indefinite carryforward. The specific provisions related to regulated public utilities in the TCJA generally allow for the continued deductibility of interest expense, the elimination of full expensing for tax purposes of certain property acquired after September 27, 2017 and the continuation of certain rate normalization requirements for accelerated depreciation benefits. Our market-based companies still qualify for 100% deductibility of qualifying property acquired after September 27, 2017.

The Company's regulated operations accounting for income taxes are impacted by the Financial Accounting Standards Board's ("FASB") accounting guidance for regulated operations. Reductions in accumulated deferred income tax balances due to the reduction in the corporate income tax rates to 21% under the provisions of the TCJA results in amounts previously collected from utility customers for these deferred taxes to be refundable to such customers, generally through reductions in future rates. The TCJA includes provisions that stipulate how these excess deferred taxes are to be passed back to customers for certain accelerated tax depreciation benefits. Potential refunds of other deferred taxes will be determined by our state regulators. The Company has reserved \$3,907 for amounts expected to be refundable to utility customers. In 2018, Illinois, Virginia, Texas, New Jersey, and two operating divisions in Ohio which operate under locally-negotiated contractual rates with their respective counties, the Company's base rates have been adjusted or surcredits have been added to customer bills to reflect the lower corporate income tax rate. In North Carolina, Indiana, and our regulated operations in Ohio, no surcredits have been added to customer bills to reflect the lower corporate income tax rate in 2018. These adjustments were reflected in customer bills beginning January 1, 2019. In Pennsylvania, a 2019 procedural order resulting from the Company's general rate case adjusted the Company's base rate to reflect the lower corporate income tax rate. In addition, through a reduction in base rates or surcredits, the Company has refunded approximately \$690 and \$9,600 to utility customers during 2019 and 2018.

As of December 31, 2017, resulting from the TCJA enactment, our deferred income tax assets and liabilities were revalued based upon the new corporate income tax rate of 21%. The revaluation of our deferred income tax assets and

liabilities resulted in the recognition of additional income tax expense of \$3,141 in 2017 to the extent revalued deferred income taxes are not believed to be recoverable in utility customer rates.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

Our financial condition and results of operations are impacted by the methods, assumptions, and estimates used in the application of critical accounting policies. The following accounting policies are particularly important to our financial condition or results of operations and require estimates or other judgments of matters of uncertainty. Changes in the estimates or other judgments included within these accounting policies could result in a significant change to the financial statements. We believe our most critical accounting policies include the use of regulatory assets and liabilities, revenue recognition, the valuation of our long-lived assets (which consist primarily of utility plant in service, regulatory assets, and goodwill) our accounting for post-retirement benefits, and our accounting for income taxes. We have discussed the selection and development of our critical accounting policies and estimates with the Audit Committee of the Board of Directors.

Regulatory Assets and Liabilities — We defer costs and credits on the balance sheet as regulatory assets and liabilities when it is probable that these costs and credits will be recognized in the rate-making process in a period different from when the costs and credits were incurred. These deferred amounts, both assets and liabilities, are then recognized in the income statement in the same period that they are reflected in our rates charged for water or wastewater service. We make significant judgments and estimates to record regulatory assets and liabilities, such as for amounts related to income taxes, pension and postretirement benefits, acquisitions and capital projects. For each regulatory jurisdiction with regulated operations, we evaluate at the end of each reporting period, whether the regulatory assets and liabilities continue to meet the probable criteria for future recovery or refund. The evaluation considers factors such as regulatory orders or guidelines, in the same regulatory jurisdiction, of a specific matter or a similar matter, as provided to us in the past or to other regulated utilities. In addition, the evaluation may be impacted by changes in the regulatory environment and pending or new legislation that could impact the ability to recover costs through regulated rates. There may be multiple participants to rate or transactional regulatory proceedings who might offer different views on various aspects of such proceedings, and in these instances may challenge our prudence of business policies and practices, seek cost disallowances or request other relief.

In the event that our assessment as to the probability of the inclusion in the rate-making process is incorrect, the associated regulatory asset or liability would be adjusted to reflect the change in our assessment or change in regulatory approval.

Revenue Recognition — Our utility revenues recognized in an accounting period include amounts billed to customers on a cycle basis and unbilled amounts based on estimated usage from the last billing to the end of the accounting period. The estimated usage is based on our judgment and assumptions; our actual results could differ from these estimates, which would result in operating revenues being adjusted in the period that the revision to our estimates is determined.

In Virginia, we commence the billing of our utility customers, under new rates, upon authorization from the respective utility commission and before the final commission rate order is issued. The revenue recognized reflects an estimate based on our judgment of the final outcome of the commission's ruling. We monitor the applicable facts and circumstances regularly and revise the estimate as required. The revenue billed and collected prior to the final ruling is subject to refund based on the commission's final ruling.

Valuation of Long-Lived Assets, Goodwill and Intangible Assets — We review our long-lived assets for impairment, including utility plant in service and investment in joint venture. We also review regulatory assets for the continued application of the FASB accounting guidance for regulated operations. Our review determines whether there have been changes in circumstances or events, such as regulatory disallowances, or abandonments, that have occurred that require adjustments to the carrying value of these assets. Adjustments to the carrying value of these assets would be made in instances where their inclusion in the rate-making process is unlikely. For utility plant in service, we would recognize an impairment loss for any amount disallowed by the respective utility commission. For our equity method investment in joint venture, the Company evaluates whether it has experienced a decline in the value of its investment that is other than temporary in nature. We would recognize an impairment loss if the fair value of our investment is less than the carrying amount of the investment, and the decline in value is considered other than temporary. Additionally, the Company would

recognize its share of an impairment loss if the joint venture determines that the carrying amount of the joint venture's assets exceeds the sum of the joint venture's undiscounted estimated cash flows.

Our long-lived assets, which consist primarily of utility plant in service, regulatory assets and investment in joint venture, are reviewed for impairment when changes in circumstances or events occur. These circumstances or events could include a decline in the market value or physical condition of a long-lived asset, an adverse change in the manner in which long-lived assets are used or planned to be used, a change in historical trends, operating cash flows associated with the long-lived assets, changes in macroeconomic conditions, industry and market conditions, or overall financial performance. When these circumstances or events occur, we determine whether it is more likely than not that the fair value of those assets is less than their carrying amount. If we determine that it is more likely than not (that is, the likelihood of more than 50 percent), we would recognize an impairment charge if it is determined that the carrying amount of an asset exceeds the sum of the undiscounted estimated cash flows. In this circumstance, we would recognize an impairment charge equal to the difference between the carrying amount and the fair value of the asset. Fair value is estimated to be the present value of future net cash flows associated with the asset, discounted using a discount rate commensurate with the risk and remaining life of the asset. This assessment requires significant management judgment and estimates that are based on budgets, general strategic business plans, historical trends and other data and relevant factors. These estimates include significant inherent uncertainties, since they involve forecasting future events. If changes in circumstances or events occur, or estimates and assumptions that were used in this review are changed, we may be required to record an impairment charge on our long-lived assets.

We have an investment in a joint venture, for which we own 49%, and use the equity method of accounting to account for this joint venture. The joint venture operates a private pipeline system to supply raw water to natural gas well drilling operations in the Marcellus Shale in north central Pennsylvania. Refer to Note 1 – *Summary of Significant Accounting Policies – Property, Plant and Equipment and Depreciation*, and *Investment in Joint Venture* in this Annual Report for additional information regarding the review of long-lived assets for impairment.

We test the goodwill attributable for each of our reporting units for impairment at least annually on July 31, or more often, if circumstances indicate a possible impairment may exist. When testing goodwill for impairment, we may assess qualitative factors, including macroeconomic conditions, industry and market considerations, cost factors, overall financial performance, and entity specific events, for some or all of our reporting units to determine whether it's more likely than not that the fair value of a reporting unit is less than its carrying amount. Alternatively, based on our assessment of the qualitative factors previously noted, we may perform a quantitative goodwill impairment test by determining the fair value of a reporting unit based on a discounted cash flow analysis. If we perform a quantitative test and determine that the fair value of a reporting unit is less than its carrying amount, we would record an impairment loss for the amount by which a reporting unit's carrying amount exceeds its fair value, not to exceed the carrying amount of goodwill. The assessment requires significant management judgment and estimates that are based on budgets, general strategic business plans, historical trends and other data and relevant factors. If changes in circumstances or events occur, or estimates and assumptions that were used in our impairment test change, we may be required to record an impairment charge for goodwill. Refer to Note 1 – *Summary of Significant Accounting Policies – Goodwill* in this Annual Report for information regarding the results of our annual impairment test.

Accounting for Post-Retirement Benefits — We maintain a qualified and a non-qualified defined benefit pension plan and plans that provide for post-retirement benefits other than pensions. Accounting for pension and other post-retirement benefits requires an extensive use of assumptions including the discount rate, expected return on plan assets, the rate of future compensation increases received by our employees, mortality, turnover and medical costs. Each assumption is reviewed annually with assistance from our actuarial consultant, who provides guidance in establishing the assumptions. The assumptions are selected to represent the average expected experience over time and may differ in any one year from actual experience due to changes in capital markets and the overall economy. These differences will impact the amount of pension and other post-retirement benefits expense that we recognize.

Our discount rate assumption, which is used to calculate the present value of the projected benefit payments of our post-retirement benefits, was determined by selecting a hypothetical portfolio of high quality corporate bonds appropriate to match the projected benefit payments of the plans. The selected bond portfolio was derived from a universe of Aa-graded corporate bonds. The discount rate was then developed as the rate that equates the market value of the bonds purchased to

the discounted value of the projected benefit payments of the plans. A decrease in the discount rate would generally increase our post-retirement benefits expense and benefit obligation. After reviewing the hypothetical portfolio of bonds, we selected a discount rate of 3.35% for our pension plan and 3.42% for our other post-retirement benefit plans as of December 31, 2019, which represent a 95 and 92 basis-point decrease as compared to the discount rates selected at December 31, 2018, respectively. Our post-retirement benefits expense under these plans is determined using the discount rate as of the beginning of the year, which was 4.30% for our pension plan and 4.34% for our other-postretirement benefit plans for 2019, and will be 3.35% for our pension plan and 3.42% for our other post-retirement benefit plans for 2020.

Our expected return on plan assets is determined by evaluating the asset class return expectations with our advisors as well as actual, long-term, historical results of our asset returns. The Company's market-related value of plan assets is equal to the fair value of the plans' assets as of the last day of its fiscal year and is a determinant for the expected return on plan assets, which is a component of post-retirement benefits expense. The allocation of our plans' assets impacts our expected return on plan assets. The expected return on plan assets is based on a targeted allocation of 50% to 70% return seeking assets and 30% to 50% liability hedging assets. Our post-retirement benefits expense increases as the expected return on plan assets decreases. We believe that our actual long-term asset allocations on average will approximate our targeted allocations. Our targeted allocations are driven by our investment strategy to earn a reasonable rate of return while maintaining risk at acceptable levels through the diversification of investments across and within various asset categories. For 2019, we used a 6.50% expected return on plan assets assumption which will decrease to 6.0% for 2020.

Funding requirements for qualified defined benefit pension plans are determined by government regulations and not by accounting pronouncements. In accordance with funding rules and our funding policy, during 2020 our pension contribution is expected to be \$13,542. Future years' contributions will be subject to economic conditions, plan participant data and the funding rules in effect at such time as the funding calculations are performed, though we expect future changes in the amount of contributions and expense recognized to be generally included in customer rates.

Accounting for Income Taxes — We estimate the amount of income tax payable or refundable for the current year and the deferred income tax liabilities and assets that results from estimating temporary differences resulting from the treatment of specific items, such as depreciation, for tax and financial statement reporting. Generally, these differences result in the recognition of a deferred tax asset or liability on our consolidated balance sheet and require us to make judgments regarding the probability of the ultimate tax impact of the various transactions we enter into. Based on these judgments, we may record tax reserves or adjustments to valuation allowances on deferred tax assets to reflect the expected realization of future tax benefits. Actual income taxes could vary from these estimates and changes in these estimates can increase income tax expense in the period that these changes in estimates occur.

Our determination of what qualifies as a capital cost versus a tax deduction, for qualifying utility asset improvements, as it relates to our income tax accounting method change beginning in 2012, is subject to subsequent adjustment as well as IRS audits, changes in income tax laws, including regulations regarding tax-basis depreciation as it applies to our capital expenditures, or qualifying utility asset improvements, the expiration of a statute of limitations, or other unforeseen matters could impact the tax benefits that have already been recognized. We establish reserves for uncertain tax positions based upon management's judgment as to the sustainability of these positions. These accounting estimates related to the uncertain tax position reserve require judgments to be made as to the sustainability of each uncertain tax position based on its technical merits. We believe our tax positions comply with applicable law and that we have adequately recorded reserves as required. However, to the extent the final tax outcome of these matters is different than our estimates recorded, we would then need to adjust our tax reserves which could result in additional income tax expense or benefits in the period that this information is known.

IMPACT OF RECENT ACCOUNTING PRONOUNCEMENTS

We describe the impact of recent accounting pronouncements in Note 1 – *Summary of Significant Accounting Policies* in this Annual Report.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We are subject to market risks in the normal course of business, including changes in interest rates and equity prices. The exposure to changes in interest rates is a result of financings through the issuance of fixed rate long-term debt. Such exposure is typically related to financings between utility rate increases, since generally our rate increases include a revenue level to allow recovery of our current cost of capital. Interest rate risk is managed through the use of a combination of long-term debt, which is at fixed interest rates; short-term debt, which is at floating interest rates; and interest rate swap agreements. As of December 31, 2019, the debt maturities by period, in thousands of dollars, and the weighted average interest rate for long-term debt are as follows:

	2020	2021	2022	2023	2024	Thereafter	Total	Fair Value
Long-term debt:								
Fixed rate	\$ 105,051	\$ 58,252	\$ 29,980	\$ 17,072	\$ 15,968	\$ 2,851,077	\$ 3,077,400	\$ 3,324,377
Variable rate	-	-	-	-	-	-	-	-
Total	\$ 105,051	\$ 58,252	\$ 29,980	\$ 17,072	\$ 15,968	\$ 2,851,077	\$ 3,077,400	\$ 3,324,377
Weighted average interest rate	3.56%	3.97%	3.12%	4.88%	5.05%	4.11%		

From time to time, we make investments in marketable equity securities. As a result, we are exposed to the risk of changes in equity prices for the marketable equity securities. As of December 31, 2019, we have assets of, in thousands of dollars, \$23,419 to fund our deferred compensation and non-qualified pension plan liabilities. The market risk of the deferred compensation plan assets are borne by the participants in the deferred compensation plan.

In October 2018, the Company entered into interest rate swap agreements to mitigate interest rate risk associated with our debt issuances to fund a portion of the Peoples Gas Acquisition. The interest rate swaps were settled in April 2019 upon issuance of the debt used to finance a portion of the purchase price of this acquisition. The interest rate swap agreements did not qualify for hedge accounting and any changes in the fair value of the swaps was included in our earnings. The interest rate swap agreements were classified as financial derivatives used for non-trading activities. As of December 31, 2019, the Company had no derivative instruments.

Item 8. *Financial Statements and Supplementary Data***Index to Consolidated Financial Statements**

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Essential Utilities, Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets, including the consolidated statements of capitalization, of Essential Utilities, Inc. and its subsidiaries (the “Company”) as of December 31, 2019 and 2018, and the related consolidated statements of net income, comprehensive income, equity, and cash flows for each of the three years in the period ended December 31, 2019, including the related notes and schedule of condensed parent company financial statements as of December 31, 2019 and 2018 and for each of the three years in the period ended December 31, 2019 appearing after the signature pages (collectively referred to as the “consolidated financial statements”). We also have audited the Company’s internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company’s management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management’s Report on Internal Control Over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company’s consolidated financial statements and on the Company’s internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies

and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Rate Regulation and Regulatory Accounting

As described in Notes 1 and 6 to the consolidated financial statements, most of the operating companies of the Company that are regulated public utilities are subject to regulation by the utility commissions of the states in which they operate. Some of the operating companies that are regulated public utilities are subject to rate regulation by county or city government. As of December 31, 2019, regulatory assets were \$878 million and regulatory liabilities were \$518 million. Regulated public utilities follow the Financial Accounting Standards Board's (FASB) accounting guidance for regulated operations, which provides for the recognition of regulatory assets and liabilities as allowed by regulators for costs or credits that are reflected in current rates or are considered probable of being included in future rates. The regulatory assets represent costs that are probable to be fully recovered from customers in future rates while regulatory liabilities represent amounts that are expected to be refunded to customers in future rates or amounts recovered from customers in advance of incurring the costs. The regulatory assets or liabilities are then relieved as the cost or credit is reflected in the Company's rates charged for utility service. If, as a result of a change in circumstances, it is determined that the regulated operating companies no longer meets the criteria to apply regulatory accounting, the operating company would have to discontinue regulatory accounting and write-off the respective regulatory assets and liabilities. Management makes significant judgments and estimates to record regulatory assets and liabilities. For each regulatory jurisdiction with regulated operations, management evaluates at the end of each reporting period, whether the regulatory assets and liabilities continue to meet the probable criteria for future recovery or refund. The evaluation considers factors such as regulatory orders or guidelines, in the same regulatory jurisdiction, of a specific matter or a similar matter, as provided to the Company in the past or to other regulated utilities. In addition, the evaluation may be impacted by changes in the regulatory environment and pending or new legislation that could impact the ability to recover costs through regulated rates. There may be multiple participants to rate or transactional regulatory proceedings who might offer different views on various aspects of such proceedings, and in these instances may challenge our prudence of business policies and practices, seek cost disallowances or request other relief.

The principal considerations for our determination that performing procedures relating to the Company's rate regulation and regulatory accounting is a critical audit matter are there was significant judgment by management in assessing the potential outcomes and related accounting impacts associated with pending rate cases which in turn led to a high degree of auditor judgment, subjectivity and effort in performing procedures and evaluating audit evidence obtained related to the recovery of regulatory assets and the refund of regulatory liabilities.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls

relating to management's evaluation of regulatory matters impacting regulatory assets and liabilities. These procedures also included, among others (i) obtaining the Company's correspondence with regulators and assessing the reasonableness of management's judgments regarding the probability of recovery of regulatory assets and refund of regulatory liabilities in light of correspondence with regulators, among other factors, (ii) assessing the reasonableness of management's judgments regarding new and updated regulatory guidance and proceedings and the related accounting implications, and (iii) testing the calculation of regulatory assets and liabilities based on provisions and formulas outlined in regulatory orders and other correspondence.

/s/ PricewaterhouseCoopers LLP
Philadelphia, Pennsylvania
February 28, 2020

We have served as the Company's auditor since 2000.

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(In thousands of dollars, except per share amounts)

	December 31,	
	2019	2018
Assets		
Property, plant and equipment, at cost	\$ 8,201,936	\$ 7,648,469
Less: accumulated depreciation	1,856,146	1,718,143
Net property, plant and equipment	6,345,790	5,930,326
Current assets:		
Cash and cash equivalents	1,868,922	3,627
Accounts receivable, net	67,137	65,825
Unbilled revenues	40,483	35,400
Inventory, materials and supplies	18,379	15,844
Prepayments and other current assets	16,259	23,337
Assets held for sale	1,558	3,139
Total current assets	2,012,738	147,172
Regulatory assets	878,132	788,076
Deferred charges and other assets, net	42,652	39,237
Investment in joint venture	5,984	6,959
Goodwill	63,822	52,726
Operating lease right-of-use assets	12,867	-
Total assets	\$ 9,361,985	\$ 6,964,496
Liabilities and Equity		
Essential Utilities stockholders' equity:		
Common stock at \$0.50 par value, authorized 300,000,000 shares, issued 223,871,284 and 181,151,827 as of December 31, 2019 and December 31, 2018	\$ 111,935	\$ 90,576
Capital in excess of par value	2,636,555	820,378
Retained earnings	1,210,072	1,174,245
Treasury stock, at cost, 3,112,565 and 3,060,206 shares as of December 31, 2019 and December 31, 2018	(77,702)	(75,835)
Total stockholders' equity	3,880,860	2,009,364
Long-term debt, excluding current portion	2,972,349	2,419,115
Less: debt issuance costs	29,022	20,651
Long-term debt, excluding current portion, net of debt issuance costs	2,943,327	2,398,464
Commitments and contingencies (See Note 9)		
Current liabilities:		
Current portion of long-term debt	105,051	144,545
Loans payable	25,724	15,449
Accounts payable	74,919	77,331
Book overdraft	10,944	8,950
Accrued interest	29,818	23,300
Accrued taxes	22,775	22,234
Interest rate swap agreements	-	59,779
Other accrued liabilities	49,618	47,389
Total current liabilities	318,849	398,977
Deferred credits and other liabilities:		
Deferred income taxes and investment tax credits	936,158	845,403
Customers' advances for construction	95,556	93,343
Regulatory liabilities	517,599	531,027
Operating lease liabilities	11,645	-
Other	102,465	97,182
Total deferred credits and other liabilities	1,663,423	1,566,955
Contributions in aid of construction	555,526	590,736
Total liabilities and equity	\$ 9,361,985	\$ 6,964,496

See accompanying notes to consolidated financial statements.

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF NET INCOME
(In thousands, except per share amounts)

	Years ended December 31,		
	2019	2018	2017
Operating revenues	\$ 889,692	\$ 838,091	\$ 809,525
Operating expenses:			
Operations and maintenance	333,102	308,478	282,253
Depreciation	158,179	146,032	136,302
Amortization	(1,703)	641	422
Taxes other than income taxes	59,955	59,762	56,628
Total operating expenses	549,533	514,913	475,605
Operating income	340,159	323,178	333,920
Other expense (income):			
Interest expense	125,383	99,054	88,543
Interest income	(25,406)	(152)	(202)
Allowance for funds used during construction	(16,172)	(13,023)	(15,211)
Change in fair value of interest rate swap agreements	23,742	59,779	-
Loss on debt extinguishment	18,528	-	-
Gain on sale of other assets	(923)	(714)	(484)
Equity earnings in joint venture	(2,210)	(2,081)	(331)
Other	5,691	1,996	4,953
Income before income taxes	211,526	178,319	256,652
Provision for income taxes (benefit)	(13,017)	(13,669)	16,914
Net income	\$ 224,543	\$ 191,988	\$ 239,738
Net income per common share:			
Basic	\$ 1.04	\$ 1.08	\$ 1.35
Diluted	\$ 1.04	\$ 1.08	\$ 1.35
Average common shares outstanding during the period:			
Basic	215,550	177,904	177,612
Diluted	215,931	178,399	178,175

See accompanying notes to consolidated financial statements.

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(In thousands of dollars)

	Years ended December 31,		
	2019	2018	2017
Net income	\$ 224,543	\$ 191,988	\$ 239,738
Other comprehensive income, net of tax:			
Unrealized holding gain on investments, net of tax expense of \$102	-	-	191
Comprehensive income	<u>\$ 224,543</u>	<u>\$ 191,988</u>	<u>\$ 239,929</u>

See accompanying notes to consolidated financial statements.

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CAPITALIZATION
(In thousands of dollars, except per share amounts)

	December 31,	
	2019	2018
Essential Utilities stockholders' equity:		
Common stock, \$0.50 par value	\$ 111,935	\$ 90,576
Capital in excess of par value	2,636,555	820,378
Retained earnings	1,210,072	1,174,245
Treasury stock, at cost	(77,702)	(75,835)
Accumulated other comprehensive income	-	-
Total stockholders' equity	3,880,860	2,009,364
Long-term debt of subsidiaries (substantially collateralized by utility plant):		
<u>Interest Rate Range</u>	<u>Maturity Date Range</u>	
0.00% to 0.99%	2020 to 2033	3,474
1.00% to 1.99%	2020 to 2039	10,733
2.00% to 2.99%	2024 to 2033	15,674
3.00% to 3.99%	2020 to 2056	655,685
4.00% to 4.99%	2020 to 2059	1,054,791
5.00% to 5.99%	2028 to 2043	60,683
6.00% to 6.99%	2026 to 2036	31,000
7.00% to 7.99%	2022 to 2027	30,751
8.00% to 8.99%	2021 to 2025	5,026
9.00% to 9.99%	2020 to 2026	19,300
		1,887,117
Notes payable to bank under revolving credit agreement, variable rate, due 2023	-	370,000
Unsecured notes payable:		
Bank note at 2.48% due 2019	-	50,000
Bank note at 3.50% due 2020	50,000	50,000
Amortizing notes at 3.00% due 2022	99,356	-
Notes ranging from 3.01% to 3.59%, due 2029 through 2041	490,000	245,000
Notes at 4.28%, due 2049	500,000	112,000
Notes ranging from 5.64% to 5.95%, due 2020 through 2034	50,927	132,427
Total long-term debt	3,077,400	2,563,660
Current portion of long-term debt	105,051	144,545
Long-term debt, excluding current portion	2,972,349	2,419,115
Less: debt issuance costs	29,022	20,651
Long-term debt, excluding current portion, net of debt issuance costs	2,943,327	2,398,464
Total capitalization	\$ 6,824,187	\$ 4,407,828

See accompanying notes to consolidated financial statements.

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF EQUITY
(In thousands of dollars, except per share amounts)

	Common stock	Capital in excess of par value	Retained earnings	Treasury stock	Accumulated Other Comprehensive Income	Total
Balance at December 31, 2016	\$ 90,155	\$ 797,513	\$ 1,032,844	\$ (71,113)	\$ 669	\$ 1,850,068
Net income	-	-	239,738	-	-	239,738
Other comprehensive income, net of income tax of \$102	-	-	-	-	191	191
Dividends declared (\$0.7920 per share)	-	-	(140,660)	-	-	(140,660)
Issuance of common stock under dividend reinvestment plan (45,121 shares)	23	1,430	-	-	-	1,453
Repurchase of stock (69,339 shares)	-	-	-	(2,167)	-	(2,167)
Equity compensation plan (169,258 shares)	85	(85)	-	-	-	-
Exercise of stock options (174,527 shares)	87	2,786	-	-	-	2,873
Stock-based compensation	-	6,342	(348)	-	-	5,994
Cumulative effect of change in accounting principle - windfall tax benefit	-	-	982	-	-	982
Other	-	(851)	-	-	-	(851)
Balance at December 31, 2017	90,350	807,135	1,132,556	(73,280)	860	1,957,621
Net income	-	-	191,988	-	-	191,988
Dividends declared (\$0.8474 per share)	-	-	(150,736)	-	-	(150,736)
Issuance of common stock under dividend reinvestment plan (158,205 shares)	79	5,084	-	-	-	5,163
Repurchase of stock (73,898 shares)	-	-	-	(2,555)	-	(2,555)
Equity compensation plan (201,563 shares)	101	(101)	-	-	-	-
Exercise of stock options (91,808 shares)	46	1,413	-	-	-	1,459
Stock-based compensation	-	7,567	(423)	-	-	7,144
Cumulative effect of change in accounting principle - financial instruments	-	-	860	-	(860)	-
Other	-	(720)	-	-	-	(720)
Balance at December 31, 2018	90,576	820,378	1,174,245	(75,835)	-	2,009,364
Net income	-	-	224,543	-	-	224,543
Dividends declared (\$0.9066 per share)	-	-	(188,512)	-	-	(188,512)
Stock issued to finance acquisition (37,370,017 shares)	18,685	1,244,414	-	-	-	1,263,099
Proceeds from stock purchase contracts issued under tangible equity units	-	557,389	-	-	-	557,389
Issuance of common stock from stock purchase contracts (4,846,601 shares)	2,423	(2,423)	-	-	-	-
Issuance of common stock under dividend reinvestment plan (236,666 shares)	118	8,841	-	-	-	8,959
Repurchase of stock (52,359 shares)	-	-	-	(1,867)	-	(1,867)
Equity compensation plan (146,867 shares)	73	(73)	-	-	-	-
Exercise of stock options (119,306 shares)	60	1,838	-	-	-	1,898
Stock-based compensation	-	7,368	(204)	-	-	7,164
Other	-	(1,177)	-	-	-	(1,177)
Balance at December 31, 2019	\$ 111,935	\$ 2,636,555	\$ 1,210,072	\$ (77,702)	\$ -	\$ 3,880,860

See accompanying notes to consolidated financial statements.

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES

Notes to Consolidated Financial Statements (continued)

(In thousands of dollars, except per share amounts)

	Years ended December 31,		
	2019	2018	2017
Cash flows from operating activities:			
Net income	\$ 224,543	\$ 191,988	\$ 239,738
Adjustments to reconcile net income to net cash flows from operating activities:			
Depreciation and amortization	156,476	146,673	136,724
Deferred income taxes	(10,436)	(14,950)	13,780
Provision for doubtful accounts	5,306	5,305	4,986
Stock-based compensation	7,368	7,567	6,342
(Gain) loss on sale of utility system and market-based business unit	(405)	-	774
Loss on interest rate swap agreements	23,742	59,779	-
Loss on debt extinguishment	18,528	-	-
Settlement of interest rate swap agreements	(83,520)	-	-
Gain on sale of other assets	(923)	(714)	(484)
Net change in receivables, inventory and prepayments	(4,335)	(18,024)	(6,458)
Net change in payables, accrued interest, accrued taxes and other accrued liabilities	5,108	567	(763)
Pension and other postretirement benefits contributions	(8,597)	(14,216)	(16,240)
Other	5,668	4,547	2,919
Net cash flows from operating activities	338,523	368,522	381,318
Cash flows from investing activities:			
Property, plant and equipment additions, including the debt component of allowance for funds used during construction of \$4,231, \$3,332, and \$3,578	(550,273)	(495,737)	(478,089)
Acquisitions of utility systems and other, net	(59,687)	(145,693)	(5,860)
Net proceeds from the sale of utility systems and other assets	2,893	716	1,342
Other	2,464	899	2,223
Net cash flows used in investing activities	(604,603)	(639,815)	(480,384)
Cash flows from financing activities:			
Customers' advances and contributions in aid of construction	9,092	7,458	7,312
Repayments of customers' advances	(6,825)	(6,217)	(6,536)
Net proceeds (repayments) of short-term debt	10,275	11,799	(2,885)
Proceeds from long-term debt	1,434,506	1,331,868	591,024
Repayments of long-term debt	(1,048,471)	(914,125)	(359,068)
Extinguishment of long-term debt	(25,237)	-	-
Change in cash overdraft position	1,993	(12,678)	9,012
Proceeds from issuance of common stock under dividend reinvestment plan	8,959	5,163	1,453
Proceeds from stock issued to finance acquisition	1,263,099	-	-
Proceeds from tangible equity unit issuance	673,642	-	-
Proceeds from exercised stock options	1,898	1,459	2,873
Repurchase of common stock	(1,867)	(2,555)	(2,167)
Dividends paid on common stock	(188,512)	(150,736)	(140,660)
Other	(1,177)	(720)	(851)
Net cash flows from financing activities	2,131,375	270,716	99,507
Net increase (decrease) in cash and cash equivalents	1,865,295	(577)	441
Cash and cash equivalents at beginning of year	3,627	4,204	3,763
Cash and cash equivalents at end of year	\$ 1,868,922	\$ 3,627	\$ 4,204
Cash paid during the year for:			
Interest, net of amounts capitalized	\$ 89,228	\$ 93,630	\$ 81,771
Income taxes	970	2,103	3,177
Non-cash investing activities:			
Property, plant and equipment additions purchased at the period end, but not yet paid	\$ 60,628	\$ 65,285	\$ 45,385
Non-cash utility property contributions	30,693	24,660	39,220

See accompanying notes to consolidated financial statements.

Refer to Note 2 – *Acquisitions*, Note 11 – *Long-term Debt and Loans Payable*, and Note 15 – *Employee Stock and Incentive Plan* for a description of non-cash activities.

Note 1 – Summary of Significant Accounting Policies

Nature of Operations — Essential Utilities, Inc. (“Essential Utilities,” the “Company,” “we,” “our”, or “us”) is the holding company for regulated utilities providing water or wastewater services concentrated in Pennsylvania, Ohio, Texas, Illinois, North Carolina, New Jersey, Indiana, and Virginia. On February 3, 2020, we changed our name from Aqua America, Inc. to Essential Utilities, Inc. to align the name of the Company with the anticipated business plan of the Company following the pending Peoples Gas Acquisition and to reflect the proposed combination of regulated water utilities and natural gas utilities that offer essential utility services to customers. After completion of the acquisition, the water and wastewater utility services will be provided through Essential Utilities’ Aqua companies and the natural gas utility services will be provided through its Peoples natural gas companies. Essential Utilities plans to complete the Peoples Gas Acquisition on March 16, 2020. Our largest operating subsidiary is Aqua Pennsylvania, Inc., which accounted for approximately 54% of our operating revenues and approximately 72% of our Regulated water segment’s income for 2019. As of December 31, 2019, Aqua Pennsylvania provided water or wastewater services to approximately one-half of the total number of people we serve. Aqua Pennsylvania’s service territory is located in the suburban areas north and west of the City of Philadelphia and in 27 other counties in Pennsylvania. The Company’s other regulated utility subsidiaries provide similar services in seven additional states. In addition, the Company’s market-based activities are conducted through Aqua Infrastructure LLC and Aqua Resources, Inc. Aqua Infrastructure provides non-utility raw water supply services for firms in the natural gas drilling industry. Aqua Resources manages a water system operating and maintenance contract; and offers, through a third-party, water and sewer line protection solutions and repair services to households. In 2017, we completed the sale of business units that were reported within the Company’s market-based subsidiary, Aqua Resources, one which installed and tested devices that prevent the contamination of potable water and another that constructed, maintained, and repaired water and wastewater systems.

The Company has identified ten operating segments and has one reportable segment named the Regulated water segment. The reportable segment is comprised of eight operating segments for our water and wastewater regulated utility companies which are organized by the states where we provide these services. These operating segments are aggregated into one reportable segment since each of the Company’s operating segments has the following similarities: economic characteristics, nature of services, production processes, customers, water distribution or wastewater collection methods, and the nature of the regulatory environment. In addition, Aqua Resources and Aqua Infrastructure are not quantitatively significant to be reportable and are included as a component of “Other,” in addition to corporate costs that have not been allocated to the Regulated water segment, because they would not be recoverable as a cost of utility service, and intersegment eliminations.

Regulation — Most of the operating companies that are regulated public utilities are subject to regulation by the utility commissions of the states in which they operate. The respective utility commissions have jurisdiction with respect to rates, service, accounting procedures, issuance of securities, acquisitions and other matters. Some of the operating companies that are regulated public utilities are subject to rate regulation by county or city government. Regulated public utilities follow the Financial Accounting Standards Board’s (“FASB”) accounting guidance for regulated operations, which provides for the recognition of regulatory assets and liabilities as allowed by regulators for costs or credits that are reflected in current rates or are considered probable of being included in future rates. Costs, for which the Company has received or expects to receive prospective rate recovery, are deferred as a regulatory asset and amortized over the period of rate recovery in accordance with the FASB’s accounting guidance for regulated operations. The regulatory assets or liabilities are then relieved as the cost or credit is reflected in Company’s rates charged for utility service. If, as a result of a change in circumstances, it is determined that the regulated operating companies no longer meets the criteria to apply regulatory accounting, the operating company would have to discontinue regulatory accounting and write-off the respective regulatory assets and liabilities. See Note – 6 *Regulatory Assets and Liabilities* for further information regarding the Company’s regulatory assets.

The Company makes significant judgments and estimates to record regulatory assets and liabilities. For each regulatory jurisdiction with regulated operations, the Company evaluates at the end of each reporting period, whether the regulatory assets and liabilities continue to meet the probable criteria for future recovery or refund. The evaluation considers factors

such as regulatory orders or guidelines, in the same regulatory jurisdiction, of a specific matter or a similar matter, as provided to the Company in the past or to other regulated utilities. In addition, the evaluation may be impacted by changes in the regulatory environment and pending or new legislation that could impact the ability to recover costs through regulated rates. There may be multiple participants to rate or transactional regulatory proceedings who might offer different views on various aspects of such proceedings, and in these instances may challenge the prudence of our business policies and practices, seek cost disallowances or request other relief.

Use of Estimates in Preparation of Consolidated Financial Statements — The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Basis of Presentation — The consolidated financial statements include the accounts of the Company and its subsidiaries. All intercompany accounts and transactions have been eliminated. The following prior period amounts have been reclassified to conform to the current period presentation:

- ☐ In the consolidated balance sheet – the presentation of accounts receivable, net, and unbilled revenues, and
- ☐ In the consolidated statements of net income – the presentation of interest expense and interest income.

Property, Plant and Equipment and Depreciation — Property, plant and equipment consist primarily of utility plant. The cost of additions includes contracted cost, direct labor and fringe benefits, materials, overheads, and for additions meeting certain criteria, allowance for funds used during construction. Water and wastewater systems acquired are typically recorded at estimated original cost of utility plant when first devoted to utility service and the applicable depreciation is recorded to accumulated depreciation. Further, water and wastewater systems acquired under fair value regulations would be recorded based on the valuation of the utility plant as approved by the respective utility commission. The difference between the estimated original cost, less applicable accumulated depreciation, and the purchase price may be recorded as an acquisition adjustment within utility plant as permitted by the applicable regulatory jurisdiction. At December 31, 2019, utility plant includes a net credit acquisition adjustment of \$15,248, which is generally being amortized from 2 to 59 years. Amortization of the acquisition adjustments totaled \$6,076 in 2019, \$2,645 in 2018, and \$2,774 in 2017.

Utility expenditures for maintenance and repairs, including major maintenance projects and minor renewals, are charged to operating expenses when incurred in accordance with the system of accounts prescribed by the utility commissions of the states in which the company operates. The cost of new units of property and betterments are capitalized. Utility expenditures for water main cleaning and relining of pipes are deferred and are presented in net property, plant and equipment in accordance with the FASB's accounting guidance for regulated operations. As of December 31, 2019, \$1,360 of these costs have been incurred since the last respective rate proceeding and the Company expects to recover these costs in future rates.

The cost of software upgrades and enhancements are capitalized if they result in added functionality, which enables the software to perform tasks it was previously incapable of performing. Information technology costs associated with major system installations, conversions and improvements, such as software training, data conversion and business process reengineering costs, are deferred as a regulatory asset if the Company expects to recover these costs in future rates. If these costs are not deferred, then these costs are charged to operating expenses when incurred. As of December 31, 2019, \$16,680 of these costs have been deferred since the last respective rate proceeding as a regulatory asset, and the deferral is reported as a component of net property, plant and equipment.

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES

Notes to Consolidated Financial Statements (continued)

(In thousands of dollars, except per share amounts)

When units of utility property are replaced, retired or abandoned, the recorded value thereof is credited to the asset account and such value, together with the net cost of removal, is charged to accumulated depreciation. To the extent the Company anticipates recovery of the cost of removal or other retirement costs through rates after the retirement costs are incurred, a regulatory asset is recorded as those costs are incurred. In some cases, the Company recovers retirement costs through rates during the life of the associated asset and before the costs are incurred. These amounts, which are not yet utilized, result in a regulatory liability being reported based on the amounts previously recovered through customer rates.

The straight-line remaining life method is used to compute depreciation on utility plant. Generally, the straight-line method is used with respect to transportation and mechanical equipment, office equipment and laboratory equipment.

Long-lived assets of the Company, which consist primarily of utility plant in service, regulatory assets, and investment in joint venture, are reviewed for impairment when changes in circumstances or events occur. These circumstances or events could include a disallowance of utility plant in service or regulatory assets by the respective utility commission, a decline in the market value or physical condition of a long-lived asset, an adverse change in the manner in which long-lived assets are used or planned to be used, a change in historical trends, operating cash flows associated with the long-lived assets, changes in macroeconomic conditions, industry and market conditions, or overall financial performance. When these circumstances or events occur, the Company determines whether it is more likely than not that the fair value of those assets is less than their carrying amount. If the Company determines that it is more likely than not (that is, the likelihood of more than 50 percent), the Company would recognize an impairment charge if it is determined that the carrying amount of an asset exceeds the sum of the undiscounted estimated cash flows. In this circumstance, the Company would recognize an impairment charge equal to the difference between the carrying amount and the fair value of the asset. Fair value is estimated to be the present value of future net cash flows associated with the asset, discounted using a discount rate commensurate with the risk and remaining life of the asset. During the period there has been no change in circumstances or events that have occurred that require adjustments to the carrying values of the Company's long-lived assets.

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES

Notes to Consolidated Financial Statements (continued)

(In thousands of dollars, except per share amounts)

Allowance for Funds Used During Construction — The allowance for funds used during construction (“AFUDC”) represents the capitalized cost of funds used to finance the construction of utility plant. In general, AFUDC is applied to construction projects requiring more than one month to complete. No AFUDC is applied to projects funded by customer advances for construction, contributions in aid of construction, or applicable state-revolving fund loans. AFUDC includes the net cost of borrowed funds and a rate of return on other funds when used and is recovered through water rates as the utility plant is depreciated. The amount of AFUDC related to equity funds in 2019 was \$11,941, 2018 was \$9,691, and 2017 was \$11,633. No interest was capitalized by our market-based businesses.

Recognition of Revenues — The Company recognizes revenue as water and wastewater services are provided to our customers, which happens over time as the services are delivered and the performance obligation is satisfied. The Company’s utility revenues recognized in an accounting period includes amounts billed to customers on a cycle basis and unbilled amounts based on estimated usage from the last billing to the end of the accounting period. Unbilled amounts are calculated by deriving estimates based on average usage of the prior month. The Company’s actual results could differ from these estimates, which would result in operating revenues being adjusted in the period that the revision to our estimates are determined.

Generally, payment is due within 30 days once a bill is issued to a customer. Sales tax and other taxes we collect on behalf of government authorities, concurrent with our revenue-producing activities, are primarily excluded from revenue. The following table presents our revenues disaggregated by major source and customer class:

	Years ended December 31,					
	2019			2018		
	Water Revenues	Wastewater Revenues	Other Revenues	Water Revenues	Wastewater Revenues	Other Revenues
Revenues from contracts with customers:						
Residential	\$ 518,192	\$ 83,561	\$ -	\$ 482,946	\$ 73,418	\$ -
Commercial	145,599	15,222	-	133,753	13,147	-
Fire protection	33,589	-	-	32,236	-	-
Industrial	30,667	1,765	-	28,848	1,857	-
Other water	39,353	-	-	53,658	-	-
Other wastewater	-	4,656	-	-	5,748	-
Other utility	-	-	13,835	-	-	9,427
Revenues from contracts with customers	767,400	105,204	13,835	731,441	94,170	9,427
Alternative revenue program	80	(89)	-	(708)	308	-
Other and eliminations	-	-	3,262	-	-	3,453
Consolidated	\$ 767,480	\$ 105,115	\$ 17,097	\$ 730,733	\$ 94,478	\$ 12,880

Revenues from Contracts with Customers – These revenues are composed of three main categories: water, wastewater, and other. Water revenues represent revenues earned for supplying customers with water service. Wastewater revenues represent revenues earned for treating wastewater and releasing it into the water supply. Other revenues are associated fees that relate to the regulated business but are not water and wastewater revenues. See description below for a discussion on the performance obligation for each of these revenue streams:

- **Tariff Revenues** – These revenues are categorized by customer class: residential, commercial, fire protection, industrial, other water, and other wastewater. The rates that generate these revenues are approved by the respective state utility commissions, and revenues are billed cyclically and accrued for when unbilled. Other water and other wastewater revenues consists primarily of fines, penalties, surcharges, and availability lot fees. Our performance obligation for tariff revenues is to provide potable water or wastewater treatment service to customers. This performance obligation is satisfied over time as the services are rendered. The amounts that the Company has a right to invoice for tariff revenues reflect the right to consideration from the customers in an amount that corresponds directly with the value transferred to the customer for the performance completed to date.

- Other Utility Revenues – Other utility revenues represents revenues earned primarily from: antenna revenues, which represents fees received from telecommunication operators that have put cellular antennas on our water towers, operation and maintenance and billing contracts, which represents fees earned from municipalities for our operation of their water or wastewater treatment services or performing billing services, and fees earned from developers for accessing our water mains. The performance obligations vary for these revenues, but all are primarily recognized over time as the service is delivered.
- Alternative Revenue Program – These revenues represent the difference between the actual billed utility water and wastewater revenues for Aqua Illinois and the revenues set in the last Aqua Illinois rate case. We recognize revenues based on the target amount established in the last rate case, and then record either a regulatory asset or liability based on the cumulative annual difference between the target and actual, which results in either a refund due to customers or a payment from customers. The cumulative annual difference is either refunded to customers or collected from customers over a nine-month period. This revenue program represents a contract between the utility and its regulators, not customers, and therefore is not within the scope of the FASB's accounting guidance for recognizing revenue from contracts with customers.
- Other and Eliminations – Other and eliminations consists of our market-based revenues, which comprises: Aqua Infrastructure and Aqua Resources (described below), and intercompany eliminations for revenue billed between our subsidiaries. Aqua Infrastructure is the holding company for our 49% investment in a joint venture that operates a private pipeline system to supply raw water to natural gas well drilling operations in the Marcellus Shale of north central Pennsylvania. The joint venture earns revenues through providing non-utility raw water supply services to natural gas drilling companies which enter into water supply contracts. The performance obligation is to deliver non-potable water to the joint venture's customers. Aqua Infrastructure's share of the revenues recognized by the joint venture is reflected, net, in equity earnings in joint venture on our consolidated statements of net income. Aqua Resources earns revenues by providing non-regulated water and wastewater services through an operating and maintenance contract, and third-party water and sewer service line repair. The performance obligations are performing agreed upon services in the contract, most commonly operation of third-party water or wastewater treatment services, or billing services, or allowing the use of our logo to a third-party water and sewer service line repair. Revenues are primarily recognized over time as service is delivered. The Company's market-based subsidiaries recognized revenues of \$3,395 in 2019, \$3,590 in 2018, and \$4,798 in 2017.

Cash and Cash Equivalents — The Company considers all highly liquid investments with an original maturity of three months or less, which are not restricted for construction activity, to be cash equivalents.

The Company had a book overdraft, which represents transactions that have not cleared the bank accounts at the end of the period, for specific disbursement cash accounts of \$10,944 and \$8,950 at December 31, 2019 and 2018, respectively. The Company transfers cash on an as-needed basis to fund these items as they clear the bank in subsequent periods. The balance of the book overdraft is reported as book overdraft and the change in the book overdraft balance is reported as cash flows from financing activities, due to our ability to fund the overdraft with the Company's credit facility.

Accounts Receivable — Accounts receivable are recorded at the invoiced amounts, which consists of billed and unbilled revenues. The allowance for doubtful accounts is the Company's best estimate of the amount of probable credit losses in our existing accounts receivable and is determined based on historical write-off experience and the aging of account balances. The Company reviews the allowance for doubtful accounts quarterly. Account balances are written off against the allowance when it is probable the receivable will not be recovered. When utility customers request extended payment terms, credit is extended based on regulatory guidelines, and collateral is not required.

Inventories, Materials and Supplies — Inventories are stated at cost. Cost is determined using the first-in, first-out method.

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES

Notes to Consolidated Financial Statements (continued)

(In thousands of dollars, except per share amounts)

Investment in Joint Venture – The Company uses the equity method of accounting to account for our 49% investment in a joint venture with a firm in the natural gas industry for the construction and operation of a private pipeline system to supply raw water to natural gas well drilling operations in the Marcellus Shale in north-central Pennsylvania, which commenced operations in 2012. Our initial investment is carried at cost. Subsequently, the carrying amount of our investment is adjusted to reflect capital contributions or distributions, and our equity in earnings or losses since the commencement of the system’s operations, as well as a decline in the fair value of our investment. Our share of equity earnings in the joint venture is reported in the consolidated statements of net income as equity earnings in joint venture. During 2019 and 2018 we received distributions of \$3,185 and \$1,793, respectively. For our equity method investment in joint venture, the Company evaluates whether it has experienced a decline in the value of its investment that is other than temporary in nature. We would recognize an impairment loss if the fair value of our investment is less than the carrying amount of the investment, and the decline in value is considered other than temporary. Additionally, the Company would recognize its share of an impairment loss if the joint venture determines that the carrying amount of the joint venture’s assets exceeds the sum of the joint venture’s undiscounted estimated cash flows.

Goodwill — Goodwill represents the excess cost over the fair value of net tangible and identifiable intangible assets acquired through acquisitions. Goodwill is not amortized but is tested for impairment annually, or more often, if circumstances indicate a possible impairment may exist. When testing goodwill for impairment, we may assess qualitative factors, including macroeconomic conditions, industry and market considerations, cost factors, overall financial performance, and entity specific events, for some or all of our reporting units to determine whether it’s more likely than not that the fair value of a reporting unit is less than its carrying amount. Alternatively, based on our assessment of the qualitative factors previously noted, we may perform a quantitative goodwill impairment test by determining the fair value of a reporting unit based on a discounted cash flow analysis. If we perform a quantitative test and determine that the fair value of a reporting unit is less than its carrying amount, we would record an impairment loss for the amount by which a reporting unit’s carrying amount exceeds its fair value, not to exceed the carrying amount of goodwill. The Company performed a qualitative assessment for its annual test of the goodwill attributable for each of our reporting units for impairment as of July 31, 2019, and concluded that it is more likely than not that the fair value of each reporting unit, which has goodwill recorded, exceeded its carrying amount, indicating that none of the Company’s goodwill was impaired. The following table summarizes the changes in the Company’s goodwill:

	Regulated Water	Other	Consolidated
Balance at December 31, 2017	\$ 37,389	\$ 4,841	\$ 42,230
Goodwill acquired	10,790	-	10,790
Reclassifications to utility plant acquisition adjustment	(139)	-	(139)
Other	(155)	-	(155)
Balance at December 31, 2018	47,885	4,841	52,726
Goodwill acquired	11,126	-	11,126
Reclassifications to utility plant acquisition adjustment	(30)	-	(30)
Balance at December 31, 2019	<u>\$ 58,981</u>	<u>\$ 4,841</u>	<u>\$ 63,822</u>

The reclassification of goodwill to utility plant acquisition adjustment results from a mechanism approved by the applicable utility commission. The mechanism provides for the transfer over time, and the recovery through customer rates, of goodwill associated with some acquisitions upon achieving specific objectives.

Deferred Charges and Other Assets — Deferred charges and other assets consist primarily of assets held to compensate employees in the future who participate in the Company’s deferred compensation plan and other costs.

Marketable equity securities are carried on the balance sheet at fair market value, and changes in fair value are included in other expense (income).

Income Taxes — The Company accounts for some income and expense items in different time periods for financial and tax reporting purposes. Deferred income taxes are provided on specific temporary differences between the tax basis of the assets and liabilities, and the amounts at which they are carried in the consolidated financial statements. The income tax effect of temporary differences not currently recovered in rates is recorded as deferred taxes with an offsetting regulatory asset or liability. These deferred income taxes are based on the enacted tax rates expected to be in effect when such temporary differences are projected to reverse. Valuation allowances are established when necessary to reduce deferred tax assets to the amount more likely than not to be realized. Investment tax credits are deferred and amortized over the estimated useful lives of the related properties. Judgment is required in evaluating the Company's Federal and state tax positions. Despite management's belief that the Company's tax return positions are fully supportable, the Company establishes reserves when it believes that its tax positions are likely to be challenged and it may not fully prevail in these challenges. The Company's provision for income taxes includes interest, penalties and reserves for uncertain tax positions.

In 2012, the Company changed its tax method of accounting for qualifying utility asset improvement costs in Aqua Pennsylvania effective with the tax year ended December 31, 2012 and for prior tax years. The tax accounting method was changed to permit the expensing of qualifying utility asset improvement costs that were previously being capitalized and depreciated for book and tax purposes. This change was implemented in response to a June 2012 rate order issued by the Pennsylvania Public Utility Commission to Aqua Pennsylvania, which provides for a reduction in current income tax expense as a result of the recognition of income tax benefits for qualifying utility asset improvements. This change results in a significant reduction in the effective income tax rate, a reduction in current income tax expense, and reduces the amount of taxes currently payable. For qualifying capital expenditures made prior to 2012, the resulting tax benefits have been deferred as of December 31, 2012 and, in accordance with the rate order, a ten year amortization of the income tax benefits, which reduces future income tax expense, commenced in 2013.

Customers' Advances for Construction and Contributions in Aid of Construction — Water mains, other utility property or, in some instances, cash advances to reimburse the Company for its costs to construct water mains or other utility property, are contributed to the Company by customers, real estate developers and builders in order to extend utility service to their properties. The value of these contributions is recorded as customers' advances for construction. Over time, the amount of non-cash contributed property will vary based on the timing of the contribution of the non-cash property and the volume of non-cash contributed property received in connection with development in our service territories. The Company makes refunds on these advances over a specific period of time based on operating revenues related to the property, or as new customers are connected to and take service from the applicable water main. After all refunds are made, any remaining balance is transferred to contributions in aid of construction. Contributions in aid of construction include direct non-refundable contributions and the portion of customers' advances for construction that become non-refundable.

Based on regulatory conventions in states where the Company operates, generally our subsidiaries depreciate contributed property and amortize contributions in aid of construction at the composite rate of the related property. Contributions in aid of construction and customers' advances for construction are deducted from the Company's rate base for rate-making purposes, and therefore, no return is earned on contributed property.

Stock-Based Compensation — The Company records compensation expense in the financial statements for stock-based awards based on the grant date fair value of those awards. Stock-based compensation expense includes an estimate for pre-vesting forfeitures and is recognized over the requisite service periods of the awards on either a straight-line basis, or the graded vesting method, which is generally commensurate with the vesting term.

Fair Value Measurements – The Company follows the FASB’s accounting guidance for fair value measurements and disclosures, which defines fair value and establishes a framework for using fair value to measure assets and liabilities. That framework provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy are as follows:

- Level 1: unadjusted quoted prices in active markets for identical assets or liabilities that the Company has the ability to access;
- Level 2: inputs other than Level 1 that are observable, either directly or indirectly, such as quoted market prices in active markets for similar assets or liabilities, quoted prices for identical or similar assets or liabilities in non-active markets, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities; or
- Level 3: inputs that are unobservable and significant to the fair value measurement.

The asset’s or liability’s fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Valuation techniques used need to maximize the use of observable inputs and minimize the use of unobservable inputs. Additionally, assets that are measured at fair value using the net asset value (“NAV”) per share practical expedient are not classified in the fair value hierarchy. There have been no changes in the valuation techniques used to measure fair value or asset or liability transfers between the levels of the fair value hierarchy for the years ended December 31, 2019 and 2018.

Recent Accounting Pronouncements –

Pronouncements to be adopted upon the effective date:

In December 2019, the FASB issued updated accounting guidance that simplifies the accounting for income taxes. The updated guidance removes certain exceptions to the general principles of accounting for income taxes to reduce the cost and complexity of its application, including the accounting for intraperiod tax allocation when there is a loss from continuing operations and income or a gain from other items, deferred tax liabilities for equity method investments when a foreign subsidiary becomes an equity method investment or when a foreign equity method investment becomes a subsidiary, and calculating income taxes in an interim period when a year-to-date loss exceeds the anticipated loss for the year. Additionally, the updated guidance clarifies and amends the existing guidance over accounting for franchise taxes and other taxes partially based on income, an entity’s tax basis of goodwill, separate entity financial statements, interim recognition of enactment of tax laws or rate changes, and improvements to the Codification for income taxes related to employee stock ownership plans and investments in qualified affordable housing projects accounted for using the equity method. The updated accounting guidance is effective for fiscal years beginning after December 15, 2020 and interim periods within those fiscal years with early adoption permitted. The Company is evaluating the requirements of the updated guidance to determine the impact of adoption.

In August 2018, the FASB issued updated accounting guidance on accounting for cloud computing arrangements. The updated guidance requires entities that are customers in cloud computing arrangements to defer implementation costs if they would be capitalized by the entity in software licensing arrangements under the internal-use software guidance. The guidance may be applied retrospectively or prospectively to implementation costs incurred after the date of adoption. The updated accounting guidance is effective for fiscal years beginning after December 15, 2019 and interim periods within those fiscal years. Upon adoption, we do not believe the new guidance will have an impact on our consolidated financial statements.

In August 2018, the FASB issued updated accounting guidance, which modifies the disclosures required for defined benefit pension and other postretirement benefit plans. The modifications in this update remove disclosures that are no longer considered cost beneficial, clarify the specific requirements of disclosures, and add disclosure requirements identified as relevant. The updated accounting guidance is effective for fiscal years ending after December 15, 2020, with early adoption available. Upon adoption, we do not believe the new guidance will have an impact on our consolidated financial statements.

In August 2018, the FASB issued updated accounting guidance, which modifies the disclosure requirements on fair value measurements. The modifications in this update eliminates, amends, and adds disclosure requirements for fair value measurements, which is expected to reduce costs for preparers while providing more decision-useful information for financial statement users. The updated accounting guidance is effective for fiscal years ending after December 15, 2019, with early adoption available. Upon adoption, we do not believe the new guidance will have an impact on our consolidated financial statements.

In June 2016, the FASB issued updated accounting guidance on accounting for impairments of financial instruments, including trade receivables, which requires companies to estimate expected credit losses on trade receivables over their contractual life. Historically, companies reserve for expected credit losses by applying historical loss percentages to respective aging categories. Under the updated accounting guidance, companies will use a forward-looking methodology that incorporates lifetime expected credit losses, which will result in an allowance for expected credit losses for receivables that are either current or not yet due, which historically have not been reserved for. The updated accounting guidance is effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years, with early adoption available. Upon adoption, we do not believe the new guidance will have an impact on our consolidated financial statements.

Pronouncements adopted during the fiscal year:

In February 2016, the FASB issued updated accounting guidance on accounting for leases, which requires lessees to establish a right-of-use asset and a lease liability on the balance sheet for all leases with terms longer than 12 months. For income statement purposes, leases will be classified as either operating or finance. Operating leases will result in straight-line expense while finance leases will result in a front-loaded expense pattern. The updated accounting guidance is effective for fiscal years beginning after December 15, 2018, and interim periods within those fiscal years, with early adoption available. On January 1, 2019, the Company adopted the updated guidance as required using the modified retrospective approach, which provides a method for recording existing leases at adoption and in comparative periods that approximates the results of a full retrospective approach. Further, we elected the package of practical expedients permitted under the transition guidance within the updated guidance, which among other things, allowed the Company to carry forward its historical lease classification. The Company also elected the practical expedient related to land easements, allowing the Company to carry forward its accounting treatment for land easements on existing agreements. Adoption of the new guidance resulted in the recording, on the Company's consolidated balance sheet, of a right-of-use asset and lease liability of \$14,028 as of January 1, 2019, and there was no cumulative impact adjustment to retained earnings for prior periods accounted for under the previous lease guidance.

Note 2 – Acquisitions

Peoples Gas Acquisition

Pursuant to the Company's growth strategy, on October 22, 2018, the Company entered into a purchase agreement with LDC Parent LLC ("Seller"), to acquire its interests in LDC Funding LLC ("LDC"). LDC is the parent of LDC Holdings LLC ("LDC Holdings"), and LDC Holdings is the parent of five natural gas public utility companies, which includes Peoples Natural Gas Company, Peoples Gas Company, and Delta Natural Gas Company as well as other operating subsidiaries. Collectively these businesses are referred to as "Peoples," a natural gas distribution company headquartered in Pittsburgh, Pennsylvania, serving approximately 747,000 gas utility customers in western Pennsylvania, West Virginia,

and Kentucky and the pending transaction is referred to as the Peoples Gas Acquisition. At the closing of the Peoples Gas Acquisition, the Company will pay \$4,275,000, in cash subject to adjustments for working capital, certain capital expenditures, transaction expenses and closing indebtedness as set forth in the acquisition agreement. The Company expects to assume approximately \$1,106,000 of Peoples' indebtedness upon the closing of the Peoples Gas Acquisition, which would reduce the cash purchase price by approximately \$1,106,000. The Company financed the Peoples Gas Acquisition purchase price and refinanced certain debt of the Company with a mix of common equity, equity-linked securities, and debt financing, which included senior notes issued in capital markets transactions, and credit facilities. On October 22, 2018, the Company obtained a commitment (the "Bridge Commitment") from certain banks to provide senior unsecured bridge loans in an aggregate amount of up to \$5,100,000 to, among other things, backstop the Peoples Gas Acquisition purchase price and the refinancing of certain debt of the Company and of Peoples. As of December 31, 2019, the Company had terminated \$4,350,000 of commitments under the Bridge Commitment in connection with, among other things, the replacement of the Company's unsecured revolving credit facility and the issuances of common stock, tangible equity units, and senior notes in April 2019.

On October 23, 2018, the Company entered into interest rate swap agreements to mitigate interest rate risk associated with an anticipated \$850,000 of debt issuances to fund a portion of the Peoples Gas Acquisition. The interest rate swaps were settled on April 24, 2019 in conjunction with the issuance of long-term debt to be used to finance a portion of the purchase price of this acquisition, which resulted in a payment by the Company of \$83,520. Refer to Note 11 – *Long-term Debt and Loans Payable* for further information. The interest rate swap agreements did not qualify for hedge accounting and any changes in the fair value of the swaps was included in our earnings.

Approval from the United States Federal Trade Commission was obtained in December 2018, and approvals from the public utility commissions of Kentucky, West Virginia, and Pennsylvania were obtained in March 2019, April 2019, and January 2020, respectively. The Peoples Gas Acquisition is subject to customary closing conditions set forth in the acquisition agreement. This acquisition is expected to close on March 16, 2020, and it is anticipated that this transaction will result in the recording of goodwill. In the event that this acquisition is terminated due to certain breaches by the Company, a fee of \$120,000 would be payable to the Seller as a reverse termination fee.

Water and Wastewater Utility Acquisitions

In December 2019, the Company acquired the wastewater utility system assets of Cheltenham Township, Pennsylvania, which serves 9,887 customers for \$50,250. The preliminary purchase price allocation for this acquisition consisted primarily of property, plant and equipment of \$44,558 and goodwill of \$5,692. Additionally, in 2019, the Company completed seven acquisitions of water and wastewater utility systems in three states adding 2,393 customers. The total purchase price of these utility systems consisted of \$9,437 in cash. The purchase price allocation for these acquisitions consisted primarily of acquired property, plant and equipment. The operating revenues included in the consolidated financial statements of the Company during the period owned by the Company for the utility systems acquired in 2019 are \$506.

In September 2019, the Company entered into a purchase agreement to acquire the wastewater utility system assets of the Delaware County Regional Water Quality Control Authority ("DELCORA"), which consist of approximately 16,000 customers, or the equivalent of 198,000 retail customers, in 42 municipalities in Southeast Pennsylvania for \$276,500. The purchase price for this pending acquisition is subject to certain adjustments at closing, and is subject to regulatory approval, including the final determination of the fair value of the rate base acquired.

In November 2018, the Company entered into a purchase agreement to acquire the wastewater utility system assets of East Norriton Township, Pennsylvania, which serves approximately 4,950 customers for \$21,000. The purchase price for this pending acquisition is subject to certain adjustments at closing, and is subject to regulatory approval, including the final determination of the fair value of the rate base acquired.

In addition to the Company's pending acquisitions of DELCORA and East Norriton Township, as part of the Company's growth-through-acquisition strategy, the Company has entered into purchase agreements to acquire the water or wastewater utility system assets of two municipalities, which will add approximately 5,306 customers in two of the states in which the Company operates, for a total combined purchase price in cash of \$37,000. The purchase price for these pending acquisitions is subject to certain adjustments at closing, and the pending acquisitions are subject to regulatory approvals, including the final determination of the fair value of the rate base acquired. Closings for our remaining acquisitions, with the exception of DELCORA and East Norriton Township, are expected to occur in the first half of 2020, subject to the timing of the regulatory approval process.

In July 2018, the Company acquired the wastewater utility systems assets of Limerick Township, Pennsylvania which serves 5,497 customers. The total cash purchase price for the utility system was \$74,836. The purchase price allocation for this acquisition consisted primarily of acquired property, plant and equipment of \$64,759, and goodwill of \$10,790. Additionally, during 2018, the Company completed seven acquisitions of water and wastewater utility systems in three states adding 8,661 customers. The total purchase price of these utility systems consisted of \$42,519 in cash. The purchase price allocation for these acquisitions consisted primarily of acquired property, plant and equipment. The operating revenues included in the consolidated financial statements of the Company during the period owned by the Company for the utility systems acquired were \$8,905 in 2019 and in 2018 were \$3,308. Further, in December 2018, the Company acquired the Valley Creek Trunk Sewer System, serving area municipalities in Pennsylvania, from the Tredyffrin Township Municipal Authority for \$28,338. The purchase price allocation for this acquisition consisted primarily of property, plant and equipment of \$22,904 and goodwill of \$5,434. The system receives untreated wastewater from area municipalities, which is conveyed to the Valley Forge Treatment Plant. The system consists of 49,000 linear feet of gravity sewers, pump stations, and force mains. The operating revenues included in the consolidated financial statements of the Company for the Valley Creek Trunk Sewer System were \$2,799 in 2019.

In 2017, the Company completed four acquisitions of water and wastewater utility systems in two states adding 1,003 customers. The total purchase price of these utility systems consisted of \$5,860 in cash, which resulted in \$72 of goodwill being recorded. The operating revenues included in the consolidated financial statements of the Company during the period owned by the Company for the utility systems acquired were \$878 in 2019, \$846 in 2018, and in 2017 are \$461. The pro forma effect of the businesses acquired is not material either individually or collectively to the Company's results of operations.

Note 3 –Dispositions

The following dispositions have not been presented as discontinued operations in the Company's consolidated financial statements as they do not qualify as discontinued operations, since their disposal does not represent a strategic shift that has a major effect on our operations or financial results. The gains or loss disclosed below are reported in the consolidated statements of net income as a component of operations and maintenance expense.

Dispositions Completed in 2019 and 2017

In the fourth quarter of 2018, the Company decided to market for sale a water system in Virginia that serves approximately 500 customers. This water system was reported as assets held for sale in the Company's December 31, 2018 consolidated balance sheet included in this Annual Report, and in April 2019, the Company completed the sale for proceeds of \$1,882 and recognized a gain on sale of \$405.

In 2017, the Company completed the sale of two business units that were reported within the Company's market-based subsidiary, Aqua Resources. One business unit installed and tested devices that prevent the contamination of potable water, and the other business unit constructed, repaired, and performed maintenance on water and wastewater systems. These transactions resulted in total proceeds of \$867 and the recognition of a net loss of \$324.

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES
Notes to Consolidated Financial Statements (continued)
(In thousands of dollars, except per share amounts)

Dispositions Reported as Assets Held for Sale at December 31, 2019

In the first quarter of 2017, the Company decided to market for sale a water system in Texas that serves approximately 265 customers. This water system is reported as assets held for sale in the Company's consolidated balance sheet, and the sale is expected to close in the first half of 2020.

Note 4 – Property, Plant and Equipment

	December 31,		Approximate Range of Useful Lives	Weighted Average Useful Life
	2019	2018		
Utility plant and equipment:				
Mains and accessories	\$ 3,585,506	\$ 3,344,910	33 - 94 years	75 years
Services, hydrants, treatment plants and reservoirs	2,152,397	1,984,164	5 - 89 years	56 years
Operations structures and water tanks	332,812	313,531	14 - 85 years	48 years
Miscellaneous pumping and purification equipment	904,757	847,279	9 - 76 years	42 years
Meters, data processing, transportation and operating equipment	847,945	806,978	5 - 84 years	29 years
Land and other non-depreciable assets	156,617	107,537	-	-
Utility plant and equipment	7,980,034	7,404,399		
Utility construction work in progress	214,633	235,979	-	-
Net utility plant acquisition adjustment	(15,248)	(20,832)	2 - 59 years	28 years
Non-utility plant and equipment	22,517	28,923	2 - 64 years	57 years
Total property, plant and equipment	<u>\$ 8,201,936</u>	<u>\$ 7,648,469</u>		

Note 5 – Accounts Receivable

	December 31,	
	2019	2018
Billed utility revenue	\$ 69,205	\$ 68,347
Other	5,285	4,392
	74,490	72,739
Less allowance for doubtful accounts	7,353	6,914
Net accounts receivable	<u>\$ 67,137</u>	<u>\$ 65,825</u>

The Company's utility customers are located principally in the following states: 47% in Pennsylvania, 15% in Ohio, 10% in North Carolina, 8% in Texas, and 8% in Illinois. No single customer accounted for more than one percent of the Company's regulated operating revenues during the years ended December 31, 2019, 2018, and 2017. The following table summarizes the changes in the Company's allowance for doubtful accounts:

	2019	2018	2017
Balance at January 1,	\$ 6,914	\$ 7,071	\$ 7,095
Amounts charged to expense	5,306	5,305	4,986
Accounts written off	(5,980)	(6,587)	(6,135)
Recoveries of accounts written off	1,113	1,125	1,125
Balance at December 31,	<u>\$ 7,353</u>	<u>\$ 6,914</u>	<u>\$ 7,071</u>

Note 6 – Regulatory Assets and Liabilities

The regulatory assets represent costs that are probable to be fully recovered from customers in future rates while regulatory liabilities represent amounts that are expected to be refunded to customers in future rates or amounts recovered from customers in advance of incurring the costs. Except for income taxes and utility plant retirement costs, regulatory assets and regulatory liabilities are excluded from the Company's rate base and do not earn a return. The components of regulatory assets and regulatory liabilities are as follows:

	December 31, 2019		December 31, 2018	
	Regulatory Assets	Regulatory Liabilities	Regulatory Assets	Regulatory Liabilities
Income taxes	\$ 736,120	\$ 389,424	\$ 657,378	\$ 414,787
Customer refunds resulting from TCJA	-	3,907	-	4,593
Utility plant retirement costs	7,873	43,742	6,743	38,435
Post-retirement benefits	110,661	78,557	110,719	71,285
Accrued vacation	2,439	-	2,447	-
Water tank painting	6,175	1,928	2,864	1,855
Fair value adjustment of long-term debt assumed in acquisition	2,166	-	2,533	-
Debt refinancing	6,564	-	-	-
Rate case filing expenses and other	6,134	41	5,392	72
	<u>\$ 878,132</u>	<u>\$ 517,599</u>	<u>\$ 788,076</u>	<u>\$ 531,027</u>

Items giving rise to deferred state income taxes, as well as a portion of deferred Federal income taxes related to specific differences between tax and book depreciation expense, are recognized in the rate setting process on a cash basis or as a reduction in current income tax expense and will be recovered as they reverse. Amounts include differences that arise between specific utility asset improvement costs capitalized for book and deducted as an expense for tax purposes. Additionally, the recording of AFUDC for equity funds results in the recognition of a regulatory asset for income taxes, which represents amounts due related to the revenue requirement.

A portion of the regulatory liability for income taxes is related to Aqua Pennsylvania's income tax accounting change for the tax benefits realized on the Company's 2012 tax return, which have not yet reduced current income tax expense due to the ten year amortization period which began in 2013. This amortization was stipulated in a June 2012 rate order issued to Aqua Pennsylvania and was subject to specific parameters being met each year until the Aqua Pennsylvania rate order of May 2019. Beginning in 2013, the Company amortized \$38,000, annually, of its deferred income tax benefits, which reduced current income tax expense and increased the Company's net income by \$16,274 for 2019, \$16,734 for 2018, and \$16,734 for 2017. In 2019, the amortization of this tax benefit was incorporated into the Company's cost of service by a rate order issued in May 2019 and is no longer subject to the specific parameters from the 2012 rate order.

The regulatory liability for customer refunds resulting from the TCJA represents a revenue reserve for customer refunds associated with the reduction in the Federal corporate income tax rate under the provisions of the TCJA. On December 22, 2017, President Trump signed the TCJA into law, which reduced the Federal corporate income tax rate from 35% to 21%. Reductions in accumulated deferred income tax balances due to the reduction in the corporate income tax rate to 21% under the provisions of the TCJA will result in amounts previously collected from utility customers for these deferred taxes to be refundable to such customers, generally through reductions in future rates. The TCJA includes provisions that stipulate how these excess deferred taxes relating to certain accelerated tax depreciation benefits are to be passed back to customers. In 2018 and 2019 adjusted base rates or surcredits were added to customer bills to reflect the lower corporate income tax rate.

The regulatory asset for utility plant retirement costs, including cost of removal, represents costs already incurred that are expected to be recovered in future rates over a five year recovery period. The regulatory liability for utility plant retirement costs represents amounts recovered through rates during the life of the associated asset and before the costs are incurred.

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES
Notes to Consolidated Financial Statements (continued)
(In thousands of dollars, except per share amounts)

The regulatory asset for accrued vacation represents costs that would otherwise be charged to operations and maintenance expense for vacation that is earned by employees, which is recovered as a cost of service.

The regulatory asset for post-retirement benefits, which includes pension and other post-retirement benefits, primarily reflects a regulatory asset that has been recorded for the costs that would otherwise be charged to stockholders' equity for the underfunded status of the Company's pension and other post-retirement benefit plans. The Company also has a regulatory asset related to post-retirement benefits costs that represent costs already incurred which are now being recovered in rates over 10 years. The regulatory liability for post-retirement benefits represents costs recovered in rates in excess of post-retirement benefits expense.

Expenses associated with water tank painting are deferred and amortized over a period of time as approved in the regulatory process. Water tank painting costs are generally being amortized over a period ranging from 7 to 10 years. The regulatory liability for water tank painting costs represents amounts recovered through rates and before the costs are incurred.

The Company recorded a fair value adjustment for fixed rate, long-term debt assumed in acquisitions that matures in various years ranging from 2022 to 2029. The regulatory asset or liability results from the rate setting process continuing to recognize the historical interest cost of the assumed debt.

The regulatory asset for debt refinancing represents a portion of a make whole payment of \$25,237 incurred in May 2019 for the Company's redemption of \$313,500 of the Company's outstanding notes that had maturities ranging from 2019-2037 and interest rates ranging from 3.57-5.83%. The Company deferred a portion of the make whole payment as it represents an amount by which we expect to receive prospective rate recovery.

The regulatory asset related to rate case filing expenses and other represents the costs associated with filing for rate increases that are deferred and amortized over periods that generally range from one year to five years, and costs incurred by the Company for which it has received or expects to receive rate recovery.

The regulatory asset related to the costs incurred for information technology software projects and water main cleaning and relining projects are described in Note 1 – *Summary of Significant Accounting Policies – Property, Plant and Equipment and Depreciation*.

Note 7 – Income Taxes

Income tax (benefit) expense for the years ended December 31, is comprised of the following:

	Years Ended December 31,		
	2019	2018	2017
Current:			
Federal	\$ (4,415)	\$ -	1,297
State	1,834	1,281	1,837
	(2,581)	1,281	3,134
Deferred:			
Federal	(3,906)	(8,721)	21,376
State	(6,530)	(6,229)	(7,596)
	(10,436)	(14,950)	13,780
Total tax expense (benefit)	\$ (13,017)	\$ (13,669)	16,914

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES
Notes to Consolidated Financial Statements (continued)
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The statutory Federal tax rate is 21% for 2019 and 2018, and 35% for 2017. For states with a corporate net income tax, the state corporate net income tax rates range from 2.5% to 9.99% for all years presented. The Company's effective income tax rate for 2019, 2018, and 2017 was (6.2)%, (7.7)%, and 6.6%, respectively. The Company remains subject to examination by federal and state tax authorities for the 2016 through 2019 tax years.

The reasons for the differences between amounts computed by applying the statutory Federal corporate income tax rate to income before income tax expense are as follows:

	Years Ended December 31,		
	2019	2018	2017
Computed Federal tax expense at statutory rate	\$ 44,420	\$ 37,447	\$ 89,828
Decrease in Federal tax expense related to an income tax accounting change for qualifying utility asset improvement costs	(48,518)	(44,089)	(69,325)
State income taxes, net of Federal tax benefit	(3,616)	(4,964)	(3,743)
Increase in tax expense for depreciation expense to be recovered in future rates	347	328	199
Stock-based compensation	(167)	(414)	(595)
Deduction for Essential Utilities common dividends paid under employee benefit plan	(315)	(312)	(455)
Amortization of deferred investment tax credits	(361)	(373)	(376)
Impact of Federal rate change and amortization of excess deferred income tax	(6,323)	(313)	3,141
Other, net	1,516	(979)	(1,760)
Actual income tax expense (benefit)	<u>\$ (13,017)</u>	<u>\$ (13,669)</u>	<u>\$ 16,914</u>

In response to a June 2012 rate order issued by the Pennsylvania Public Utility Commission to Aqua Pennsylvania, the Company changed its tax method of accounting for qualifying utility system repairs, which provides for the expensing of qualifying utility asset improvement costs that were previously being capitalized and depreciated for book and tax purposes. The rate order allows for a reduction in current income tax expense as a result of the flow-through recognition of some income tax benefits due to the income tax accounting change. The Company recorded income tax benefits of \$66,816, \$64,183, and \$84,766 during 2019, 2018, and 2017, respectively. In May 2019 the Pennsylvania Public Utility Commission issued a rate order to Aqua Pennsylvania and commencing in 2020 the base rates are designed to include annual tax benefits for qualifying utility system improvement costs equal to \$158,865, subject to \$3,000 either above or below this target amount. To the extent actual tax benefits are outside this range, tax benefits will either be deferred or accrued, and settled in the next rate filing.

Aqua Pennsylvania had changed to this method of tax accounting in 2012, and for prior tax years, the qualifying utility system asset improvement costs were previously capitalized and depreciated for book and tax purposes. The Company recognized a tax deduction on its 2012 Federal tax return of \$380,000 and based on a 2012 rate order, Aqua Pennsylvania began to amortize this benefit over ten years beginning in 2013. The amortization of this benefit, which annually amounted to \$38,000, effectively reduced current income tax expense annually by \$16,724. As a result of the May 2019 Aqua Pennsylvania rate order the amortization period was slightly shortened and now includes the tax benefits in establishing utility rates.

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES
Notes to Consolidated Financial Statements (continued)
(In thousands of dollars, except per share amounts)

The following table provides the changes in the Company's unrecognized tax benefits:

	2019	2018
Balance at January 1,	\$ 17,792	\$ 17,583
Additions based on tax position related to the current year	879	209
Balance at December 31,	<u>\$ 18,671</u>	<u>\$ 17,792</u>

In accordance with the FASB's accounting guidance for income taxes we recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by the taxing authorities, based on the technical merits of the position. The tax benefits recognized in the financial statements from such a position are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate resolution. From time to time, the Company may be assessed interest and penalties by taxing authorities, which would be recorded as income tax expense. There were no expenses for interest and penalties assessed by taxing authorities for the years ended December 31, 2019, 2018, and 2017.

On its 2012 Federal tax return, filed in September 2013, Aqua Pennsylvania filed a change in accounting method to adopt the IRS temporary tangible property regulations. This method change allowed the Company to take a current year deduction for expenses that were previously capitalized for tax purposes. Since the filing of the 2012 tax return, the IRS has issued final regulations. While the Company maintains the belief that the deduction taken on its tax return is appropriate, the methodology for determining the deduction has not been agreed to by the taxing authorities. Provisions for uncertain tax positions were recorded to reflect the possible challenge of the Company's methodology for determining its repair deduction as required by the FASB's accounting guidance for income taxes. Should the taxing authority challenge the Company's tax treatment, and ultimately disallow a portion of the repair deduction, the Company expects Federal net operating loss carryforwards to offset any resulting liability, and state net operating loss carryforwards will offset a portion of any resulting liability.

The unrecognized tax benefits relate to the income tax accounting change, and the tax position is attributable to a temporary difference. The Company does not anticipate material changes to its unrecognized tax benefits within the next year. As a result of the regulatory treatment afforded by the income tax accounting change in Pennsylvania and despite this position being a temporary difference, as of December 31, 2019 and 2018, \$31,015 and \$26,990, respectively, of these tax benefits would have an impact on the Company's effective income tax rate in the event the Company does sustain all, or a portion, of its tax position.

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES
Notes to Consolidated Financial Statements (continued)
(In thousands of dollars, except per share amounts)

The following table provides the components of net deferred tax liability:

	December 31,	
	2019	2018
Deferred tax assets:		
Customers' advances for construction	\$ 22,664	\$ 13,188
Costs expensed for book not deducted for tax, principally accrued expenses	1,473	27,711
Utility plant acquisition adjustment basis differences	-	1,053
Post-retirement benefits	20,575	39,515
Tax loss and credit carryforwards	65,438	43,637
Operating lease liabilities	3,540	-
Other	2,798	2,761
	116,488	127,865
Less valuation allowance	22,873	18,082
	93,615	109,783
Deferred tax liabilities:		
Utility plant, principally due to depreciation and differences in the basis of fixed assets due to variation in tax and book accounting	909,219	837,057
Deferred taxes associated with the gross-up of revenues necessary to recover, in rates, the effect of temporary differences	101,126	72,258
Tax effect of regulatory asset for post-retirement benefits	8,973	39,515
Utility plant acquisition adjustment basis differences	827	-
Deferred investment tax credit	6,088	6,356
Operating lease right-of-use assets	3,540	-
	1,029,773	955,186
Net deferred tax liability	\$ 936,158	\$ 845,403

At December 31, 2019, the Company has a cumulative Federal NOL of \$79,039. The Company believes the Federal NOLs are more likely than not to be recovered and require no valuation allowance. The Company's Federal NOLs do not begin to expire until 2032.

At December 31, 2019, the Company has a cumulative state NOL of \$817,323, a portion of which is offset by a valuation allowance because the Company does not believe these NOLs are more likely than not to be realized. The state NOLs do not begin to expire until 2023.

The Company's Federal and state NOL carryforwards are reduced by an unrecognized tax position, on a gross basis, of \$73,352 and \$85,645, respectively, which results from the Company's adoption in 2013 of the FASB's accounting guidance on the presentation of an unrecognized tax benefit when a net operating loss carryforward, a similar tax loss, or a tax credit carryforward exists. The amounts of the Company's Federal and state NOL carryforwards prior to being reduced by the unrecognized tax positions are \$152,391 and \$902,968, respectively. The Company records its unrecognized tax benefit as a component of its net deferred income tax liability.

On December 22, 2017, President Trump signed the TCJA into law. The TCJA includes significant changes to the Code and the taxation of business entities, and includes specific provisions related to regulated public utilities. Significant changes that impact the Company included in the TCJA are a reduction in the corporate federal income tax rate from 35% to 21%, effective January 1, 2018, and a limitation of the utilization of NOLs arising after December 31, 2017 to 80% of taxable income with an indefinite carryforward. The specific TCJA provisions related to our regulated entities generally allow for the continued deductibility of interest expense, the elimination of full expensing for tax purposes of certain

property acquired after September 27, 2017 and the continuation of certain rate normalization requirements for accelerated depreciation benefits. Our market-based companies still qualify for 100% deductibility of qualifying property acquired after September 27, 2017 and before January 1, 2023.

At the date of enactment, the Company's deferred taxes were re-measured based upon the new tax rate. For our regulated entities, the change in deferred taxes was recorded as either an offset to a regulatory asset or liability. In instances where the deferred tax balances are not in ratemaking, such as the Company's market-based operations, the change in deferred taxes was recorded as an adjustment to our deferred tax provision. To the extent the revalued deferred income tax assets and liabilities were outside of our regulated operations and are not believed to be recoverable in utility customer rates, the revalued amount of \$3,141 was recognized as additional deferred income tax expense during the quarter ended December 31, 2017.

The staff of the SEC has recognized the complexity of reflecting the impacts of the TCJA, and on December 22, 2017 issued guidance, which clarifies accounting for income taxes if information is not yet available or complete and provides for up to a one year period in which to complete the required analyses and accounting (the measurement period). The guidance describes three scenarios (or "buckets") associated with a company's status of accounting for income tax reform: (1) a company is complete with its accounting for certain effects of tax reform, (2) a company is able to determine a reasonable estimate for certain effects of tax reform and records that estimate as a provisional amount, or (3) a company is not able to determine a reasonable estimate and therefore continues to apply the FASB's accounting guidance, based on the provisions of the tax laws that were in effect immediately prior to the TCJA being enacted. The one year measurement period concluded in the fourth quarter of 2018, and there were no material changes in the Company's accounting for the TCJA.

At the end of the measurement period, the Pennsylvania Public Utility Commission, had not issued an accounting or procedural order addressing how the TCJA changes are to be reflected in our utility customer rates. As of December 31, 2017, the Company provisionally classified \$175,108 of deferred income tax liabilities for our Pennsylvania subsidiary as a regulatory liability. In May 2019 a final order was issued from the PA PUC affirming the Company's regulatory liability and authorizing the Company to implement an average rate assumption method to reduce the regulatory liability as the temporary difference reverses. Beginning in June 2019 base rates reflect the fact that the benefit from the excess accumulated deferred taxes is now reflected in base rates. Overall, the Company has applied a reasonable interpretation of the impact of the TCJA and a reasonable estimate of the regulatory resolution. Further clarification of the TCJA and regulatory resolution may change the amounts estimated of the deferred income tax provision and the accumulated deferred income tax liability.

The Company's regulated operations accounting for income taxes are impacted by the FASB's accounting guidance for regulated operations. Reductions in accumulated deferred income tax balances due to the reduction in the Federal corporate income tax rates to 21% under the provisions of the TCJA will result in amounts previously collected from utility customers for these deferred taxes to be refundable to such customers, generally through reductions in future rates. The TCJA includes provisions that stipulate how these excess deferred taxes related to certain accelerated tax depreciation deduction benefits are to be passed back to customers. Potential refunds of other deferred taxes will be determined by our state regulators. The Company has reserved \$3,907 for amounts expected to be refundable to utility customers. In 2018, Illinois, Virginia, Texas, New Jersey, and two operating divisions in Ohio which operate under locally-negotiated contractual rates with their respective counties, adjusted base rates or surcredits have been added to customer bills to reflect the lower corporate income tax rate. In North Carolina, Indiana, and our regulated operations in Ohio, no surcredits have been added to customer bills to reflect the lower corporate income tax rate in 2018. These adjustments were reflected in customer bills beginning January 1, 2019. In Pennsylvania, a procedural order was received in May 2019, which adjusted the Company's base rate to reflect the lower corporate income tax rate.

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES

Notes to Consolidated Financial Statements (continued)

(In thousands of dollars, except per share amounts)

Note 8 – Taxes Other than Income Taxes

The following table provides the components of taxes other than income taxes:

	Years Ended December 31,		
	2019	2018	2017
Property	\$ 27,735	\$ 27,469	\$ 25,810
Gross receipts, excise and franchise	13,500	14,521	13,458
Payroll	10,303	9,789	9,477
Regulatory assessments	2,916	2,752	2,552
Pumping fees	5,112	4,978	5,057
Other	389	253	274
Total taxes other than income taxes	\$ 59,955	\$ 59,762	\$ 56,628

Note 9 – Commitments and Contingencies

Commitments –

The Company maintains agreements with other water purveyors for the purchase of water to supplement its water supply, particularly during periods of peak demand. The agreements stipulate purchases of minimum quantities of water to the year 2026. The estimated annual commitments related to such purchases through 2024 are expected to average \$5,032 and the aggregate of the years remaining approximates \$4,433.

The Company has entered into purchase obligations, in the ordinary course of business, that include agreements for water treatment processes at some of its wells in a small number of its divisions. The 20 year term agreement provides for the use of treatment equipment and media used in the treatment process and are subject to adjustment based on changes in the Consumer Price Index. The future contractual cash obligations related to these agreements are as follows:

2020	2021	2022	2023	2024	Thereafter
\$ 1,002	\$ 1,022	\$ 1,043	\$ 1,050	\$ 1,068	\$ 4,291

The purchased water expense and water treatment expenses under these agreements were as follows:

	Years Ended December 31,		
	2019	2018	2017
Purchased water under long-term agreements	\$ 6,577	\$ 6,065	\$ 8,558
Water treatment expense under contractual agreement	989	970	945

Contingencies – The Company is routinely involved in various disputes, claims, lawsuits and other regulatory and legal matters, including both asserted and unasserted legal claims, in the ordinary course of business. The status of each such matter, referred to herein as a loss contingency, is reviewed and assessed in accordance with applicable accounting rules regarding the nature of the matter, the likelihood that a loss will be incurred, and the amounts involved. As of December 31, 2019, the aggregate amount of \$19,591 is accrued for loss contingencies and is reported in the Company’s consolidated balance sheet as other accrued liabilities and other liabilities. These accruals represent management’s best estimate of probable loss (as defined in the accounting guidance) for loss contingencies or the low end of a range of losses if no single probable loss can be estimated. For some loss contingencies, the Company is unable to estimate the amount of the probable loss or range of probable losses. During a portion of 2019, the Company initiated a do not consume advisory for some of its customers in one division served by the Company’s Illinois subsidiary. Although the Company

Although the results of legal proceedings cannot be predicted with certainty, there are no pending legal proceedings to which the Company or any of its subsidiaries is a party or to which any of its properties is the subject that are material or are expected to have a material effect on the Company's financial position, results of operations or cash flows.

Note 10 – Leases

Some of the Company's leases can be extended on a month-to-month basis, which allow us to terminate the lease at any given month without penalty while others include options to extend the leases for up to 50 years. The renewal of a month-to-month lease is at our sole discretion.

Lease liabilities and corresponding right-of-use assets are recorded based on the present value of the lease payments over the expected lease term, including leases with variable payments that are based on a market rate or an index. All other variable payments are expensed as incurred. Since the Company's lease agreements do not provide an implicit interest rate, we utilize our incremental borrowing rate to determine the discount rate used to present value the lease payments.

	Year Ended December 31, 2019
Supplemental cash flow information related to leases was as follows:	
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows from operating leases	\$ 1.992

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Notes to Consolidated Financial Statements (continued)
(In thousands of dollars, except per share amounts)

	December 31, 2019
Supplemental balance sheet information related to leases was as follows:	
Operating leases:	
Operating lease right-of-use assets	\$ 12,867
Other accrued liabilities	\$ 1,222
Operating lease liabilities	11,645
Total operating lease liabilities	\$ 12,867

	December 31, 2019
Weighted average remaining lease term:	
Operating leases	27 years
Weighted average discount rate:	
Operating leases	4.08%

Maturities of operating lease liabilities and a reconciliation of the operating lease liabilities reported on our Consolidated Balance Sheets as of December 31, 2019 are as follows:

	Operating Leases
2020	\$ 1,699
2021	1,462
2022	1,219
2023	771
2024	609
Thereafter	15,836
Total operating lease payments	\$ 21,596
Total operating lease payments	\$ 21,596
Less operating lease liabilities	12,867
Present value adjustment	\$ 8,729

Note 11 – Long-term Debt and Loans Payable

Long-term Debt – The consolidated statements of capitalization provide a summary of long-term debt as of December 31, 2019 and 2018. The supplemental indentures with respect to specific issues of the first mortgage bonds restrict the ability of Aqua Pennsylvania and other operating subsidiaries of the Company to declare dividends, in cash or property, or repurchase or otherwise acquire the stock of these companies. Loan agreements for Aqua Pennsylvania and other operating subsidiaries of the Company have restrictions on minimum net assets. As of December 31, 2019, restrictions on the net assets of the Company were \$2,450,381 of the total \$3,880,860 in net assets. Included in this amount were restrictions on Aqua Pennsylvania's net assets of \$1,332,017 of their total net assets of \$1,775,110. As of December 31, 2019, \$1,591,800 of Aqua Pennsylvania's retained earnings of \$1,611,800 and \$221,466 of the retained earnings of \$270,192 of other subsidiaries were free of these restrictions. Some supplemental indentures also prohibit Aqua Pennsylvania and some other subsidiaries of the Company from making loans to, or purchasing the stock of, the Company.

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES
Notes to Consolidated Financial Statements (continued)
(In thousands of dollars, except per share amounts)

Sinking fund payments are required by the terms of specific issues of long-term debt. Excluding amounts due under the Company's revolving credit agreement, the future sinking fund payments and debt maturities of the Company's long-term debt are as follows:

Interest Rate Range	2020	2021	2022	2023	2024	Thereafter
0.00% to 0.99%	\$ 670	\$ 460	\$ 461	\$ 461	\$ 252	1,170
1.00% to 1.99%	1,016	978	957	835	764	6,183
2.00% to 2.99%	1,863	1,913	1,964	2,017	1,619	6,298
3.00% to 3.99%	91,524	41,287	24,622	2,065	1,767	1,133,776
4.00% to 4.99%	292	168	94	99	103	1,554,035
5.00% to 5.99%	6,191	6,215	787	10,811	10,611	76,995
6.00% to 6.99%	-	-	-	-	-	31,000
7.00% to 7.99%	574	666	374	-	-	29,137
8.00% to 8.99%	521	1,665	721	784	852	483
9.00% to 9.99%	2,400	4,900	-	-	-	12,000
Total	\$ 105,051	\$ 58,252	\$ 29,980	\$ 17,072	\$ 15,968	2,851,077

In December 2019, Aqua Pennsylvania issued \$125,000 of first mortgage bonds, of which \$75,000 is due in 2052 and \$50,000 is due in 2053 with interest rates of 3.39% and 3.41%, respectively. The proceeds from these bonds were used to repay existing indebtedness and for general corporate purposes.

In May 2019, Aqua Pennsylvania issued \$125,000 of first mortgage bonds, of which \$75,000 is due in 2049, \$25,000 is due in 2054, and \$25,000 is due in 2059 with interest rates of 4.02%, 4.07%, and 4.12%, respectively. The proceeds from these bonds were used to repay existing indebtedness and for general corporate purposes. Additionally, in September 2019, Aqua Pennsylvania issued \$175,000 of first mortgage bonds, of which \$50,000 is due in 2054, \$75,000 is due in 2058, and \$50,000 is due in 2059 with interest rates of 4.09%, 4.13%, and 4.14%, respectively.

On May 18, 2019, the Company redeemed \$313,500 of the Company's outstanding notes (the "Company Debt Refinancing") that had maturities ranging from 2019-2037 and interest rates ranging from 3.57% - 5.83%. Additionally, the Company Debt Refinancing was subject to a make whole payment of \$25,237, and \$18,528 of this payment was expensed, and is presented in the consolidated statements of net income on the line item "loss on debt extinguishment." The balance of the payment, or \$6,709, was deferred, as a regulatory asset, as it represents an amount by which the Company expects to receive prospective rate recovery.

On April 26, 2019, the Company issued \$900,000 of long-term debt (the "Senior Notes"), less expenses of \$7,931, of which \$400,000 is due in 2029, and \$500,000 is due in 2049 with interest rates of 3.566% and 4.276%, respectively. The Company used the net proceeds from the issuance of Senior Notes to (1) secure \$436,000 of funding for the Peoples Gas Acquisition, (2) complete the redemption of \$313,500 aggregate principal amount of certain of the Company's outstanding notes noted below, (3) pay related costs and expenses, and (4) for general corporate purposes.

In November 2018, Aqua Pennsylvania issued \$125,000 of first mortgage bonds, of which \$65,000 is due in 2047, \$30,000 is due in 2052, and \$30,000 is due in 2053 with interest rates of 4.44%, 4.49%, and 4.51%, respectively. The proceeds from these bonds were used to repay existing indebtedness and for general corporate purposes.

In June 2018, Aqua Pennsylvania issued \$100,000 of first mortgage bonds, of which \$25,000 is due in 2042, \$10,000 is due in 2045, and \$65,000 is due in 2048 with interest rates of 3.99%, 4.04%, and 4.09%, respectively. The proceeds from these bonds were used to repay existing indebtedness and for general corporate purposes.

In July 2018, Aqua Pennsylvania redeemed \$49,660 of tax-exempt bonds at 5.25% that were originally maturing in 2042 and 2043, respectively.

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES
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As of December 31, 2019 and 2018, the Company did not have any funds restricted for construction activity.

The weighted average cost of long-term debt at December 31, 2019 and 2018 was 4.09% and 4.23%, respectively. The weighted average cost of fixed rate long-term debt at December 31, 2019 and 2018 was 4.09% and 4.31%, respectively. In December 2018, the Company entered into a five year \$550,000 unsecured revolving credit facility, which replaced the Company's prior five year \$500,000 unsecured revolving credit facility. The Company's new unsecured revolving credit facility will be used to repay all indebtedness and fees under our prior unsecured revolving credit facility, and for other general corporate purposes. Additionally, the facility expands by \$150,000 of capacity, upon closing of the Peoples Gas Acquisition, which amount will be available to repay certain outstanding indebtedness and fees to close an existing credit facility of Peoples and for general corporate purposes. Further, at the Company's request this facility expands by an additional amount of up to \$300,000, upon the closing of the Peoples Gas Acquisition. The facility includes a \$25,000 sublimit for daily demand loans. Funds borrowed under this facility are classified as long-term debt and are used to provide working capital as well as support for letters of credit for insurance policies and other financing arrangements. As of December 31, 2019, the Company has the following sublimits and available capacity under the credit facility: \$50,000 letter of credit sublimit, \$32,876 of letters of credit available capacity, \$0 borrowed under the swing-line commitment, and \$0 of funds borrowed under the agreement. Interest under this facility is based at the Company's option, on the prime rate, an adjusted Euro-Rate, an adjusted federal funds rate or at rates offered by the banks. A facility fee is charged on the total commitment amount of the agreement. Under these facilities the average cost of borrowings was 3.55% and 2.92%, and the average borrowing was \$102,973 and \$207,277, during 2019 and 2018, respectively.

The Company is obligated to comply with covenants under some of its loan and debt agreements. These covenants contain a number of restrictive financial covenants, which among other things limit, subject to specific exceptions, the Company's ratio of consolidated total indebtedness to consolidated total capitalization, and require a minimum level of earnings coverage over interest expense. During 2019, the Company was in compliance with its debt covenants under its loan and debt agreements. Failure to comply with the Company's debt covenants could result in an event of default, which could result in the Company being required to repay or finance its borrowings before their due date, possibly limiting the Company's future borrowings, and increasing its borrowing costs.

Loans Payable – In November 2019, Aqua Pennsylvania renewed its \$100,000 364-day unsecured revolving credit facility with four banks. The funds borrowed under this agreement are classified as loans payable and used to provide working capital. As of December 31, 2019 and 2018, funds borrowed under the agreement were \$25,724 and \$15,449, respectively. Interest under this facility is based, at the borrower's option, on the prime rate, an adjusted federal funds rate, an adjusted London Interbank Offered Rate corresponding to the interest period selected, an adjusted Euro-Rate corresponding to the interest period selected or at rates offered by the banks. This agreement restricts short-term borrowings of Aqua Pennsylvania. A commitment fee of 0.05% is charged on the total commitment amount of Aqua Pennsylvania's revolving credit agreement. The average cost of borrowing under the facility was 3.12% and 2.68%, and the average borrowing was \$21,871 and \$22,056, during 2019 and 2018, respectively. The maximum amount outstanding at the end of any one month was \$39,930 and \$45,000 in 2019 and 2018, respectively.

At December 31, 2019 and 2018, the Company had other combined short-term lines of credit of \$35,500. Funds borrowed under these lines are classified as loans payable and are used to provide working capital. As of December 31, 2019 and 2018, funds borrowed under the short-term lines of credit were \$0, respectively. The average borrowing under the lines was \$0 during 2019 and 2018, respectively. The maximum amount outstanding at the end of any one month was \$0 in 2019 and 2018, respectively. Interest under the lines is based at the Company's option, depending on the line, on the prime rate, an adjusted Euro-Rate, an adjusted federal funds rate or at rates offered by the banks. The average cost of borrowings under all lines during 2019 and 2018 was 3.12% and 2.68%, respectively.

Interest Income and Expense– Interest income of \$25,406, \$152, and \$202 was recognized for the years ended December 31, 2019, 2018, and 2017, respectively. Interest expense was \$125,383, \$99,054, and \$88,543 in 2019, 2018, and 2017, including amounts capitalized for borrowed funds of \$4,231 \$3,332, and \$3,578, respectively.

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Unsecured Bridge Loan Commitment – On October 22, 2018, the Company obtained the Bridge Commitment from certain banks to provide senior unsecured bridge loans in an aggregate amount of up to \$5,100,000 to, among other things, backstop the Peoples Gas Acquisition purchase price and the refinancing of certain debt of the Company and of Peoples. As of December 31, 2019, the Company had terminated \$4,350,000 of commitments under the Bridge Commitment in connection with, among other things, the replacement of the Company's unsecured revolving credit facility, and the issuances of common stock, tangible equity units, and senior notes in April 2019.

Interest Rate Swap Agreements – In October 2018, the Company entered into interest rate swap agreements to mitigate interest rate risk associated with an anticipated \$850,000 of debt issuances to fund a portion of the Peoples Gas Acquisition and refinance a portion of the Company's borrowings. On April 24, 2019, the Company settled the interest rate swap agreements upon issuance of \$900,000 of long-term debt to be used to finance a portion of the purchase price of the Peoples Gas Acquisition and redeem \$313,500 of the Company's existing debt. The settlement resulted in a payment by the Company of \$83,520.

The interest rate swaps did not qualify for hedge accounting and any changes in the fair value of the swaps was included in our earnings. The interest rate swaps were classified as financial derivatives used for non-trading activities. Other than the interest rate swaps, the Company has no other derivative instruments. The Company recorded the fair value of the interest rate swaps by discounting the future net cash flows associated with the debt issuance and recognized either an asset or liability at the balance sheet date.

The following table provides a summary of the amounts recognized in earnings for our interest rate swap agreements:

	Location of Gain (Loss) Recognized	Amount of Gain (Loss) Recognized in Income on Derivatives	
		Years Ended December 31,	
		2019	2018
Derivatives not designated as hedging instrument:			
Interest rate swaps	Other (expense) income	<u>\$ (23,742)</u>	<u>\$ (59,779)</u>

Note 12 – Fair Value of Financial Instruments

Financial instruments are recorded at carrying value in the financial statements and approximate fair value, with the exception of long-term debt, as of the dates presented. The fair value of these instruments is disclosed below in accordance with current accounting guidance related to financial instruments.

The fair value of loans payable is determined based on its carrying amount and utilizing level 1 methods and assumptions. As of December 31, 2019 and 2018, the carrying amount of the Company's loans payable was \$25,724 and \$15,449, which equates to their estimated fair value. The fair value of the interest rate swap agreements is determined by discounting the future net cash flows utilizing level 2 methods and assumptions. As of December 31, 2018, the fair value of the Company's interest rate swap agreements, which were settled in April 2019, represented a liability of \$59,779. The fair value of cash and cash equivalents, which is comprised of uninvested cash and the proceeds from the April 2019 issuances of common stock, tangible equity units, and long-term debt for the Peoples Gas Acquisition, which are held in an interest-bearing account, is determined based on level 1 methods and assumptions. As of December 31, 2019 and 2018, the carrying amounts of the Company's cash and cash equivalents were \$1,868,922 and \$3,627, which equates to their fair value. The Company's assets underlying the deferred compensation and non-qualified pension plans are determined by the fair value of mutual funds, which are based on quoted market prices from active markets utilizing level 1 methods and assumptions. As of December 31, 2019 and 2018, the carrying amount of these securities was \$23,419 and

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\$20,388, which equates to their fair value, and is reported in the consolidated balance sheet in deferred charges and other assets.

Unrealized gains and losses on equity securities held in conjunction with our non-qualified pension plan is as follows:

	Years ended December 31,	
	2019	2018
Net gain (loss) recognized during the period on equity securities	\$ 293	\$ (95)
Less: net gain / loss recognized during the period on equity securities sold during the period	-	-
Unrealized gain (loss) recognized during the reporting period on equity securities still held at the reporting date	<u>\$ 293</u>	<u>\$ (95)</u>

The net gain (loss) recognized on equity securities is presented on the consolidated statements of net income on the line item “Other.” Additionally, the unrealized gain recognized during 2017 was reported on the consolidated statements of comprehensive income.

The carrying amounts and estimated fair values of the Company’s long-term debt is as follows:

	December 31,	
	2019	2018
Carrying amount	\$ 3,077,400	\$ 2,563,660
Estimated fair value	3,324,377	2,588,086

The fair value of long-term debt has been determined by discounting the future cash flows using current market interest rates for similar financial instruments of the same duration utilizing level 2 methods and assumptions. The Company’s customers’ advances for construction have a carrying value of \$95,556 and \$93,343 at December 31, 2019 and 2018, respectively. Their relative fair values cannot be accurately estimated because future refund payments depend on several variables, including new customer connections, customer consumption levels and future rate increases. Portions of these non-interest bearing instruments are payable annually through 2029 and amounts not paid by the respective contract expiration dates become non-refundable. The fair value of these amounts would, however, be less than their carrying value due to the non-interest bearing feature.

Note 13 – Stockholders’ Equity

At December 31, 2019, the Company had 300,000,000 shares of common stock authorized; par value \$0.50. Shares outstanding and treasury shares held were as follows:

	December 31,		
	2019	2018	2017
Shares outstanding	220,758,719	178,091,621	177,713,943
Treasury shares	3,112,565	3,060,206	2,986,308

Private Placement

On March 29, 2019, the Company entered into a Stock Purchase Agreement (the “Stock Purchase Agreement”) with Canada Pension Plan Investment Board (the “Investor”), pursuant to which the Company agreed to issue and sell to the Investor in a private placement (the “Private Placement”) 21,661,095 newly issued shares of common stock, par value \$0.50 per share (the “Common Stock”). The gross proceeds of the Private Placement are expected to amount to approximately \$750,000 less estimated expenses of \$21,560.

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The shares issued and sold to the Investor pursuant to the Private Placement were to be priced at the lower of (1) \$34.62, which represents a 4.5% discount to the trailing 20 consecutive trading day volume weighted average price of the Common Stock ending on, and including, March 28, 2019, and (2) the volume weighted average price per share in the Company's subsequent public offering of Common Stock to fund a portion of the Peoples Gas Acquisition. Based on the common stock offering noted below, the Private Placement was priced at \$34.62 per share.

The closing of the Private Placement is expected to occur concurrently with the closing of the Peoples Gas Acquisition, subject to certain closing conditions, including the closing of the Peoples Gas Acquisition, and the execution and delivery of a shareholder agreement between the Investor and the Company. The Investor has agreed to certain transfer restrictions for a period of 15 months from the closing date of the Peoples Gas Acquisition.

The Stock Purchase Agreement contains customary representations, warranties and covenants of the Company and the Investor, and the parties have agreed to indemnify each other for losses related to breaches of their respective representations and warranties. Upon closing of the Private Placement, the Company has agreed to reimburse the Investor for reasonable out-of-pocket diligence expenses of up to \$4,000, subject to certain exceptions.

Common Stock / Tangible Equity Unit Issuances

On April 23, 2019, the Company issued \$1,293,750, less expenses of \$30,651, of its common stock and \$690,000, less expenses of \$16,358, of its tangible equity units (the "Units"), with a stated amount of \$50 per unit. These issuances were part of the financing of the Peoples Gas Acquisition. The common stock was issued at \$34.62 per share and thus the Private Placement noted above was priced at \$34.62 per share.

Each Unit consists of a prepaid stock purchase contract and an amortizing note due April 30, 2022, each issued by the Company. Unless earlier settled or redeemed, each stock purchase contract will automatically settle on April 30, 2022 (subject to postponement in limited circumstances) for between 1.1790 and 1.4442 shares of the Company's common stock, subject to adjustment, based upon the applicable market value of the common stock, as described in the final prospectus supplement relating to the Units. During 2019, 4,109,292 stock purchase contracts were early settled by the holders of the contracts, resulting in the issuance of 4,846,601 shares of the Company's common stock. The amortizing notes have an initial principal amount of \$8.62909, or \$119,081 in aggregate, and bear interest at a rate of 3.00% per year, and pay equal quarterly cash installments of \$0.75000 per amortizing note (except for the July 30, 2019 installment payment, which was \$0.80833 per amortizing note), that will constitute a payment of interest and a partial repayment of principal, and which cash payment in the aggregate will be equivalent to 6.00% per year with respect to each \$50 stated amount of the Units. The amortizing notes represent unsecured senior obligations of the Company.

The issuance of the common stock and the Units (including the component stock purchase contracts and amortizing notes) were separate public issuances made by means of separate prospectus supplements pursuant to the Company's universal "pay as you go" shelf registration statement, filed with the SEC in February 2018, which allows for the potential future offer and sale by us, from time to time, in one or more public offerings, of an indeterminate amount of the Company's common stock, preferred stock, debt securities, and other securities specified therein at indeterminate prices.

The Company recorded the issuance of the purchase contract portion of the Units as additional paid-in-capital of \$570,919, less allocable issuance costs of \$13,530, in our financial statements. The Company recorded the amortizing notes portion of the Units of \$119,081 as long-term debt and recorded allocable issuance costs of \$2,828 as debt issuance costs.

At December 31, 2019, the Company had 1,770,819 shares of authorized but unissued Series Preferred Stock, \$1.00 par value.

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In February 2018, the Company filed a universal shelf registration statement with the SEC to allow for the potential future sale by the Company, from time to time, in one or more public offerings, of an indeterminate amount of our common stock, preferred stock, debt securities and other securities specified therein at indeterminate prices.

The Company has an acquisition shelf registration statement on file with the SEC which permits the offering, from time to time, of an aggregate of \$500,000 in shares of common stock and shares of preferred stock in connection with acquisitions. The balance remaining available for use under the acquisition shelf registration as of December 31, 2019 is \$487,155.

The form and terms of any securities issued under the universal shelf registration statement and the acquisition shelf registration statement will be determined at the time of issuance.

The Company has a Dividend Reinvestment and Direct Stock Purchase Plan ("Plan") that allows reinvested dividends to be used to purchase shares of common stock at a five percent discount from the current market value. Under the direct stock purchase program, shares are purchased by investors at a five percent discount from the market price. The shares issued under the Plan are either shares purchased by the Company's transfer agent in the open-market or original issue shares. In 2019, 2018, and 2017, 183,731, 321,585, and 447,753 shares of the Company were purchased under the dividend reinvestment portion of the Plan by the Company's transfer agent in the open-market for \$7,777, \$11,343, and \$15,168, respectively. During 2019 and 2018, under the dividend reinvestment portion of the Plan, 236,666 and 158,205 original issue shares of common stock were sold, providing the Company with proceeds of \$8,959 and \$5,163, respectively.

The Company's accumulated other comprehensive income is reported in the stockholders' equity section of the consolidated balance sheets, the consolidated statements of equity, and the related components of other comprehensive income are reported in the consolidated statements of comprehensive income. The Company recorded a regulatory asset for its underfunded status of its pension and other post-retirement benefit plans that would otherwise be charged to other comprehensive income, as it anticipates recovery of its costs through customer rates.

Note 14 – Net Income per Common Share and Equity per Common Share

Basic net income per share is based on the weighted average number of common shares outstanding. Diluted net income per share is based on the weighted average number of common shares outstanding and potentially dilutive shares. The dilutive effect of employee stock-based compensation is included in the computation of diluted net income per share. The dilutive effect of stock-based compensation is calculated by using the treasury stock method and expected proceeds upon exercise or issuance of the stock-based compensation. The treasury stock method assumes that the proceeds from stock-based compensation are used to purchase the Company's common stock at the average market price during the period. The following table summarizes the shares, in thousands, used in computing basic and diluted net income per share:

	Years ended December 31,		
	2019	2018	2017
Average common shares outstanding during the period for basic computation	215,550	177,904	177,612
Effect of dilutive securities:			
Tangible equity units	-	-	-
Employee stock-based compensation	381	495	563
Average common shares outstanding during the period for diluted computation	215,931	178,399	178,175

For the years ended December 31, 2019 and 2017, all of the Company's employee stock options were included in the calculation of diluted net income per share as the calculated cost to exercise the stock options was less than the average market price of the Company's common stock during these periods. For the year ended December 31, 2018, the Company's employee stock options to purchase 8,596 shares of common stock were excluded from the calculation of diluted net income per share as the calculated cost to exercise the stock options was greater than the average market price of the Company's common stock during this period.

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For the year ended December 31, 2019, the average common shares outstanding during the period for basic computation includes the weighted-average impact of 10,533,133 shares, based on the minimum number of shares of 11,425,345 to be issued in April 2022 upon settlement of the stock purchase contracts issued in April 2019 under the tangible equity units.

Equity per common share was \$17.58 and \$11.28 and at December 31, 2019 and 2018, respectively. These amounts were computed by dividing Essential Utilities stockholders' equity by the number of shares of common stock outstanding at the end of each year.

Note 15 – Employee Stock and Incentive Plan

Under the Company's Amended and Restated Equity Compensation Plan, (the "Plan") approved by the Company's shareholders on May 2, 2019, to replace the 2004 Equity Compensation Plan, as amended and restated in 2009 (the "2009 Plan"), stock options, stock units, stock awards, stock appreciation rights, dividend equivalents, and other stock-based awards may be granted to employees, non-employee directors, and consultants and advisors. The Plan authorizes 6,250,000 shares for issuance under the plan. A maximum of 3,125,000 shares under the Plan may be issued pursuant to stock award, stock units and other stock-based awards, subject to adjustment as provided in the Plan. During any calendar year, no individual may be granted (i) stock options and stock appreciation rights under the Plan for more than 500,000 shares of common stock in the aggregate or (ii) stock awards, stock units or other stock-based awards under the Plan for more than 500,000 shares of Company stock in the aggregate, subject to adjustment as provided in the Plan. Awards to employees and consultants under the Plan are made by a committee of the Board of Directors, except that with respect to awards to the Chief Executive Officer, the committee recommends those awards for approval by the non-employee directors of the Board of Directors. In the case of awards to non-employee directors, the Board of Directors makes such awards. At December 31, 2019, 2,667,480 shares were still available for issuance under the Plan. No further grants may be made under the Company's 2009 Equity Compensation Plan.

Performance Share Units – During 2018 and 2017, the Company granted performance share units. A performance share unit ("PSU") represents the right to receive a share of the Company's common stock if specified performance goals are met over the three year performance period specified in the grant, subject to exceptions through the respective vesting periods, which is generally three years. Each grantee is granted a target award of PSUs, and may earn between 0% and 200% of the target amount depending on the Company's performance against the performance goals.

The Company did not grant PSUs for the year ended December 31, 2019. The performance goals of the 2018 and 2017 PSU grants consisted of the following metrics:

	Performance Grant of:	
	2018	2017
Metric 1 – Company's total shareholder return ("TSR") compared to the TSR for a specific peer group of investor-owned water companies (a market-based condition)	25.0%	26.47%
Metric 2 – Company's TSR compared to the TSR for the companies listed in the Standard and Poor's Midcap Utilities Index (a market-based condition)	25.0%	26.47%
Metric 3 – Achievement of a targeted cumulative level of rate base growth as a result of acquisitions (a performance-based condition)	25.0%	23.53%
Metric 4 – Achievement of targets for maintaining consolidated operations and maintenance expenses over the three year measurement period (a performance-based condition)	25.0%	23.53%

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The following table provides the compensation expense and income tax benefit for PSUs:

	Years ended December 31,		
	2019	2018	2017
Stock-based compensation within operations and maintenance expense	\$ 2,741	\$ 4,817	\$ 4,351
Income tax benefit	767	1,344	1,766

The following table summarizes nonvested PSU transactions for the year ended December 31, 2019:

	Number of Share Units	Weighted Average Fair Value
Nonvested share units at beginning of period	443,410	\$ 27.20
Granted	-	-
Performance criteria adjustment	(82,921)	33.56
Forfeited	(9,767)	33.21
Share units issued	(89,324)	52.39
Nonvested share units at end of period	261,398	16.35

A portion of the fair value of PSUs was estimated at the grant date based on the probability of satisfying the market-based conditions associated with the PSUs using the Monte Carlo valuation method, which assesses the probabilities of various outcomes of market conditions. The other portion of the fair value of the PSUs associated with performance-based conditions was based on the fair market value of the Company's stock at the grant date, regardless of whether the market-based condition is satisfied. The fair value of each PSU grant is amortized into compensation expense on a straight-line basis over their respective vesting periods, generally 36 months. The accrual of compensation costs is based on an estimate of the final expected value of the award and is adjusted as required for the portion based on the performance-based condition. The Company assumes that forfeitures will be minimal, and recognizes forfeitures as they occur, which results in a reduction in compensation expense. As the payout of the PSUs includes dividend equivalents, no separate dividend yield assumption is required in calculating the fair value of the PSUs. The recording of compensation expense for PSUs has no impact on net cash flows. The following table provides the assumptions used in the pricing model for the grant, the resulting grant date fair value of PSUs, and the intrinsic value and fair value of PSUs that vested during the year:

	Years ended December 31,		
	2019	2018	2017
Expected term (years)	-	3.0	3.0
Risk-free interest rate	-	2.43%	1.49%
Expected volatility	-	17.2%	17.9%
Weighted average fair value of PSUs granted	\$ -	\$ 37.42	\$ 30.79
Intrinsic value of vested PSUs	\$ 3,181	\$ 4,704	\$ 3,926
Fair value of vested PSUs	\$ 2,569	\$ 3,613	\$ 3,207

As of December 31, 2019, \$1,840 of unrecognized compensation costs related to PSUs is expected to be recognized over a weighted average period of approximately 1.1 years. The aggregate intrinsic value of PSUs as of December 31, 2019 was \$12,270. The aggregate intrinsic value of PSUs is based on the number of nonvested share units and the market value of the Company's common stock as of the period end date.

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Restricted Stock Units – A restricted stock unit (“RSU”) represents the right to receive a share of the Company’s common stock and is valued based on the fair market value of the Company’s stock on the date of grant. RSUs are eligible to be earned at the end of a specified restricted period, generally three years, beginning on the date of grant. In some cases, the right to receive the shares is subject to specific performance goals established at the time the grant is made. The Company assumes that forfeitures will be minimal, and recognizes forfeitures as they occur, which results in a reduction in compensation expense. As the payout of the RSUs includes dividend equivalents, no separate dividend yield assumption is required in calculating the fair value of the RSUs. The following table provides the compensation expense and income tax benefit for RSUs:

	Years ended December 31,		
	2019	2018	2017
Stock-based compensation within operations and maintenance expense	\$ 1,650	\$ 1,605	\$ 1,183
Income tax benefit	466	456	489

The following table summarizes nonvested RSU transactions for the year ended December 31, 2019:

	Number of Stock Units	Weighted Average Fair Value
Nonvested stock units at beginning of period	130,085	\$ 33.13
Granted	57,290	36.25
Stock units vested and issued	(40,971)	32.89
Forfeited	(4,520)	35.28
Nonvested stock units at end of period	<u>141,884</u>	<u>34.39</u>

The following table summarizes the value of RSUs:

	Years ended December 31,		
	2019	2018	2017
Weighted average fair value of RSUs granted	\$ 36.25	\$ 35.15	\$ 30.37
Intrinsic value of vested RSUs	1,456	1,605	896
Fair value of vested RSUs	1,341	1,268	751

As of December 31, 2019, \$2,187 of unrecognized compensation costs related to RSUs is expected to be recognized over a weighted average period of approximately 1.4 years. The aggregate intrinsic value of RSUs as of December 31, 2019 was \$6,660. The aggregate intrinsic value of RSUs is based on the number of nonvested stock units and the market value of the Company’s common stock as of the period end date.

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Stock Options – A stock option represents the option to purchase a number of shares of common stock of the Company as specified in the stock option grant agreement at the exercise price per share as determined by the closing market price of our common stock on the grant date. Stock options are exercisable in installments of 33% annually, starting one year from the grant date and expire ten years from the grant date. The vesting of stock options granted in 2019, 2018, and 2017 are subject to the achievement of the following performance goal: the Company achieves at least an adjusted return on equity equal to 150 basis points below the return on equity granted by the Pennsylvania Public Utility Commission during the Company’s Pennsylvania subsidiary’s last rate proceeding. The adjusted return on equity equals net income, excluding net income or loss from acquisitions which have not yet been incorporated into a rate application as of the last year end, divided by equity which excludes equity applicable to acquisitions which are not yet incorporated in a rate application during the award period.

The fair value of each stock option is amortized into compensation expense using the graded vesting method, which results in the recognition of compensation costs over the requisite service period for each separately vesting tranche of the stock options as though the stock options were, in substance, multiple stock option grants. The following table provides compensation expense and income tax benefit for stock options:

	Years ended December 31,		
	2019	2018	2017
Stock-based compensation within operations and maintenance expenses	\$ 2,280	\$ 546	\$ 245
Income tax benefit	643	184	208

Options under the plans were issued at the closing market price of the stock on the day of the grant. The fair value of options was estimated at the grant date using the Black-Scholes option-pricing model, which relies on assumptions that require management’s judgment. The following table provides the assumptions used in the pricing model for grants and the resulting grant date fair value of stock options granted in the period reported:

	Years ended December 31,			
	2019	2018	2017	
Expected term (years)	5.47	5.46	5.45	
Risk-free interest rate	2.53%	2.72%	2.01%	
Expected volatility	17.7%	17.2%	17.7%	
Dividend yield	2.44%	2.37%	2.51%	
Grant date fair value per option	\$ 5.25	\$ 5.10	\$ 4.07	

Historical information was the principal basis for the selection of the expected term and dividend yield. The expected volatility is based on a weighted-average combination of historical and implied volatilities over a time period that approximates the expected term of the option. The risk-free interest rate was selected based upon the U.S. Treasury yield curve in effect at the time of grant for the expected term of the option. The Company assumes that forfeitures will be minimal, and recognizes forfeitures as they occur, which results in a reduction in compensation expense.

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The following table summarizes stock option transactions for the year ended December 31, 2019:

	Shares	Weighted Average Exercise Price	Weighted Average Remaining Life (years)	Aggregate Intrinsic Value
Outstanding, beginning of year	422,972	\$ 25.97		
Granted	769,115	35.94		
Forfeited	(36,479)	35.46		
Expired / Cancelled	(2,532)	32.28		
Exercised	(119,306)	15.91		
Outstanding at end of year	1,033,770	\$ 34.20	8.4	\$ 13,171
Exercisable at end of year	164,117	26.86	5.4	\$ 3,296

The intrinsic value of stock options is the amount by which the market price of the stock on a given date, such as at the end of the period or on the day of exercise, exceeded the closing market price of stock on the date of grant. The following table summarizes the intrinsic value of stock options exercised and the fair value of stock options which vested:

	Years ended December 31,		
	2019	2018	2017
Intrinsic value of options exercised	\$ 2,552	\$ 1,806	\$ 2,767
Fair value of options vested	422	156	-

The following table summarizes information about the options outstanding and options exercisable as of December 31, 2019:

	Options Outstanding			Options Exercisable	
	Shares	Weighted Average Remaining Life (years)	Weighted Average Exercise Price	Shares	Weighted Average Exercise Price
Range of prices:					
\$13.00 - 14.99	47,388	0.1	\$ 13.72	47,388	\$ 13.72
\$15.00 - 33.99	99,661	7.2	30.47	67,649	30.47
\$34.00 - 34.99	138,113	8.2	34.51	46,214	34.51
\$35.00 - 35.99	748,608	9.2	35.93	2,866	35.44
	1,033,770	8.4	34.20	164,117	26.86

As of December 31, 2019, there was \$2,018 of total unrecognized compensation costs related to nonvested stock options granted under the plans. The cost is expected to be recognized over a weighted average period of approximately 1.5 years.

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES

Notes to Consolidated Financial Statements (continued)

(In thousands of dollars, except per share amounts)

Stock Awards – Stock awards represent the issuance of the Company’s common stock, without restriction. Stock awards are granted to the Company’s non-employee directors. The issuance of stock awards results in compensation expense which is equal to the fair market value of the stock on the grant date, and is expensed immediately upon grant. The following table provides compensation cost and income tax benefit for stock-based compensation related to stock awards:

	Years ended December 31,		
	2019	2018	2017
Stock-based compensation within operations and maintenance expense	\$ 698	\$ 600	\$ 563
Income tax benefit	202	173	233

The following table summarizes the value of stock awards:

	Years ended December 31,		
	2019	2018	2017
Intrinsic and fair value of stock awards vested	\$ 698	\$ 600	\$ 563
Weighted average fair value of stock awards granted	41.75	34.95	34.42

The following table summarizes stock award transactions for year ended December 31, 2019:

	Number of Stock Awards	Weighted Average Fair Value
Nonvested stock awards at beginning of period	-\$	-
Granted	16,714	41.75
Vested	(16,714)	41.75
Nonvested stock awards at end of period	-	-

Note 16 – Pension Plans and Other Post-retirement Benefits

The Company maintains a qualified, defined benefit pension plan that covers its full-time employees who were hired prior to April 1, 2003. Retirement benefits under the plan are generally based on the employee's total years of service and compensation during the last five years of employment. The Company's policy is to fund the plan annually at a level which is deductible for income tax purposes and which provides assets sufficient to meet its pension obligations over time. To offset some limitations imposed by the Internal Revenue Code with respect to payments under qualified plans, the Company has a non-qualified Supplemental Pension Benefit Plan for Salaried Employees in order to prevent some employees from being penalized by these limitations, and to provide certain retirement benefits based on employee's years of service and compensation. The net pension costs and obligations of the qualified and non-qualified plans are included in the tables which follow. Employees hired after April 1, 2003 may participate in a defined contribution plan that provides a Company matching contribution on amounts contributed by participants and an annual profit-sharing contribution based upon a percentage of the eligible participants' compensation.

Effective July 1, 2015, the Company added a permanent lump sum option to the form of benefit payments offered to participants of the qualified defined benefit pension plan upon retirement or termination. The plan paid \$10,197 and \$14,872 to participants who elected this option during 2019 and 2018.

In addition to providing pension benefits, the Company offers post-retirement benefits other than pensions to employees hired before April 1, 2003 and retiring with a minimum level of service. These benefits include continuation of medical and prescription drug benefits, or a cash contribution toward such benefits, for eligible retirees and life insurance benefits for eligible retirees. The Company funds these benefits through various trust accounts. The benefits of retired officers and other eligible retirees are paid by the Company and not from plan assets due to limitations imposed by the Internal Revenue Code.

In 2018 the Company recognized a settlement loss of \$5,931, which resulted from lump sum payments from the qualified or non-qualified plans exceeding the threshold of service and interest cost for the period. A settlement loss is the recognition of unrecognized pension benefit costs that would have been incurred in subsequent periods. The Company recorded this settlement loss as a regulatory asset, as it is probable of recovery in future rates, which will be amortized into pension benefit costs.

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES
Notes to Consolidated Financial Statements (continued)
(In thousands of dollars, except per share amounts)

The following benefit payments, which reflect expected future service, as appropriate, are expected to be paid in the years indicated:

	Pension Benefits	Other Post-retirement Benefits
Years:		
2020	\$ 20,468	\$ 2,437
2021	20,330	2,640
2022	20,911	2,880
2023	21,121	3,133
2024	20,583	3,312
2025-2029	106,028	19,517

The changes in the benefit obligation and fair value of plan assets, the funded status of the plans and the assumptions used in the measurement of the company's benefit obligation are as follows:

	Pension Benefits	Other Post-retirement Benefits
	2019	2018
Change in benefit obligation:		
Benefit obligation at January 1,	\$ 281,964	\$ 320,979
Service cost	2,718	3,249
Interest cost	11,817	11,495
Actuarial (gain)/loss	36,885	(23,080)
Plan participants' contributions	-	-
Benefits paid	(23,003)	(30,679)
Benefit obligation at December 31,	310,381	281,964
Change in plan assets:		
Fair value of plan assets at January 1,	239,007	270,353
Actual return on plan assets	41,955	(16,852)
Employer contributions	8,502	16,185
Benefits paid	(23,003)	(30,679)
Fair value of plan assets at December 31,	266,461	239,007
Funded status of plan:		
Net liability recognized at December 31,	\$ 43,920	\$ 42,957

The following table provides the net liability recognized on the consolidated balance sheets at December 31,:

	Pension Benefits	Other Post-retirement Benefits
	2019	2018
Current liability	\$ 403	\$ 267
Noncurrent liability	43,517	42,690
Net liability recognized	\$ 43,920	\$ 42,957

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES
Notes to Consolidated Financial Statements (continued)
(In thousands of dollars, except per share amounts)

At December 31, 2019 and 2018, the Company's pension plans had benefit obligations in excess of its plan assets. The following tables provide the projected benefit obligation, the accumulated benefit obligation and fair market value of the plan assets as of December 31,:

	Projected Benefit Obligation Exceeds the Fair Value of Plan Assets			
	2019		2018	
Projected benefit obligation	\$	310,381	\$	281,964
Fair value of plan assets		266,461		239,007

	Accumulated Benefit Obligation Exceeds the Fair Value of Plan Assets			
	2019		2018	
Accumulated benefit obligation	\$	290,522	\$	264,876
Fair value of plan assets		266,461		239,007

The following table provides the components of net periodic benefit costs for the years ended December 31,:

	Pension Benefits			Other Post-retirement Benefits		
	2019	2018	2017	2019	2018	2017
Service cost	\$ 2,718	\$ 3,249	\$ 3,174	\$ 819	\$ 1,049	\$ 1,020
Interest cost	11,817	11,495	12,434	2,999	2,831	2,947
Expected return on plan assets	(15,272)	(18,211)	(17,077)	(2,482)	(2,706)	(2,589)
Amortization of prior service cost (credit)	620	527	579	(464)	(509)	(509)
Amortization of actuarial loss	7,927	7,291	8,003	664	1,182	1,165
Settlement loss	-	5,931	-	-	-	-
Net periodic benefit cost	\$ 7,810	\$ 10,282	\$ 7,113	\$ 1,536	\$ 1,847	\$ 2,034

The Company records the underfunded status of its pension and other post-retirement benefit plans on its consolidated balance sheets and records a regulatory asset for these costs that would otherwise be charged to stockholders' equity, as the Company anticipates recoverability of the costs through customer rates to be probable. The Company's pension and other post-retirement benefit plans were underfunded at December 31, 2019 and 2018. Changes in the plans' funded status will affect the assets and liabilities recorded on the balance sheet. Due to the Company's regulatory treatment, the recognition of the funded status is recorded as a regulatory asset pursuant to the FASB's accounting guidance for regulated operations.

The following table provides the amounts recognized in regulatory assets that have not been recognized as components of net periodic benefit cost as of December 31,:

	Pension Benefits		Other Post-retirement Benefits	
	2019	2018	2019	2018
Net actuarial loss	\$ 87,786	\$ 85,510	\$ 10,496	\$ 10,876
Prior service cost (credit)	2,115	2,734	(896)	(1,360)
Total recognized in regulatory assets	\$ 89,901	\$ 88,244	\$ 9,600	\$ 9,516

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES
Notes to Consolidated Financial Statements (continued)
(In thousands of dollars, except per share amounts)

The following table provides the estimated net actuarial loss and prior service cost for the Company's pension plans that will be amortized from regulatory asset into net periodic benefit cost for the year ending December 31, 2019:

	Pension Benefits	Other Post-retirement Benefits
Net actuarial loss	\$ 8,021	\$ 531
Prior service cost (credit)	591	(464)

Accounting for pensions and other post-retirement benefits requires an extensive use of assumptions about the discount rate, expected return on plan assets, the rate of future compensation increases received by the Company's employees, mortality, turnover and medical costs. Each assumption is reviewed annually with assistance from the Company's actuarial consultant who provides guidance in establishing the assumptions. The assumptions are selected to represent the average expected experience over time and may differ in any one year from actual experience due to changes in capital markets and the overall economy. These differences will impact the amount of pension and other post-retirement benefit expense that the Company recognizes.

The significant assumptions related to the Company's benefit obligations are as follows:

	Pension Benefits		Other Post-retirement Benefits	
	2019	2018	2019	2018
Weighted Average Assumptions Used to Determine Benefit Obligations as of December 31,				
Discount rate	3.35%	4.30%	3.42%	4.34%
Rate of compensation increase	3.0-4.0%	3.0-4.0%	n/a	n/a
Assumed Health Care Cost Trend Rates Used to Determine Benefit Obligations as of December 31,				
Health care cost trend rate	n/a	n/a	6.25%	6.6%
Rate to which the cost trend is assumed to decline (the ultimate trend rate)	n/a	n/a	5.0%	5.0%
Year that the rate reaches the ultimate trend rate	n/a	n/a	2024	2022

n/a – Assumption is not applicable.

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES
Notes to Consolidated Financial Statements (continued)
(In thousands of dollars, except per share amounts)

The significant assumptions related to the Company's net periodic benefit costs are as follows:

	Pension Benefits			Other Post-retirement Benefits		
	2019	2018	2017	2019	2018	2017
Weighted Average Assumptions Used to Determine Net Periodic Benefit Costs for Years Ended December 31,						
Discount rate	4.30%	3.66%	4.13%	4.34%	3.73%	4.25%
Expected return on plan assets	6.50%	6.75%	7.00%	4.1-6.5%	4.25-6.75%	4.67-7.00%
Rate of compensation increase	3.0-4.0%	3.0-4.0%	3.0-4.0%	n/a	n/a	n/a
Assumed Health Care Cost Trend Rates Used to Determine Net Periodic Benefit Costs for Years Ended December 31,						
Health care cost trend rate	n/a	n/a	n/a	6.6%	7.0%	6.6%
Rate to which the cost trend is assumed to decline (the ultimate trend rate)	n/a	n/a	n/a	5.0%	5.0%	5.0%
Year that the rate reaches the ultimate trend rate	n/a	n/a	n/a	2023	2023	2021

n/a – Assumption is not applicable.

Assumed health-care trend rates have a significant effect on the expense and liabilities for other post-retirement benefit plans. The health care trend rate is based on historical rates and expected market conditions. A one-percentage point change in the assumed health-care cost trend rates would have the following effects:

	1-Percentage-Point Increase	1-Percentage-Point Decrease
Effect on the health-care component of the accrued other post-retirement benefit obligation	\$ 5,131	\$ (4,548)
Effect on aggregate service and interest cost components of net periodic post-retirement health-care benefit cost	\$ 301	\$ (227)

The Company's discount rate assumption, which is utilized to calculate the present value of the projected benefit payments of our post-retirement benefits, was determined by selecting a hypothetical portfolio of high quality corporate bonds appropriate to match the projected benefit payments of the plans. The selected bond portfolio was derived from a universe of Aa-graded corporate bonds. The discount rate was then developed as the rate that equates the market value of the bonds purchased to the discounted value of the plan's benefit payments. The Company's pension expense and liability (benefit obligations) increases as the discount rate is reduced.

The Company's expected return on plan assets is determined by evaluating the asset class return expectations with its advisors as well as actual, long-term, historical results of our asset returns. The Company's market related value of plan assets is equal to the fair value of the plan's assets as of the last day of its fiscal year, and is a determinant for the expected return on plan assets which is a component of post-retirement benefits expense. The Company's pension expense increases as the expected return on plan assets decreases. For 2019, the Company used a 6.50% expected return on plan assets assumption which will decrease to 6.0% for 2020. The Company believes its actual long-term asset allocation on average will approximate the targeted allocation. The Company's investment strategy is to earn a reasonable rate of return while maintaining risk at acceptable levels. Risk is managed through fixed income investments to manage interest rate exposures that impact the valuation of liabilities and through the diversification of investments across and within various asset categories. Investment returns are compared to a total plan benchmark constructed by applying the plan's asset allocation target weightings to passive index returns representative of the respective asset classes in which the plan

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES

Notes to Consolidated Financial Statements (continued)

(In thousands of dollars, except per share amounts)

invests. The Retirement and Employee Benefits Committee meets quarterly to review plan investments and management monitors investment performance quarterly through a performance report prepared by an external consulting firm.

The Company's pension plan asset allocation and the target allocation by asset class are as follows:

	Target Allocation	Percentage of Plan Assets at December 31,	
		2019	2018
Return seeking assets	50 to 70%	56%	58%
Liability hedging assets	30 to 50%	44%	42%
Total	100%	100%	100%

The fair value of the Company's pension plans' assets at December 31, 2019 by asset class are as follows:

	Level 1	Level 2	Level 3	Assets measured at NAV	Total
				(a)	
Common stock	\$ 17,166	\$ -	\$ -	\$ -	\$ 17,166
Return seeking assets:					
Global equities	-	-	-	51,408	51,408
Real estate securities	-	-	-	13,970	13,970
Hedge / diversifying strategies	-	-	-	38,099	38,099
Credit	-	-	-	27,847	27,847
Liability hedging assets	-	-	-	113,777	113,777
Cash and cash equivalents	4,194	-	-	-	4,194
Total pension assets	\$ 21,360	\$ -	\$ -	\$ 245,101	\$ 266,461

(a) Assets that are measured at fair value using the NAV per share practical expedient have not been classified in the fair value hierarchy.

The fair value of the Company's pension plans' assets at December 31, 2018 by asset class are as follows:

	Level 1	Level 2	Level 3	Assets measured	Total
				at NAV (a)	
Common stock	\$ 12,268	\$ -	\$ -	\$ -	\$ 12,268
Return seeking assets:					
Global equities	-	-	-	48,040	48,040
Real estate securities	-	-	-	15,766	15,766
Hedge / diversifying strategies	-	-	-	37,591	37,591
Credit	-	-	-	25,772	25,772
Liability hedging assets	-	-	-	97,756	97,756
Cash and cash equivalents	1,814	-	-	-	1,814
Total pension assets	\$ 14,082	\$ -	\$ -	\$ 224,925	\$ 239,007

Equity securities include our common stock in the amounts of \$17,166 or 6.4% and \$12,393 or 5.1% of total pension plans' assets as of December 31, 2019 and 2018, respectively.

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES
Notes to Consolidated Financial Statements (continued)
(In thousands of dollars, except per share amounts)

The asset allocation for the Company's other post-retirement benefit plans and the target allocation by asset class are as follows:

	Target Allocation	Percentage of Plan Assets at December 31,	
		2019	2018
Return seeking assets	50 to 70%	64%	60%
Liability hedging assets	30 to 50%	36%	40%
Total	100%	100%	100%

The fair value of the Company's other post-retirement benefit plans' assets at December 31, 2019 by asset class are as follows:

	Level 1	Level 2	Level 3	Assets measured at NAV (a)	Total
Return seeking assets:					
Global equities	\$ 10,795	\$ -	\$ -	17,781	\$ 28,576
Real estate securities	2,449	-	-	3,751	6,200
Liability hedging assets	5,685	-	-	9,984	15,669
Cash and cash equivalents	3,566	-	-	-	3,566
Total other post-retirement assets	\$ 22,495	\$ -	\$ -	31,516	\$ 54,011

(a) Assets that are measured at fair value using the NAV per share practical expedient have not been classified in the fair value hierarchy.

The fair value of the Company's other post-retirement benefit plans' assets at December 31, 2018 by asset class are as follows:

	Level 1	Level 2	Level 3	Assets measured at NAV (a)	Total
Return seeking assets:					
Global equities	\$ 8,411	\$ -	\$ -	13,882	\$ 22,293
Real estate securities	1,967	-	-	3,065	5,032
Liability hedging assets	5,075	-	-	8,806	13,881
Cash and cash equivalents	4,216	-	-	-	4,216
Total other post-retirement assets	\$ 19,669	\$ -	\$ -	25,753	\$ 45,422

Valuation Techniques Used to Determine Fair Value

- *Common Stocks* - Investments in common stocks are valued using unadjusted quoted prices obtained from active markets.
- *Return Seeking Assets* - Investments in return seeking assets consists of the following:
 - Global equities, which consist of common and preferred shares of stock, traded on U.S. or foreign exchanges that are valued using unadjusted quoted prices obtained from active markets, or commingled fund vehicles, consisting of such securities valued using NAV, which are not classified within the fair value hierarchy.
 - Real estate securities, which consist of securities, traded on U.S. or foreign exchanges that are valued using unadjusted quoted prices obtained from active markets, or for real estate commingle fund vehicles that are not publicly quoted, the fund administrators value the funds using the NAV per fund share,

derived from the quoted prices in active markets of the underlying securities and are not classified within the fair value hierarchy.

- o Hedge / diversifying strategies, which consist of a multi-manager fund vehicle having underlying exposures that collectively seek to provide low correlation of return to equity and fixed income markets, thereby offering diversification. As a multi-manager fund investment, NAV is derived from underlying manager NAVs, which are derived from the quoted prices in active markets of the underlying securities and are not classified within the fair value hierarchy.
- o Credit, which consist of certain opportunistic, return-oriented credits which primarily include below investment grade bonds (i.e. high yield bonds), bank loans, and securitized debt. Credits are valued using the NAV per fund share, derived from either quoted prices in active markets of the underlying securities, or less active markets, or quotes of similar assets, and are not classified within the fair value hierarchy.
- *Liability Hedging Assets* – Investments in liability hedging assets consist of funds investing in high-quality fixed income (i.e. U.S. Treasury securities and government bonds), and for funds for which market quotations are readily available, are valued at the last reported closing price on the primary market or exchange on which they are traded. Funds for which market quotations are not readily available, are valued using the NAV per fund share, derived from the quoted prices in active markets of the underlying securities and are not classified within the fair value hierarchy.
- *Cash and Cash Equivalents* – Investments in cash and cash equivalents are comprised of both uninvested cash and money market funds. The uninvested cash is valued based on its carrying value, and the money market funds are valued utilizing the net asset value per unit obtained from published market prices.

Funding requirements for qualified defined benefit pension plans are determined by government regulations and not by accounting pronouncements. In accordance with funding rules and the Company's funding policy, during 2020 our pension contribution is expected to be \$13,542.

The Company has a 401(k) savings plan, which is a defined contribution plan and covers substantially all employees. The Company makes matching contributions that are based on a percentage of an employee's contribution, subject to specific limitations, as well as, non-discretionary contributions based on eligible hourly wages for certain union employees, discretionary year-end contributions based on an employee's eligible compensation, and employer profit sharing contributions. Participants may diversify their Company matching account balances into other investments offered under the 401(k) savings plan. The Company's contributions, which are recorded as compensation expense, were \$ 6,259, \$6,096, and \$5,374, for the years ended December 31, 2019, 2018, and 2017, respectively.

Note 17 – Water and Wastewater Rates

On June 7, 2012, Aqua Pennsylvania reached a settlement agreement in its rate filing with the Pennsylvania Public Utility Commission, which in addition to a water rate increase, provided for a reduction in current income tax expense as a result of the recognition of qualifying income tax benefits upon Aqua Pennsylvania changing its tax accounting method to permit the expensing of qualifying utility asset improvement costs that historically have been capitalized and depreciated for book and tax purposes. In December 2012, Aqua Pennsylvania implemented this change which provides for the flow-through of income tax benefits that resulted in a substantial reduction in income tax expense and greater net income and cash flow. This change allowed Aqua Pennsylvania to suspend its water Distribution System Improvement Charges in 2013 and lengthen the amount of time until the next Aqua Pennsylvania rate case. Beginning on October 1, 2017, Aqua Pennsylvania initiated a water infrastructure rehabilitation surcharge for the capital invested since the last rate proceeding and in August 2018 filed for a base rate increase in water and wastewater rates for its customers. In May 2019, the Company received an order from the Pennsylvania Public Utility Commission, resulting in an increase of \$47,000 in annual revenue, and new rates went into effect on May 24, 2019. The rates in effect at the time of the filing also included \$29,493 in Distribution System Improvement Charges ("DSIC"), which was 7.5% above prior base rates. Consequently, the aggregate base rates increased by \$76,493 since the last base rate increase and the DSIC was reset to zero. Revenues

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES

Notes to Consolidated Financial Statements (continued)

(In thousands of dollars, except per share amounts)

from this rate increase realized in the year of grant were approximately \$28,396. Additionally, in the May 2019 Aqua Pennsylvania rate order, base rates are designed with \$158,865 of tax benefits assumed for qualifying utility asset improvement costs, subject to \$3,000 either above or below this target amount. To the extent actual tax benefits are outside this range, tax benefits will either be deferred or accrued, and settled in the next rate filing.

In December 2018, the Company's operating subsidiary in New Jersey filed for a base rate increase in water rates for its customers. In May 2019, the Company received an order from the New Jersey Board of Public Utilities, resulting in an increase of \$5,000 in annual revenues, and new rates went into effect on June 1, 2019. Revenues from this rate increase realized in the year of grant were approximately \$2,917.

In addition to the Pennsylvania and New Jersey rate awards noted above, the Company's operating subsidiaries were allowed annualized rate increases of \$974 in 2019, \$11,558 in 2018, and \$7,558 in 2017, represented by two, five, and five rate decisions, respectively. Revenues from these rate increases realized in the year of grant were approximately \$974, \$7,270, and \$6,343 in 2019, 2018, and 2017, respectively.

Seven states in which the Company operates permit water utilities, and in six states wastewater utilities, to add a surcharge to their water or wastewater bills to offset the additional depreciation and capital costs related to infrastructure system replacement and rehabilitation projects completed and placed into service between base rate filings. Currently, New Jersey allows for an infrastructure rehabilitation surcharge for water utilities, while Pennsylvania, Illinois, Ohio, Indiana, Virginia, and North Carolina allow for the use of an infrastructure rehabilitation surcharge for both water and wastewater utility systems. The surcharge for infrastructure system replacements and rehabilitations is typically adjusted periodically based on additional qualified capital expenditures completed or anticipated in a future period, is capped as a percentage of base rates, generally at 5% to 12.75%, and is reset to zero when new base rates that reflect the costs of those additions become effective or when a utility's earnings exceed a regulatory benchmark. The surcharge for infrastructure system replacements and rehabilitations provided revenues in 2019, 2018, and 2017 of \$16,007, \$31,836, and \$10,255, respectively.

Note 18 – Segment Information

The Company has ten operating segments and one reportable segment. The Regulated water segment, the Company's single reportable segment, is comprised of eight operating segments representing our water and wastewater regulated utility companies which are organized by the states where we provide water and wastewater services. These operating segments are aggregated into one reportable segment since each of these operating segments has the following similarities: economic characteristics, nature of services, production processes, customers, water distribution or wastewater collection methods, and the nature of the regulatory environment.

Two operating segments are included within the Other category below. These segments are not quantitatively significant and are comprised of Aqua Infrastructure and Aqua Resources. In addition to these segments, Other is comprised of other business activities not included in the reportable segment, including corporate costs that have not been allocated to the Regulated water segment, because they would not be recoverable as a cost of utility service, and intersegment eliminations. Corporate costs include general and administrative expenses, and interest expense.

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES
Notes to Consolidated Financial Statements (continued)
(In thousands of dollars, except per share amounts)

The following table presents information about the Company's reportable segment:

	2019			2018		
	Regulated Water	Other and Eliminations	Consolidated	Regulated Water	Other and Eliminations	Consolidated
Operating revenues	\$ 886,430	\$ 3,262	\$ 889,692	\$ 834,638	\$ 3,453	\$ 838,091
Operations and maintenance expense	315,052	18,050	333,102	292,232	16,246	308,478
Depreciation	158,162	17	158,179	145,977	55	146,032
Amortization	(2,264)	561	(1,703)	401	240	641
Operating income (loss)	357,979	(17,820)	340,159	338,388	(15,210)	323,178
Interest expense	97,995	27,388	125,383	89,207	9,847	99,054
Interest income	54	25,352	25,406	95	57	152
Allowance for funds used during construction	16,172	-	16,172	13,023	-	13,023
Equity earnings in joint venture	-	2,210	2,210	-	2,081	2,081
Provision for income taxes (benefit)	(1,267)	(11,750)	(13,017)	4,158	(17,827)	(13,669)
Net income (loss)	274,920	(50,377)	224,543	259,160	(67,172)	191,988
Capital expenditures	550,273	-	550,273	495,730	7	495,737
Total assets	7,269,404	2,092,581	9,361,985	6,807,960	156,536	6,964,496

	2017		
	Regulated Water	Other and Eliminations	Consolidated
Operating revenues	\$ 804,905	\$ 4,620	\$ 809,525
Operations and maintenance expense	282,009	244	282,253
Depreciation	136,246	56	136,302
Amortization	240	182	422
Operating income	331,888	2,032	333,920
Interest expense	82,102	6,441	88,543
Interest income	128	74	202
Allowance for funds used during construction	15,211	-	15,211
Equity earnings in joint venture	-	331	331
Provision for income taxes	14,107	2,807	16,914
Net income (loss)	246,548	(6,810)	239,738
Capital expenditures	478,077	12	478,089
Total assets	6,236,109	96,354	6,332,463

Selected Quarterly Financial Data (Unaudited)
Essential Utilities, Inc. and Subsidiaries
(In thousands of dollars, except per share amounts)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	Year
2019					
Operating revenues	\$ 201,132	\$ 218,892	\$ 243,626	\$ 226,042	\$ 889,692
Operations and maintenance expense	79,314	86,445	82,022	85,321	333,102
Operating income	67,439	80,949	106,470	85,301	340,159
Net income	16,924	54,903	88,489	64,227	224,543
Basic net income per common share	0.09	0.25	0.38	0.28	1.04
Diluted net income per common share	0.09	0.25	0.38	0.28	1.04
Dividend paid per common share	0.2190	0.2190	0.2343	0.2343	0.9066
Dividend declared per common share	0.2190	0.2190	0.2343	0.2343	0.9066
2018					
Operating revenues	\$ 194,347	\$ 211,860	\$ 226,137	\$ 205,747	\$ 838,091
Operations and maintenance expense	73,946	73,515	68,624	92,393	308,478
Operating income	69,337	86,754	104,293	62,794	323,178
Net income (loss)	50,839	66,590	78,216	(3,657)	191,988
Basic net income (loss) per common share	0.29	0.37	0.44	(0.02)	1.08
Diluted net income (loss) per common share	0.29	0.37	0.44	(0.02)	1.08
Dividend paid per common share	0.2047	0.2047	0.2190	0.2190	0.8474
Dividend declared per common share	0.2047	0.2047	0.2190	0.2190	0.8474

Item 9. *Changes in and Disagreements with Accountants on Accounting and Financial Disclosure*

None.

Item 9A. *Controls and Procedures*

Evaluation of Disclosure Controls and Procedures – Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures as of the end of the period covered by this Annual Report. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures as of the end of the period covered by this Annual Report are effective to provide reasonable assurance that the information required to be disclosed by us in reports filed under the Securities Exchange Act of 1934 is (i) recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms and (ii) accumulated and communicated to our management, including the Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding disclosure. A controls system cannot provide absolute assurance, however, that the objectives of the controls system are met, and no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within a company have been detected.

Management’s Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rule 13a-15(f) under the Securities Exchange Act of 1934. The Company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America. The Company’s internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the Company’s assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In assessing the effectiveness of internal control over financial reporting, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”) in *Internal Control-Integrated Framework* (2013). As a result of management’s assessment and based on the criteria in the framework, management has concluded that, as of December 31, 2019, the Company’s internal control over financial reporting was effective.

Attestation Report of the Registered Public Accounting Firm – The effectiveness of our internal control over financial reporting as of December 31, 2019 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included herein.

Changes in Internal Control Over Financial Reporting – No change in our internal control over financial reporting occurred during our last fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. *Other Information*

None.

PART III

Item 10. *Directors, Executive Officers and Corporate Governance*

The information appearing in the sections captioned *Information Regarding Nominees, Corporate Governance – Code of Ethics, – Board and Board Committees*, and *Section 16(a) Beneficial Ownership Reporting Compliance* of the definitive Proxy Statement relating to our 2020, annual meeting of shareholders, to be filed within 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K (the “Annual Report”), is incorporated by reference herein.

We make available free of charge within the Corporate Governance portion of the investor relations section of our web site, at www.essential.co, our Corporate Governance Guidelines, the Charters of each Committee of our Board of Directors, and our Code of Ethical Business Conduct (the “Code of Ethics”). Amendments to the Code of Ethics, and any grant of a waiver from a provision of the Code requiring disclosure under applicable rules of the SEC, will be disclosed on our web site. The reference to our web site is intended to be an inactive textual reference only, and the contents of such web site are not incorporated by reference herein and should not be considered part of this or any other report that we file with or furnish to the SEC.

Information About Our Executive Officers

The following table and the notes thereto set forth information with respect to our executive officers, including their names, ages, positions with Essential Utilities and business experience during the last five years:

<u>Name</u>	<u>Age</u>	<u>Position with Essential Utilities (1)</u>
Christopher H. Franklin	54	Chairman (January 2018 to present); President and Chief Executive Officer (July 2015 to present); Executive Vice President and President and Chief Operating Officer, Regulated Operations (January 2012 to July 2015); Regional President – Midwest and Southern Operations and Senior Vice President, Corporate and Public Affairs (January 2010 to January 2012); Regional President – Southern Operations and Senior Vice President, Public Affairs and Customer Operations (February 2007 to January 2010); Vice President, Public Affairs and Customer Operations (May 2005 to February 2007); Vice President, Corporate and Public Affairs (February 1997 to May 2005); Manager Corporate and Public Affairs (December 1992 to February 1997)
Daniel J. Schuller	50	Executive Vice President and Chief Financial Officer (October 2018 to present); Executive Vice President, Strategy and Corporate Development (July 2015 to October 2018); Investment Principal – J.P. Morgan Asset Management – Infrastructure Investments Group (2007 to 2015)
Richard S. Fox	58	Executive Vice President and Chief Operating Officer (July 2015 to present); Regional President, Regulated Utilities (January 2012 to July 2015); President Aqua Utilities, Florida, Inc. (August 2011 to January 2012); Vice President, Customer Service (June 2002 to August 2011)
Christopher P. Luning	52	Executive Vice President, General Counsel, and Secretary (February 2019 to present); Senior Vice President, General Counsel, and Secretary (April 2012 to February 2019); Vice President Corporate Development and Corporate Counsel (June 2008 to April 2012); Vice President and Deputy General Counsel (May 2005 to June 2008); Assistant General Counsel (March 2003 to May 2005)
Matthew R. Rhodes	42	Executive Vice President, Strategy and Corporate Development (June 2018 to present); Managing Director - Goldman Sachs, Global Natural Resources (July 2007 to April 2018)
Robert A. Rubin	57	Senior Vice President, Controller and Chief Accounting Officer (January 2012 to present); Vice President, Controller and Chief Accounting Officer (May 2005 to January 2012); Controller and Chief Accounting Officer (March 2004 to May 2005); Controller (March 1999 to March 2004); Assistant Controller (June 1994 to March 1999); Accounting Manager (June 1989 to June 1994)

(1) In addition to the capacities indicated, the individuals named in the above table hold other offices or directorships with subsidiaries of the Company. Officers serve at the discretion of the Board of Directors.

Item 11. *Executive Compensation*

The information appearing in the sections captioned *Executive Compensation* and *Director Compensation* of the definitive Proxy Statement relating to our 2020 annual meeting of shareholders, to be filed within 120 days after the end of the fiscal year covered by this Annual Report, is incorporated by reference herein.

Item 12. *Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters*

Ownership of Common Stock - The information appearing in the section captioned *Ownership of Common Stock* of the Proxy Statement relating to our 2020 annual meeting of shareholders, to be filed within 120 days after the end of the fiscal year covered by this Annual Report, is incorporated by reference herein.

Securities Authorized for Issuance under Equity Compensation Plans - The following table provides information for our equity compensation plans as of December 31, 2019:

Equity Compensation Plan Information

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders	1,437,052 (1)	\$ 34.20 (2)	2,667,480
Equity compensation plans not approved by security holders	-	-	-
Total	1,437,052	\$ 34.20	2,667,480

(1) Consists of 1,033,770 shares issuable upon exercise of outstanding options, 261,398 shares issuable upon conversion of outstanding performance share units, and 141,884 shares issuable upon conversion of outstanding restricted share units.

(2) Calculated based upon outstanding options of 1,033,770 shares of our common stock.

Item 13. *Certain Relationships and Related Transactions, and Director Independence*

The information appearing in the sections captioned *Corporate Governance – Director Independence* and *– Policies and Procedures For Approval of Related Person Transactions* of the definitive Proxy Statement relating to our 2020 annual meeting of shareholders, to be filed within 120 days after the end of the fiscal year covered by this Annual Report, is incorporated by reference herein.

Item 14. *Principal Accountant Fees and Services*

The information appearing in the section captioned *Proposal No. 2 – Services and Fees* of the definitive Proxy Statement relating to our 2020 annual meeting of shareholders, to be filed within 120 days after the end of the fiscal year covered by this Annual Report, is incorporated by reference herein.

PART IV

Item 15. *Exhibits and Financial Statement Schedules*

Financial Statements. The consolidated financial statements and supplementary data included in Part II, Item 8 are hereby incorporated by reference herein.

Financial Statement Schedules.

Schedule 1. – Condensed Parent Company Financial Statements. All other schedules are omitted because they are not applicable or not required, or because the required information is included in the consolidated financial statements or notes thereto.

Exhibits, Including Those Incorporated by Reference. A list of exhibits filed as part of this Annual Report is set forth in the Exhibit Index hereto which is incorporated by reference herein. Where so indicated, exhibits which were previously filed are incorporated by reference. For exhibits incorporated by reference, the location of the exhibit in the previous filing is indicated in the exhibit index.

Item 16. *Form 10-K Summary*

Registrants may voluntarily include a summary of information required by Form 10-K under this Item 16. The Company has elected not to include such summary information in this Annual Report.

EXHIBIT INDEX

Exhibit Number	Exhibit Description	Incorporated by Reference to			
		Form	File No.	Exhibit(s)	Filing Date
2.1	Purchase Agreement, dated October 22, 2018 by and between LDC Parent LLC, a Delaware limited liability company (“Seller”) and the Registrant, a Pennsylvania corporation	8-K	001-06659	2.1	October 23, 2018
3.1	Amended and Restated Articles of Incorporation of the Registrant, dated as of May 10, 2012	8-K	001-06659	3.1	May 11, 2012
3.1.1	Articles of Amendment to Amended and Restated Articles of Incorporation effective February 3, 2020	8-K	001-06659	3.1	February 3, 2020
3.2	Amended and Restated Bylaws of the Registrant (amended and restated as of August 8, 2018)	8-K	001-06659	3.1	August 10, 2018
4.1	Description of Securities of Essential Utilities, Inc.	^	^	^	^
4.2	Indenture of Mortgage dated as of January 1, 1941 between Aqua Pennsylvania, Inc. (f/k/a Philadelphia Suburban Water Company) and The Bank of New York Mellon Trust Company, as successor trustee to First Pennsylvania Bank, N.A. (f/k/a The Pennsylvania Company for Insurance on Lives and Granting Annuities)	10-K	001-06659	4.1.1	February 26, 2016
4.2.1	Twenty-sixth Supplemental Indenture dated as of November 1, 1991	10-K	001-06659	4.1.3	February 26, 2016
4.2.2	Twenty-ninth Supplemental Indenture dated as of March 30, 1995	10-Q	001-06659	4.17	May 10, 1995
4.2.3	Thirty-third Supplemental Indenture, dated as of November 15, 1999	10-K	001-06659	4.27	March 29, 2000
4.2.4	Thirty-fifth Supplemental Indenture, dated as of January 1, 2002	10-K	001-06659	4.22	March 20, 2002
4.2.5	Forty-sixth Supplemental Indenture, dated as of October 15, 2010	10-K	001-06659	4.35	February 25, 2011
4.2.6	Forty-seventh Supplemental Indenture, dated as of October 15, 2012	10-K	001-06659	4.24	February 28, 2013
4.2.7	Forty-eighth Supplemental Indenture, dated as of October 1, 2013	10-K	001-06659	4.1.17	March 3, 2014
4.2.8	Form of Supplemental Indenture during and after 2014	10-K	001-06659	4.1.15	February 26, 2016
4.2.8.1	Schedule of Outstanding Supplemental Indentures during and after 2014	^	^	^	^
4.3	Note Purchase Agreement, dated July 31, 2003, by and among the Registrant and the note purchasers thereto	10-Q	001-06659	4.27	November 13, 2003
4.4	Bond Purchase Agreement, dated October 27, 2010, by and among the Pennsylvania Economic Development Financing Authority, Aqua Pennsylvania, Inc., Jeffries and Company, Inc., PNC Capital Markets LLC, and TD Securities (USA) LLC	10-K	001-06659	10.51	February 25, 2011
4.5	Bond Purchase Agreement, dated November 8, 2012, by and among Aqua Pennsylvania, Inc., Teachers Insurance and Annuity Association, John Hancock Life Insurance Company, John Hancock Life Insurance Company of New York, John Hancock Life & Health Insurance Company, The Lincoln National Life Insurance Company, Lincoln Life & Annuity Company of New York, New York Life Insurance Company, New York Life Insurance and Annuity Corporation, Minnesota Life Insurance Company, United Health Care Insurance Company, American Republic Insurance Company, Western Fraternal Life Association	10-K	001-06659	10.54	February 28, 2013

4.6	<u>Bond Purchase Agreement, dated October 24, 2013, by and among Aqua Pennsylvania, Inc., John Hancock Life Insurance Company (U.S.A), John Hancock Life Insurance Company of New York, John Hancock Life & Health Insurance Company, The Lincoln National Life Insurance Company, Thrivent Financial for Lutherans, United Insurance Company of America, Equitable Life & Casualty Insurance Company, Catholic United Financial, and Great Western Insurance Company</u>	10-K	001-06659	10.45	March 3, 2014
4.7	<u>Bond Purchase Agreement, dated December 29, 2014, by and among Aqua Pennsylvania, Inc., Thrivent Financial for Lutherans, State Farm Life Insurance Company, John Hancock Life Insurance Company (U.S.A), Phoenix Life Insurance Company, PHL Variable Insurance Company, United of Omaha Life Insurance Company, Mutual of Omaha Insurance Company, and Companion Life Insurance Company</u>	10-K	001-06659	10.58	February 27, 2015
4.8	<u>Bond Purchase Agreement, dated December 3, 2015 by and among Aqua Pennsylvania, Inc., Thrivent Financial for Lutherans, State Farm Life Insurance Company, John Hancock Life Insurance Company (U.S.A), The Lincoln National Life Insurance Company, Teachers Insurance And Annuity Association Of America, CMFG Life Insurance Company, Genworth Life Insurance Company, Phoenix Life Insurance Company, PHL Variable Insurance Company, United Of Omaha Life Insurance Company, The State Life Insurance Company, Pioneer Mutual Life Insurance Company, MONY Life Insurance Company</u>	10-K	001-06659	4.12	February 26, 2016
4.9	<u>Note Purchase Agreement, dated November 3, 2016, by and among the Registrant and the note purchasers thereto</u>	10-K	001-06659	4.13	February 24, 2017
4.10	<u>Bond Purchase Agreement, dated December 15, 2016 by and among Aqua Pennsylvania, Inc., Teachers Insurance and Annuity Association of America, New York Life Insurance Company, New York Life Insurance and Annuity Corporation, John Hancock Life Insurance Company, American Equity Investment Life Insurance Company, Genworth Life and Annuity Insurance Company, Phoenix Life Insurance Company, PHL Variable Insurance Company, American United Life Insurance Company, The State Life Insurance Company, and Pioneer Mutual Life Insurance Company</u>	10-K	001-06659	4.14	February 24, 2017
4.11	<u>Bond Purchase Agreement, dated July 10, 2017 by and among Aqua Illinois, Inc., Teachers Insurance and Annuity Association of America</u>	10-Q	001-06659	4.1	November 2, 2017
4.12	<u>Bond Purchase Agreement, dated July 20, 2017 by and among Aqua Pennsylvania, Inc., New York Life Insurance Company, New York Life Insurance and Annuity Corporation, New York Life Insurance and Annuity Corporation Institutionally Owned Life Insurance Separate Account (BOLI 3), New York Life Insurance and Annuity Corporation Institutionally Owned Life Insurance Separate Account (BOLI 3-2)</u>	10-Q	001-06659	4.2	November 2, 2017
4.13	<u>Bond Purchase Agreement, dated June 29, 2018, by and among Aqua Pennsylvania, Inc., CMFG Life Insurance Company, Manufactures Life Reinsurance Limited, The Lincoln National Life Insurance Company, New York Life Insurance Company, The State Life Insurance Company, and Phoenix Life Insurance Company</u>	10-Q	001-06659	4.1	August 3, 2018

4.14	<u>Bond Purchase Agreement, dated November 15, 2018, by and among Aqua Pennsylvania, Inc., Teachers Insurance and Annuity Associated of America, American United Life Insurance Company, Pioneer Mutual Life Insurance Company, The State Life Insurance Company, The Lincoln National Life Insurance Company, Lincoln Life & Annuity Company of New York, and United of Omaha Life Insurance Company.</u>	10-K	001-06659	4.15	February 26, 2019
4.15	<u>Purchase Contract Agreement, dated April 23, 2019, between the Registrant, and U.S. Bank N.A., as purchase contract agent, as attorney-in-fact for the Holders from time to time as provided therein and as trustee under the indenture referred to therein</u>	8-K	001-06659	4.1	April 23, 2019
4.15.1	<u>Form of Unit (included in Exhibit 4.15 above).</u>	8-K	001-06659	4.1	April 23, 2019
4.15.2	<u>Form of Purchase Contract (included with Exhibit 4.15 above).</u>	8-K	001-06659	4.1	April 23, 2019
4.16	<u>Indenture, dated as of April 23, 2019, between the Registrant and U.S. Bank N.A., as trustee.</u>	8-K	001-06659	4.4	April 23, 2019
4.16.1	<u>First Supplemental Indenture, dated as of April 23, 2019, between the Registrant and U.S. Bank N.A., as trustee</u>	8-K	001-06659	4.5	April 23, 2019
4.16.2	<u>Second Supplemental Indenture, dated as of April 23, 2019, between the Registrant and U.S. Bank N.A., as trustee</u>	8-K	001-06659	4.6	April 23, 2019
4.16.3	<u>Form of Amortizing Note (included with Exhibit 4.16.2 above).</u>	8-K	001-06659	4.7	April 23, 2019
4.16.4	<u>Third Supplemental Indenture, dated as of April 26, 2019, between the Registrant and U.S. Bank N.A., as trustee.</u>	8-K	001-06659	4.3	April 26, 2019
4.16.5	<u>Form of Global Note for the 2029 Notes (included in Exhibit 4.16.4 above).</u>	8-K	001-06659	4.4	April 26, 2019
4.16.6	<u>Form of Global Note for the 2049 Notes (included in Exhibit 4.16.4 above).</u>	8-K	001-06659	4.5	April 26, 2019
4.17	<u>Bond Purchase Agreement, dated May 31, 2019, by and among Aqua Pennsylvania, Inc., Athene Annuity and Life Company, Athene Annuity & Life Assurance Company, Genworth Life and Annuity Insurance Company, Genworth Life Insurance Company, John Hancock Life Insurance Company (U.S.A), John Hancock Life Insurance Company of New York, John Hancock Life & Health Insurance Company, Metropolitan Life Insurance Company, Metropolitan Tower Life Insurance Company, MetLife Insurance K.K., Brighthouse Life Insurance Company, United of Omaha Life Insurance Company, New York Life Insurance Company, New York Life Insurance and Annuity Corporation, New York Life Insurance and Annuity Corporation Institutionally Owned Life Insurance Separate Accounts (BOLI 30C, 30E, 3-2), The Northwestern Mutual Life Insurance Company, The Northwestern Mutual Life Insurance Company, and Life Insurance Company of the Southwest</u>	10-Q	001-06659	4.11	August 8, 2019
4.18	<u>Bond Purchase Agreement, dated December 20, 2019, by and among Aqua Pennsylvania, Inc., Metlife Insurance K.K, Metropolitan Life Insurance Company, The Ohio National Life Insurance Company, Ohio National Life Assurance Corporation, National Guardian Life Insurance Company, Country Life Insurance Company, Horizon Blue Cross Blue Shield of New Jersey, Farm Bureau Life Insurance Company.</u>	^	^	^	^

10.1	Revolving Credit Agreement, dated December 5, 2018, between the Registrant and PNC Bank, National Association, CoBank, ACB, Bank of America, N.A., Barclays Bank PLC, Citizens Bank, N.A., Morgan Stanley Bank, N.A., MUFG Bank, Ltd., Royal Bank of Canada, The Huntington National Bank, and Wells Fargo Bank, N.A.	10-K	001-06659	10.1	February 26, 2019
10.2.1	First Amendment to Revolving Credit Agreement, dated as of November 16, 2017 between Aqua Pennsylvania and PNC Bank, National Association, Citizens Bank of Pennsylvania, TD Bank, N.A., and Huntington National Bank	10-K	001-06659	10.1.5	February 28, 2018
10.2.2	Second Amendment to Revolving Credit Agreement, dated as of November 9, 2018 between Aqua Pennsylvania and PNC Bank, National Association, Citizens Bank of Pennsylvania, TD Bank, N.A., and Huntington National Bank	10-K	001-06659	10.2.2	February 26, 2019
10.3	The Registrant's Deferred Compensation Plan Master Trust Agreement with PNC Bank, National Association, dated as of December 31, 1996*	10-K	001-06659	10.24	March 25, 1997
10.3.1	Amendment 2008-1 to the Registrant's Deferred Compensation Plan Master Trust Agreement, dated as of December 15, 2008*	10-K	001-06659	10.50	February 27, 2009
10.4	The Registrant's 2009 Executive Deferral Plan (as amended and restated effective January 1, 2009)*	S-8	333-156047	4.1	December 10, 2008
10.5	The Registrant's Supplemental Pension Benefit Plan for Salaried Employees (as amended and restated effective January 1, 2011)*	10-K	001-06659	10.58	February 27, 2012
10.6	The Registrant's Dividend Reinvestment and Direct Stock Purchase Plan*	S-3ASR	333-219545	N/A	July 28, 2017
10.7	Form of Incentive Stock Option and Dividend Equivalent Grant Agreement*	10-K	001-06659	10.49	February 27, 2009
10.7.1	Form of Amendment to Incentive Stock Option and Dividend Equivalent Grant Agreements for executive officers*	10-K	001-06659	10.8.2	February 26, 2016
10.8.1	Performance-Based Share Unit Grant Terms and Conditions*	10-Q	001-06659	10.1	May 4, 2017
10.8.2	Restricted Stock Unit Grant Terms and Conditions for Chief Executive Officer*	10-Q	001-06659	10.2	May 4, 2017
10.8.3	Restricted Stock Unit Grant Terms and Conditions for all other executive officers*	10-Q	001-06659	10.3	May 4, 2017
10.8.4	Stock Option Grant Terms and Conditions*	10-Q	001-06659	10.4	May 4, 2017
10.9	The Registrant's 2012 Employee Stock Purchase Plan*	10-K	001-06659	10.10	February 26, 2016
10.10	The Registrant's Annual Cash Incentive Compensation Plan (adopted February 26, 2013)*	10-K	001-06659	10.56	February 28, 2013
10.11	Form of Change in Control Agreement between the Company and executive officers*	10-Q	001-06659	10.1	November 6, 2015
10.11.1	Schedule of Change in Control Agreement between the Company and executive officers*	10-K	001-06659	10.11.1	February 26, 2019
10.12	Change in Control Agreement, dated December 31, 2008, between the Registrant and Christopher H. Franklin*	10-K	001-06659	10.46	February 27, 2009
10.13	Non-Employee Directors' Compensation effective January 1, 2019*	8-K	001-06659	10.1	December 14, 2018
10.14	Employment Agreement dated July 1, 2018 between the Registrant and Christopher Franklin*	8-K	001-06659	10.1	July 6, 2018

10.15	Stock Purchase Agreement, dated as of March 29, 2019, by and between the Registrant and Canada Pension Plan Investment Board	8-K	001-06659	10.1	March 29, 2019
10.16	The Registrant Amended and Restated Omnibus Equity Compensation Plan	8-K	001-06659	10.1	May 3, 2019
21.1	Subsidiaries of Essential Utilities, Inc.	^	^	^	^
23.1	Consent of Independent Registered Public Accounting Firm – PricewaterhouseCoopers LLP	^	^	^	^
31.1	Certification of Chief Executive Officer, pursuant to Rule 13a-14(a) under the Securities and Exchange Act of 1934	^	^	^	^
31.2	Certification of Chief Financial Officer, pursuant to Rule 13a-14(a) under the Securities and Exchange Act of 1934	^	^	^	^
32.1	Certification of Chief Executive Officer, pursuant to 18 U.S.C. Section 1350	^^	^^	^^	^^
32.2	Certification of Chief Financial Officer, pursuant to 18 U.S.C. Section 1350	^^	^^	^^	^^
101.INS	Inline XBRL Instance Document	^	^	^	^
101.SCH	Inline XBRL Taxonomy Extension Schema Document	^	^	^	^
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document	^	^	^	^
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document	^	^	^	^
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document	^	^	^	^
101.PRES	Inline XBRL Taxonomy Extension Presentation Linkbase Document	^	^	^	^
104	The cover page from the Company's Annual Report on Form 10-K for the year ended December 31, 2019 formatted in Inline XBRL (included in Exhibit 101)	^	^	^	^

In accordance with Item 601(b)(4)(iii)(A) of Regulation S-K, copies of specific instruments defining the rights of holders of long-term debt of the Company or its subsidiaries are not filed herewith. Pursuant to this regulation, we hereby agree to furnish a copy of any such instrument to the SEC upon request.

*Indicates management contract or compensatory plan or arrangement

^ Filed herewith

^^Furnished herewith

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

ESSENTIAL UTILITIES, INC.

/s/ Christopher H. Franklin

Christopher H. Franklin

Chairman, President and Chief Executive Officer

Date: February 28, 2020

Pursuant to the requirements of the Securities and Exchange Act of 1934, this report on Form 10-K has been signed below by the following persons on behalf of the Registrant on February 28, 2020 in the capacities indicated below.

Signature	Title
<u>/s/ Christopher H. Franklin</u> Christopher H. Franklin	Chairman, President and Chief Executive Officer, Director (Principal Executive Officer)
<u>/s/ Daniel J. Schuller</u> Daniel J. Schuller	Executive Vice President and Chief Financial Officer (Principal Financial Officer)
<u>/s/ Robert A. Rubin</u> Robert A. Rubin	Senior Vice President, Controller and Chief Accounting Officer (Principal Accounting Officer)
<u>/s/ Elizabeth B. Amato</u> Elizabeth B. Amato	Director
<u>/s/ Nicholas DeBenedictis</u> Nicholas DeBenedictis	Chairman Emeritus
<u>/s/ Daniel J. Hilferty</u> Daniel J. Hilferty	Director
<u>/s/ Francis O. Idehen</u> Francis O. Idehen	Director
<u>/s/ Ellen T. Ruff</u> Ellen T. Ruff	Director
<u>/s/ Lee C. Stewart</u> Lee C. Stewart	Director
<u>/s/ Christopher C. Womack</u> Christopher C. Womack	Director

Essential Utilities, Inc.
Schedule 1 – Condensed Parent Company Financial Statements
Condensed Balance Sheets
(In thousands of dollars)

	December 31,	
	2019	2018
Assets		
Current assets:		
Cash and cash equivalents	\$ 1,864,993	\$ -
Accounts receivable, net	442	38
Accounts receivable - affiliates	134,779	104,494
Prepayments and other current assets	4,661	14,321
Total current assets	2,004,875	118,853
Deferred charges and other assets, net	33,627	29,247
Notes receivable - affiliates	411,985	369,740
Deferred income tax asset	32,925	35,696
Investment in subsidiaries	2,697,504	2,510,120
Total assets	\$ 5,180,916	\$ 3,063,656
Liabilities and Equity		
Stockholders' equity	\$ 3,880,860	\$ 2,009,364
Long-term debt, excluding current portion, net of debt issuance costs	1,081,507	758,206
Current liabilities:		
Current portion of long-term debt	38,854	50,000
Accrued interest	7,054	3,236
Accounts payable - affiliates	32,350	39,879
Interest rate swap agreements	-	59,779
Other accrued liabilities	10,632	11,582
Total current liabilities	88,890	164,476
Other liabilities	129,659	131,610
Total liabilities and equity	\$ 5,180,916	\$ 3,063,656

The accompanying condensed notes are an integral part of these condensed financial statements.

Essential Utilities, Inc.

Schedule 1 – Condensed Parent Company Financial Statements

Condensed Statements of Income and Comprehensive Income

(In thousands, except per share amounts)

	Years ended December 31,		
	2019	2018	2017
Other income	\$ 1,596	\$ 894	\$ 1,629
Operating expense and other expenses	23,760	19,728	53
Operating (loss) income	(22,164)	(18,834)	1,576
Interest expense	45,759	9,426	5,211
Interest income	(25,327)	(5)	-
Change in fair value of interest rate swap agreements	23,741	59,779	-
Other (income) expense	(294)	93	(1)
Loss before equity in earnings of subsidiaries and income taxes	(66,043)	(88,127)	(3,634)
Equity in earnings of subsidiaries	276,556	261,700	244,327
Income before income taxes	210,513	173,573	240,693
Provision for income taxes (benefit)	(14,030)	(18,415)	955
Net income	\$ 224,543	\$ 191,988	\$ 239,738
Comprehensive income	\$ 224,543	\$ 191,988	\$ 239,929
Net income per common share:			
Basic	\$ 1.04	\$ 1.08	\$ 1.35
Diluted	\$ 1.04	\$ 1.08	\$ 1.35
Average common shares outstanding during the period:			
Basic	215,550	177,904	177,612
Diluted	215,931	178,399	178,175

The accompanying condensed notes are an integral part of these condensed financial statements.

Essential Utilities, Inc.
Schedule 1 – Condensed Parent Company Financial Statements
Condensed Statements of Cash Flows
(In thousands of dollars)

	Years ended December 31,		
	2019	2018	2017
Net cash flows (used in) from operating activities	\$ (54,496)	\$ (12,930)	\$ 98,821
Cash flows from investing activities:			
Acquisitions of utility systems and other, net	(6,385)	(103,364)	(220)
Decrease (increase) in investment of subsidiary	6,068	(13,258)	20,021
Other	235	241	1,811
Net cash flows (used in) from investing activities	(82)	(116,381)	21,612
Cash flows from financing activities:			
Proceeds from long-term debt	1,009,992	1,107,600	286,969
Repayments of long-term debt	(821,226)	(830,900)	(268,050)
Extinguishment of long-term debt	(25,237)	-	-
Proceeds from stock issued to finance pending acquisition	1,263,099	-	-
Proceeds from equity unit issuance	673,642	-	-
Proceeds from issuing common stock	8,959	5,163	1,453
Proceeds from exercised stock options	1,898	1,459	2,873
Repurchase of common stock	(1,867)	(2,555)	(2,167)
Dividends paid on common stock	(188,512)	(150,736)	(140,660)
Other	(1,177)	(720)	(851)
Net cash flows from (used in) financing activities	1,919,571	129,311	(120,433)
Net change in cash and cash equivalents	1,864,993	-	-
Cash and cash equivalents at beginning of year	-	-	-
Cash and cash equivalents at end of year	\$ 1,864,993	\$ -	\$ -

See Note 1 - *Basis of Presentation*

The accompanying condensed notes are an integral part of these condensed financial statements.

Note 1 – Basis of Presentation – The accompanying condensed financial statements of Essential Utilities, Inc. (the “Parent”) should be read in conjunction with the consolidated financial statements and notes thereto of Essential Utilities, Inc. and subsidiaries (collectively, the “Registrant”) included in Part II, Item 8 of the Annual Report. The Parent’s significant accounting policies are consistent with those of the Registrant.

The Parent borrows from third parties and provides funds to its subsidiaries, in support of their operations. Amounts owed to the Parent for borrowings under this facility are reflected as inter-company receivables on the condensed balance sheets. The interest rate charged to the subsidiaries is sufficient to cover the Parent’s interest costs under its associated borrowings.

As of December 31, 2019 and 2018, the Parent had a current accounts receivable – affiliates balance of \$134,779 and \$104,494. As of December 31, 2019 and 2018, the Parent had a notes receivable – affiliates balance of \$411,985 and \$369,740. The changes in these balances represent non-cash adjustments that are recorded through the Parent’s investment in subsidiaries.

In the ordinary course of business, the Parent indemnifies a third-party for surety bonds issued on behalf of subsidiary companies, guarantees the performance of one of its regulated utilities in a jurisdiction that requires such guarantees, and guarantees several projects associated with the treatment of water in a jurisdiction.

Note 2 – Dividends from subsidiaries – Dividends in the amount of \$101,625, \$81,250, and \$51,100 were paid to the Parent by its wholly-owned subsidiaries during the years ended December 31, 2019, 2018, and 2017, respectively.

Note 3 – Long-term debt – the Parent has long-term debt under unsecured note purchase agreements with investors in addition to its \$550,000 revolving credit agreement. Excluding amounts due under the revolving credit agreement, the debt maturities of the Parent’s long-term debt are as follows:

Year	Debt Maturity
2020	\$ 38,854
2021	38,564
2022	21,938
2023	-
2024	-
Thereafter	1,025,000

DESCRIPTION OF THE REGISTRANT'S SECURITIES**REGISTERED PURSUANT TO SECTION 12 OF THE
SECURITIES EXCHANGE ACT OF 1934**

As of the date of the Annual Report on Form 10-K (the "Annual Report") of which this exhibit is a part, Essential Utilities, Inc. (the "Registrant") has two classes of securities registered under Section 12 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"): (1) its common stock, par value \$0.50 per share, and (2) its 6.00% Tangible Equity Units.

Common Stock**Overview**

As of December 31, 2019, the authorized capital stock of the Company was 301,770,819 shares, consisting of:

- 300,000,000 shares of common stock, par value \$0.50 per share, of which 220,758,719 shares were outstanding; and
- 1,770,819 shares of preferred stock, par value \$1.00 per share, of which no shares were outstanding.

The following summary of certain terms of the Registrant's common stock is qualified in its entirety by the provisions of the Registrant's Amended and Restated Articles of Incorporation, as amended, and Amended and Restated Bylaws each of which is incorporated by reference as an exhibit to the Annual Report.

Voting Rights

Holders of the Registrant's common stock are entitled to one vote for each share held by them at all meetings of the shareholders and are not entitled to cumulate their votes for the election of directors.

Dividend Rights and Limitations

Holders of the Registrant's common stock may receive dividends when declared by its board of directors. Because the Registrant is a holding company, the funds used to pay any dividends on common stock are derived predominantly from the dividends that received from its direct and indirect subsidiaries. Therefore, the Registrant's ability to pay dividends to holders of its common stock depends upon the subsidiaries' earnings, financial condition and ability to pay dividends. Most of the subsidiaries are subject to regulation by state utility commissions and the amounts of their earnings and dividends are affected by the manner in which they are regulated. In addition, they are subject to restrictions on the payment of dividends contained in their various debt agreements. Under the most restrictive debt agreements, the amount available for payment of dividends to the Registrant as of December 31, 2019 was approximately \$1.6 billion of Aqua Pennsylvania's retained earnings and \$221 million of the retained earnings of certain other

subsidiaries. Payment of dividends on common stock is also subject to the preferential rights of the holders of any outstanding preferred stock.

Liquidation Rights

In the event that the Registrant liquidates, dissolves or winds-up, the holders of its common stock are entitled to share ratably in all of the assets that remain after the Registrant pays its liabilities. This right is subject, however, to the prior distribution rights of any outstanding preferred stock.

Listing

Our common stock is listed on the New York Stock Exchange (“NYSE”) under the symbol “WTRG.”

Anti-Takeover Provisions

Pennsylvania State Law Provisions

Under Section 1712 of the Pennsylvania Business Corporation Law of 1988, as amended (“PBCL”), which is applicable to the Registrant, directors stand in a fiduciary relation to their corporation and, as such, are required to perform their duties in good faith, in a manner they reasonably believe to be in the best interests of the corporation and with such care, including reasonable inquiry, skill and diligence, as a person of ordinary prudence would use under similar circumstances. Under Section 1715 of the PBCL, in discharging their duties, directors may, in considering the best interests of their corporation, consider various constituencies, including, shareholders, employees, suppliers, customers and creditors of the corporation, and upon communities in which offices or other establishments of the corporation are located. Directors are not required to give prominent consideration to the interests of any particular constituency. Absent a breach of fiduciary duty, a lack of good faith or self-dealing, any act of the board of directors, a committee thereof or an individual director is presumed to be in the best interests of the corporation. Actions by directors relating to an acquisition or potential acquisition of control of the corporation are not subject to any greater obligation to justify, or higher burden of proof, than is applied to any other acts of directors. The PBCL expressly provides that the fiduciary duty of directors does not require them to (i) redeem or otherwise render inapplicable outstanding rights issued under any shareholder rights plan; (ii) render inapplicable the anti-takeover statutes set forth in Chapter 25 of the PBCL (described below); or (iii) take any action solely because of the effect it may have on a proposed acquisition or the consideration to be received by shareholders in such a transaction. In addition, Section 2513 of the PBCL specifically validates shareholder rights plans, or “poison pills,” and the discriminatory dilution provisions contained in such plans.

Chapter 25 of the PBCL contains several anti-takeover statutes applicable to publicly-traded corporations. Corporations may opt-out of such anti-takeover statutes under certain circumstances. The Registrant has not opted-out of any of such statutes.

Section 2538 of Subchapter 25D of the PBCL requires certain transactions with an “interested shareholder” to be approved by a majority of disinterested shareholders. “Interested shareholder”

is defined broadly to include any shareholder who is a party to the transaction or who is treated differently than other shareholders and affiliates of the interested shareholder.

Subchapter 25E of the PBCL requires a person or group of persons acting in concert which acquires 20% or more of the voting shares of the corporation to offer to purchase the shares of any other shareholder at “fair value.” “Fair value” means the value not less than the highest price paid per share by the controlling person or group during the 90-day period prior to the control transaction, plus a control premium. Among other exceptions, Subchapter 25E does not apply to shares acquired directly from the corporation in a transaction exempt from the registration requirements of the Securities Act of 1933, or to a one-step merger.

Subchapter 25F of the PBCL generally establishes a 5-year moratorium on a “business combination” with an “interested shareholder.” “Interested shareholder” is defined generally to be any beneficial owner of 20% or more of the corporation’s voting stock or an affiliate or associate of the corporation that at any time within the prior five-year period was a beneficial owner of 20% or more of the corporation’s voting stock. “Business combination” is defined broadly to include mergers, consolidations, asset sales and certain self-dealing transactions. Certain restrictions apply to business combination following the 5-year period. Among other exceptions, Subchapter 25F will be rendered inapplicable if the board of directors approves the proposed business combination, or approves the interested shareholder’s acquisition of 20% of the voting shares, in either case prior to the date on which the shareholder first becomes an interested shareholder.

Subchapter 25G of the PBCL provides that “control shares” lose voting rights unless such rights are restored by the affirmative vote of a majority of (i) the disinterested shares (generally, shares held by persons other than the acquiror, executive officers of the corporation and certain employee stock plans) and (ii) the outstanding voting shares of the corporation. “Control shares” are defined as shares which, upon acquisition, will result in a person or group acquiring for the first time voting control over (a) 20%, (b) 33 1/3% or (c) 50% or more of the outstanding shares, together with shares acquired within 180 days of attaining the applicable threshold and shares purchased with the intention of attaining such threshold. A corporation may redeem control shares if the acquiring person does not request restoration of voting rights as permitted by Subchapter 25G. Among other exceptions, Subchapter 25G does not apply to a merger, consolidation or a share exchange if the corporation is a party to the transaction agreement.

Subchapter 25H of the PBCL provides in certain circumstances for the recovery by the corporation of profits realized from the sale of its stock by a controlling person or group if the sale occurs within 18 months after the controlling person or group became a controlling person or group, and the stock was acquired during such month period or within 24 months before such period. A controlling person or group is a person or group that has acquired, offered to acquire, or publicly disclosed an intention to acquire 20% or more of the voting shares of the corporation or a person or group that has otherwise publicly disclosed or caused to be disclosed that it may seek to acquire control of the corporation through any means. Among other exceptions, Subchapter 25H does not apply to transactions approved by both the board of directors and the shareholders prior to the acquisition or distribution, as appropriate.

Subchapter 25I of the PBCL mandates severance compensation for eligible employees who are terminated within 24 months after the approval of a control-share acquisition. Eligible employees generally are all employees employed in Pennsylvania for at least two years prior to the control-share approval. Severance equals the weekly compensation of the employee multiplied by the employee's years of service (up to 26 years), less payments made due to the termination.

Subchapter 25J of the PBCL requires the continuation of certain labor contracts relating to business operations owned at the time of a control-share approval.

Articles of Incorporation and Bylaw Provisions

Certain provisions of the Registrant's Amended and Restated Articles of Incorporation, as amended (the "Articles"), and Amended and Restated Bylaws (the "Bylaws") may have the effect of discouraging unilateral tender offers or other attempts to take over and acquire its business. These provisions might discourage some potentially interested purchaser from attempting a unilateral takeover bid for the Registrant on terms which some shareholders might favor. The Articles require that certain fundamental transactions must be approved by the holders of 75% of the outstanding shares of capital stock entitled to vote on the matter unless at least a majority of the members of the board of directors has approved the transaction, in which case the required shareholder approval will be the minimum approval required by applicable law. The fundamental transactions that are subject to this provision are those transactions that require approval by shareholders under applicable law or the Articles. These transactions include certain amendments of the Articles or Bylaws, certain sales or other dispositions of our assets, certain issuances of our capital stock, or certain transactions involving our merger, consolidation, division, reorganization, dissolution, liquidation or winding up. The Registrant's Articles and Bylaws provide that:

- a special meeting of shareholders may only be called by the chairman, the president, the board of directors or shareholders entitled to cast a majority of the votes which all shareholders are entitled to cast at the particular meeting;
- nominations for election of directors may be made by any shareholder entitled to vote for election of directors if the name of the nominee and certain information relating to the nominee is filed with our corporate secretary not less than 14 days nor more than 50 days before any meeting of shareholders to elect directors; and
- certain advance notice procedures must be met for shareholder proposals to be made at annual meetings of shareholders. These advance notice procedures generally require a notice to be delivered not less than 90 days nor more than 120 days before the anniversary date of the immediately preceding annual meeting of shareholders.

6.00% Tangible Equity Units

Overview

In April 2019, the Registrant issued 13,800,000 of its 6.00% tangible equity units, or “Units.” Each Unit has a stated amount of \$50.00. Each Unit is comprised of (i) a prepaid stock purchase contract (a “purchase contract”) issued by the Registrant and (ii) a senior amortizing note due April 30, 2022 (an “amortizing note”) issued by the Registrant.

The following summary of the terms of the Units, the purchase contracts and the amortizing notes are subject to, and qualified in their entirety by reference to, the related contracts. We refer the holder to:

- the purchase contract agreement (the “purchase contract agreement”), entered into among the Registrant, U.S. Bank National Association, as purchase contract agent (the “purchase contract agent”) and attorney-in-fact for the holders of purchase contracts from time to time, and U.S. Bank National Association, as trustee (the “trustee”) under the indenture described below, pursuant to which the purchase contracts and Units were issued; and

- the indenture between the Registrant, as issuer, and the trustee, and a related supplemental indenture, between us, as issuer, and U.S. Bank National Association, as trustee, each to be dated the date of first issuance of the Units, under which the amortizing notes were issued.

The form of indenture, a supplemental indenture related to a change in governing law to New York law, among other matters, and a supplemental indenture for the amortizing notes and the form of purchase contract agreement have each been incorporated by reference as an exhibit to the Annual Report. Whenever particular sections or defined terms are referred to, such sections or defined terms are incorporated herein by reference.

As used in this description of the 6.00% Tangible Equity Units, unless the context otherwise requires, references to “Essential Utilities,” “we,” “us” or “our” refer to Essential Utilities, Inc. and do not include any of its existing or future subsidiaries.

Description of the Units

Components of the Units

Each Unit is comprised of:

- a prepaid stock purchase contract issued by us pursuant to which we will deliver to the holder, not later than 5:00 p.m., New York City time, on April 30, 2022 (subject to postponement in certain limited circumstances, the “mandatory settlement date”), unless earlier redeemed or settled, a number of shares of our common stock, par value \$0.50 per share (the “common stock”), per purchase contract equal to the settlement rate described below under “Description of the Purchase Contracts—Delivery of Common Stock;” and

· a senior amortizing note issued by us with an initial principal amount of \$8.62909 that pays equal quarterly installments of \$0.75000 per amortizing note (except for the July 30, 2019 installment payment, which was \$0.80833 per amortizing note), which cash payment in the aggregate is equivalent to 6.00% per year with respect to the \$50.00 stated amount per Unit.

Unless previously settled at the option of the holder as described in “Description of the Purchase Contracts—Early Settlement” or “Description of the Purchase Contracts—Early Settlement Upon a Fundamental Change,” settled at our option as described in “Description of the Purchase Contracts—Early Mandatory Settlement at Our Election” or redeemed at our option as described in “Description of the Purchase Contracts—Acquisition Termination Redemption,” we will deliver to the holder not more than 1.4442 shares and not less than 1.1790 shares of our common stock on the mandatory settlement date, based upon the applicable “settlement rate” (as defined under “Description of the Purchase Contracts—Delivery of Common Stock”), which is subject to adjustment as described herein, and the “applicable market value” (as defined under “Description of the Purchase Contracts—Delivery of Common Stock”) of our common stock, as described below under “Description of the Purchase Contracts—Delivery of Common Stock.”

Each amortizing note has an initial principal amount of \$8.62909. On each January 30, April 30, July 30 and October 30, commencing on July 30, 2019, we will pay equal cash installments of \$0.75000 on each amortizing note (except for the July 30, 2019 installment payment, which was \$0.80833 per amortizing note). Each installment payment constitutes a payment of interest (at a rate of 3.00% per annum) and a partial repayment of principal on the amortizing note, allocated as set forth on the amortization schedule set forth under “Description of the Amortizing Notes—Amortization Schedule.”

The stated amount of each Unit must be allocated between the amortizing note and the purchase contract based upon their relative fair market values. We have determined that the fair market value of each amortizing note is \$8.62909 and the fair market value of each purchase contract is \$41.37091, as set forth in the purchase contract agreement. Each holder agrees to such allocation and this position is binding upon each holder (but not on the Internal Revenue Service).

Separating and Recreating Units

Upon the conditions and under the circumstances described below, a holder of a Unit has the right to separate a Unit into its component parts, and a holder of a separate purchase contract and a separate amortizing note will have the right to combine the two components to recreate a Unit.

Separating Units

At initial issuance, the purchase contracts and amortizing notes may be purchased and transferred only as Units and will trade under the CUSIP number for the Units.

On any business day during the period beginning on, and including, the business day immediately following the date of initial issuance of the Units to, but excluding, the second scheduled trading day immediately preceding April 30, 2022 or, if earlier, the second scheduled trading day immediately preceding any “early mandatory settlement date” (as defined under “Description of the Purchase Contracts”) or the second scheduled trading day immediately

preceding any “acquisition redemption settlement date” (as defined under “Description of the Purchase Contracts”) and also excluding the business day immediately preceding any installment payment date (provided, the right to separate the Units shall resume after such business day), the holder will have the right to separate its Unit into its constituent purchase contract and amortizing note (which we refer to as a “separate purchase contract” and a “separate amortizing note,” respectively, and which will thereafter trade under their respective CUSIP numbers), in which case that Unit will cease to exist. If the holder beneficially owns a Unit, the holder may separate it into its component purchase contract and component amortizing note by delivering written instructions to the broker or other direct or indirect participant through which the holder hold an interest in its Unit (“participant”) to notify The Depository Trust Company (“DTC”) through DTC’s Deposit/Withdrawal at Custodian (“DWAC”) system of its desire to separate the Unit. Holders who elect to separate a Unit into its constituent purchase contract and amortizing note shall be responsible for any fees or expenses payable in connection with such separation.

“Business day” means any day other than a Saturday, Sunday or any day on which banking institutions in New York, New York are authorized or obligated by applicable law or executive order to close or be closed.

Separate purchase contracts and separate amortizing notes will be transferable independently from each other.

Recreating Units

On any business day during the period beginning on, and including, the business day immediately following the date of initial issuance of the Units to, but excluding, the second scheduled trading day immediately preceding April 30, 2022 or, if earlier, the second scheduled trading day immediately preceding any early mandatory settlement date or the second scheduled trading day immediately preceding any acquisition redemption settlement date and also excluding the business day immediately preceding any installment payment date (provided, the right to recreate the Units shall resume after such business day), the holder may recreate a Unit from its separate purchase contract and separate amortizing note. If the holder beneficially owns a separate purchase contract and a separate amortizing note, the holder may recreate a Unit by delivering written instruction to its participant to notify DTC through DTC’s DWAC system of its desire to recreate the Unit. Holders who elect to recreate Units shall be responsible for any fees or expenses payable in connection with such recreation.

Global Securities

Each Unit, purchase contract and amortizing note will be represented by global securities registered in the name of a nominee of DTC. The holder will not be entitled to receive definitive physical certificates for its Units, purchase contracts or amortizing notes, except under the limited circumstances described under “Book-Entry Procedures and Settlement.” Beneficial interests in a Unit and, after separation, the separate purchase contract and separate amortizing note will be represented through book-entry accounts of, and transfers will be effected through, direct or indirect participants in DTC.

Each holder of Units or separate purchase contracts, by acceptance of such securities, will be deemed to have:

- irrevocably authorized and directed the purchase contract agent to execute, deliver and perform on its behalf the purchase contract agreement, and appointed the purchase contract agent as its attorney-in-fact for any and all such purposes;

- in the case of a purchase contract that is a component of a Unit, or that is evidenced by a separate purchase contract, irrevocably authorized and directed the purchase contract agent to execute, deliver and hold on its behalf the separate purchase contract or the component purchase contract evidencing such purchase contract, and appointed the purchase contract agent as its attorney-in-fact for any and all such purposes;

- consented to, and agreed to be bound by, the terms and provisions of the purchase contract agreement; and

- represented that either (i) no portion of the assets used to acquire or hold the Units, common stock issuable on upon settlement of the purchase contracts or amortizing notes constitutes assets of any (a) employee benefit plans that are subject to Title I of the Employee Retirement Income Security Act of 1974, as amended (“ERISA”), (b) plan, individual retirement account or other arrangement that is subject to Section 4975 of the Internal Revenue Code of 1986, as amended (the “Code”) or provisions under any other U.S. or non-U.S. federal, state, local or other laws or regulations that are similar to such provisions of ERISA or the Code (collectively, “Similar Laws”), or (c) entity which is deemed to hold the assets of any of the foregoing types of plans, accounts or arrangements described in clauses (a) and (b) (each of the foregoing described in clause (a), (b) and (c) referred to as a “Plan”) or (ii) (1) the acquisition and holding of the Units, common stock issuable upon settlement of the purchase contracts or amortizing notes and any of its constituent parts will not constitute or result in a non-exempt prohibited transaction under Section 406 of ERISA or Section 4975 of the Code or a similar violation under any applicable Similar Laws and (2) neither Essential Utilities, the underwriters or any of their respective affiliates is, or is undertaking to be, a fiduciary with respect to the Plan in connection with the Plan’s acquisition, holding or disposition of the Units, common stock issuable upon settlement of the purchase contracts or amortizing notes, as applicable;

o in the case of a holder of a Unit, agreed, for all purposes, including U.S. federal income tax purposes, to treat:

§ a Unit as an investment unit composed of two separate instruments, in accordance with its form;

§ the amortizing notes as indebtedness of ours; and

§ the allocation of the \$50.00 stated amount per Unit between the purchase contract and the amortizing note so that such holder’s initial tax basis in

each purchase contract will be \$41.37091 and such holder's initial tax basis in each amortizing note will be \$8.62909.

Listing of Securities

We have listed the Units on the NYSE under the symbol "WTRU." However, listing on the NYSE does not guarantee that a trading market will develop, and the underwriters may discontinue market making at any time in their sole discretion without notice. Accordingly, we cannot assure the holder that a liquid trading market will develop for the Units (or, if developed, that a liquid trading market will be maintained), that the holder will be able to sell Units at a particular time or that the prices the holder receive when the holder sell will be favorable.

We did not initially apply to list the separate purchase contracts or the separate amortizing notes on any securities exchange or automated inter-dealer quotation system. If (i) a sufficient number of Units are separated into separate purchase contracts and separate amortizing notes and traded separately such that applicable listing requirements are met and (ii) a sufficient number of holders of such separate purchase contracts and separate amortizing notes request that we list such separate purchase contracts and separate amortizing notes, we may endeavor to list such separate purchase contracts and separate amortizing notes on an exchange of our choosing (which may or may not be the NYSE) subject to applicable listing requirements.

Title

We, the purchase contract agent and the trustee will treat the registered owner, which at initial issuance was a nominee of DTC, of any Unit or separate purchase contract or separate amortizing note as the absolute owner of the Unit or separate purchase contract or separate amortizing note for the purpose of settling the related purchase contract or making payments on the separate amortizing note and for all other purposes.

Accounting for the Units

We record the issuance of the purchase contract portion of the Units as additional paid-in-capital, net of issuance costs of the purchase contracts, in our financial statements. We also record the amortizing notes portion of the Units as long-term debt and record the issuance costs of the amortizing notes as an adjustment to the carrying amount of the amortizing notes. The amortization of the amortizing notes is calculated using the effective interest method over the life of the amortizing notes. We allocate the proceeds from the issuance of the Units to the purchase contracts and amortizing notes based on the relative fair values of the respective components, determined as of the date of issuance of the Units. We have determined that the allocation of the purchase price of each Unit as between the amortizing note and the purchase contract is \$8.62909 for the amortizing note and \$41.37091 for the purchase contract, as set forth in the purchase contract agreement.

Based on U.S. GAAP, we do not expect the purchase contract component of the Units to be revalued under fair value accounting principles.

Our earnings per share calculations will reflect the shares issuable upon settlement of the purchase contracts portion of the Units. Our basic earnings per share will include the minimum

shares issuable under the purchase contract for each period and our diluted earnings per share will include any incremental shares that would be issuable assuming a settlement of the purchase contract at the end of each accounting period, if dilutive.

Replacement of Unit Certificates

In the event that physical certificates evidencing the Units have been issued, any mutilated Unit certificate will be replaced by us at the expense of the holder upon surrender of the certificate to the purchase contract agent. Unit certificates that become destroyed, lost or stolen will be replaced by us at the expense of the holder upon delivery to us and the purchase contract agent of evidence of their destruction, loss or theft satisfactory to us and the purchase contract agent. In the case of a destroyed, lost or stolen Unit certificate, an indemnity satisfactory to us and the purchase contract agent may be required at the expense of the holder of the Units before a replacement will be issued.

Notwithstanding the foregoing, we will not be obligated to replace any Unit certificates on or after the second scheduled trading day immediately preceding April 30, 2022 or the second scheduled trading day immediately preceding any early mandatory settlement date or the second scheduled trading day immediately preceding any acquisition redemption settlement date. In those circumstances, the purchase contract agreement provides that, in lieu of the delivery of a replacement Unit certificate, the purchase contract agent, upon delivery of the evidence and indemnity described above, will deliver or arrange for delivery of the shares of common stock issuable (and/or, in the case of an acquisition redemption settlement date, make the required cash payment, if any) pursuant to the purchase contracts included in the Units evidenced by the Unit certificate.

Miscellaneous

The purchase contract agreement provides that we will pay all fees and expenses related to the offering of the Units and the enforcement by the purchase contract agent of the rights of the holders of the Units or the separate purchase contracts or separate amortizing notes, other than expenses (including legal fees) of the underwriters.

Should the holder elect to separate or recreate Units, the holder will be responsible for any fees or expenses payable in connection with that separation or recreation, and we will have no liability therefor.

Description of the Purchase Contracts

General

The purchase contracts are issued pursuant to the terms and provisions of the purchase contract agreement. The following summary of the terms of the purchase contracts contains a description of certain terms of the purchase contracts, but is not complete and is subject to, and is qualified in its entirety by reference to, all of the provisions of the purchase contract agreement, including the definitions of specified terms in the purchase contract agreement.

Each purchase contract initially formed a part of a Unit. Each Unit may be separated by a holder into its constituent purchase contract and amortizing note on any business day during the period beginning on, and including, the business day immediately following the date of initial issuance of the Units to, but excluding, the second scheduled trading day immediately preceding April 30, 2022 or, if earlier, the second scheduled trading day immediately preceding any “early mandatory settlement date” or the second scheduled trading day immediately preceding any “acquisition redemption settlement date,” and also excluding the business day immediately preceding any installment payment date (provided, the right to separate the Units shall resume after such business day). Following such separation, purchase contracts may be transferred separately from amortizing notes.

As used in this section for the description of the 6.00% Tangible Equity Units, unless the context otherwise requires, references to:

- “close of business” refer to 5:00 p.m., New York City time; and
- “open of business” refer to 9:00 a.m., New York City time.

Delivery of Common Stock

Unless previously redeemed or settled early at the holder’s or our option, for each purchase contract we will deliver to the holder on April 30, 2022 (subject to postponement in certain limited circumstances described below, the “mandatory settlement date”) a number of shares of our common stock. The number of shares of our common stock issuable upon settlement of each purchase contract (the “settlement rate”) will be determined as follows:

- if the “applicable market value” (as defined below) of our common stock is greater than the “threshold appreciation price” (as defined below), then the holder will receive 1.1790 shares of common stock for each purchase contract (the “minimum settlement rate”);
- if the applicable market value of our common stock is less than or equal to the threshold appreciation price but greater than or equal to the “reference price” (as defined below), then the holder will receive a number of shares of common stock for each purchase contract equal to the Unit stated amount of \$50.00, divided by the applicable market value; and
- if the applicable market value of our common stock is less than the reference price, then the holder will receive 1.4442 shares of common stock for each purchase contract (the “maximum settlement rate”).

The maximum settlement rate and the minimum settlement rate are each subject to adjustment as described under “—Adjustments to the Fixed Settlement Rates” below. Each of the minimum settlement rate and the maximum settlement rate is referred to as a “fixed settlement rate.”

The reference price is calculated by dividing \$50.00 by the then applicable maximum settlement rate and initially is approximately equal to \$34.62.

The threshold appreciation price is calculated by dividing \$50.00 by the then applicable minimum settlement rate. The threshold appreciation price, which is initially approximately \$42.41, represents a premium of approximately 22.5% over the reference price.

“Applicable market value” means the arithmetic average of the VWAP per share of our common stock over the settlement period.

“Settlement period” means the 20 consecutive trading day period beginning on, and including, the 21st scheduled trading day immediately preceding April 30, 2022.

“VWAP” per share of our common stock on any trading day means the per share volume-weighted average price as displayed under the heading “Bloomberg VWAP” on Bloomberg (or any successor service) page “WTRG <Equity> AQR” (or its equivalent successor if such page is not available) in respect of the period from the scheduled open until the scheduled close of trading of the primary trading session on such trading day; or, if such price is not available, the market value per share of our common stock on such trading day as determined, using a volume-weighted average method, by a nationally recognized independent investment banking firm retained by us for this purpose. For the avoidance of doubt, “VWAP” will be determined without regard to after-hours trading or any other trading outside of the regular trading session trading hours.

“Trading day” means a day on which:

- there is no “market disruption event” (as defined below); and
- trading in our common stock (or other security for which a VWAP must be determined) generally occurs on the relevant stock exchange (as defined below);

provided, that if our common stock (or such other security) is not so listed or traded, “trading day” means a “business day.”

“Relevant stock exchange” means the NYSE or, if our common stock (or other security for which a VWAP or closing price must be determined) is not then listed on the NYSE, on the principal other U.S. national or regional securities exchange on which our common stock (or such other security) is then listed or, if our common stock (or such other security) is not then listed on a U.S. national or regional securities exchange, on the principal other market on which our common stock (or such other security) is then listed or admitted for trading.

“Scheduled trading day” means a day that is scheduled to be a trading day on the relevant stock exchange. If our common stock (or other such security) is not listed or admitted for trading on a relevant stock exchange, “scheduled trading day” means a “business day.”

“Market disruption event” means:

- a failure by the relevant stock exchange to open for trading during its regular trading session; or

- the occurrence or existence on the relevant stock exchange prior to 1:00 p.m., New York City time, on any scheduled trading day for our common stock (or such other security) for more than one half-hour period in the aggregate during regular trading hours of any suspension or limitation imposed on trading (by reason of movements in price exceeding limits permitted by the relevant stock exchange or otherwise) in our common stock (or such other security) or in any options contracts or futures contracts relating to our common stock (or such other security).

On the mandatory settlement date, our common stock will be issued and delivered to the holder or the holder's designee, upon:

- surrender of certificates representing the purchase contracts, if such purchase contracts are held in certificated form; and

- payment by the holder of any transfer or similar taxes payable in connection with the issuance of our common stock to any person other than the holder.

As long as the purchase contracts are evidenced by one or more global purchase contract certificates deposited with DTC, procedures for settlement will be governed by DTC's applicable procedures.

If one or more of the 20 consecutive scheduled trading days in the settlement period is not a trading day, the mandatory settlement date will be postponed until the second scheduled trading day immediately following the last trading day of the settlement period.

Prior to the close of business on the last trading day of the settlement period, the shares of common stock underlying each purchase contract will not be outstanding, and the holder of such purchase contract will not have any voting rights, rights to dividends or other distributions or other rights of a holder of our common stock by virtue of holding such purchase contract. The person in whose name any shares of our common stock shall be issuable upon settlement of the purchase contract on the mandatory settlement date will be treated as the holder of record of such shares as of the close of business on the last trading day of the settlement period.

We will pay any documentary, stamp or similar issue or transfer tax due on the issue of any shares of our common stock upon settlement or redemption of the purchase contracts, unless the tax is due because the holder requests any shares to be issued in a name other than the holder's name, in which case the holder will be obligated to pay that tax.

Early Settlement

Prior to the close of business on the second scheduled trading day immediately preceding April 30, 2022, a holder of Units or a holder of separate purchase contracts, may elect to settle its purchase contracts early, in whole or in part, and receive a number of shares of common stock per purchase contract equal to the "early settlement rate" (and any cash payable for fractional shares). The early settlement rate is equal to the minimum settlement rate in effect on the early settlement date unless the holder elect to settle its purchase contracts early in connection with a fundamental change, in which case the holder will receive upon settlement of its purchase

contracts a number of shares of our common stock based on the “fundamental change early settlement rate” as described under “—Early Settlement Upon a Fundamental Change.”

A holder’s right to receive common stock (and any cash payable for fractional shares) upon early settlement of a purchase contract is subject to:

- delivery of a written and signed notice of election (an “early settlement notice”) to the purchase contract agent electing early settlement of such purchase contract;
- if the Unit that includes such purchase contract or such purchase contract is held in certificated form, surrendering the certificates representing the purchase contract, or if held in global form, surrendering in accordance with DTC’s applicable procedures; and
- payment by the holder of any transfer or similar taxes payable in connection with the issuance of our common stock to any person other than the holder.

As long as the purchase contracts or the Units are evidenced by one or more global certificates deposited with DTC, procedures for early settlement will be governed by DTC’s applicable procedures.

Upon surrender of the Unit or the separate purchase contract and payment of any applicable transfer or similar taxes due because of any issue of such shares in a name of a person other than the holder, the holder will receive the applicable number of shares of common stock (and any cash payable for fractional shares) due upon early settlement on the second business day following the “early settlement date” (as defined below).

If the holder comply with the requirements for effecting early settlement of its purchase contracts earlier than the close of business on any business day, then that day will be considered the “early settlement date.” If the holder comply with such requirements at or after the close of business on any business day or at any time on a day that is not a business day, then the next succeeding business day will be considered the “early settlement date.” Prior to the close of business on the early settlement date, the shares of common stock underlying each purchase contract will not be outstanding, and the holder of such purchase contract will not have any voting rights, rights to dividends or other distributions or other rights of a holder of our common stock by virtue of holding such purchase contract. The person in whose name any shares of our common stock shall be issuable upon such early settlement of the purchase contract will be treated as the holder of record of such shares as of the close of business on the relevant early settlement date.

Upon early settlement at the holder’s election of the purchase contract component of a Unit, the amortizing note underlying such Unit will remain outstanding and be beneficially owned by or registered in the name of, as the case may be, the holder who elected to settle the related purchase contract early and will no longer constitute a part of the Unit.

Early Settlement Upon a Fundamental Change

If a “fundamental change” occurs and the holder elects to settle its purchase contracts early in connection with such fundamental change, the holder will receive per purchase contract a number of shares of our common stock (and any cash payable for fractional shares) (or, if a

reorganization event has occurred, cash, securities or other property, as applicable) equal to the “fundamental change early settlement rate,” as described below. An early settlement will be deemed for these purposes to be “in connection with” such fundamental change if the holder deliver its early settlement notice to the purchase contract agent, and otherwise satisfy the requirements for effecting early settlement of its purchase contracts, during the period beginning on, and including, the effective date of the fundamental change and ending at the close of business on the 35th business day thereafter (or, if earlier, the second scheduled trading day immediately preceding April 30, 2022) (the “fundamental change early settlement period”). We refer to this right as the “fundamental change early settlement right.”

A holder’s right to common stock (and any cash payable for fractional shares) (or, if a reorganization event has occurred, cash, securities or other property, as applicable) upon early settlement in connection with a fundamental change is subject to compliance with the conditions described under “—Early Settlement.”

Upon surrender of the Unit or the separate purchase contract and payment of any applicable transfer or similar taxes due because of any issue of such shares in a name of a person other than the holder, the holder will receive the applicable number of shares of common stock (and any cash payable for fractional shares) (or, if a reorganization event has occurred, cash, securities or other property, as applicable) issuable as a result of its exercise of the fundamental change early settlement right on the second business day following the “fundamental change early settlement date” (as defined below).

If the holder complies with the requirements for effecting early settlement of its purchase contracts in connection with a fundamental change prior to the close of business on any business day during the fundamental change early settlement period, then that day will be considered the “fundamental change early settlement date.” If the holder comply with such requirements at or after the close of business on any business day during the fundamental change early settlement period or at any time on a day during the fundamental change early settlement period that is not a business day, then the next succeeding business day will be considered the “fundamental change early settlement date.”

We will provide the purchase contract agent, the trustee and the holders of Units and separate purchase contracts with a notice of a fundamental change within five business days after its effective date and issue a press release announcing such effective date. The notice will also set forth, among other things:

- the applicable fundamental change early settlement rate;
- if not common stock, the kind and amount of cash, securities and other property receivable by the holder upon settlement; and
- the deadline by which each holder’s fundamental change early settlement right must be exercised.

A “fundamental change” will be deemed to have occurred upon the occurrence of any of the following:

- any “person” or “group” within the meaning of Section 13(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), other than us, any of our subsidiaries and any of our and their employee benefit plans, files a Schedule TO or any other schedule, form or report under the Exchange Act disclosing that such person or group has become the direct or indirect “beneficial owner” (as defined in Rule 13d-3 under the Exchange Act) of our common stock representing more than 50% of the voting power of our common stock;

- the consummation of (A) any recapitalization, reclassification or change of our common stock (other than changes resulting from a subdivision or combination) as a result of which our common stock would be converted into, or exchanged for, stock, other securities, other property or assets; (B) any share exchange, consolidation or merger of us pursuant to which our common stock will be converted into cash, securities or other property or assets; or (C) any sale, lease or other transfer in one transaction or a series of transactions of all or substantially all of the consolidated assets of us and our subsidiaries, taken as a whole, to any person or persons other than one of our wholly owned subsidiaries;

- our stockholders approve any plan or proposal for the liquidation or dissolution of us;

or

- our common stock (or other common stock receivable upon settlement of its purchase contracts, if applicable) ceases to be listed or quoted on any of the NYSE, the NASDAQ Global Select Market or the NASDAQ Global Market (or any of their respective successors).

A transaction or transactions described in clauses (1) or (2) above will not constitute a fundamental change, however, if (a) at least 90% of the consideration received or to be received by our common stockholders (excluding cash payments for fractional shares and cash payments made in respect of dissenters’ appraisal rights) in connection with such transaction or transactions consists of shares of common stock that are listed or quoted on any of the NYSE, the NASDAQ Global Select Market or the NASDAQ Global Market (or any of their respective successors), or will be so listed or quoted when issued or exchanged in connection with such transaction or transactions, and (b) as a result of such transaction or transactions such consideration becomes the consideration receivable upon settlement of its purchase contracts, if applicable, excluding cash payments for fractional shares.

If any transaction in which our common stock is replaced by the securities of another entity occurs, following completion of any related fundamental change early settlement period (or, in the case of a transaction that would have been a fundamental change but for the immediately preceding paragraph, following the effective date of such transaction), references to us in the definition of “fundamental change” above shall instead be references to such other entity.

The “fundamental change early settlement rate” will be determined by us by reference to the table below, based on the date on which the fundamental change occurs or becomes effective (the “effective date”) and the “stock price” in the fundamental change, which will be:

- in the case of a fundamental change described in clause (2) of the definition of “fundamental change” in which all holders of shares of our common stock receive only cash in

the fundamental change, the stock price will be the cash amount paid per share of our common stock; and

- in all other cases, the stock price will be the arithmetic average of the VWAPs of our common stock over the five consecutive trading day period ending on, and including, the trading day immediately preceding the effective date.

The stock prices set forth in the column headings of the table below will be adjusted as of any date on which the fixed settlement rates are adjusted. The adjusted stock prices will equal the stock prices applicable immediately prior to such adjustment, multiplied by a fraction, the numerator of which is the maximum settlement rate immediately prior to the adjustment giving rise to the stock price adjustment and the denominator of which is the maximum settlement rate as so adjusted. The fundamental change early settlement rates per purchase contract in the table below will be adjusted in the same manner and at the same time as the fixed settlement rates as set forth under “—Adjustments to the Fixed Settlement Rates.”

The following table sets forth the fundamental change early settlement rate per purchase contract for each stock price and effective date set forth below:

Effective Date	Stock Price												
	\$ 10.00	\$ 17.20	\$ 25.00	\$ 30.00	\$ 34.62	\$ 37.50	\$ 40.00	\$ 42.41	\$ 45.00	\$ 50.00	\$ 60.00	\$ 75.00	\$ 100.00
April 23, 2019	1.1093	1.2275	1.2513	1.2383	1.2837	1.1947	1.1785	1.1641	1.1508	1.1340	1.1290	1.1382	1.1483
July 30, 2019	1.1358	1.2458	1.2667	1.2520	1.2882	1.2043	1.1865	1.1706	1.1561	1.1380	1.1332	1.1418	1.1510
October 30, 2019	1.1610	1.2630	1.2814	1.2652	1.2928	1.2135	1.1940	1.1766	1.1608	1.1415	1.1371	1.1451	1.1535
January 30, 2020	1.1867	1.2805	1.2964	1.2790	1.2979	1.2229	1.2016	1.1824	1.1652	1.1449	1.1411	1.1485	1.1560
April 30, 2020	1.2130	1.2982	1.3119	1.2933	1.3036	1.2327	1.2091	1.1881	1.1693	1.1481	1.1452	1.1518	1.1585
July 30, 2020	1.2399	1.3161	1.3277	1.3081	1.3096	1.2425	1.2164	1.1932	1.1727	1.1510	1.1493	1.1552	1.1611
October 30, 2020	1.2673	1.3343	1.3439	1.3238	1.3175	1.2527	1.2237	1.1978	1.1755	1.15538	1.1535	1.1586	1.1636
January 30, 2021	1.2953	1.3525	1.3065	1.3403	1.3382	1.2633	1.2306	1.2015	1.1773	1.1566	1.1577	1.1619	1.1662
April 30, 2021	1.3239	1.3710	1.3776	1.3581	1.3591	1.2746	1.2371	1.2041	1.1779	1.1599	1.1619	1.1653	1.1687
July 30, 2021	1.3531	1.3894	1.3951	1.3773	1.3802	1.2867	1.2427	1.2044	1.1769	1.1639	1.1662	1.1687	1.1713
October 30, 2021	1.3829	1.4079	1.4127	1.3987	1.4014	1.3005	1.2466	1.2013	1.1745	1.1687	1.1704	1.1721	1.1739
January 30, 2022	1.4112	1.4262	1.4297	1.4224	1.4227	1.3178	1.2470	1.1925	1.1736	1.1739	1.1747	1.1756	1.1764
April 30, 2022	1.4442	1.4442	1.4442	1.4442	1.44421	1.3333	1.2500	1.1790	1.1790	1.1790	1.1790	1.1790	1.1790

The exact stock price and effective date may not be set forth in the table above, in which case:

- if the applicable stock price is between two stock prices in the table or the applicable effective date is between two effective dates in the table, the fundamental change early settlement rate will be determined by straight line interpolation between the fundamental change early settlement rates set forth for the higher and lower stock prices and the earlier and later effective dates, as applicable, based on a 365-or 366-day year, as applicable;
- if the applicable stock price is greater than \$100.00 per share (subject to adjustment in the same manner and at the same time as the stock prices set forth in the column headings of the table above), then the fundamental change early settlement rate will be the minimum settlement rate; or
- if the applicable stock price is less than \$100.00 per share (subject to adjustment in the same manner and at the same time as the stock prices set forth in the column headings of the table above, the “minimum stock price”), the fundamental change early settlement rate will be determined as if the stock price equaled the minimum stock price, and using straight line

interpolation, as described in the first bullet of this paragraph, if the effective date is between two effective dates in the table.

The maximum number of shares of our common stock deliverable under a purchase contract is 1.4442, subject to adjustment in the same manner and at the same time as the fixed settlement rates as set forth under “—Adjustments to the Fixed Settlement Rates.”

Our obligation to settle the purchase contracts at the fundamental change early settlement rate could be considered a penalty, in which case the enforceability thereof would be subject to general principles of reasonableness of economic remedies.

We will deliver the shares of our common stock (and any cash payable for fractional shares) (or, if a reorganization event has occurred, cash, securities or other property, as applicable) payable as a result of its exercise of the fundamental change early settlement right on the second business day following the fundamental change early settlement date.

Prior to the close of business on the fundamental change early settlement date, the shares of common stock or other securities, if applicable, underlying each purchase contract will not be outstanding, and the holder of such purchase contract will not have any voting rights, rights to dividends or other distributions or other rights of a holder of our common stock or such other securities by virtue of holding such purchase contract. The person in whose name any shares of our common stock or such other securities shall be deliverable following exercise of a holder’s fundamental change early settlement right will be treated as the holder of record of such shares or such other securities as of the close of business on the fundamental change early settlement date.

Upon early settlement at the holder’s election upon a fundamental change of the purchase contract component of a Unit, the amortizing note underlying such Unit will remain outstanding and will be beneficially owned by or registered in the name of, as the case may be, the holder who elected to settle the related purchase contract early upon the fundamental change and will no longer constitute a part of the Unit.

If the holder do not elect to exercise its fundamental change early settlement right, its purchase contracts will remain outstanding and will be subject to normal settlement on any subsequent early settlement date, any subsequent fundamental change early settlement date, any subsequent early mandatory settlement date or the mandatory settlement date or redemption on any subsequent acquisition redemption settlement date, as the case may be.

For the avoidance of doubt, each of the calculation methodologies and adjustments described above also shall apply if the fundamental change repurchase rate is being used as the acquisition redemption rate as described below under “—Acquisition Termination Redemption.”

Early Mandatory Settlement at Our Election

We have the right to settle the purchase contracts on or after January 30, 2020, in whole but not in part, on a date fixed by us as described below at the “early mandatory settlement rate” described below. We refer to this right as our “early mandatory settlement right.”

The “early mandatory settlement rate” will be the maximum settlement rate as of the date (the “notice date”) of the early mandatory settlement notice (as defined below) unless the closing price (as defined below) per share of our common stock for at least 20 trading days (whether or not consecutive), including the trading day immediately preceding the notice date in a period of 30 consecutive trading days ending on, and including, the trading day immediately preceding the notice date exceeds 130% of the threshold appreciation price in effect on each such trading day, in which case the “early mandatory settlement rate” will be the minimum settlement rate as of the notice date.

The “closing price” per share of our common stock (or any other security) on any day means:

- the closing sale price per share (or if no closing sale price is reported, the average of the bid and ask prices or, if more than one in either case, the average of the average bid and the average ask prices) on that date as reported in composite transactions for the relevant stock exchange;
- if our common stock (or any other security) is not listed for trading on a relevant stock exchange on the relevant date, the last quoted bid price for our common stock (or such other security) in the over-the-counter market on the relevant date as reported by OTC Markets Group Inc. or a similar organization; and
- if our common stock (or any other security) is not so quoted, the average of the mid-point of the last bid and ask prices for our common stock (or such other security) on the relevant date from each of at least three nationally recognized independent investment banking firms selected by us for this purpose.

In the event we elect to settle the purchase contracts early, holders of the amortizing notes (whether as components of Units or separate amortizing notes) will have the right to require us to repurchase some or all of their amortizing notes on the repurchase date and at the repurchase price, as described under “Description of the Amortizing Notes—Repurchase of Amortizing Notes at the Option of the Holder.” If we exercise our early mandatory settlement right and the holder of any Unit does not require us to repurchase the amortizing note that is a component of such Unit, such amortizing note will remain outstanding and will be beneficially owned by or registered in the name of, as the case may be, such holder. If we exercise our early mandatory settlement right and the holder of any Unit requires us to repurchase the amortizing note that is a component of such Unit but the related repurchase date falls after the early mandatory settlement date, such amortizing note will remain outstanding (pending such repurchase date) and will be beneficially owned by or registered in the name of, as the case may be, such holder.

If we elect to exercise our early mandatory settlement right, we will provide the purchase contract agent and the holders of Units, separate purchase contracts and separate amortizing notes with a notice of our election (the “early mandatory settlement notice”) and issue a press release announcing our election. The early mandatory settlement notice will specify, among other things:

- the early mandatory settlement rate;

- the date on which we will deliver shares of our common stock (and any cash payable for fractional shares) following exercise of our early mandatory settlement right (the “early mandatory settlement date”), which will be on or after January 30, 2020 and at least five but not more than 20 business days following the notice date;

- that holders of Units and separate amortizing notes will have the right to require us to repurchase their amortizing notes that are a component of the Units or their separate amortizing notes, as the case may be (subject to certain exceptions described under “Description of the Amortizing Notes—Repurchase of Amortizing Notes at the Option of the Holder”);

- if applicable, the “repurchase price” and “repurchase date” (each as defined below under “Description of the Amortizing Notes—Repurchase of Amortizing Notes at the Option of the Holder”);

- if applicable, the last date on which holders of amortizing notes may exercise their repurchase right; and

- if applicable, the procedures that holders of amortizing notes must follow to require us to repurchase their amortizing notes.

We will deliver the shares of our common stock (and any cash payable for fractional shares) to the holder on the early mandatory settlement date.

Prior to the close of business on the notice date, the shares of common stock underlying each purchase contract will not be outstanding, and the holder of such purchase contract will not have any voting rights, rights to dividends or other distributions or other rights of a holder of our common stock by virtue of holding such purchase contract. The person in whose name any shares of our common stock shall be issuable following exercise of our early mandatory settlement right will be treated as the holder of record of such shares as of the close of business on the notice date.

Acquisition Termination Redemption

If the closing of the Peoples Gas Acquisition has not occurred on or prior to April 22, 2020, or if, prior to such date, the Purchase Agreement is terminated, we may elect to redeem all, but not less than all, of the outstanding purchase contracts on the terms described below (an “acquisition termination redemption”), by delivering notice during the five business day period immediately following the earlier of (x) April 22, 2020 if the closing of the Acquisition has not occurred on or prior to such date and (y) the date on which the Purchase Agreement is terminated (such notice, the “acquisition redemption notice”) to the purchase contract agent, the trustee and all holders of Units, separate purchase contracts or separate amortizing notes and will issue a press release announcing any such election.

In the event of an acquisition termination redemption, the holder will have the right to require us to repurchase its amortizing notes (whether as components of Units or separate amortizing notes) on the repurchase date and at the repurchase price, as described under “Description of the Amortizing Notes—Repurchase of Amortizing Notes at the Option of the Holder.” If we exercise

our right to cause an acquisition termination redemption and the holder of any Unit or separate amortizing note does not require us to repurchase such amortizing note, such amortizing note will remain outstanding and be beneficially owned by or registered in the name of, as the case may be, such holder. If we exercise our right to cause an acquisition termination redemption and the holder of any Unit requires us to repurchase the amortizing note that is a component of such Unit but the related repurchase date falls after the acquisition termination settlement date, such amortizing note will remain outstanding (pending such repurchase date) and will be beneficially owned by or registered in the name of, as the case may be, such holder.

As further described below, redemptions of purchase contracts pursuant to an acquisition termination redemption will be settled in cash if the relevant acquisition termination stock price is equal to or less than the reference price. If the relevant acquisition termination stock price is greater than the reference price, redemptions of purchase contracts pursuant to an acquisition termination redemption will be settled in shares of our common stock, with the amount of such common stock to be determined by reference to the table set forth above in “—Early Settlement Upon a Fundamental Change”; provided that, in such case, we may elect to pay cash in lieu of delivering any or all of such number of shares of our common stock, all as further described below.

The acquisition redemption notice will specify, among other things:

- the “acquisition termination stock price” (as defined below);
- the “scheduled acquisition redemption settlement date” (as defined below);
- if the “redemption amount” (as defined below) is determined pursuant to the first bullet point in the definition thereof, the redemption amount;
- if the redemption amount is determined pursuant to the second bullet point in the definition thereof, the acquisition redemption rate, and, if applicable, the number of shares of our common stock that would otherwise be included in the applicable redemption amount that will be replaced with cash;
- that holders of Units and separate amortizing notes will have the right to require us to repurchase their amortizing notes that are a component of the Units or their separate amortizing notes, as the case may be, as described under “Description of the Amortizing Notes—Repurchase of Amortizing Notes at the Option of the Holder”;
- if applicable, the “repurchase price” and “repurchase date,” each as defined below under “Description of the Amortizing Notes—Repurchase of Amortizing Notes at the Option of the Holder”;
- if applicable, the last date on which holders of amortizing notes may exercise their repurchase right; and
- if applicable, the procedures that holders of amortizing notes must follow to require us to repurchase their amortizing notes.

If we do not specify a number of shares of common stock that will be replaced with cash in the acquisition redemption notice, we will be deemed to have elected to settle the redemption amount solely in shares of common stock.

In the event of an acquisition termination redemption, we will deliver the applicable redemption amount on the acquisition redemption settlement date. “Redemption amount” per purchase contract means:

- if the acquisition termination stock price is equal to or less than the reference price, an amount of cash equal to (x) \$50.00 less (y) the applicable repurchase price for the amortizing notes; or

- if the acquisition termination stock price is greater than the reference price, a number of shares of our common stock (the “acquisition redemption rate”) equal to the number of shares of our common stock determined by reference to the table set forth above in “—Early Settlement Upon a Fundamental Change” (with references to “stock price” deemed to refer to the “acquisition termination stock price,” references to “fundamental change early settlement rate” deemed to refer to the “acquisition redemption rate,” and references to “effective date” deemed to refer to the date of the related acquisition redemption notice); provided that we may elect to pay cash in lieu of delivering any or all of the shares of our common stock in an amount equal to such number of shares multiplied by the redemption market value; provided further that, if we so elect to pay cash, we will specify in the acquisition redemption notice the number of shares of our common stock that will be replaced with cash.

“Acquisition termination stock price” means the arithmetic average of the VWAPs of our common stock over the five consecutive trading day period ending on, and including, the trading day immediately preceding the date we provide the acquisition redemption notice.

“Redemption market value” means the arithmetic average of the VWAPs of our common stock for the 20 consecutive trading day period beginning on, and including, the 21st scheduled trading day immediately preceding the scheduled acquisition redemption settlement date.

“Acquisition redemption settlement date” means:

- if (x) the acquisition termination stock price is greater than the reference price and (y) we elect to pay cash in lieu of delivering any or all of the shares of our common stock that would otherwise be included in the redemption amount, the second business day following the last trading day of the 20 consecutive trading day period used to determine the redemption market value; or

- otherwise, the scheduled acquisition redemption settlement date specified in the acquisition redemption notice.

“Scheduled acquisition redemption settlement date” means:

- if (x) the acquisition termination stock price is greater than the reference price and (y) we elect to pay cash in lieu of delivering any or all of the shares of our common stock that

would otherwise be included in the redemption amount, a date that is at least 30 and no more than 60 calendar days after the date of the acquisition redemption notice; or

- otherwise, a date that is at least 5 and no more than 30 calendar days after the date of the acquisition redemption notice.

- The person in whose name any shares of our common stock shall be issuable will be treated as the holder of record of such shares as of the close of business on:

- the date of the acquisition redemption notice, if we have elected (or are deemed to have elected) to settle the redemption amount solely in shares of our common stock, or

- the last trading day in the 20 consecutive trading day period used to determine the redemption market value, if the acquisition termination stock price is greater than the reference price and we have elected to pay cash in lieu of delivering any of the shares of our common stock that would otherwise be included in the redemption amount.

Prior to such time, the shares of common stock underlying each purchase contract will not be outstanding, and the holder of such purchase contract will not have any voting rights, rights to dividends or other distributions or other rights of a holder of our common stock by virtue of holding such purchase contract, but, for the avoidance of doubt, the anti-dilution adjustments provided herein under “—Adjustments to the Fixed Settlement Rates” below will continue to apply to the purchase contracts prior to such time.

Adjustments to the Fixed Settlement Rates

The fixed settlement rates will be adjusted as described below, except that we will not make any adjustments to the fixed settlement rates if holders of the purchase contracts participate (other than in the case of (x) a share split or share combination or (y) a tender or exchange offer), at the same time and upon the same terms as holders of our common stock and solely as a result of holding the purchase contracts, in any of the transactions described below without having to settle their purchase contracts as if they held a number of shares of our common stock equal to the maximum settlement rate, multiplied by the number of purchase contracts held by such holders.

(a) If we issue common stock to all or substantially all of the holders of our common stock as a dividend or other distribution, or if we effect a share split or share combination, then each fixed settlement rate will be adjusted based on the following formula:

$$SR_1 = SR_0 \times \frac{OS_1}{OS_0}$$

where,

SR_0 = the fixed settlement rate in effect immediately prior to the close of business on the record date (as defined below) for such dividend or distribution or immediately prior to the open of business on the effective date (as defined below) for such share split or share combination, as the case may be;

SR_1 = the fixed settlement rate in effect immediately after the close of business on such record date or immediately after the open of business on such effective date, as the case may be;

OS_0 = the number of shares of our common stock outstanding immediately prior to the close of business on such record date or immediately prior to the open of business on such effective date, as the case may be (in either case, prior to giving effect to such event); and

OS_1 = the number of shares of our common stock that would be outstanding immediately after, and solely as a result of, such dividend, distribution, share split or share combination.

Any adjustment made pursuant to this clause (a) will become effective immediately after the close of business on the record date for such dividend or distribution, or immediately after the open of business on the effective date for such share subdivision or share combination, as the case may be. If any dividend or distribution described in this clause (a) is declared but not so paid or made, each fixed settlement rate will be readjusted, effective as of the date our board of directors (or a committee thereof) publicly announces its decision not to make such dividend or distribution, to such fixed settlement rate that would be in effect if such dividend or distribution had not been declared. For the purposes of this clause (a), the number of shares of common stock outstanding immediately prior to the close of business on the record date for such dividend or distribution or the open of business on the effective date for such share subdivision or share combination, as applicable, will not include shares held in treasury but will include any shares issuable in respect of any scrip certificates issued in lieu of fractions of shares of common stock. We will not pay any such dividend or make any such distribution on shares of common stock held in treasury.

“Record date” means, when used with respect to any dividend, distribution or other transaction or event in which the holders of our common stock (or other applicable security) have the right to receive any cash, securities or other property or in which our common stock (or other applicable security) is exchanged for or converted into any combination of cash, securities or other property, the date fixed for determination of holders of our common stock (or other applicable security) entitled to receive such cash, securities or other property (whether such date is fixed by our board of directors or a committee thereof, or by statute, contract or otherwise).

“Effective date” means the first date on which the shares of our common stock trade on the relevant stock exchange, regular way, reflecting the relevant share split or share combination, as applicable.

(b) If we issue to all or substantially all holders of our common stock rights, options or warrants (other than rights issued pursuant to a stockholder rights plan) entitling them, for a period of up to 45 calendar days from the date of issuance of such rights, options or warrants, to subscribe for or purchase our shares of common stock at a price per share less than the average of the closing prices (as defined under “—Early Mandatory Settlement at Our Election) per share of our common stock for the 10 consecutive trading day (as defined below) period ending on, and including, the trading day immediately preceding the date of announcement for such distribution per share of our common stock, then each fixed settlement rate will be adjusted based on the following formula:

$$SR_1 = SR_0 \times \frac{(OS_0 + X)}{(OS_0 + Y)}$$

where,

SR_0 = the fixed settlement rate in effect immediately prior to the close of business on the record date for such issuance;

SR_1 = the fixed settlement rate in effect immediately after the close of business on such record date;

OS_0 = the number of shares of our common stock outstanding immediately prior to the close of business on such record date;

X = the total number of shares of our common stock issuable pursuant to such rights, options or warrants; and

Y = the total number of shares of our common stock equal to the aggregate price payable to exercise such rights, options or warrants, divided by the average of the closing prices per share of our common stock for the 10 consecutive trading day period ending on, and including, the trading day immediately preceding the date of announcement for such distribution.

Any adjustment made pursuant to this clause (b) will be made successively whenever any such rights, options or warrants are issued and will become effective immediately after the close of business on the record date for such issuance. In the event that such rights, options or warrants described in this clause (b) are not so issued, each fixed settlement rate will be readjusted, effective as of the date our board of directors (or a committee thereof) publicly announces its decision not to issue such rights, options or warrants, to such fixed settlement rate that would then be in effect if such issuance had not been declared. To the extent that such rights, options or warrants are not exercised prior to their expiration or shares of our common stock are otherwise not delivered pursuant to such rights, options or warrants upon the exercise of such rights, options or warrants, each fixed settlement rate will be readjusted, effective as of the date of such expiration or the date it is determined such shares will not be delivered, as the case may be, to such fixed settlement rate that would then be in effect had the adjustment made upon the issuance of such rights, options or warrants been made on the basis of the delivery of only the number of shares of our common stock actually delivered.

In determining whether any rights, options or warrants entitle the holders thereof to subscribe for or purchase shares of our common stock at less than the average of the closing prices per share of our common stock for the 10 consecutive trading day period ending on, and including, the trading day immediately preceding the date of announcement for such distribution, and in determining the aggregate price payable to exercise such rights, options or warrants, there will be taken into account any consideration received by us for such rights, options or warrants and any amount payable on exercise or conversion thereof, the value of such consideration, if other than cash, to be determined by our board of directors, or a committee thereof.

For the purposes of this clause (b), the number of shares of common stock at the time outstanding will not include shares held in treasury but will include any shares issuable in respect

of any scrip certificates issued in lieu of fractions of shares of common stock. We will not issue any such rights, options or warrants in respect of shares of common stock held in treasury.

(c) (1) If we distribute to all or substantially all holders of our common stock shares of our capital stock (other than our common stock), evidences of our indebtedness, assets or rights, options or warrants to acquire our capital stock, indebtedness or assets, excluding:

- any dividend or distribution (including share splits or share combinations) as to which an adjustment was effected pursuant to clause (a) above;

- any rights, options or warrants as to which an adjustment was effected pursuant to clause (b) above;

- except as otherwise described below, rights issued pursuant to any stockholder rights plan of ours then in effect;

- any dividend or distribution described in clause (d) below;

- distributions of exchange property in a transaction described in “—Recapitalizations, Reclassifications and Changes of Our Common Stock;” and

- any spin-off (as defined below) to which the provisions set forth below in clause (c)(2) shall apply;

then each fixed settlement rate will be adjusted based on the following formula:

$$SR_1 = SR_0 \times \frac{SP_0}{(SP_0 - FMV)}$$

where,

SR_0 = the fixed settlement rate in effect immediately prior to the close of business on the record date for such dividend or distribution;

SR_1 = the fixed settlement rate in effect immediately after the close of business on such record date;

SP_0 = the average of the closing prices per share of our common stock for the 10 consecutive trading day period ending on, and including, the trading day immediately preceding the ex-date for such dividend or distribution; and

FMV = the fair market value (as determined by our board of directors or a committee thereof) on the ex-date for such dividend or distribution, of the shares of our capital stock, evidences of our indebtedness, assets or rights, options or warrants so distributed, expressed as an amount per share of common stock.

Notwithstanding the foregoing, if FMV (as defined above) is equal to or greater than SP_0 (as defined above) or if the difference between SP_0 and FMV is less than \$1.00, in lieu of the foregoing adjustment, provision shall be made for each holder of a Unit or separate purchase

contract to receive, for each Unit or separate purchase contract, at the same time and upon the same terms as holders of our common stock, the kind and amount of our capital stock, evidences of our indebtedness, assets or rights, options or warrants that such holder would have received if such holder owned a number of shares of our common stock equal to the maximum settlement rate in effect on the record date for the dividend or distribution.

Any adjustment made pursuant to this clause (c)(1) will become effective immediately after the close of business on the record date for such dividend or distribution. In the event that such dividend or distribution is not so made, each fixed settlement rate will be readjusted, effective as of the date our board of directors (or a committee thereof) publicly announces its decision not to make such dividend or distribution, to such fixed settlement rate that would then be in effect if such dividend or distribution had not been declared. We will not make any such distribution on shares of common stock held in treasury.

“Ex-date,” when used with respect to any issuance or distribution, means the first date on which shares of our common stock (or other applicable security) trade on the applicable exchange or in the applicable market, regular way, without the right to receive such issuance, dividend or distribution in question from us or, if applicable, from the seller of our common stock (or other applicable security) on such exchange or market (in the form of due bills or otherwise) as determined by such exchange or market.

(c)(2) In the event that we make a dividend or distribution to all or substantially all holders of our common stock consisting of capital stock of, or similar equity interests in, or relating to, a subsidiary or other business unit of ours that, upon issuance, will be traded on a U.S. national securities exchange (herein referred to as a “spin-off”), each fixed settlement rate will be adjusted based on the following formula:

$$SR_1 = SR_0 \times \frac{(FMV_0 + MP_0)}{MP_0}$$

where,

SR_0 = the fixed settlement rate in effect immediately prior to the open of business on the ex-date for the spin-off;

SR_1 = the fixed settlement rate in effect immediately after the open of business on the ex-date for the spin-off;

FMV_0 = the average of the closing prices (as defined above, as if references to “common stock” therein were references to such capital stock or similar equity interest distributed to the holders of our common stock) per share of the capital stock or similar equity interests so distributed applicable to one share of our common stock for the 10 consecutive trading day period commencing on, and including, the ex-date date for the spin-off (the “valuation period”); and

MP_0 = the average of the closing prices per share of our common stock for the valuation period.

Any adjustment made pursuant to this clause (c)(2) will become effective immediately after the close of business on the last trading day of the valuation period but will be given effect as of immediately after the open of business on the ex-date of the spin-off. Because we will make the

adjustment to each fixed settlement rate with retroactive effect, we will delay any settlement of a Unit or separate purchase contract where any date for determining the number of shares of our common stock issuable to a holder occurs during the valuation period until the second business day after the last date for determining the number of shares of our common stock issuable to such holder with respect to such settlement occurs. In the event that such dividend or distribution described in this clause (c)(2) is not so made, each fixed settlement rate will be readjusted, effective as of the date our board of directors (or a committee thereof) publicly announces its decision not to pay such dividend or distribution, to such fixed settlement rate that would then be in effect if such distribution had not been declared. We will not make any such dividend or distribution on shares of common stock held in treasury.

(d) If we make a dividend or distribution consisting exclusively of cash to all or substantially all holders of our common stock, excluding:

- any regular quarterly dividend that does not exceed \$0.219 per share of common stock (the “dividend threshold amount”);
- any cash that is distributed in, and will constitute exchange property as a result of, a reorganization event (as defined below) in exchange for shares of our common stock; and
- any dividend or distribution in connection with our liquidation, dissolution or winding up);

then each fixed settlement rate will be adjusted based on the following formula:

$$SR_1 = SR_0 \times \frac{(SP_0 - T)}{(SP_0 - C)}$$

where,

SR_0 = the fixed settlement rate in effect immediately prior to the close of business on the record date for such dividend or distribution;

SR_1 = the fixed settlement rate in effect immediately after the close of business on the record date for such dividend or distribution;

SP_0 = the average of the closing prices per share of our common stock over the 10 consecutive trading day period ending on, and including, the trading day immediately preceding the ex-date for such dividend or distribution;

T = the dividend threshold amount; provided that if the dividend or distribution is not a regular quarterly cash dividend, the dividend threshold amount will be deemed to be zero; and

C = the amount in cash per share we distribute to holders of our common stock.

The dividend threshold amount is subject to adjustment on an inversely proportional basis whenever the fixed settlement rates are adjusted (by multiplying the dividend threshold amount by a fraction, the numerator of which will be the minimum settlement rate in effect immediately prior to the adjustment and the denominator of which will be the minimum settlement rate as

adjusted), but no adjustment will be made to the dividend threshold amount for any adjustment made to the fixed settlement rates pursuant to this clause (d).

If C (as defined above) is equal to or greater than SP_0 (as defined above) or if the difference between SP_0 and C is less than \$1.00, in lieu of the foregoing adjustment, provision shall be made for each holder of a Unit or separate purchase contract to receive, for each Unit or separate purchase contract, at the same time and upon the same terms as holders of our common stock, the amount of cash that such holder would have received if such holder owned a number of shares of our common stock equal to the maximum settlement rate on the record date for such cash dividend or distribution.

Any adjustment made pursuant to this clause (d) will become effective immediately after the close of business on the record date for such dividend or distribution. In the event that any dividend or distribution described in this clause (d) is not so made, each fixed settlement rate will be readjusted, effective as of the date our board of directors (or a committee thereof) publicly announces its decision not to pay such dividend or distribution, to such fixed settlement rate which would then be in effect if such dividend or distribution had not been declared. We will not make any such dividend or distribution on shares of common stock held in treasury.

(e) If we or any of our subsidiaries successfully complete a tender or exchange offer for our common stock where the cash and the value of any other consideration included in the payment per share of our common stock validly tendered or exchanged exceeds the average of the closing prices per share of our common stock for the 10 consecutive trading day period (the “averaging period”) commencing on, and including, the trading day next succeeding the last date on which tenders or exchanges may be made pursuant to such tender offer or exchange offer (the “expiration date”), then each fixed settlement rate will be adjusted based on the following formula:

$$SR_1 = SR_0 \times \frac{(AC + (SP \times OS_1))}{(SP \times OS_0)}$$

where,

SR_0 = the fixed settlement rate in effect immediately prior to the close of business on the expiration date;

SR_1 = the fixed settlement rate in effect immediately after the close of business on the expiration date;

AC = the aggregate value of all cash and the fair market value (as determined by our board of directors, or a committee thereof) on the expiration date of any other consideration paid or payable for shares of common stock acquired pursuant to such tender offer or exchange offer;

OS_1 = the number of shares of our common stock outstanding immediately after the expiration date, after giving effect to the purchase of all shares accepted for purchase or exchange in such tender or exchange offer;

OS_0 = the number of shares of our common stock outstanding immediately prior to the expiration date, prior to giving effect to the purchase of any shares accepted for purchase or exchange in such tender or exchange offer; and

SP = the average of the closing prices per share of our common stock over the averaging period.

Any adjustment made pursuant to this clause (e) will become effective immediately after the close of business on the expiration date. Because we will make the adjustment to each fixed settlement rate with retroactive effect, we will delay any settlement of a Unit or separate purchase contract where any date for determining the number of shares of our common stock issuable to a holder occurs during the averaging period until the second business day after the last date for determining the number of shares of our common stock issuable to such holder with respect to such settlement occurs. In the event that we are, or one of our subsidiaries is, obligated to purchase shares of our common stock pursuant to any such tender or exchange offer, but we are, or such subsidiary is, permanently prevented by applicable law from effecting any such purchases, or all such purchases are rescinded, then each fixed settlement rate will be readjusted to be such fixed settlement rate that would then be in effect if such tender or exchange offer had not been made.

To the extent that we have a rights plan in effect with respect to our common stock on any date for determining the number of shares of our common stock issuable to a holder, the holder will receive, in addition to our common stock, the rights under the rights plan, unless, prior to such determination date, the rights have separated from our common stock, in which case each fixed settlement rate will be adjusted at the time of separation as if we made a distribution to all holders of our common stock as described in clause (c)(1) above, subject to readjustment in the event of the expiration, termination or redemption of such rights.

For purposes of this “—Adjustments to the Fixed Settlement Rates” section, “trading day” means a day on which:

- trading in our common stock (or other security for which a closing sale price must be determined) generally occurs on the relevant stock exchange, or, if our common stock (or such other security) is not then listed on a relevant stock exchange, on the principal other market on which our common stock (or such other security) is then listed or admitted for trading; and
- a closing price per share for our common stock (or closing sale price for such other security) is available on such securities exchange or market.

If our common stock (or such other security) is not so listed or traded, “trading day” means a “business day.”

In addition, subject to applicable law and the applicable listing standards of the NYSE (or any other securities exchange where our common stock is listed) and in accordance with the provisions of the purchase contract agreement, we may make such increases in each fixed settlement rate as we determine to be in our best interests or we deem advisable. We may also (but are not required to) increase each fixed settlement rate in order to avoid or diminish any

income tax to holders of our common stock resulting from any dividend or distribution of shares of our common stock (or issuance of rights, options or warrants to acquire shares of our common stock) or from any event treated as such for income tax purposes or for any other reason. We may only make such a discretionary adjustment if we make the same proportionate adjustment to each fixed settlement rate.

The holder might be treated as receiving a constructive distribution from us if (i) the fixed settlement rates are adjusted and as a result of such adjustment its proportionate interest in our assets or earnings and profits is increased and (ii) the adjustment is not made pursuant to a bona fide, reasonable anti-dilution formula. An adjustment in the fixed settlement rates would not be considered made pursuant to such a formula if the adjustment were made to compensate the holder for taxable distributions with respect to our common stock (for example, if we increase the cash dividend on our common stock). Certain of the possible settlement rate adjustments (including, without limitation, adjustments in respect of taxable dividends to holders of our common stock and as discussed in “Description of the Purchase Contracts—Early Settlement Upon a Fundamental Change”) may not qualify as being pursuant to a bona fide reasonable adjustment formula. Thus, under certain circumstances, an increase in the fixed settlement rates might give rise to a constructive distribution to the holder even though the holder would not receive any cash related thereto. In addition, in certain situations, the holder might be treated as receiving a constructive distribution if we fail to adjust the fixed settlement rates. Any constructive distribution will be taxable as a dividend, return of capital, or capital gain in accordance with the earnings and profits rules described in the prospectus supplement under which we offered the Units.

Adjustments to each fixed settlement rate will be calculated to the nearest 1/10,000th of a share. No adjustment in the fixed settlement rates will be required unless the adjustment would require an increase or decrease of at least one percent. If any adjustment is not required to be made because it would not change the fixed settlement rates by at least one percent, then the adjustment will be carried forward and taken into account in any subsequent adjustment; provided that, on any date for determining the number of shares of our common stock issuable to a holder (including any date for determining the amount of cash payable in connection with an acquisition termination redemption), adjustments to the fixed settlement rates will be made with respect to any such adjustment carried forward and which has not been taken into account before such determination date.

The fixed settlement rates will only be adjusted as set forth above and will not be adjusted:

- upon the issuance of any common stock pursuant to any present or future plan providing for the reinvestment of dividends or interest payable on our securities and the investment of additional optional amounts in common stock under any plan;
- upon the issuance of any common stock or rights, options or warrants to purchase those shares pursuant to any present or future employee, director or consultant benefit plan or program of or assumed by us or any of our subsidiaries;
- upon the repurchase of any shares of our common stock pursuant to an open market share repurchase program or other buy-back transaction, including structured or

derivative transactions, that is not a tender offer or exchange offer of the nature described in clause (e) above;

- for the sale or issuance of shares of our common stock, or securities convertible into or exercisable for shares of our common stock, for cash, including at a price per share less than the fair market value thereof or otherwise or in an acquisition, except as described in one of clauses (a) through (e) above;
- for a third-party tender offer;
- upon the issuance of any common stock pursuant to any option, warrant, right or exercisable, exchangeable or convertible security outstanding as of the date the Units were first issued;
- solely for a change in, or elimination of, the par value of our common stock; or
- for accrued and unpaid interest, if any.

Whenever the fixed settlement rates are adjusted, we will deliver to the purchase contract agent a certificate setting forth in reasonable detail the method by which the adjustment to each fixed settlement rate was determined and setting forth each adjusted fixed settlement rate. In addition, we will, within five business days of any event requiring such adjustment, provide or cause to be provided written notice of the adjustment to the holders of the Units and separate purchase contracts and describe in reasonable detail the method by which each fixed settlement rate was adjusted.

We will adjust the fundamental change early settlement rates and acquisition redemption rates at the time we adjust the fixed settlement rates. For the avoidance of doubt, if we make an adjustment to the fixed settlement rates, it will result in a corresponding adjustment to the early settlement rate and the early mandatory settlement rate. For the further avoidance of doubt, if we make an adjustment to the fixed settlement rates, no separate inversely proportionate adjustment will be made either to (i) the threshold appreciation price because it is equal to \$50.00 divided by the minimum settlement rate as adjusted in the manner described herein (rounded to the nearest \$0.0001) or (ii) the reference price because it is equal to \$50.00 divided by the maximum settlement rate as adjusted in the manner described herein (rounded to the nearest \$0.0001).

Whenever the terms of the purchase contracts require us to calculate closing prices, VWAPs or any other prices or amounts over a span of multiple days (including, without limitation, the applicable market value, the redemption market value, the “stock price” or the “acquisition termination stock price”), we will make appropriate adjustments, if any, to each to account for any adjustment to the fixed settlement rates if the related record date, ex-date, effective date or expiration date occurs during the period in which the closing prices, the VWAPs or such other prices or amounts are to be calculated.

In the event of:

- any consolidation or merger of us with or into another person (other than a merger or consolidation in which we are the continuing or surviving corporation and in which the shares of our common stock outstanding immediately prior to the merger or consolidation are not exchanged for cash, securities or other property of us or another person);
- any direct or indirect sale, lease, assignment, transfer or conveyance of all or substantially all of our consolidated property or assets;
- any reclassification of our common stock into securities, including securities other than our common stock (other than changes in par value or resulting from a subdivision or combination); or
- any statutory exchange of our securities with another person (other than in connection with a merger or acquisition);

in each case, as a result of which our common stock would be converted into, or exchanged for, securities, cash or other property (each, a “reorganization event”), each purchase contract outstanding immediately prior to such reorganization event will, without the consent of the holders of the purchase contracts, become a contract to purchase the kind of securities, cash and/or other property that a holder of common stock would have been entitled to receive in connection with such reorganization event (such securities, cash and other property, the “exchange property” with each unit of exchange property being the kind and amount of exchange property that a holder of one share of our common stock would have received in such reorganization event) and, prior to or at the effective time of such reorganization event, we or the successor or purchasing person, as the case may be, shall execute with the purchase contract agent and the trustee a supplemental agreement pursuant to the purchase contract agreement and the purchase contracts to provide for such change in the right to settle the purchase contracts.

For purposes of the foregoing, the type and amount of exchange property in the case of any reorganization event that causes our common stock to be converted into, or exchanged for, the right to receive more than a single type of consideration (determined based in part upon any form of shareholder election) will be deemed to be the weighted average of the types and amounts of consideration actually received by the holders of our common stock.

The number of units of exchange property we will deliver for each purchase contract settled or redeemed (if we elect not to deliver solely cash in respect of such redemption) following the effective date of such reorganization event will be equal to the number of shares of our common stock we would otherwise be required to deliver as determined by the fixed settlement rates then in effect on the applicable settlement date, or such other settlement rates or redemption rates as provided herein (without interest thereon and without any right to dividends or distributions thereon which have a record date prior to the close of business such purchase contracts are actually settled). Each fixed settlement rate will be determined using the applicable market value

of a unit of exchange property, and such value will be determined, on any date of determination, with respect to:

- in the case of any publicly traded securities that comprise all or part of the exchange property, based on the VWAP of such securities on such date;
- in the case of any cash that comprises all or part of the exchange property, based on the amount of such cash; and
- in the case of any other property that comprises all or part of the exchange property, based on the value of such property on such date, as determined by a nationally recognized independent investment banking firm retained by us for this purpose.

In addition, if the exchange property in respect of any reorganization event includes, in whole or in part, securities of another entity, we shall amend the terms of the purchase contract agreement and the purchase contracts, without the consent of holders thereof, to: (x) provide for anti-dilution and other adjustments that shall be as nearly equivalent as practicable, as determined by the officer executing such amendment, to the adjustments described above under the heading “—Adjustments to the Fixed Settlement Rates”; and (y) otherwise modify the terms of the purchase contract agreement and the purchase contracts to reflect the substitution of the applicable exchange property for our common stock (or other exchange property then underlying the purchase contracts). In establishing such anti-dilution and other adjustments referenced in the immediately preceding sentence, such officer shall act in a commercially reasonable manner and in good faith.

In connection with any adjustment to the fixed settlement rates described above, we will also adjust the dividend threshold amount based on the number of shares of common stock comprising the exchange property and (if applicable) the value of any non-stock consideration comprising the exchange property. If the exchange property is comprised solely of non-stock consideration, the dividend threshold amount will be zero.

Fractional Shares

No fractional shares of our common stock will be issued to holders upon settlement or redemption of the purchase contracts. In lieu of fractional shares otherwise issuable, holders will be entitled to receive an amount in cash equal to the fraction of a share of our common stock, calculated on an aggregate basis in respect of the purchase contracts being settled or redeemed (provided that, so long as the Units are in global form, we may elect to aggregate Units for purposes of these calculations on any basis permitted by the applicable procedures of DTC), multiplied by the VWAP of our common stock on the trading day immediately preceding the mandatory settlement date, early settlement date, fundamental change early settlement date, early mandatory settlement date or acquisition redemption settlement date, as the case may be.

Legal Holidays

In any case where the mandatory settlement date, early settlement date, fundamental change early settlement date, early mandatory settlement date or acquisition redemption settlement date,

as the case may be, shall not be a business day, notwithstanding any term to the contrary in the purchase contract agreement or purchase contract, the settlement or redemption of the purchase contracts shall not be effected on such date, but instead shall be effected on the next succeeding business day with the same force and effect as if made on such settlement date, and no interest or other amounts shall accrue or be payable by us or to any holder in respect of such delay.

Consequences of Bankruptcy

Pursuant to the terms of the purchase contract agreement, the mandatory settlement date for each purchase contract, whether held separately or as part of a Unit, will automatically accelerate upon the occurrence of specified events of bankruptcy, insolvency or reorganization with respect to us.

Pursuant to the terms of the purchase contract agreement, upon acceleration, holders will be entitled under the terms of the purchase contracts to receive a number of shares of our common stock per purchase contract equal to the maximum settlement rate in effect immediately prior to such acceleration (regardless of the market value of our common stock at that time). If for any reason the accelerated purchase contracts are not settled by the delivery of our common stock (for example, a bankruptcy court may prevent us from delivering our common stock in settlement of the accelerated purchase contracts), a holder may have a damage claim against us for the value of the common stock that we would have otherwise been required to deliver upon settlement of the purchase contracts. We expect that any such damage claim that holders have against us following such acceleration would rank equally with the claims of holders of our common stock in the relevant bankruptcy proceeding. As such, to the extent we fail to deliver common stock to the holder upon such an acceleration, the holder will only be able to recover damages to the extent holders of our common stock receive any recovery.

Modification

The purchase contract agreement will contain provisions permitting us, the purchase contract agent and the trustee to modify the purchase contract agreement or the purchase contracts without the consent of the holders of purchase contracts (whether held separately or as a component of Units) for any of the following purposes:

- to evidence the succession of another person to us, and the assumption by any such successor of the covenants and obligations of ours in the purchase contract agreement and the units and separate purchase contracts, if any;
- to add to the covenants for the benefit of holders of purchase contracts or to surrender any of our rights or powers under the agreement;
- to evidence and provide for the acceptance of appointment of a successor purchase contract agent;
- upon the occurrence of a reorganization event, solely: (i) to provide that each purchase contract will become a contract to purchase exchange property; and (ii) to effect the related changes to the terms of the purchase contracts, in each case, as required by the applicable provisions of the purchase contract agreement;

- to conform the provisions of the purchase contract agreement to the “Description of the Purchase Contracts” and “Description of the Units” sections in the prospectus supplement under which the Units were offered, as supplemented by the related pricing term sheet;

- to cure any ambiguity or manifest error, to correct or supplement any provisions that may be inconsistent; and

- to make any other provisions with respect to such matters or questions, so long as such action does not adversely affect the interest of the holders.

The purchase contract agreement will contain provisions permitting us, the purchase contract agent and the trustee, with the consent of the holders of not less than a majority of the purchase contracts at the time outstanding, to modify the terms of the purchase contracts or the purchase contract agreement. However, no such modification may, without the consent of the holder of each outstanding purchase contract affected by the modification,

- reduce the number of shares of common stock deliverable upon settlement of the purchase contract (except to the extent expressly provided in the anti-dilution adjustments);

- change the mandatory settlement date, or adversely modify the right to settle purchase contracts early or the fundamental change early settlement right;

- reduce the redemption amount or adversely modify the right of any holder to receive such amount if we elect to redeem the purchase contract in connection with an acquisition termination redemption;

- impair the right to institute suit for the enforcement of the purchase contracts; or

- reduce the above-stated percentage of outstanding purchase contracts the consent of the holders of which is required for the modification or amendment of the provisions of the purchase contracts or the purchase contract agreement.

In executing any supplement, modification or amendment to the purchase contract agreement, the purchase contract agent and trustee shall be provided an officer’s certificate and an opinion of counsel stating that the execution of such supplemental agreement is authorized or permitted by the purchase contract agreement, and that any and all conditions precedent to the execution and delivery of such supplemental agreement have been satisfied.

Consolidation, Merger, Conveyance, Transfer or Lease

The purchase contract agreement provides that Essential Utilities will not consolidate or merge with or into any other entity, or sell, transfer, lease or otherwise convey its properties and assets as an entirety or substantially as an entirety to any entity, unless:

- (i) it is the continuing entity (in the case of a merger), or (ii) the successor entity formed by such consolidation or into which it is merged or which acquires by sale, transfer, lease or other conveyance of its properties and assets, as an entirety or substantially as an entirety, is a

corporation organized and existing under the laws of the United States of America or any State thereof or the District of Columbia, and expressly assumes, by a supplement to the purchase contract agreement, all our obligations under the purchase contract agreement; and

· immediately after giving effect to the transaction, no event of default, and no event which after notice or lapse of time or both would become an event of default under the purchase contract agreement or the purchase contracts, has or will have occurred and be continuing.

Although there is a limited body of case law interpreting the phrase “substantially as an entirety,” there is no precise established definition of the phrase under applicable law. Accordingly, in certain circumstances there may be a degree of uncertainty as to whether a particular transaction would involve a disposition of our properties and assets “substantially as an entirety.” As a result, it may be unclear as to whether the foregoing restrictions on mergers, consolidations, sales, conveyances, transfers, leases and other dispositions would apply to a particular transaction as described above absent a decision by a court of competent jurisdiction.

Reservation of Common Stock

We will at all times reserve and keep available out of our authorized and unissued common stock, solely for issuance upon settlement or redemption of the purchase contracts, the number of shares of common stock that would be issuable upon the settlement of all purchase contracts then outstanding, assuming settlement at the maximum settlement rate.

Governing Law

The purchase contract agreement, the Units, the purchase contracts and any claim, controversy or dispute arising under or related to the purchase contract agreement, the Units or the purchase contracts will be governed by, and construed in accordance with, the laws of the State of New York.

Waiver of Jury Trial

The purchase contract agreement provides that we, the purchase contract agent and the trustee will waive its respective rights to trial by jury in any action or proceeding arising out of or related to the purchase contracts, the purchase contract agreement or the transactions contemplated thereby, to the maximum extent permitted by law.

Information Concerning the Purchase Contract Agent

U.S. Bank N.A. is the purchase contract agent. The purchase contract agent acts as the agent for the holders of Units and separate purchase contracts from time to time but has no fiduciary relationship to the holder of the Units or any other party. The purchase contract agreement does not obligate the purchase contract agent to exercise any discretionary actions in connection with a default under the terms of the purchase contracts or the purchase contract agreement.

The purchase contract agreement contains provisions limiting the liability of the purchase contract agent. The purchase contract agreement contains provisions under which the purchase

contract agent may resign or be replaced. This resignation or replacement would be effective upon the acceptance of appointment by a successor purchase contract agent.

We maintain banking relationships in the ordinary course of business with the purchase contract agent and its affiliates.

Calculations in Respect of Purchase Contracts

We will be responsible for making all calculations called for under the Units and any separate purchase contracts. The purchase contract agent will have no obligation to make, review or verify any such calculations. All such calculations made by us will be made in good faith and, absent manifest error, will be final and binding on the purchase contract agent and the holders of the Units and any separate purchase contracts. We will provide a schedule of such calculations to the purchase contract agent and the purchase contract agent will be entitled to conclusively rely upon the accuracy of such calculations without independent verification.

Description of the Amortizing Notes

The amortizing notes were issued by us pursuant to an indenture, as amended, between us, as issuer, and U.S. Bank N.A., as trustee, and a related supplemental indenture, each dated the date of first issuance of the Units (collectively referred to herein as the “indenture”).

The following summary of the terms of the amortizing notes contains a description of certain terms of the amortizing notes but is not complete and is subject to, and is qualified in its entirety by reference to, all of the provisions of the indenture, including the definitions in the indenture of certain terms.

General

The amortizing notes were issued as a separate series of senior debt securities under the indenture. The amortizing notes were issued by us in an aggregate initial principal amount of \$119,081,442. The final installment payment date will be April 30, 2022. We may not redeem the amortizing notes, and no sinking fund is provided for the amortizing notes.

Each amortizing note initially formed a part of a Unit. Each Unit may be separated by a holder into its constituent purchase contract and amortizing note on any business day during the period beginning on, and including, the business day immediately following the date of initial issuance of the Units to, but excluding, the second scheduled trading day immediately preceding April 30, 2022 or, if earlier, the second scheduled trading day immediately preceding any “early mandatory settlement date” or the second scheduled trading day immediately preceding any “acquisition redemption settlement date” and also excluding the business day immediately preceding any installment payment date (provided, the right to separate the Units shall resume after such business day). Following such separation, amortizing notes may be transferred separately from purchase contracts.

Amortizing notes were only issued in certificated form in exchange for a global security under the circumstances described under “Book-Entry Procedures and Settlement.” In the event that

amortizing notes are issued in certificated form, such amortizing notes may be transferred or exchanged at the offices described below.

Payments on amortizing notes issued as a global security will be made to DTC, or a successor depository. In the event amortizing notes are issued in certificated form, installment payments will be made, at the corporate trust office of the trustee. Installment payments on certificated amortizing notes may be made at our option by check mailed to the address of the persons entitled thereto. See “Book-Entry Procedures and Settlement.”

The amortizing notes will not be guaranteed by any of our subsidiaries.

There are no covenants or provisions in the indenture that would afford the holders of the amortizing notes protection in the event of a highly leveraged transaction, reorganization, restructuring, merger or similar transaction involving us that may adversely affect such holders, except to the extent set forth under “—Consolidation, Merger, Conveyance, Transfer or Lease.”

The indenture does not limit the aggregate principal amount of indebtedness that may be issued thereunder and provides that debt securities may be issued thereunder from time to time in one or more series.

Ranking

The amortizing notes are our general unsecured senior obligations and rank equally in right of payment with all of our other existing and future unsecured senior indebtedness and guarantees and are structurally subordinated to the indebtedness and other liabilities of our subsidiaries, including, upon consummation of the Peoples Gas Acquisition, indebtedness and other liabilities of LDC and its subsidiaries that we assume in connection with the Peoples Gas Acquisition. The amortizing notes will rank senior to all of our existing and future indebtedness, if any, that is subordinated to the amortizing notes. The amortizing notes will be effectively subordinated to any of our secured indebtedness to the extent of the collateral securing that indebtedness.

The amortizing notes are our obligations exclusively, and are not the obligations of any of our subsidiaries. We conduct our operations primarily through our subsidiaries and substantially all of our consolidated assets are held by our subsidiaries and, therefore, we depend on the cash flow of our subsidiaries to meet our obligations, including our obligations under the amortizing notes. Many of our subsidiaries are limited in their ability to pay dividends or make loans or distributions to us, including, without limitation, as a result of legislation, regulation, court order, contractual restrictions and other restrictions or in times of financial distress. Likewise, certain of the Peoples Gas companies and its subsidiaries face similar restrictions that, if the Peoples Gas Acquisition is consummated, will limit their ability to pay dividends or make loans or distributions to us. As a result, we may not be able to cause such subsidiaries and other entities to distribute funds or provide loans sufficient to enable us to meet our debt and other obligations, including obligations under the amortizing notes.

Installment Payments

Each amortizing note has an initial principal amount of \$8.62909. On each January 30, April 30, July 30 and October 30, commencing on July 30, 2019 (each, an “installment payment date”), we

will pay, in cash, equal quarterly installments of \$0.75000 on each amortizing note (except for the July 30, 2019 installment payment, which will be \$0.80833 per amortizing note). Each installment payment will constitute a payment of interest (at a rate of 3.00% per annum) and a partial repayment of principal on the amortizing note, allocated as set forth on the amortization schedule set forth under “—Amortization Schedule.”

Installments will be paid to the person in whose name an amortizing note is registered as of 5:00 p.m., New York City time, on January 15, April 15, July 15 and October 15, as applicable.

Each installment payment for any period will be computed on the basis of a 360-day year of twelve 30-day months. The installment payable for any period shorter or longer than a full installment payment period will be computed on the basis of the actual number of days elapsed per 30-day month. In the event that any date on which an installment is payable is not a business day, then payment of the installment on such date will be made on the next succeeding day that is a business day, and without any interest or other payment in respect of any such delay.

Amortization Schedule

The total installments of principal of and interest on the amortizing notes for each installment payment date are set forth below:

Installment Payment Date	Amount of Principal	Amount of Interest
July 30, 2019	\$ 0.73858	\$ 0.06975
October 30, 2019	\$ 0.69082	\$ 0.05918
January 30, 2020	\$ 0.69600	\$ 0.05400
April 30, 2020	\$ 0.70122	\$ 0.04878
July 30, 2020	\$ 0.70648	\$ 0.04352
October 30, 2020	\$ 0.71178	\$ 0.03822
January 30, 2021	\$ 0.71712	\$ 0.03288
April 30, 2021	\$ 0.72250	\$ 0.02750
July 30, 2021	\$ 0.72792	\$ 0.02208
October 30, 2021	\$ 0.73337	\$ 0.01663
January 30, 2022	\$ 0.73888	\$ 0.01112
April 30, 2022	\$ 0.74442	\$ 0.00558

Repurchase of Amortizing Notes at the Option of the Holder

If we elect to exercise our early mandatory settlement right with respect to, or cause an acquisition termination redemption of, the purchase contracts, then holders of the amortizing notes (whether as components of Units or separate amortizing notes) will have the right (the “repurchase right”) to require us to repurchase some or all of their amortizing notes for cash at the repurchase price per amortizing note to be repurchased on the repurchase date, as described below. Holders may not require us to repurchase a portion of an amortizing note. Holders will not have the right to require us to repurchase any or all of such holder’s amortizing notes in connection with any early settlement of such holder’s purchase contracts at the holder’s option, as described above under “Description of the Purchase Contracts—Early Settlement” and “Description of the Purchase Contracts—Early Settlement Upon a Fundamental Change.”

The “repurchase date” will be a date specified by us in the early mandatory settlement notice, or acquisition redemption notice, as the case may be, which will be at least 20 but not more than 35 business days following the date of our early mandatory settlement notice as described under “Description of the Purchase Contracts—Early Mandatory Settlement at Our Election” or the date of the acquisition redemption notice as described under “Description of the Purchase Contracts—Acquisition Termination Redemption,” as the case may be (and which may or may not fall on the early mandatory settlement date or acquisition redemption settlement date, as the case may be).

The “repurchase price” per amortizing note to be repurchased will be equal to the principal amount of such amortizing note as of the repurchase date, plus accrued and unpaid interest on such principal amount from, and including, the immediately preceding installment payment date to, but not including, the repurchase date, calculated at an annual rate of 3.00%; provided that, if the repurchase date falls after a regular record date for any installment payment and on or prior to the immediately succeeding installment payment date, the installment payment payable on such installment payment date will be paid on such installment payment date to the holder as of such regular record date and will not be included in the repurchase price per amortizing note.

To exercise its repurchase right, the holder must deliver, on or before 5:00 p.m., New York City time, on the business day immediately preceding the repurchase date, the amortizing notes to be repurchased (or the Units, if the early mandatory settlement date or acquisition redemption settlement date, as the case may be, occurs on or after the repurchase date and the holder have not separated its Units into their constituent components), together with a duly completed written repurchase notice in the form entitled “Form of Repurchase Notice” on the reverse side of the amortizing notes (a “repurchase notice”), in each case, in accordance with appropriate DTC procedures, unless the holder hold certificated amortizing notes (or Units), in which case the holder must deliver the amortizing notes to be repurchased (or Units), duly endorsed for transfer, together with a repurchase notice, to the paying agent. The repurchase notice must state:

- if certificated amortizing notes (or Units) have been issued, the certificate numbers of the amortizing notes (or Units), or if not certificated, the repurchase notice must comply with appropriate DTC procedures;
- the number of amortizing notes to be repurchased; and
- that the amortizing notes are to be repurchased by us pursuant to the applicable provisions of the amortizing notes and the indenture.

The holder may withdraw any repurchase notice (in whole or in part) by a written, irrevocable notice of withdrawal delivered (in the case of an amortizing note in global form, in accordance with the appropriate DTC procedures) on or before 5:00 p.m., New York City time, on the business day immediately preceding the repurchase date. The notice of withdrawal must state:

- if certificated amortizing notes (or Units) have been issued, the certificate numbers of the withdrawn amortizing notes (or Units), or if not certificated, the notice must comply with appropriate DTC procedures;

- the number of the withdrawn amortizing notes; and
- the number of amortizing notes, if any, that remain subject to the repurchase notice.

We will be required to repurchase the amortizing notes on the repurchase date. The holder will receive payment of the repurchase price on the later of (i) the repurchase date and (ii) the time of book-entry transfer or the delivery of the amortizing notes. If the trustee holds money sufficient to pay the repurchase price of the amortizing notes to be purchased on the repurchase date, then:

- such amortizing notes will cease to be outstanding and interest will cease to accrue (whether or not book-entry transfer of the amortizing notes is made or whether or not the amortizing notes are delivered to the trustee); and

- all other rights of the holder will terminate (other than the right to receive the repurchase price and, if the repurchase date falls between a regular record date and the corresponding installment payment date, the related installment payment).

Upon repurchase of the amortizing note component of a Unit prior to the related acquisition redemption settlement date, if applicable, the purchase contract component of such Unit will remain outstanding (pending such acquisition redemption settlement date) and beneficially owned by or registered in the name of, as the case may be, the holder who elected repurchase of the related amortizing note and will no longer constitute a part of the Unit.

In connection with any repurchase offer pursuant to an early mandatory settlement notice or acquisition redemption notice, we will, if required, comply with the provisions of the tender offer rules under the Exchange Act that may then be applicable.

No amortizing notes may be repurchased at the option of holders if the principal amount thereof has been accelerated, and such acceleration has not been rescinded, on or prior to the repurchase date (except in the case of an acceleration resulting from a default by us of the payment of the repurchase price with respect to such amortizing notes).

Events of Default

Each of the following will be an “event of default” under the indenture with respect to the amortizing notes:

- default in the payment of any installment payment on any amortizing notes as and when the same shall become due and payable and continuance of such failure for a period of 30 days;
- default in the payment of the repurchase price of any amortizing notes when the same shall become due and payable;
- our failure to give notice of a fundamental change as described under “Description of the Purchase Contracts—Early Settlement Upon a Fundamental Change” when due and continuance of such failure for a period of five business days;

- our failure to perform for 90 days after notice any other covenant in the amortizing notes or the indenture; and

- certain events of bankruptcy or insolvency of Essential Utilities, whether voluntary or not.

Discharge and Defeasance of Indenture

After we have deposited with the trustee, cash or government securities, in trust for the benefit of the holders sufficient to pay the principal of, premium, if any, and interest on the debt securities of such series when due, and satisfied certain other conditions, including receipt of an opinion of counsel that holders will not recognize taxable gain or loss for United States federal income tax purposes, then:

- we will be deemed to have paid and satisfied our obligations on all outstanding debt securities of such series, which is known as defeasance and discharge; or
- we will cease to be under any obligation, other than to pay when due the principal of, premium, if any, and interest on such debt securities, relating to the debt securities of such series, which is known as covenant defeasance.

When there is a defeasance and discharge, the applicable indenture will no longer govern the debt securities of such series, we will no longer be liable for payments required by the terms of the debt securities of such series and the holders of such debt securities will be entitled only to the deposited funds. When there is a covenant defeasance, however, we will continue to be obligated to make payments when due if the deposited funds are not sufficient.

The foregoing defeasance provisions are applicable to the amortizing notes; provided that (i) the coin or currency unit to be deposited with the trustee under such provisions shall be U.S. dollars, (ii) references therein to “principal” shall be deemed to refer to “the portion of all future scheduled installment payments constituting the payment of principal in respect of the amortizing notes and the portion of the repurchase price constituting the principal amount of the amortizing notes” and (iii) references therein to “interest” shall be deemed to refer to “the portion of all future scheduled installment payments constituting the payment of interest in respect of the amortizing notes and the portion of the repurchase price constituting the accrued but unpaid interest on the amortizing notes.”

Consolidation, Merger, Conveyance, Transfer or Lease

The indenture provides that Essential Utilities will not consolidate or merge with or into any other entity, or sell, transfer, lease or otherwise convey its properties and assets as an entirety or substantially as an entirety to any entity, unless:

- (i) it is the continuing entity (in the case of a merger), or (ii) the successor entity formed by such consolidation or into which it is merged or which acquires by sale, transfer, lease or other conveyance of its properties and assets, as an entirety or substantially as an entirety, is a

corporation organized and existing under the laws of the United States of America or any State thereof or the District of Columbia,

- and expressly assumes, by supplemental indenture, the due and punctual payment of the installment payments on all the debt securities and the performance of all of the covenants under the indenture; and

- immediately after giving effect to the transaction, no event of default, and no event which after notice or lapse of time or both would become an event of default under the indenture, has or will have occurred and be continuing.

Although there is a limited body of case law interpreting the phrase “substantially as an entirety,” there is no precise established definition of the phrase under applicable law. Accordingly, in certain circumstances there may be a degree of uncertainty as to whether a particular transaction would involve a disposition of our properties and assets “substantially as an entirety.” As a result, it may be unclear as to whether the foregoing restrictions on mergers, consolidations, sales, conveyances, transfers, leases and other dispositions would apply to a particular transaction as described above absent a decision by a court of competent jurisdiction.

Modifications and Amendments

We and the trustee may amend or supplement the indenture or the amortizing notes without consent of the holders to:

- cure any ambiguity, omission, defect or inconsistency in the indenture;
- provide for the assumption by a successor corporation as set forth in “—Consolidation, Merger, Conveyance, Transfer or Lease;
- comply with any requirements of the SEC in connection with the qualification of the indenture under the Trust Indenture Act;
- to evidence and provide for the acceptance of appointment with respect to the amortizing notes by a successor trustee in accordance with the indenture, and add or change any of the provisions of the indenture as shall be necessary to provide for or facilitate the administration of the trusts under the indenture by more than one trustee;
- secure the notes;
- add guarantees with respect to the notes;
- add covenants or events of default for the benefit of the holders or surrender any right or power conferred upon us;
- make any change that does not adversely affect the rights of any holder in any material respect; and

- conform the provisions of the indenture or the amortizing notes to any provision of the “Description of the Amortizing Notes” section in the prospectus supplement for the Units offering, as supplemented by the related pricing term sheet.

We may not make any modification or amendment to the indenture or the amortizing notes without the consent of each holder affected thereby if that modification or amendment will:

- change any installment payment date or reduce the amount owed on any installment payment date; or

- reduce the repurchase price or amend or modify in any manner adverse to the holders of the amortizing notes our obligation to make such payment.

Governing Law

The indenture and the amortizing notes are governed by and construed in accordance with the laws of the State of New York.

Waiver of Jury Trial

The indenture provides that we and the trustee will waive our respective rights to trial by jury in any action or proceeding arising out of or related to the amortizing notes, the indenture or the transactions contemplated thereby, to the maximum extent permitted by law.

AQUA PENNSYLVANIA, INC.

\$125,000,000

\$75,000,000 First Mortgage Bonds, 3.39% Series due 2052

\$50,000,000 First Mortgage Bonds, 3.41% Series due 2053

BOND PURCHASE AGREEMENT

Dated as of December 20, 2019

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AQUA PENNSYLVANIA, INC.
762 West Lancaster Avenue
Bryn Mawr, Pennsylvania 19010-3489

\$125,000,000

\$75,000,000 First Mortgage Bonds, 3.39% Series due 2052
\$50,000,000 First Mortgage Bonds, 3.41% Series due 2053

As of December 20, 2019

To Each of the Purchasers Listed in
Schedule A Hereto:

Ladies and Gentlemen:

Aqua Pennsylvania, Inc., a corporation organized under the laws of the Commonwealth of Pennsylvania (the “*Company*”), agrees with each of the purchasers whose names appear at the end hereof (each, a “*Purchaser*” and, collectively, the “*Purchasers*”) as follows:

SECTION 1. AUTHORIZATION OF BONDS.

The Company will authorize the issue and sale of (i) First Mortgage Bonds, 3.39% Series due 2052 (herein referred to as the “*3.39% Series due 2052 Bonds*”) in an aggregate principal amount of \$75,000,000, to bear interest at the rate of 3.39% per annum, and to mature on January 1, 2052 and (ii) First Mortgage Bonds, 3.41% Series due 2053 (herein referred to as the “*3.41% Series due 2053 Bonds*”) in an aggregate principal amount of \$50,000,000, to bear interest at the rate of 3.41% per annum, and to mature on January 1, 2053 (the 3.39% Series due 2052 Bonds and the 3.41% Series due 2053 Bonds are collectively referred to as the “*Bonds*” and such term includes any such bonds issued in substitution therefor). The Bonds will be issued under and secured by that certain Indenture of Mortgage dated as of January 1, 1941, from the Company (as successor by merger to the Philadelphia Suburban Water Company), as grantor, to The Bank of New York Mellon Trust Company, N.A., as successor trustee (the “*Trustee*”) (the “*Original Indenture*”), as previously amended and supplemented by fifty-six supplemental indentures and as further supplemented by the Fifty-seventh Supplemental Indenture dated as of November 1, 2019 (such Fifty-seventh Supplemental Indenture being referred to herein as the “*Supplement*”) which will be substantially in the form attached hereto as *Exhibit A*, with such changes therein, if any, as shall be approved by the Purchasers and the Company. The Original Indenture, as supplemented and amended by the aforementioned fifty-six supplemental indentures and the Supplement, and as further supplemented or amended according to its terms, is hereinafter referred to as the “*Indenture*”. Certain capitalized and other terms used in this Agreement are defined in *Schedule B*; and references to a “*Schedule*” or an “*Exhibit*” are, unless otherwise specified, to a Schedule or an Exhibit attached to this Agreement. Terms used herein but not defined herein shall have the meanings set forth in the Indenture.

SECTION 2. SALE AND PURCHASE OF BONDS.

Subject to the terms and conditions of this Agreement, the Company will issue and sell to each Purchaser and each Purchaser will purchase from the Company, at the Closing provided for in **Section 3**, Bonds in the principal amount and in the series specified opposite such Purchaser's name in *Schedule A* at the purchase price of 100% of the principal amount thereof. The Purchasers' obligations hereunder are several and not joint obligations and no Purchaser shall have any liability to any Person for the performance or non-performance of any obligation by any other Purchaser hereunder.

SECTION 3. CLOSING.

The execution and delivery of this Agreement and the sale and purchase of the Bonds to be purchased by each Purchaser shall occur at the offices of Chapman and Cutler LLP, 111 West Monroe Street, Chicago, Illinois 60603, at 10:00 a.m., Chicago time, at a closing on December 20, 2019 or on such other Business Day thereafter on or prior to December 31, 2019 as may be agreed upon by the Company and the Purchasers (the "*Closing*"). At the Closing the Company will deliver to each Purchaser the Bonds to be purchased by such Purchaser in the form of one or more Bonds to be purchased by such Purchaser, as applicable, in such denominations as such Purchaser may request (with a minimum denomination of \$100,000 for each Bond), dated the date of the Closing and registered in such Purchaser's name (or in the name of its nominee), against delivery by such Purchaser to the Company or its order of immediately available funds in the amount of the purchase price therefor by wire transfer of immediately available funds for Account Number: 8559742757, Account Name: Aqua Pennsylvania, Inc., at PNC Bank, N.A., Philadelphia, Pennsylvania, ABA Number 031-000053. If at the Closing the Company shall fail to tender such Bonds to any Purchaser as provided above in this **Section 3**, or any of the conditions specified in **Section 4** shall not have been fulfilled to such Purchaser's satisfaction, such Purchaser shall, at its election, be relieved of all further obligations under this Agreement, without thereby waiving any rights such Purchaser may have by reason of such failure by the Company to tender such Bonds or any of the conditions specified in **Section 4** not having been fulfilled to such Purchaser's satisfaction.

SECTION 4. CONDITIONS TO CLOSING.

Each Purchaser's obligation to execute and deliver this Agreement and to purchase and pay for the Bonds to be sold to such Purchaser at the Closing is subject to the fulfillment to such Purchaser's satisfaction prior to or at the Closing of the following conditions:

Section 4.1. Representations and Warranties. The representations and warranties of the Company in this Agreement shall be correct when made and at the time of the Closing.

Section 4.2. Performance; No Default. The Company shall have performed and complied with all agreements and conditions contained

in each Financing Agreement required to be performed or complied with by the Company prior to or at the Closing, and after giving effect to the issue and sale of the Bonds (and the application of the proceeds thereof as contemplated by **Section 5.14**), no Default or Event of Default shall have occurred and be continuing.

Section 4.3. Compliance Certificates. The Company shall have performed and complied with all agreements and conditions contained in the Indenture which are required to be performed or complied with by the Company for the issuance of the Bonds at the Closing. In addition, the Company shall have delivered the following certificates:

(a) *Officer's Certificate.* The Company shall have delivered to such Purchaser (i) an Officer's Certificate, dated the date of the Closing, certifying that the conditions specified in **Section 4** of this Agreement have been fulfilled, and (ii) copies of all certificates and opinions required to be delivered to the Trustee under the Indenture in connection with the issuance of the Bonds, in each case, dated the date of the Closing.

(b) *Secretary's Certificate.* The Company shall have delivered to such Purchaser a certificate of its Secretary or Assistant Secretary, dated the date of the Closing, certifying as to the resolutions attached thereto and other corporate proceedings relating to the authorization, execution and delivery of this Agreement, the Bonds, under the Indenture, and the Supplement.

(c) *Certification of Indenture.* Such Purchaser shall have received a composite copy of the Indenture (together with all amendments and supplements thereto), certified by the Company as of the date of the Closing, exclusive of property exhibits, recording information and the like.

Section 4.4. Opinions of Counsel. Such Purchaser shall have received opinions in form and substance satisfactory to such Purchaser, dated the date of the Closing (a) from Christopher P. Luning, counsel for the Company, covering the matters set forth in *Exhibit 4.4(a)* and covering such other matters incident to the transactions contemplated hereby as such Purchaser or its counsel may reasonably request (and the Company hereby instructs its counsel to deliver such opinion to the Purchasers), (b) from Dilworth Paxson, LLP, special counsel to the Company, covering the matters set forth in *Exhibit 4.4(b)* and covering such other matters incident to the transactions contemplated hereby as such Purchaser or such Purchaser's counsel may reasonably request (and the Company hereby instructs its counsel to deliver such opinion to the Purchasers), and (c) from Chapman and Cutler LLP, the Purchasers' special counsel in connection with such transactions, substantially in the form set forth in *Exhibit 4.4(c)* and covering such other matters incident to such transactions as such Purchaser may reasonably request. The Company hereby directs its counsel to deliver the opinions required by this **Section 4.4** and understands and agrees that each Purchaser will and hereby is authorized to rely on such opinions.

Section 4.5. Purchase Permitted by Applicable Law, Etc. On the date of the Closing such

Purchaser's purchase of Bonds shall (a) be permitted by the laws and regulations of each jurisdiction to which such Purchaser is subject, without recourse to provisions (such as section 1405(a)(8) of the New York Insurance Law) permitting limited investments by insurance companies without restriction as to the character of the particular investment, (b) not violate any applicable law or regulation (including, without limitation, Regulation T, U, or X of the Board of Governors of the Federal Reserve System), and (c) not subject such Purchaser to any tax, penalty or liability under or pursuant to any applicable law or regulation, which law or regulation was not in effect on the date of the Closing. If requested by such Purchaser, such Purchaser shall have received an Officer's Certificate certifying as to such matters of fact as such Purchaser may reasonably specify to enable such Purchaser to determine whether such purchase is so permitted.

Section 4.6. Sale of Bonds. Contemporaneously with the Closing, the Company shall sell to each Purchaser and each Purchaser shall purchase the Bonds to be purchased by it as specified in *Schedule A*.

Section 4.7. Payment of Special Counsel Fees. Without limiting the provisions of **Section 12.2**, the Company shall have paid on or before the Closing the reasonable fees, reasonable charges and reasonable disbursements of the Purchasers' special counsel referred to in **Section 4.4(c)** to the extent reflected in a statement of such counsel rendered to the Company at least one Business Day prior to the Closing.

Section 4.8. Private Placement Number. A Private Placement Number issued by Standard & Poor's CUSIP Service Bureau (in cooperation with the SVO) shall have been obtained for each series of Bonds issued at the Closing.

Section 4.9. Changes in Corporate Structure. The Company shall not have changed its jurisdiction of incorporation or organization, as applicable, or been a party to any merger or consolidation or succeeded to all or any substantial part of the liabilities of any other entity, at any time following the date of the most recent financial statements referred to in *Schedule 5.5*.

Section 4.10. Funding Instructions. At least three Business Days prior to the date of the Closing, such Purchaser shall have received written instructions signed by a Responsible Officer on letterhead of the Company confirming the information specified in **Section 3** including (a) the name and address of the transferee bank, (b) such transferee bank's ABA number, (c) the account name and number into which the purchase price for the Bonds is to be deposited, and (d) the name and telephone number and/or email address for an appropriate contact person at such transferee bank.

Section 4.11. Proceedings and Documents. All corporate and other proceedings in connection with the transactions contemplated by this Agreement and all documents and instruments incident to such transactions shall be reasonably satisfactory to such Purchaser and its special counsel, and such Purchaser and its special counsel shall have received all such counterpart originals or certified or other copies of such documents as such Purchaser or such special counsel may reasonably request.

Section 4.12. Execution and Delivery and Filing and Recording of the Supplement. Prior to or at the Closing, the Supplement shall have been duly executed and delivered by the Company, and the Company shall have filed, or delivered for recordation, the Supplement in all locations in Pennsylvania (and financing statements in respect thereof shall have been filed, if necessary) in such manner and in such places as is required by law (and no other instruments are required to be filed) to establish, preserve, perfect and protect the direct security interest and mortgage Lien of the Trust Estate created by the Indenture on all mortgaged and pledged property of the Company referred to in the Indenture as subject to the direct mortgage Lien thereof and the Company shall have delivered satisfactory evidence of such filings, recording or delivery for recording.

Section 4.13. Regulatory Approvals. The issue and sale of the Bonds shall have been duly authorized by an order of the Pennsylvania Public Utility Commission and such order shall be in full force and effect on the date of the Closing and all appeal periods, if any, applicable to such order shall have expired. The Company shall deliver satisfactory evidence that orders have been obtained approving the issuance of such Bonds from the Pennsylvania Public Utility Commission or that the Pennsylvania Public Utility Commission shall have waived jurisdiction thereof and such approval or waiver shall not be contested or subject to review, or that the Pennsylvania Public Utility Commission does not have jurisdiction.

SECTION 5. REPRESENTATIONS AND WARRANTIES OF THE COMPANY.

The Company represents and warrants to each Purchaser at the Closing that:

Section 5.1. Organization; Power and Authority. The Company is a corporation duly organized, validly existing and subsisting under the laws of the Commonwealth of Pennsylvania, and is duly qualified as a foreign corporation and is in good standing in each jurisdiction in which such qualification is required by law, other than those jurisdictions as to which the failure to be so qualified or in good standing would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. The Company has the corporate power and authority to own or hold under lease the properties it purports to own or hold under lease, to transact the business it transacts and proposes to transact, to execute and deliver this Agreement, the Bonds and the Supplement (and had the corporate power and authority to execute and deliver the Indenture at the time of execution and delivery thereof) and to perform the provisions of the Financing Agreements.

Section 5.2. Authorization, Etc. At the Closing, each Financing Agreement has been duly authorized by all necessary corporate action on the part of the Company, and each Financing Agreement (other than the Supplement and the Bonds) constitutes, and when the Supplement is executed and delivered by the Company and the Trustee and when the Bonds are executed, issued and delivered by the Company, authenticated by the Trustee and paid for by the Purchasers, the Supplement and each Bond will constitute, a legal, valid and binding obligation of the Company enforceable against the Company in accordance with

its respective terms, except as such enforceability may be limited by (i) applicable bankruptcy, insolvency, reorganization, moratorium or other similar laws affecting the enforcement of creditors' rights generally and (ii) general principles of equity (regardless of whether such enforceability is considered in a proceeding in equity or at law).

Section 5.3. Disclosure. This Agreement and the documents, certificates or other writings delivered to the Purchasers by or on behalf of the Company in connection with the transactions contemplated hereby, including the Investor Presentation (including the documents incorporated therein by reference) dated December 20, 2019, and the financial statements listed in *Schedule 5.5* (collectively, the "*Disclosure Documents*"), taken as a whole, do not contain any untrue statement of a material fact or omit to state any material fact necessary to make the statements therein not misleading in light of the circumstances under which they were made. Since September 30, 2019, there has been no change in the financial condition, operations, business or properties of the Company or any of its Subsidiaries except changes that individually or in the aggregate would not reasonably be expected to have a Material Adverse Effect. There is no fact known to management of the Company that, in the reasonable judgment of management of the Company, could be expected to have a Material Adverse Effect that has not been set forth herein or in the other documents, certificates and other writings delivered to the Purchaser by the Company specifically for use in connection with the transactions contemplated hereby.

Section 5.4. Organization and Ownership of Shares of Subsidiaries. (a) *Schedule 5.4* contains a complete and correct list of the Company's Subsidiaries, showing, as to each Subsidiary, the correct name thereof, the jurisdiction of its organization, and the percentage of shares of each class of its capital stock or similar equity interests outstanding owned by the Company and each other Subsidiary.

(b) All of the outstanding shares of capital stock or similar equity interests of each Subsidiary shown in *Schedule 5.4* as being owned by the Company and its Subsidiaries have been validly issued, are fully paid and nonassessable and are owned by the Company or another Subsidiary free and clear of any Lien.

(c) Each Subsidiary identified in *Schedule 5.4* is duly incorporated and is validly subsisting as a corporation under the laws of the Commonwealth of Pennsylvania, and is duly qualified as a foreign corporation or other legal entity and is in good standing in each jurisdiction in which such qualification is required by law, other than those jurisdictions as to which the failure to be so qualified or in good standing could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. Each such Subsidiary has the corporate or other power and authority to own or hold under lease the properties it purports to own or hold under lease and to transact the business it transacts and proposes to transact.

Section 5.5. Financial Statements; Material Liabilities. The Company has delivered to each Purchaser copies of the financial statements of the Company and its Subsidiaries listed on *Schedule 5.5*. All of said financial statements (including in each case the related schedules and notes) fairly present in all material respects the consolidated financial position of the Company and its Subsidiaries as of the

respective dates specified in such financial statements and the consolidated results of their operations and cash flows for the respective periods so specified and have been prepared in accordance with GAAP consistently applied throughout the periods involved except as set forth in the notes thereto (subject, in the case of any interim financial statements, to normal year-end adjustments). The Company does not have any Material liabilities that are not disclosed on such financial statements or otherwise disclosed in the Disclosure Documents.

Section 5.6. Compliance with Laws, Other Instruments, Etc. The execution, delivery and performance by the Company of each Financing Agreement (including the prior execution and delivery of the Indenture), will not (a) contravene, result in any breach of, or constitute a default under, or result in the creation of any Lien, other than the Lien created under the Indenture, in respect of any property of the Company or any Subsidiary under, any indenture, mortgage, deed of trust, loan, purchase or credit agreement, lease, corporate charter, regulations or by-laws, or any other Material agreement or instrument to which the Company or any Subsidiary is bound or by which the Company or any Subsidiary or any of their respective properties may be bound or affected, (b) conflict with or result in a breach of any of the terms, conditions or provisions of any order, judgment, decree, or ruling of any court, arbitrator or Governmental Authority applicable to the Company or any Subsidiary or (c) violate any provision of any statute or other rule or regulation of any Governmental Authority applicable to the Company or any Subsidiary, except for any such default, breach, contravention or violation which would not reasonably be expected to have a Material Adverse Effect.

Section 5.7. Governmental Authorizations, Etc. No consent, approval or authorization of, or registration, filing or declaration with, any Governmental Authority is required in connection with the execution, delivery or performance by the Company of this Agreement, the Bonds and the Supplement, other than approval of the Pennsylvania Public Utility Commission, which has been obtained and is in full force and effect and final and is non-appealable.

Section 5.8. Litigation; Observance of Statutes and Orders. (a) There are no actions, suits, investigations or proceedings pending or, to the knowledge of the Company, threatened against or affecting the Company or any Subsidiary or any property of the Company or any Subsidiary in any court or before any arbitrator of any kind or before or by any Governmental Authority that, individually or in the aggregate, would reasonably be expected to have a Material Adverse Effect.

(b) Neither the Company nor any Subsidiary is (i) in default under any term of any agreement or instrument to which it is a party or by which it is bound, (ii) in violation of any order, judgment, decree or ruling of any court, any arbitrator of any kind or any Governmental Authority naming or referring to the Company or any Subsidiary or (iii) in violation of any applicable law, or, to the knowledge of the Company, any ordinance, rule or regulation of any Governmental Authority (including, without limitation, Environmental Laws the USA Patriot Act or any of the other laws and regulations that are referred to in **Section 5.16**), which default or violation, individually or in the aggregate, could reasonably be expected to have a Material Adverse Effect.

Section 5.9. Taxes. The Company and its Subsidiaries have filed all income tax returns that are required to have been filed in any jurisdiction, and have paid all taxes shown to be due and payable on such returns and all other taxes and assessments payable by them, to the extent such taxes and assessments have become due and payable and before they have become delinquent, except for any taxes and assessments (i) the amount of which is not individually or in the aggregate Material or (ii) the amount, applicability or validity of which is currently being contested in good faith by appropriate proceedings and with respect to which the Company or a Subsidiary, as the case may be, has established adequate reserves in accordance with GAAP. The charges, accruals, and reserves on the books of the Company and its Subsidiaries in respect of federal, state or other taxes for all fiscal periods are adequate. The Federal income tax liabilities of the Company and its Subsidiaries have been finally determined (whether by reason of completed audits or the statute of limitations having run) for all fiscal years up to and including the fiscal year ended December 31, 2011 and all amounts owing in respect of such audit have been paid.

Section 5.10. Title to Property; Leases. The Company and its Subsidiaries have good and sufficient title to their respective Material properties, including all such properties reflected in the most recent audited balance sheet referred to in **Section 5.5** or purported to have been acquired by the Company or any Subsidiary after said date (except as sold or otherwise disposed of in the ordinary course of business), in each case free and clear of Liens prohibited by this Agreement or the Indenture, except for those defects in title and Liens that, individually or in the aggregate, would not have a Material Adverse Effect. All Material leases are valid and subsisting and are in full force and effect in all material respects.

Section 5.11. Licenses, Permits, Etc. The Company and its Subsidiaries own or possess all licenses, permits, franchises, certificates of convenience and necessity, authorizations, patents, copyrights, proprietary software, service marks, trademarks and trade names, or rights thereto, that are Material, without known conflict with the rights of others, except for those conflicts that, individually or in the aggregate, would not have a Material Adverse Effect.

Section 5.12. Compliance with Employee Benefit Plans. (a) The Company and each ERISA Affiliate have operated and administered each Plan in compliance with all applicable laws except for such instances of noncompliance as have not resulted in and could not reasonably be expected to result in a Material Adverse Effect. Neither the Company nor any ERISA Affiliate has incurred any liability pursuant to Title I or IV of ERISA or the penalty or excise tax provisions of the Code relating to employee benefit plans (as defined in section 3 of ERISA), and no event, transaction or condition has occurred or exists that would reasonably be expected to result in the incurrence of any such liability by the Company or any ERISA Affiliate, or in the imposition of any Lien on any of the rights, properties or assets of the Company or any ERISA Affiliate, in either case pursuant to Title I or IV of ERISA or to such penalty or excise tax provisions or to section 401(a)(29) or 412 of the Code or section 4068 of ERISA, other than such liabilities or Liens as would not be individually or in the aggregate Material.

(b) The present value of the aggregate benefit liabilities under each of the Plans subject to section 412 of the Code (other than Multiemployer Plans), determined as of January 1, 2019 based on such Plan's actuarial assumptions as of that date for funding purposes as documented in such Plan's actuarial valuation reports dated September 2018 did not exceed the aggregate current value of the assets of such Plan allocable to such benefit liabilities by more than \$5,000,000 in the case of any single Plan and by more than \$5,000,000 in the aggregate for all Plans. The term "*benefit liabilities*" has the meaning specified in section 4001 of ERISA and the terms "*current value*" and "*present value*" have the meaning specified in section 3 of ERISA.

(c) The Company and its ERISA Affiliates have not incurred withdrawal liabilities (and are not subject to contingent withdrawal liabilities) under section 4201 or 4204 of ERISA in respect of Multiemployer Plans that individually or in the aggregate are Material.

(d) The expected postretirement benefit obligation (determined as of the last day of the Company's most recently ended fiscal year in accordance with Financial Accounting Standards Board Accounting Standards Codification Topic 715-60, without regard to liabilities attributable to continuation coverage mandated by section 4980B of the Code) of the Company and its Subsidiaries is not Material.

(e) The execution and delivery of this Agreement and the issuance and sale of the Bonds hereunder will not involve any transaction that is subject to the prohibitions of section 406 of ERISA or in connection with which a tax could be imposed pursuant to section 4975(c)(1)(A)-(D) of the Code. The representation by the Company to each Purchaser in the first sentence of this **Section 5.12(e)** is made in reliance upon and subject to the accuracy of such Purchaser's representation in **Section 6.2** as to the sources of the funds used to pay the purchase price of the Bonds to be purchased by such Purchaser.

(f) The Company and its Subsidiaries do not have any Non-U.S. Plans.

Section 5.13. Private Offering by the Company. Neither the Company nor anyone acting on the Company's behalf has offered the Bonds or any similar securities for sale to, or solicited any offer to buy any of the same from, or otherwise approached or negotiated in respect thereof with, any Person other than the Purchasers and not more than twenty-six (26) other Institutional Investors, each of which has been offered the Bonds in connection with a private sale for investment. Neither the Company nor anyone acting on its behalf has taken, or will take, any action that would subject the issuance or sale of the Bonds to the registration requirements of **Section 5** of the Securities Act.

Section 5.14. Use of Proceeds; Margin Regulations. The Company will apply the proceeds of the sale of the Bonds to repay existing indebtedness and for general corporate purposes and in compliance with all laws referenced in **Section 5.16**. No part of the proceeds from the sale of the Bonds hereunder will be used, directly or indirectly, for the purpose of buying or carrying any margin stock within the meaning of Regulation U of the Board of Governors of the Federal Reserve System (12 CFR 221), or for the purpose of buying or carrying or trading in any securities under such circumstances as to involve the Company in a violation of Regulation X of said

Board (12 CFR 224) or to involve any broker or dealer in a violation of Regulation T of said Board (12 CFR 220). Margin stock does not constitute more than 2% of the value of the consolidated assets of the Company and its Subsidiaries and the Company does not have any present intention that margin stock will constitute more than 2% of the value of such assets. As used in this **Section**, the terms “margin stock” and “purpose of buying or carrying” shall have the meanings assigned to them in said Regulation U.

Section 5.15. Existing Debt. Except as described therein, *Schedule 5.15(a)* sets forth a complete and correct list of all outstanding Debt of the Company and its Subsidiaries as of September 30, 2019, since which date except as described therein there has been no Material change in the amounts, interest rates, sinking funds, installment payments or maturities of the Debt of the Company or its Subsidiaries. Neither the Company nor any Subsidiary is in default and no waiver of default is currently in effect, in the payment of any principal or interest on any Debt of the Company or any Subsidiary and no event or condition exists with respect to any Debt of the Company or any Subsidiary, the outstanding principal amount of which exceeds \$5,000,000 that would permit (or that with notice or the lapse of time, or both, would permit) one or more Persons to cause such Debt to become due and payable before its stated maturity or before its regularly scheduled dates of payment.

(b) Without limiting the representation in **Section 5.6**, the Company is not a party to, or otherwise subject to any provision contained in, any instrument evidencing Debt of the Company or any Subsidiary, any agreement relating thereto or any other agreement (including, but not limited to, its charter or other organizational document) which limits the amount of, or otherwise imposes restrictions on the incurring of, Debt evidenced by the Bonds, except as specifically indicated in *Schedule 5.15(b)*.

Section 5.16. Foreign Assets Control Regulations, Etc. (a) Neither the Company nor any Controlled Entity (i) is a Blocked Person, (ii) has been notified that its name appears or may in the future appear on a State Sanctions List or (iii) is a target of sanctions that have been imposed by the United Nations or the European Union.

(b) Neither the Company nor any Controlled Entity (i) has violated, been found in violation of, or been charged or convicted under, any applicable U.S. Economic Sanctions Laws, Anti-Money Laundering Laws or Anti-Corruption Laws or (ii) to the Company’s knowledge, is under investigation by any Governmental Authority for possible violation of any U.S. Economic Sanctions Laws, Anti-Money Laundering Laws or Anti-Corruption Laws.

(c) No part of the proceeds from the sale of the Bonds hereunder:

(i) constitutes or will constitute funds obtained on behalf of any Blocked Person or will otherwise be used by the Company or any Controlled Entity, directly or indirectly, (A) in connection with any investment in, or any transactions or dealings with, any Blocked Person, (B) for any purpose that would cause any Purchaser to be in violation of any U.S. Economic Sanctions Laws, or (C) otherwise in violation of any U.S. Economic Sanctions Laws;

(ii) will be used, directly or indirectly, in violation of, or cause any Purchaser to be in violation of, any applicable Anti-Money Laundering Laws; or

(iii) will be used, directly or indirectly, for the purpose of making any improper payments, including bribes, to any Governmental Official or commercial counterparty in order to obtain, retain or direct business or obtain any improper advantage, in each case which would be in violation of, or cause any Purchaser to be in violation of, any applicable Anti-Corruption Laws.

(d) The Company has established procedures and controls which it reasonably believes are adequate (and otherwise comply with applicable law) to ensure that the Company and each Controlled Entity is and will continue to be in compliance with all applicable U.S. Economic Sanctions Laws, Anti-Money Laundering Laws and Anti-Corruption Laws.

Section 5.17. Status under Certain Statutes. Neither the Company nor any Subsidiary is subject to regulation under the Investment Company Act of 1940, as amended, the Public Utility Holding Company Act of 2005, as amended, the ICC Termination Act of 1995, as amended, or subject to rate regulation under the Federal Power Act, as amended.

Section 5.18. Environmental Matters. Neither the Company nor any Subsidiary has knowledge of any claim or has received any notice of any claim, and no proceeding has been instituted of which it has received notice, raising any claim against the Company or any of its Subsidiaries or any of their respective real properties now or formerly owned, leased or operated by any of them, or other assets, alleging damage to the environment or any violation of any Environmental Laws, except, in each case, such as could not reasonably be expected to result in a Material Adverse Effect. Except as otherwise disclosed to the Purchasers in writing:

(a) neither the Company nor any Subsidiary has knowledge of any facts which would give rise to any claim, public or private, for violation of Environmental Laws or damage to the environment emanating from, occurring on or in any way related to real properties or to other assets now or formerly owned, leased or operated by any of them or their use, except, in each case, such as could not reasonably be expected to result in a Material Adverse Effect;

(b) neither the Company nor any of its Subsidiaries has stored any Hazardous Materials on real properties now or formerly owned, leased or operated by any of them or has disposed of any Hazardous Materials in each case in a manner contrary to any Environmental Laws and in any manner that could reasonably be expected to result in a Material Adverse Effect; and

(c) all buildings on all real properties now owned, leased or operated by the Company or any of its Subsidiaries are in compliance with applicable Environmental Laws, except where failure to comply could not reasonably be expected to result in a Material Adverse Effect.

Section 5.19. Lien of Indenture. The Indenture (and for avoidance of doubt including the Supplement) constitutes a direct and valid Lien upon the Trust Estate, subject only to the exceptions referred to in the Indenture and Permitted Liens, and will create a similar Lien upon all properties and assets acquired by the Company after the date hereof which are required to be subjected to the Lien of the Indenture, when acquired by the Company, subject only to the exceptions referred to in the Indenture and Permitted Liens, and subject, further, as to real property interests, to the recordation of a supplement to the Indenture describing such after-acquired property; the descriptions of all such properties and assets contained in the granting clauses of the Indenture are correct and adequate for the purposes of the Indenture; the Indenture has been duly recorded as a mortgage and deed of trust of real estate, and any required filings with respect to personal property and fixtures subject to the Lien of the Indenture have been duly made in each place in which such recording or filing is required to protect, preserve and perfect the Lien of the Indenture; and all taxes and recording and filing fees required to be paid with respect to the execution, recording or filing of the Indenture, the filing of financing statements related thereto and similar documents and the issuance of the Bonds have been paid.

Section 5.20. Filings. No action, including any filings, registration or notice, is necessary or advisable in Pennsylvania or any other jurisdictions to ensure the legality, validity and enforceability of the Financing Agreements, except such action as has been previously taken, which action remains in full force and effect. No action, including any filing, registration or notice, is necessary or advisable in Pennsylvania or any other jurisdiction to establish or protect for the benefit of the Trustee and the holders of Bonds, the security interest and Liens purported to be created under the Indenture and the priority and perfection thereof and the other Financing Agreements, except such action as has been previously taken, which action remains in full force and effect.

SECTION 6. REPRESENTATIONS OF THE PURCHASERS.

Section 6.1. Purchase for Investment. Each Purchaser severally represents that it is purchasing the Bonds for its own account or for one or more separate accounts maintained by such Purchaser or for the account of one or more pension or trust funds and not with a view to the distribution thereof, provided that the disposition of such Purchaser's or their property shall at all times be within such Purchaser's or their control. Each Purchaser understands that the Bonds have not been registered under the Securities Act and may be resold only if registered pursuant to the provisions of the Securities Act or if an exemption from registration is available, except under circumstances where neither such registration nor such an exemption is required by law, and that the Company is not required to register the Bonds.

Section 6.2. Source of Funds. Each Purchaser severally represents that at least one of the following statements is an accurate representation as to each source of funds (a "Source") to be used by such Purchaser to pay the purchase price of the Bonds to be purchased by such Purchaser hereunder:

- (a) the Source is an "insurance company general account" (as the term is defined in the United States Department of Labor's Prohibited Transaction Exemption

(“PTE”) 95-60) in respect of which the reserves and liabilities (as defined by the annual statement for life insurance companies approved by the NAIC (the “*NAIC Annual Statement*”)) for the general account contract(s) held by or on behalf of any employee benefit plan together with the amount of the reserves and liabilities for the general account contract(s) held by or on behalf of any other employee benefit plans maintained by the same employer (or affiliate thereof as defined in PTE 95-60) or by the same employee organization in the general account do not exceed 10% of the total reserves and liabilities of the general account (exclusive of separate account liabilities) plus surplus as set forth in the NAIC Annual Statement filed with such Purchaser’s state of domicile; or

(b) the Source is a separate account that is maintained solely in connection with such Purchaser’s fixed contractual obligations under which the amounts payable, or credited, to any employee benefit plan (or its related trust) that has any interest in such separate account (or to any participant or beneficiary of such plan (including any annuitant)) are not affected in any manner by the investment performance of the separate account; or

(c) the Source is either (i) an insurance company pooled separate account, within the meaning of PTE 90-1 or (ii) a bank collective investment fund, within the meaning of the PTE 91-38 and, except as disclosed by such Purchaser to the Company in writing pursuant to this clause (c), no employee benefit plan or group of plans maintained by the same employer or employee organization beneficially owns more than 10% of all assets allocated to such pooled separate account or collective investment fund; or

(d) the Source constitutes assets of an “investment fund” (within the meaning of Part VI of PTE 84-14 (the “*QPAM Exemption*”)) managed by a “*qualified professional asset manager*” or “*QPAM*” (within the meaning of Part VI of the QPAM Exemption), no employee benefit plan’s assets that are managed by the QPAM in such investment fund, when combined with the assets of all other employee benefit plans established or maintained by the same employer or by an affiliate (within the meaning of Part VI(c)(1) of the QPAM Exemption) of such employer or by the same employee organization and managed by such QPAM, represent more than 20% of the total client assets managed by such QPAM, the conditions of Part I(c) and (g) of the QPAM Exemption are satisfied, neither the QPAM nor a person controlling or controlled by the QPAM maintains an ownership interest in the Company that would cause the QPAM and the Company to be “*related*” within the meaning of Part VI(h) of the QPAM Exemption and (i) the identity of such QPAM and (ii) the names of any employee benefit plans whose assets in the investment fund, when combined with the assets of all other employee benefit plans established or maintained by the same employer or by an affiliate (within the meaning of Part VI(c)(1) of the QPAM Exemption) of such employer or by the same employee organization, represent 10% or more of the assets of such investment fund, have been disclosed to the Company in writing pursuant to this clause (d); or

(e) the Source constitutes assets of a “*plan(s)*” (within the meaning of Part IV(h) of PTE 96-23 (the “*INHAM Exemption*”)) managed by an “*in-house asset manager*” or “*INHAM*” (within the meaning of Part IV(a) of the INHAM Exemption), the

conditions of Part I(a), (g) and (h) of the INHAM Exemption are satisfied, neither the INHAM nor a person controlling or controlled by the INHAM (applying the definition of “control” in Part IV(d)(3) of the INHAM Exemption) owns a 10% or more interest in the Company and (i) the identity of such INHAM and (ii) the name(s) of the employee benefit plan(s) whose assets constitute the Source have been disclosed to the Company in writing pursuant to this clause (e); or

(f) the Source is a governmental plan; or

(g) the Source is one or more employee benefit plans, or a separate account or trust fund comprised of one or more employee benefit plans, each of which has been identified to the Company in writing pursuant to this clause (g); or

(h) the Source does not include assets of any employee benefit plan, other than a plan exempt from the coverage of ERISA.

As used in this Section 6.2, the terms “*employee benefit plan*,” “*governmental plan*,” and “*separate account*” shall have the respective meanings assigned to such terms in section 3 of ERISA.

SECTION 7. INFORMATION AS TO COMPANY.

Section 7.1. Financial and Business Information. The Company shall deliver to each Purchaser and each holder of Bonds that is an Institutional Investor:

(a) *Quarterly Statements* — within 60 days after the end of each quarterly fiscal period in each fiscal year of the Company (other than the last quarterly fiscal period of each such fiscal year), duplicate copies of:

(i) a consolidated balance sheet of the Company and its Subsidiaries as at the end of such quarter, and

(ii) consolidated statements of income, changes in shareholders’ equity and cash flows of the Company and its Subsidiaries, for such quarter and (in the case of the second and third quarters) for the portion of the fiscal year ending with such quarter,

setting forth in each case in comparative form the figures for the corresponding periods in the previous fiscal year, all in reasonable detail, prepared in accordance with GAAP applicable to quarterly financial statements generally, and certified by a Senior Financial Officer as fairly presenting, in all material respects, the financial position of the companies being reported on and their results of operations and cash flows, subject to changes resulting from year-end adjustments, *provided* that the delivery within the time period specified above of the Company’s said financial statements, prepared in accordance with the requirements therefor and filed with the Municipal Securities Rulemaking Board on the Electronic Municipal Market

Access (“EMMA”) database shall be deemed to satisfy the requirements of this **Section 7.1(a)**;

(b) *Annual Statements* — within 120 days after the end of each fiscal year of the Company, duplicate copies of:

(i) a consolidated balance sheet of the Company and its Subsidiaries, as at the end of such year, and

(ii) consolidated statements of income, changes in shareholders’ equity and cash flows of the Company and its Subsidiaries for such year,

setting forth in each case in comparative form the figures for the previous fiscal year, all in reasonable detail, prepared in accordance with GAAP, and accompanied by an opinion thereon (without a “going concern” or similar qualification or exception and without any qualification or exception as to the scope of the audit on which such opinion is based) of independent public accountants of recognized national standing, which opinion shall state that such financial statements present fairly, in all material respects, the financial position of the companies being reported upon and their results of operations and cash flows and have been prepared in conformity with GAAP, and that the examination of such accountants in connection with such financial statements has been made in accordance with generally accepted auditing standards, and that such audit provides a reasonable basis for such opinion in the circumstances, *provided* that the delivery within the time period specified above of the Company’s said financial statements, prepared in accordance with the requirements therefor and containing the above-described audit opinion and filed with the Municipal Securities Rulemaking Board on the EMMA database shall be deemed to satisfy the requirements of this **Section 7.1(b)**;

(c) *SEC and Other Reports* — promptly upon their becoming available, one copy of (i) each financial statement, report, notice, or proxy statement sent by the Company or any Subsidiary to its public securities holders generally, and (ii) each regular or periodic report, each registration statement that shall have become effective (without exhibits except as expressly requested by such holder), and each final prospectus and all amendments thereto filed by the Company or any Subsidiary with the SEC, *provided* that the delivery within the time period specified above of the Company’s said financial statements, prepared in accordance with the requirements therefor and filed with the Municipal Securities Rulemaking Board on the EMMA database shall be deemed to satisfy the requirements of this **Section 7.1(c)**;

(d) *Notice of Default or Event of Default* — promptly, and in any event within five days after a Responsible Officer becomes aware of the existence of any Default or Event of Default, a written notice specifying the nature and period of existence thereof and what action the Company is taking or proposes to take with respect thereto;

(e) *Employee Benefits Matters* — promptly, and in any event within five days after a Responsible Officer becomes aware of any of the following, a written notice setting forth the nature thereof and the action, if any, that the Company or an ERISA Affiliate proposes to take with respect thereto:

(i) with respect to any Plan (other than any Multiemployer Plan) that is subject to Title IV of ERISA, any reportable event, as defined in section 4043(c) of ERISA and the regulations thereunder, for which notice thereof has not been waived pursuant to such regulations as in effect on the date hereof; or

(ii) the taking by the PBGC of steps to institute, or the threatening by the PBGC of the institution of, proceedings under section 4042 of ERISA for the termination of, or the appointment of a trustee to administer, any such Plan, or the receipt by the Company or any ERISA Affiliate of a notice from a Multiemployer Plan that such action has been taken by the PBGC with respect to such Multiemployer Plan; or

(iii) any event, transaction or condition that could result in the incurrence of any liability by the Company or any ERISA Affiliate pursuant to Title I or IV of ERISA or the penalty or excise tax provisions of the Code relating to employee benefit plans, or in the imposition of any Lien on any of the rights, properties or assets of the Company or any ERISA Affiliate pursuant to Title I or IV of ERISA or such penalty or excise tax provisions, if such liability or Lien, taken together with any other such liabilities or Liens then existing, would reasonably be expected to have a Material Adverse Effect;

(f) *Notices from Governmental Authority* — promptly, and in any event within 30 days of receipt thereof, copies of any notice to the Company or any Subsidiary from any federal or state Governmental Authority relating to any order, ruling, statute or other law or regulation that could reasonably be expected to have a Material Adverse Effect;

(g) *Requested Information* — with reasonable promptness, following the receipt by the Company of a written request by such holder of Bonds, the names and contact information of holders of the outstanding bonds issued under the Indenture (*i.e.* the bonds in which the Company or a trustee is required to keep in a register and that are not publicly traded) of which the Company has knowledge and the principal amount of the outstanding bonds issued under the Indenture owed to each holder (unless disclosure of such names, contact information or holdings is prohibited by law), and such data and information relating to the business, operations, affairs, financial condition, assets or properties of the Company or any of its Subsidiaries or relating to the ability of the Company to perform its obligations under any Financing Agreement as from time to time may be reasonably requested by any such holder of Bonds; and

(h) *Deliveries to Trustee* — promptly, and in any event within five days after delivery to the Trustee, a copy of any deliveries made by the Company to the Trustee,

including without limitation the annual report delivered to the Trustee pursuant to Article VIII, Section 12 of the Indenture.

Section 7.2 Officer's Certificate. Each set of financial statements delivered to a holder of Bonds pursuant to **Section 7.1(a)** or **Section 7.1(b)** shall be accompanied by a certificate of a Senior Financial Officer (which, in the case of financial statements filed with the Municipal Securities Rulemaking Board on the EMMA database, shall be by separate concurrent delivery of such certificate to each holder of Bonds) setting forth a statement that such Senior Financial Officer has reviewed the relevant terms hereof and of the Indenture and has made, or caused to be made, under his or her supervision, a review of the transactions and conditions of the Company and its Subsidiaries from the beginning of the quarterly or annual period covered by the statements then being furnished to the date of the certificate and that such review shall not have disclosed the existence during such period of any condition or event that constitutes a Default or an Event of Default or, if any such condition or event existed or exists (including, without limitation, any such event or condition resulting from the failure of the Company or any Subsidiary to comply with any Environmental Law), specifying the nature and period of existence thereof and what action the Company shall have taken or proposes to take with respect thereto.

Section 7.3. Visitation. The Company shall permit the representatives of each Purchaser and each holder of Bonds that is an Institutional Investor:

(a) *No Default* — if no Default or Event of Default then exists, at the expense of such holder and upon reasonable prior notice to the Company, to visit the principal executive office of the Company, to discuss the affairs, finances and accounts of the Company and its Subsidiaries with the Company's officers, and, with the consent of the Company (which consent will not be unreasonably withheld), to visit the other offices and properties of the Company and each Subsidiary, all at such reasonable times during normal business hours and as often as may be reasonably requested in writing; and

(b) *Default* — if a Default or Event of Default then exists, at the expense of the Company to visit and inspect any of the offices or properties of the Company or any Subsidiary, to examine all their respective books of account, records, reports and other papers, to make copies and extracts therefrom, and to discuss their respective affairs, finances and accounts with their respective officers and independent public accountants (and by this provision the Company authorizes said accountants to discuss the affairs, finances and accounts of the Company and its Subsidiaries), all at such reasonable times and as often as may be requested.

SECTION 8. PURCHASE OF BONDS.

The Company will not and will not permit any Affiliate to purchase, redeem, prepay or otherwise acquire, directly or indirectly, any of the outstanding Bonds except (a) upon the payment or prepayment of the Bonds in accordance with the terms of this Agreement and the Bonds or (b) pursuant to a written offer to purchase any outstanding Bonds made by the Company or an

Affiliate pro rata to the holders of the Bonds upon the same terms and conditions. Any such offer shall provide each holder with sufficient information to enable it to make an informed decision with respect to such offer, and shall remain open for at least 15 Business Days. If the holders of more than 10% of the principal amount of the Bonds then outstanding accept such offer, the Company shall promptly notify the remaining holders of such fact and the expiration date for the acceptance by holders of Bonds of such offer shall be extended by the number of days necessary to give each such remaining holder at least 10 Business Days from its receipt of such notice to accept such offer. The Company will promptly cancel all Bonds acquired by it or any Affiliate pursuant to any payment, prepayment or purchase of Bonds pursuant to any provision of this Agreement and no Bonds may be issued in substitution or exchange for any such Bonds.

SECTION 9. AFFIRMATIVE COVENANTS.

The Company covenants that from the date of this Agreement and thereafter, so long as any of the Bonds are outstanding:

Section 9.1. Compliance with Law. Without limiting **Section 10.4**, the Company will, and will cause each of its Subsidiaries to, comply with all laws, ordinances or governmental rules or regulations to which each of them is subject, including, without limitation, ERISA, Environmental Laws, the USA Patriot Act and the other laws and regulations that are referred to in **Section 5.16**, and will obtain and maintain in effect all licenses, certificates, permits, franchises and other governmental authorizations necessary to the ownership of their respective properties or to the conduct of their respective businesses, in each case to the extent necessary to ensure that non-compliance with such laws, ordinances or governmental rules or regulations or failures to obtain or maintain in effect such licenses, certificates, permits, franchises and other governmental authorizations could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

Section 9.2. Insurance. The Company will cause each of its Subsidiaries to maintain, with financially sound and reputable insurers, insurance with respect to their respective properties and businesses against such casualties and contingencies, of such types, on such terms and in such amounts (including deductibles, co-insurance and self-insurance, if adequate reserves are maintained with respect thereto) as is customary in the case of entities of established reputations engaged in the same or a similar business and similarly situated.

Section 9.3. Maintenance of Properties. The Company will cause each of its Subsidiaries to maintain and keep, or cause to be maintained and kept, their respective properties in good repair, working order and condition (other than ordinary wear and tear), so that the business carried on in connection therewith may be properly conducted at all times, *provided* that this **Section 9.3** shall not prevent any Subsidiary from discontinuing the operation and the maintenance of any of its properties if such discontinuance is desirable in the conduct of its business and the Company and such Subsidiary have concluded that such discontinuance would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

Section 9.4. Payment of Taxes. The Company will cause each of its Subsidiaries to file all income tax or similar tax returns required to be filed in any jurisdiction and to pay and discharge all taxes shown to be due and payable on such returns and all other taxes, assessments, governmental charges, or levies payable by any of them, to the extent the same have become due and payable and before they have become delinquent, provided that any Subsidiary does not need to pay any such tax, assessment, charge or levy if (a) the amount, applicability or validity thereof is contested by the Company or such Subsidiary on a timely basis in good faith and in appropriate proceedings, and the Subsidiary has established adequate reserves therefor in accordance with GAAP on the books of such Subsidiary or (b) the nonpayment of all such taxes, assessments, charges and levies in the aggregate would not reasonably be expected to have a Material Adverse Effect.

Section 9.5. Corporate Existence, Etc. The Company will at all times preserve and keep in full force and effect the corporate existence of each of its Subsidiaries (unless merged into the Company or a wholly-owned Subsidiary) and all rights and franchises of its Subsidiaries unless, in the good faith judgment of the Company or such Subsidiary, the termination of or failure to preserve and keep in full force and effect such corporate existence, right or franchise would not, individually or in the aggregate, have a Material Adverse Effect.

Section 9.6. Books and Records. The Company will, and will cause each of its Subsidiaries to, maintain proper books of record and account in conformity with GAAP and all applicable requirements of any Governmental Authority having legal or regulatory jurisdiction over the Company or such Subsidiary.

SECTION 10. NEGATIVE COVENANTS.

The Company covenants that from the date of this Agreement and thereafter, so long as any of the Bonds are outstanding:

Section 10.1. Transactions with Affiliates. The Company will not and will not permit any Subsidiary to enter into directly or indirectly any Material transaction or Material group of related transactions (including without limitation the purchase, lease, sale or exchange of properties of any kind or the rendering of any service) with any Affiliate (other than the Company or another Subsidiary), except pursuant to the reasonable requirements of the Company's or such Subsidiary's business.

Section 10.2. Merger, Consolidation, Etc. The Company will not consolidate with or merge with any other Person or convey, transfer or lease all or substantially all of its assets in a single transaction or series of transactions to any Person unless:

- (a) the successor formed by such consolidation or the survivor of such merger or the Person that acquires by conveyance, transfer or lease all or substantially all of the assets of the Company as an entirety, as the case may be, shall be a solvent corporation or

limited liability company organized and existing under the laws of the United States or any State thereof (including the District of Columbia), and, if the Company is not such corporation or limited liability company, such corporation or limited liability company shall have executed and delivered to each holder of any Bonds its assumption of the due and punctual performance and observance of each covenant and condition of the Financing Agreements (pursuant to such agreements and instruments as shall be reasonably satisfactory to the Required Holders), and the Company shall have caused to be delivered to each holder of Bonds an opinion of nationally recognized independent counsel, to the effect that all agreements or instruments effecting such assumption are enforceable in accordance with their terms and comply with the terms hereof; and

(b) immediately before and immediately after giving effect to such transaction, no Default or Event of Default shall have occurred and be continuing.

No such conveyance, transfer or lease of substantially all of the assets of the Company shall have the effect of releasing the Company or any successor corporation or limited liability company that shall theretofore have become such in the manner prescribed in this **Section 10.2** from its liability under the Financing Agreements.

Section 10.3. Line of Business. The Company will not engage in any business if, as a result, the general nature of the business in which the Company and its Subsidiaries, taken as a whole, would then be engaged would be substantially changed from the general nature of the business in which the Company and its Subsidiaries, taken as whole, is engaged on the date of this Agreement.

Section 10.4. Economic Sanctions, Etc.. The Company will not, and will not permit any Controlled Entity to (a) become (including by virtue of being owned or controlled by a Blocked Person), own or control a Blocked Person or (b) directly or indirectly have any investment in or engage in any dealing or transaction (including any investment, dealing or transaction involving the proceeds of the Bonds) with any Person if such investment, dealing or transaction (i) would cause any holder or any affiliate of such holder to be in violation of, or subject to sanctions under, any law or regulation applicable to such holder, or (ii) is prohibited by or subject to sanctions under any U.S. Economic Sanctions Laws.

SECTION 11. PAYMENTS ON BONDS.

Section 11.1. Payment by Wire Transfer. So long as any Purchaser or its nominee shall be the holder of any Bond, and notwithstanding anything contained in the Indenture or in such Bond to the contrary, the Company will pay, or cause to be paid by a paying agent, a trustee or other similar party, all sums becoming due on such Bond for principal, Make-Whole Amount or premium, if any, and interest by the method and at the address specified for such purpose below such Purchaser's name in *Schedule A*, or by such other method or at such other address as such Purchaser shall have from time to time specified to the Company in writing for such purpose, without the presentation or surrender of such Bond or the making of any notation thereon, except that upon written request of the Company or any paying agent made concurrently with or reasonably promptly after payment or prepayment

in full of any Bond, such Purchaser shall surrender such Bond for cancellation, reasonably promptly after any such request, to the Company at its principal executive office or at the place of payment most recently designated by the Company pursuant to Article II of the Indenture. Prior to any sale or other disposition of any Bond held by a Purchaser or its nominee, such Purchaser will, at its election, either endorse thereon the amount of principal paid thereon and the last date to which interest has been paid thereon or surrender such Bond to the Company in exchange for a new Bond or Bonds pursuant to Article II of the Indenture. The Company will afford the benefits of this **Section 11.1** to any Institutional Investor that is the direct or indirect transferee of any Bond purchased by a Purchaser under this Agreement and that has made the same agreement relating to such Bond as the Purchasers have made in this **Section 11.1**.

SECTION 12. REGISTRATION; EXCHANGE; EXPENSES, ETC.

Section 12.1. Registration of Bonds. The Company shall cause the Trustee to keep a register for the registration and registration of transfers of Bonds in accordance with Article XIII, Section 9 of the Indenture.

Section 12.2. Transaction Expenses. Whether or not the transactions contemplated hereby are consummated, the Company will pay all reasonable costs and expenses (including reasonable attorneys' fees of a special counsel and, if reasonably required by the Required Holders, local or other counsel) incurred by the Purchasers and each other holder of a Bond in connection with such transactions and in connection with any amendments, waivers or consents under or in respect of any Financing Agreement (whether or not such amendment, waiver or consent becomes effective), including, without limitation: (a) the costs and expenses incurred in enforcing or defending (or determining whether or how to enforce or defend) any rights under any Financing Agreement or in responding to any subpoena or other legal process or informal investigative demand issued in connection with any Financing Agreement, or by reason of being a Purchaser or holder of any Bond, (b) the costs and expenses, including financial advisors' fees, incurred in connection with the insolvency or bankruptcy of the Company or any Subsidiary or in connection with any work-out or restructuring of the transactions contemplated by any Financing Agreement and (c) the costs and expenses incurred in connection with the initial filing of any Financing Agreement and all related documents and financial information with the SVO, provided that such costs and expenses under this clause (c) shall not exceed \$6,000 for the Bonds. The Company will pay, and will save each Purchaser and each other holder of a Bond harmless from, all claims in respect of any fees, costs or expenses if any, of brokers and finders (other than those, if any, retained by a Purchaser or other holder in connection with its purchase of the Bonds).

Section 12.3. Survival. The obligations of the Company under this **Section 12** will survive the payment or transfer of any Bond, the enforcement, amendment or waiver of any provision of any Financing Agreement, and the termination of any Financing Agreement.

Section 12.4. Tax Withholding. Except as otherwise required by applicable law, the Company agrees that it will not withhold from

any applicable payment to be made to a holder of a Bond that is not a United States Person any tax so long as such holder shall have delivered to the Company (in such number of copies as shall be requested) on or about the date on which such holder becomes a holder under this Agreement (and from time to time thereafter upon the reasonable request of the Company), executed copies of IRS Form W-8BEN or IRS Form W-8BEN-E, as applicable, as well as the applicable “U.S. Tax Compliance Certificate” substantially in the form attached as *Exhibit 12.4*, in both cases correctly completed and executed.

SECTION 13. SURVIVAL OF REPRESENTATIONS AND WARRANTIES; ENTIRE AGREEMENT.

All representations and warranties contained herein shall survive the execution and delivery of this Agreement, the purchase or transfer by any Purchaser of any Bond or portion thereof or interest therein and the payment of any Bond, and may be relied upon by any subsequent holder of a Bond, regardless of any investigation made at any time by or on behalf of such Purchaser or any other holder of a Bond. All statements contained in any certificate or other instrument delivered by or on behalf of the Company pursuant to this Agreement shall be deemed representations and warranties of the Company under this Agreement. Subject to the preceding sentence, the Financing Agreements embody the entire agreement and understanding between each Purchaser and the Company and supersede all prior agreements and understandings relating to the subject matter hereof.

SECTION 14. AMENDMENT AND WAIVER.

Section 14.1. Requirements. This Agreement and the Bonds may be amended, and the observance of any term hereof or of the Bonds may be waived (either retroactively or prospectively), with (and only with) the written consent of the Company and the Required Holders, except that (i) no amendment or waiver of any of the provisions of **Sections 1, 2, 3, 4, 5, 6, or 19** hereof, or any defined term, will be effective as to any holder of Bonds unless consented to by such holder of Bonds in writing, and (ii) no such amendment or waiver may, without the written consent of all of the holders of Bonds at the time outstanding affected thereby, (A) subject to the provisions of the Indenture relating to acceleration, change the amount or time of any prepayment or payment of principal of, or reduce the rate or change the time of payment or method of computation of interest (if such change results in a decrease in the interest rate) or of the Make-Whole Amount on, the Bonds, (B) change the percentage of the principal amount of the Bonds the holders of which are required to consent to any such amendment or waiver, or (C) amend any of **Sections 8, 14, or 18**.

Section 14.2. Solicitation of Holders of Bonds.

(a) *Solicitation.* The Company will provide each holder of Bonds (irrespective of the amount of Bonds then owned by it) with sufficient information, sufficiently far in advance of the date a decision is required, to enable such holder to make an informed and considered decision

with respect to any proposed amendment, waiver or consent in respect of any of the provisions hereof or of the Bonds. The Company will deliver executed or true and correct copies of each amendment, waiver or consent effected pursuant to the provisions of this **Section 14** to each Purchaser and each holder of outstanding Bonds promptly following the date on which it is executed and delivered by, or receives the consent or approval of, the requisite holders of Bonds.

(b) *Payment.* The Company will not directly or indirectly pay or cause to be paid any remuneration, whether by way of supplemental or additional interest, fee or otherwise (other than legal fees or other related expenses), or grant any security or provide other credit support, to any holder of Bonds as consideration for or as an inducement to the entering into by any holder of Bonds of any waiver or amendment of any of the terms and provisions hereof or of the Bonds unless such remuneration is concurrently paid, or security is concurrently granted or other credit support concurrently provided, on the same terms, ratably to each holder of Bonds then outstanding even if such holder did not consent to such waiver or amendment.

(c) *Consent in Contemplation of Transfer.* Any consent made pursuant to this **Section 14** by a holder of Bonds that has transferred or has agreed to transfer its Bonds to (i) the Company, (ii) any Subsidiary or any other Affiliate, or (iii) any other Person in connection with, or in anticipation of, such other Person acquiring, making a tender offer for or merging with the Company and/or any of its Affiliates, and has provided or has agreed to provide such written consent as a condition to such transfer shall be void and of no force or effect except solely as to such holder, and any amendments effected or waivers granted or to be effected or granted that would not have been or would not be so effected or granted but for such consent (and the consents of all other holders of Bonds that were acquired under the same or similar conditions) shall be void and of no force or effect except solely as to such holder.

Section 14.3. Binding Effect, Etc. Any amendment or waiver consented to as provided in this **Section 14** applies equally to all holders of Bonds and is binding upon them and upon each future holder of any Bond and upon the Company without regard to whether such Bond has been marked to indicate such amendment or waiver. No such amendment or waiver will extend to or affect any obligation, covenant, agreement, Default or Event of Default not expressly amended or waived or impair any right consequent thereon. No course of dealing between the Company and any holder of any Bond nor any delay in exercising any rights hereunder or under any Bond shall operate as a waiver of any rights of any holder of such Bond.

Section 14.4. Bonds Held by Company, Etc. Solely for the purpose of determining whether the holders of the requisite percentage of the aggregate principal amount of Bonds then outstanding approved or consented to any amendment, waiver or consent to be given under this Agreement or the Bonds, or have directed the taking of any action provided herein or in the Bonds to be taken upon the direction of the holders of a specified percentage of the aggregate principal amount of Bonds then outstanding, Bonds directly or indirectly owned by the Company or any of its Affiliates shall be deemed not to be outstanding.

SECTION 15. NOTICES.

All notices and communications provided for hereunder shall be in writing and sent (a) by telecopy if the sender on the same day sends a confirming copy of such notice by a recognized overnight delivery service (charges prepaid), or (b) by registered or certified mail with return receipt requested (postage prepaid), or (c) by a recognized overnight delivery service (with charges prepaid). Any such notice must be sent:

- (i) if to any Purchaser or its nominee, to such Purchaser or nominee at the address specified for such communications in *Schedule A*, or at such other address as such Purchaser or nominee shall have specified to the Company in writing,
- (ii) if to any other holder of any Bond, to such holder at such address as such other holder shall have specified to the Company in writing, or
- (iii) if to the Company, to the Company at its address set forth at the beginning hereof to the attention of 762 West Lancaster Avenue, Bryn Mawr, Pennsylvania 19010-3489, or at such other address as the Company shall have specified to the holder of each Bond in writing.

Notices under this **Section 15** will be deemed given only when actually received.

SECTION 16. INDEMNIFICATION.

The Company hereby agrees to indemnify and hold the Purchasers harmless from, against and in respect of any and all loss, liability and expense (including reasonable attorneys' fees) arising from any misrepresentation or nonfulfillment of any undertaking on the part of the Company under this Agreement. The indemnification obligations of the Company under this **Section 16** shall survive the execution and delivery of this Agreement, the delivery of the Bonds to the Purchasers and the consummation of the transactions contemplated herein.

SECTION 17. REPRODUCTION OF DOCUMENTS.

This Agreement and all documents relating thereto, including, without limitation, (a) consents, waivers and modifications that may hereafter be executed, (b) documents received by any Purchaser at the Closing (except the Bonds themselves), and (c) financial statements, certificates and other information previously or hereafter furnished to any Purchaser, may be reproduced by such Purchaser by any photographic, photostatic, electronic, digital, or other similar process and such Purchaser may destroy any original document so reproduced. The Company agrees and stipulates that, to the extent permitted by applicable law, any such reproduction shall be admissible in evidence as the original itself in any judicial or administrative proceeding (whether or not the original is in existence and whether or not such reproduction was made by such Purchaser in the regular course of business) and any enlargement, facsimile or further reproduction of such reproduction shall likewise be admissible in evidence. This **Section 17** shall not prohibit the Company or any other holder of Bonds from contesting any such reproduction to the same

extent that it could contest the original, or from introducing evidence to demonstrate the inaccuracy of any such reproduction.

SECTION 18. CONFIDENTIAL INFORMATION.

For the purposes of this **Section 18**, “*Confidential Information*” means information delivered to any Purchaser by or on behalf of the Company or any Subsidiary in connection with the transactions contemplated by or otherwise pursuant to this Agreement that is proprietary in nature and that was clearly marked or labeled or otherwise adequately identified when received by such Purchaser as being confidential information of the Company or such Subsidiary, provided that such term does not include information that (a) was publicly known or otherwise known to such Purchaser prior to the time of such disclosure, (b) subsequently becomes publicly known through no act or omission by such Purchaser or any person acting on such Purchaser’s behalf, (c) otherwise becomes known to such Purchaser other than through disclosure by the Company or any Subsidiary or (d) constitutes financial statements delivered to such Purchaser under **Section 7.1** of this Agreement or under the Indenture that are otherwise publicly available. Each Purchaser will maintain the confidentiality of such Confidential Information in accordance with procedures adopted by such Purchaser in good faith to protect confidential information of third parties delivered to such Purchaser, provided that such Purchaser may deliver or disclose Confidential Information to (i) its directors, trustees, officers, employees, agents, attorneys and affiliates (to the extent such disclosure reasonably relates to the administration of the investment represented by Bonds), (ii) its financial advisors and other professional advisors who agree to hold confidential the Confidential Information substantially in accordance with the terms of this **Section 18**, (iii) the Trustee or any other holder of any Bond, (iv) any Institutional Investor to which it sells or offers to sell such Bond or any part thereof or any participation therein (if such Person has agreed in writing prior to its receipt of such Confidential Information to be bound by the provisions of this **Section 18**), (v) any Person from which it offers to purchase any security of the Company (if such Person has agreed in writing prior to its receipt of such Confidential Information to be bound by the provisions of this **Section 18**), (vi) any federal or state or provincial regulatory authority having jurisdiction over such Purchaser, (vii) the NAIC or the SVO or, in each case, any similar organization, or any nationally recognized rating agency that requires access to information about such Purchaser’s investment portfolio, or (viii) any other Person to which such delivery or disclosure may be necessary or appropriate (w) to effect compliance with any law, rule, regulation or order applicable to such Purchaser, (x) in response to any subpoena or other legal process, (y) in connection with any litigation to which such Purchaser is a party, or (z) if an Event of Default has occurred and is continuing, to the extent such Purchaser may reasonably determine such delivery and disclosure to be necessary or appropriate in the enforcement or for the protection of the rights and remedies under any Financing Agreement. Each holder of a Bond, by its acceptance of a Bond, will be deemed to have agreed to be bound by and to be entitled to the benefits of this **Section 18** as though it were a party to this Agreement. On reasonable request by the Company in connection with the delivery to any holder of a Bond of information required to be delivered to such holder under this Agreement or requested by such holder (other than a holder that is a party to this Agreement or its nominee), such holder will enter into an agreement with the Company embodying the provisions of this **Section 18**.

In the event that as a condition to receiving access to information relating to the Company or its Subsidiaries in connection with the transactions contemplated by or otherwise pursuant to this Agreement, any Purchaser or holder of a Bond is required to agree to a confidentiality undertaking (whether through EMMA, another secure website, a secure virtual workspace or otherwise) which is different from this **Section 18**, this **Section 18** shall not be amended thereby and, as between such Purchaser or such holder and the Company, this **Section 18** shall supersede any such other confidentiality undertaking.

SECTION 19. MISCELLANEOUS.

Section 19.1. Successors and Assigns. All covenants and other agreements contained in this Agreement by or on behalf of any of the parties hereto bind and inure to the benefit of their respective successors and assigns (including, without limitation, any subsequent holder of a Bond) whether so expressed or not, except that, subject to **Section 10.2**, the Company may not assign or otherwise transfer any of its rights or obligations hereunder or under the Bonds without the prior written consent of each holder. Nothing in this Agreement, expressed or implied, shall be construed to confer upon any Person (other than the parties hereto and their respective successors and assigns permitted hereby) any legal or equitable right, remedy or claim under or by reason of this Agreement.

Section 19.2. Accounting Terms. All accounting terms used herein which are not expressly defined in this Agreement have the meanings respectively given to them in accordance with GAAP. Except as otherwise specifically provided herein, (a) all computations made pursuant to this Agreement shall be made in accordance with GAAP, and (b) all financial statements shall be prepared in accordance with GAAP. For purposes of determining compliance with the financial covenants contained in the Financing Agreements, if any, any election by the Company to measure Debt using fair value (as permitted by Financial Accounting Standards Board Accounting Standards Codification Topic No. 825-10-25 – *Fair Value Option*, International Accounting Standard 39 – *Financial Instruments: Recognition and Measurement* or any similar accounting standard) shall be disregarded and such determination shall be made as if such election had not been made and such Debt shall be valued at not less than 100% of the principal amount thereof.

Section 19.3. Severability. Any provision of this Agreement that is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof, and any such prohibition or unenforceability in any jurisdiction shall (to the full extent permitted by law) not invalidate or render unenforceable such provision in any other jurisdiction.

Section 19.4. Construction, Etc. Each covenant contained herein shall be construed (absent express provision to the contrary) as being independent of each other covenant contained herein, so that compliance with any one covenant shall not (absent such an express contrary provision) be deemed to excuse compliance with any other covenant. Where any provision herein refers to action to be taken by any Person, or which

such Person is prohibited from taking, such provision shall be applicable whether such action is taken directly or indirectly by such Person.

For the avoidance of doubt, all Schedules and Exhibits attached to this Agreement shall be deemed to be a part hereof.

Section 19.5. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be an original but all of which together shall constitute one instrument. Each counterpart may consist of a number of copies hereof, each signed by less than all, but together signed by all, of the parties hereto.

Section 19.6. Governing Law. This Agreement shall be construed and enforced in accordance with, and the rights of the parties shall be governed by, the law of the Commonwealth of Pennsylvania excluding choice-of-law principles of the law of such State that would permit the application of the laws of a jurisdiction other than such State.

Section 19.7. Jurisdiction and Process; Waiver of Jury Trial. (a) The Company irrevocably submits to the non-exclusive jurisdiction of any Pennsylvania State or federal court sitting in Philadelphia, Pennsylvania, over any suit, action or proceeding arising out of or relating to this Agreement or the Bonds. To the fullest extent permitted by applicable law, the Company irrevocably waives and agrees not to assert, by way of motion, as a defense or otherwise, any claim that it is not subject to the jurisdiction of any such court, any objection that it may now or hereafter have to the laying of the venue of any such suit, action or proceeding brought in any such court and any claim that any such suit, action or proceeding brought in any such court has been brought in an inconvenient forum.

(b) The Company consents to process being served by or on behalf of any holder of Bonds in any suit, action or proceeding of the nature referred to in **Section 19.7(a)** by mailing a copy thereof by registered or certified mail (or any substantially similar form of mail), postage prepaid, return receipt requested, to it at its address specified in **Section 15** or at such other address of which such holder shall then have been notified pursuant to said Section. The Company agrees that such service upon receipt (i) shall be deemed in every respect effective service of process upon it in any such suit, action or proceeding and (ii) shall, to the fullest extent permitted by applicable law, be taken and held to be valid personal service upon and personal delivery to it. Notices hereunder shall be conclusively presumed received as evidenced by a delivery receipt furnished by the United States Postal Service or any reputable commercial delivery service.

(c) Nothing in this **Section 19.7** shall affect the right of any holder of a Bond to serve process in any manner permitted by law, or limit any right that the holders of any of the Bonds may have to bring proceedings against the Company in the courts of any appropriate jurisdiction or to enforce in any lawful manner a judgment obtained in one jurisdiction in any other jurisdiction.

(d) The parties hereto hereby waive trial by jury in any action brought on or with respect to this Agreement, the Bonds or any other document executed in connection herewith or therewith.

Section 19.8. Payments Due on Non-Business Days. Anything in this Agreement or the Bonds to the contrary notwithstanding, any payment of principal of or Make-Whole Amount or interest on any Bond that is due on a date other than a Business Day shall be made on the next succeeding Business Day without including the additional days elapsed in the computation of the interest payable on such next succeeding Business Day; provided that if the maturity date of any Bond is a date other than a Business Day, the payment otherwise due on such maturity date shall be made on the next succeeding Business Day and shall include the additional days elapsed in the computation of interest payable on such next succeeding Business Day.

* * * * *

If you are in agreement with the foregoing, please sign the form of agreement on a counterpart of this Bond Purchase Agreement and return it to the Company, whereupon this Agreement shall become a binding agreement between you and the Company.

Very truly yours,

AQUA PENNSYLVANIA, INC.

By /s/ Stanley F. Szczygiel
Name: Stanley F. Szczygiel
Its: VP Finance and Treasurer

Accepted as of the date first written above.

METLIFE INSURANCE K.K

By /s/ John Tanyeri
Name: John Tanyeri
Its: Authorized Signatory by MetLife
Investment Management, LLC, Its
Investment Manager

Accepted as of the date first written above.

METROPOLITAN LIFE INSURANCE
COMPANY

By /s/ John Tanyeri
Name: John Tanyeri
Its: Authorized Signatory by MetLife
Investment Management, LLC, Its
Investment Manager

Accepted as of the date first written above.

THE OHIO NATIONAL LIFE
INSURANCE COMPANY

By /s/ Annette M. Teders
Name: Annette M. Teders
Its: Vice President

Accepted as of the date first written above.

OHIO NATIONAL LIFE ASSURANCE
CORPORATION

By /s/ Annette M. Teders
Name: Annette M. Teders
Its: Vice President

Accepted as of the date first written above.

NATIONAL GUARDIAN LIFE
INSURANCE COMPANY

By /s/ Robert A. Mucci
Name: Robert A. Mucci
Its: Executive Vice President &
Treasurer

Accepted as of the date first written above.

COUNTRY LIFE INSURANCE
COMPANY

By /s/ John A. Jacobs
Name: John A. Jacobs
Its: Director – Fixed Income

HORIZON BLUE CROSS BLUE SHIELD
OF NEW JERSEY

By /s/ Amy Judd
Name: Amy Judd
Its: Sr. Vice President of Alliance
Bernstein, LP, Its Investment
Advisor

Accepted as of the date first written above.

FARM BUREAU LIFE INSURANCE
COMPANY

By /s/ Herman L. Riva
Name: Herman L. Riva
Its: Securities Vice President

INFORMATION RELATING TO PURCHASERS

NAME OF AND ADDRESS OF PURCHASER	SERIES OF BONDS	PRINCIPAL AMOUNT OF BONDS TO BE PURCHASED
METLIFE	2052	\$38,750,000
INSURANCE K.K.	2053	\$21,250,000
1-3, Kioicho, Chiyoda-ku Tokyo, 102-8525 JAPAN		

(Securities to be registered in the name of **MetLife Insurance K.K.**)

(1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

Beneficiary Bank:	The HongKong and Shanghai Banking Corporation Ltd
Beneficiary Bank BIC:	HSBCHKHHGCC
Beneficiary Account No.:	741-243737-201
Beneficiary Name:	MetLife Insurance K.K.
Intermediary Bank:	HSBC BANK USA NA
Intermediary Bank BIC:	MRMDUS33
Beneficiary Bank Account No.:	000044415
Additional Information:	Fedwire No.: 021001088 CHIPS No:0108
Ref: PPN - AQUA PENNSYLVANIA INC,	3.390% Due 01-JAN-2052
PPN - AQUA PENNSYLVANIA INC,	3.410% Due 01-JAN-2053

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise. For all payments other than scheduled payments of principal and interest, the Company shall seek instructions from the holder, and in the absence of instructions to the contrary, will make such payments to the account and in the manner set forth above.

(2) All notices and communications:

MetLife Asset Management Corp. (Japan)
Administration Department
Tokyo Garden Terrace Kioicho Kioi Tower 25F
1-3, Kioicho, Chiyoda-ku, Tokyo 102-8525 Japan
Attention: Administration Dept. Manager
Email: saura@metlife.co.jp

SCHEDULE A
(to Bond Purchase Agreement)

With a copy to:

MetLife Insurance K.K.

c/o MetLife Investment Management, LLC

Investments, Private Placements

One MetLife Way

Whippany, New Jersey 07981

Attention: Filipe Cunha, AVP Private Placements; Ramanpreet Kaur, Associate - Project Finance

Emails: PPUCompliance@metlife.com; fcunha@metlife.com, rkaur26@metlife.com

and OpsPvtPlacements@metlife.com

With another copy OTHER than with respect to deliveries of financial statements to:

MetLife Insurance K.K., c/o MetLife Investment Management, LLC, Investments Law

One MetLife Way, Whippany, New Jersey 07981

Attention: Chief Counsel-Investments Law (PRIV)

Email: sec_invest_law@metlife.com

(3) Original bonds delivered to:

MetLife Insurance K.K., c/o MetLife Investment Management, LLC, Investments Law

One MetLife Way, Whippany, New Jersey 07981

Attention: Steve Traynor, Corporate Counsel

(4) Taxpayer I.D. Number: 98-1037269 (USA) and 00661996 (Japan)

(5) Tax Jurisdiction: Japan

(6) UK Passport Treaty Number (if applicable): 43/M/359828/DTTP

Audit Requests: Soft copy to **AuditConfirms.PvtPlacements@metlife.com** or hard copy to: Metropolitan Life Insurance Company, Attn: Private Placements Operations (ATTN: Audit Confirmations), 18210 Crane Nest Drive – 5th Floor, Tampa, FL 33647

NAME OF AND ADDRESS OF PURCHASER	SERIES OF BONDS	PRINCIPAL AMOUNT OF BONDS TO BE PURCHASED
METROPOLITAN LIFE INSURANCE COMPANY	2052	\$18,250,000
200 Park Avenue	2053	\$8,750,000
New York, New York 10166		

(Securities to be registered in the name of **Metropolitan Life Insurance Company**)

- (1) All scheduled payments of principal and interest by wire transfer of immediately available funds to:

Bank Name: JPMorgan Chase Bank
ABA Routing #: 021-000-021
Account No.: 002-2-410591
Account Name: Metropolitan Life Insurance Company
Ref: PPN - AQUA PENNSYLVANIA INC, 3.390% Due 01-JAN-2052
PPN - AQUA PENNSYLVANIA INC, 3.410% Due 01-JAN-2053

with sufficient information to identify the source and application of such funds, including issuer, PPN#, interest rate, maturity and whether payment is of principal, interest, make whole amount or otherwise.

For all payments other than scheduled payments of principal and interest, the Company shall seek instructions from the holder, and in the absence of instructions to the contrary, will make such payments to the account and in the manner set forth above.

- (2) All notices and communications:

Metropolitan Life Insurance Company
c/o MetLife Investment Management, LLC
Investments, Private Placements
One MetLife Way
Whippany, New Jersey 07981
Attention: Filipe Cunha, AVP Private Placements; Ramanpreet Kaur, Associate - Project Finance_
Emails: PPUCompliance@metlife.com; fcunha@metlife.com, rkaur26@metlife.com
and OpsPvtPlacements@metlife.com

With a copy OTHER than with respect to deliveries of financial statements to:

Metropolitan Life Insurance Company
c/o MetLife Investment Management, LLC, Investments Law
One MetLife Way
Whippany, New Jersey 07981
Attention: Chief Counsel-Investments Law (PRIV)
Email: sec_invest_law@metlife.com

(3) Original bonds delivered to:

Metropolitan Life Insurance Company
c/o MetLife Investment Management, LLC, Investments Law
One MetLife Way
Whippany, New Jersey 07981
Attention: Steve Traynor, Corporate Counsel

(4) Taxpayer I.D. Number: 13-5581829

(5) Tax Jurisdiction: United States/New York

(6) UK Passport Treaty Number (if applicable): 13/M/61303/DTTP

Audit Requests: Soft copy to **AuditConfirms.PvtPlacements@metlife.com** or hard copy to: Metropolitan Life Insurance Company, Attn: Private Placements Operations (ATTN: Audit Confirmations), 18210 Crane Nest Drive – 5th Floor, Tampa, FL 33647

NAME OF AND ADDRESS OF PURCHASER	SERIES OF BONDS	PRINCIPAL AMOUNT OF BONDS TO BE PURCHASED
THE OHIO NATIONAL LIFE INSURANCE COMPANY	2053	\$8,000,000

[See attached]

THE OHIO NATIONAL LIFE INSURANCE COMPANY

One Financial Way
Cincinnati, OH 45242
Attention: Investment Department

Address for payments on account of the Notes:

By bank wire transfer of Federal or
other immediately available funds
(identifying each payment as to issuer,
security (including interest rate and maturity date), and principal
or interest) to:

U.S. Bank N.A.
5th & Walnut Streets
Cincinnati, OH 45202

ABA #042-000013

SWIFT Code/BIC: USBKUS44MT

For credit to The Ohio National Life
Insurance Company's Account No. 910-275-7

All notices and communications, including
notices with respect to payments and written
confirmation of each such payment, to be
addressed:

THE OHIO NATIONAL LIFE INSURANCE COMPANY

One Financial Way
Cincinnati, OH 45242
Attention: Investment Department
With a copy to:
privateplacements@ohionational.com

Tax identification No.: 31-0397080

Fax number: 513-794-4506

Original notes to be delivered to:

THE OHIO NATIONAL LIFE INSURANCE COMPANY

One Financial Way
Cincinnati, OH 45242
Attention: Investment Department

NAME OF AND ADDRESS OF PURCHASER	SERIES OF BONDS	PRINCIPAL AMOUNT OF BONDS TO BE PURCHASED
OHIO NATIONAL LIFE ASSURANCE CORPORATION	2053	\$2,000,000

[See attached]

OHIO NATIONAL LIFE ASSURANCE CORPORATION

One Financial Way
Cincinnati, OH 45242
Attention: Investment Department

Address for payments on account of the Notes:

By bank wire transfer of Federal or
other immediately available funds
(identifying each payment as to issuer,
security, and principal or interest) to:

U.S. Bank N.A.
5th & Walnut Streets
Cincinnati, OH 45202

ABA #042-000013

SWIFT Code/BIC: USBKUS44MT

For credit to Ohio National Life
Assurance Corporation's Account No. 865-215-8

All notices and communications, including
notices with respect to payments and written
confirmation of each such payment, to be
addressed:

OHIO NATIONAL LIFE ASSURANCE CORPORATION

One Financial Way
Cincinnati, OH 45242
Attn: Investment Department
With a copy to:

privateplacements@ohionational.com

Tax identification No.: 31-0962495

Fax number: 513-794-4506

Original notes to be delivered to:

OHIO NATIONAL LIFE ASSURANCE CORPORATION

One Financial Way
Cincinnati, OH 45242
Attention: Investment Department

NAME OF AND ADDRESS OF PURCHASER	SERIES OF BONDS	PRINCIPAL AMOUNT OF BONDS TO BE PURCHASED
NATIONAL GUARDIAN LIFE	2052	\$5,000,000
INSURANCE COMPANY	2053	\$5,000,000

[See attached]

**NATIONAL GUARDIAN LIFE INSURANCE COMPANY
PRIVATE PLACEMENT INFORMATION**

- All payments on account of Notes held by such purchasers shall be made by wire transfer of immediately available funds to:
US BANK MADISON
PO BOX 7900
MADISON WI 53707
ABA No. 075000022
For credit to: National Guardian Life Insurance Company
Account No. 312 335 010

Each such wire transfer shall set forth the name of the Company, the full title (including the applicable coupon rate and final maturity date) of the Notes, a reference to PPN No. and the due date and application (as among principal, premium and interest) of the payment being made.

- Address for all notices relating to payments, notices and other communications:
ATTN: INVESTMENT DEPT
NATIONAL GUARDIAN LIFE INSURANCE COMPANY
TWO E GILMAN ST
MADISON WI 53703
- Tax Identification No.: 39-049-3780
- Primary Operations & Credit Contact:
Robert A. Mucci, CFA
Executive Vice President & Treasurer
Phone: (608) 443-5258
E-FAX: (608) 443-5158
Email: ramucci@nglic.com
- Secondary Operations & Intralinks Contact:
Robert B. Bodett, CFA
Second Vice President - Investment Officer
Phone: (608) 443-5252
E-FAX: (608) 443-5152
Email: rbodett@nglic.com
- We will need one (1) copy of the Loan Agreement and one (1) composite conformed copy.
- Send the final notes and closing documents to:
ROBERT A. MUCCI
EXECUTIVE VICE PRESIDENT & TREASURER
NATIONAL GUARDIAN LIFE INSURANCE COMPANY
TWO E. GILMAN ST
MADISON WI 53703

NAME OF AND ADDRESS OF PURCHASER	SERIES OF BONDS	PRINCIPAL AMOUNT OF BONDS TO BE PURCHASED
COUNTRY LIFE INSURANCE COMPANY	2052	\$5,000,000
	2053	\$5,000,000

Purchaser Name	COUNTRY LIFE INSURANCE COMPANY
Name in Which Bond is Registered	COUNTRY LIFE INSURANCE COMPANY
Principal Amount	
Payment on Account of Bond Method	Federal Funds Wire Transfer
Account Information	Northern Trust Chgo/Trust ABA Number 071000152 Wire Account Number 5186041000 SWIFT BIC: CNORUS44 For Further Credit to: 26-02712 Account Name: Country Life Insurance Company
Accompanying Information	Name of Company: Description of Security: PPN: Due date and application (as among principal, premium and interest) of the payment being made:
Address/Fax for Notices Related to Payments	Country Life Insurance Company Attention: Investment Accounting 1705 N Towanda Avenue Bloomington, IL 61702 Tel: (309) 821-6348 Fax: (309) 821-2800
Address/Fax for All Other Notices	Country Life Insurance Company Attention: Investments 1705 N Towanda Avenue Bloomington, IL 61702 Tel: (309) 821-6260 Fax: (309) 821-6301 PrivatePlacements@countryfinancial.com

Purchaser Name	COUNTRY LIFE INSURANCE COMPANY
Instructions re: Delivery of Bonds	The Northern Trust Company Trade Securities Processing C1N 801 South Canal Street Attn: 26-02712/Country Life Insurance Company Chicago, IL 60607 Include Acct # and Name in cover letter as well.
Tax Identification Number	37-0808781

NAME OF AND ADDRESS OF PURCHASER	SERIES OF BONDS	PRINCIPAL AMOUNT OF BONDS TO BE PURCHASED
HORIZON BLUE CROSS BLUE SHIELD OF NEW JERSEY	2052	\$5,000,000

IRS Employer Identification Number: 22-0999690

Direct Private Placement purchases bonds issued in the name of Cudd & Co, LLC:

Bond Delivery Instructions

AllianceBernstein LP
1345 Avenue of the Americas
37th Floor
New York, New York 10105
Attention: Angel Salazar
Telephone Number: 212-969-2491

Manner of Payments and Notices:

All payments shall be made by wire transfer of immediately available funds to:

JP Morgan / Chase
ABA No.: 021-000021
For Credit to the Private Income Processing Group
Account Number: 900-9000-200
Account: Horizon Blue Cross and Blue Shield of New Jersey-P60748

Each such wire shall show the name of the Company, the Private Placement Number, the due date of the payment being made and, if such payment is a final payment.

Notices of Payments and Written Confirmations:

All notices of payments and written confirmations of wire transfers should be sent to:

JP Morgan Chase Manhattan Bank
14201 N. Dallas Parkway
13th Floor
Dallas, Texas 75254-2917
Fax: 469-477-1904

Second Copy of Payments and Written Confirmations:

Horizon Blue Cross and Blue Shield of New Jersey
c/o AllianceBernstein LP
1345 Avenue of the Americas
37th Floor
New York, NY 10105
Attention: Angel Salazar/ Mei Wong / Shiean Mercado
Telephone #: 212 -969-2491 / 212-969-2112 / 212-823-3228
Email: angel.salazar@alliancebernstein.com
mei.wong@alliancebernstein.com
shiean.mercado@alliancebernstein

Third Copy of Payments and Written Confirmations:

Horizon Blue Cross and Blue Shield of New Jersey
Three Penn Plaza
PP-15K
Newark, NJ 07105-2200
Attention: Susan McCarthy-Manager Cash & Investments
Telephone: 973-466-8568 / 973-466-4375
Fax: 973-466-8461

Address for all other Communications:

Horizon Blue Cross and Blue Shield of New Jersey
c/o AllianceBernstein LP
1345 Avenue of the Americas
38th Floor
New York, NY 10105
Attention: Richard Federico
Telephone: 212-969-2349
Email: richard.federico@alliancebernstein.com
Group Email: ABPPCompliance@alliancebernstein.com

NAME OF AND ADDRESS OF PURCHASER	SERIES OF BONDS	PRINCIPAL AMOUNT OF BONDS TO BE PURCHASED
FARM BUREAU LIFE INSURANCE COMPANY	2052	\$3,000,000

[See attached]

A-15



Wire Instructions for Farm Bureau Life Insurance Company

Purchaser Name:	Farm Bureau Life Insurance Company
Nominee Name:	Gerlach & Co.
Register Note(s) to:	Gerlach & Co. F/B/O Farm Bureau Life Insurance Company
Payment on account of Note:	
Method	Federal Funds Wire Transfer
Wiring Instructions	<p>Citibank NA ABA number: 021 000 089 Concentration A/C#: 36858201 FFC Account #: 250493 Account Name: Farm Bureau Life Insurance Company Citi's SWIFT address: CITIUS33</p> <p>Reference: Please reference the Name of Company, Description of Security, PPN, Due Date and Application (as among principal, make-whole and interest) of the payment being made.</p>
Address for all Notices, including Financials, Compliance, and Requests:	<p>PREFERRED REMITTANCE: privateplacements@fblfinancial.com</p> <p>Farm Bureau Life Insurance Company Attn: Portfolio Management 5400 University Ave West Des Moines, IA 50266</p>
Instructions for delivery of Note(s):	<p>Citibank NA Attn: Keith Whyte 399 Park Ave Level B Vault New York, NY 10022 A/C Number: 250493</p>
Tax Identification Number(s):	<p>42-0623913 (Farm Bureau Life Insurance Company) 13-6021155 (Gerlach & Co.)</p>

Revised 6/2019 – Adrien Erickson

DEFINED TERMS

As used herein, the following terms have the respective meanings set forth below or set forth in the Section hereof following such term:

“3.39% Series due 2052 Bonds” is defined in **Section 1**.

“3.41% Series due 2053 Bonds” is defined in **Section 1**.

“*Affiliate*” means, at any time, and with respect to any Person, any other Person that at such time directly or indirectly through one or more intermediaries Controls, or is Controlled by, or is under common Control with, such first Person. As used in this definition, “*Control*” means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of a Person, whether through the ownership of voting securities, by contract or otherwise. Unless the context otherwise clearly requires, any reference to an “*Affiliate*” is a reference to an Affiliate of the Company.

“*Agreement*” means this Bond Purchase Agreement, including all Schedules and Exhibits attached to this Agreement.

“*Anti-Corruption Laws*” means any law or regulation in a U.S. or any non-U.S. jurisdiction regarding bribery or any other corrupt activity, including the U.S. Foreign Corrupt Practices Act and the U.K. Bribery Act 2010.

“*Anti-Money Laundering Laws*” means any law or regulation in a U.S. or any non-U.S. jurisdiction regarding money laundering, drug trafficking, terrorist-related activities or other money laundering predicate crimes, including the Currency and Foreign Transactions Reporting Act of 1970 (otherwise known as the Bank Secrecy Act) and the USA Patriot Act.

“*Blocked Person*” means (a) a Person whose name appears on the list of Specially Designated Nationals and Blocked Persons published by OFAC, (b) a Person, entity, organization, country or regime that is blocked or a target of sanctions that have been imposed under U.S. Economic Sanctions Laws, or (c) a Person that is an agent, department or instrumentality of, or is otherwise beneficially owned by, controlled by or acting on behalf of, directly or indirectly, any Person, entity, organization, country or regime described in **clause (a) or (b)**.

“*Bonds*” is defined in **Section 1**.

“*Business Day*” means for the purposes of any provision of this Agreement, any day other than a Saturday, a Sunday or a day on which commercial banks in New York, New York or Philadelphia, Pennsylvania are required or authorized to be closed.

“*Capital Lease*” means, at any time, a lease with respect to which the lessee is required concurrently to recognize the acquisition of an asset and the incurrence of a liability in accordance with GAAP.

SCHEDULE B (to Bond Purchase Agreement)

“*Capital Lease Obligation*” means, with respect to any Person and a Capital Lease, the amount of the obligation of such Person as the lessee under such Capital Lease which would, in accordance with GAAP, appear as a liability on a balance sheet of such Person.

“*Closing*” is defined in **Section 3**.

“*Code*” means the Internal Revenue Code of 1986, as amended from time to time, and the rules and regulations promulgated thereunder from time to time.

“*Company*” means Aqua Pennsylvania, Inc., a corporation existing under the laws of the Commonwealth of Pennsylvania.

“*Controlled Entity*” means any of the Subsidiaries of the Company and any of their or the Company’s respective Controlled Affiliates. As used in this definition, “*Control*” means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of a Person, whether through the ownership of voting securities, by contract or otherwise.

“*Debt*” means, with respect to any Person, without duplication,

- (a) its liabilities for borrowed money;
- (b) its liabilities for the deferred purchase price of property acquired by such Person (excluding accounts payable and other accrued liabilities arising in the ordinary course of business but including, without limitation, all liabilities created or arising under any conditional sale or other title retention agreement with respect to any such property);
- (c) its Capital Lease Obligations;
- (d) all liabilities for borrowed money secured by any Lien with respect to any property owned by such Person (whether or not it has assumed or otherwise become liable for such liabilities);
- (e) all non-contingent liabilities in respect of reimbursement agreements or similar agreements in respect of letters of credit or instruments serving a similar function issued or accepted for its account by banks and other financial institutions;
- (f) Swaps of such Person; and
- (g) Guaranties of such Person with respect to liabilities of a type described in any of clauses (a) through (f) hereof.

Debt of any Person shall include all obligations of such Person of the character described in clauses (a) through (g) to the extent such Person remains legally liable in respect thereof notwithstanding that any such obligation is deemed to be extinguished under GAAP.

“*Default*” means an event or condition the occurrence or existence of which would, with the lapse of time or the giving of notice or both, become an Event of Default.

“*Disclosure Documents*” is defined in **Section 5.3**.

“*EMMA*” is defined in **Section 7.1(a)**.

“*Environmental Laws*” means any and all Federal, state, local, and foreign statutes, laws, regulations, ordinances, rules, judgments, orders, decrees, permits, concessions, grants, franchises, licenses, agreements or governmental restrictions relating to pollution and the protection of the environment or the release of any materials into the environment, including but not limited to those related to Hazardous Materials.

“*ERISA*” means the Employee Retirement Income Security Act of 1974, as amended from time to time, and the rules and regulations promulgated thereunder from time to time in effect.

“*ERISA Affiliate*” means any trade or business (whether or not incorporated) that is treated as a single employer together with the Company under section 414 of the Code.

“*Event of Default*” is an “event of default” as defined in the Indenture.

“*Financing Agreements*” means this Agreement, the Indenture (including without limitation the Supplement), and the Bonds.

“*GAAP*” means generally accepted accounting principles as in effect from time to time in the United States of America.

“*Governmental Authority*” means:

- (a) the government of
 - (i) the United States of America or any State or other political subdivision thereof, or
 - (ii) any other jurisdiction in which the Company or any Subsidiary conducts all or any part of its business, or which asserts jurisdiction over any properties of the Company or any Subsidiary, or
- (b) any entity exercising executive, legislative, judicial, regulatory or administrative functions of, or pertaining to, any such government.

“*Governmental Official*” means any governmental official or employee, employee of any government-owned or government-controlled entity, political party, any official of a political party, candidate for political office, official of any public international organization or anyone else acting in an official capacity.

“*Guaranty*” means, with respect to any Person, any obligation (except the endorsement in the ordinary course of business of negotiable instruments for deposit or collection) of such Person guaranteeing or in effect guaranteeing any Debt, dividend or other obligation of any other Person in any manner, whether directly or indirectly, including (without limitation) obligations incurred through an agreement, contingent or otherwise, by such Person:

(a) to purchase such Debt or obligation or any property constituting security therefor primarily for the purpose of assuring the owner of such Debt or obligation of the ability of any other Person to make payment of the Debt or obligation;

(b) to advance or supply funds (i) for the purchase or payment of such Debt or obligation, or (ii) to maintain any working capital or other balance sheet condition or any income statement condition of any other Person or otherwise to advance or make available funds for the purchase or payment of such Debt or obligation;

(c) to lease properties or to purchase properties or services primarily for the purpose of assuring the owner of such Debt or obligation of the ability of any other Person to make payment of the Debt or obligation; or

(d) otherwise to assure the owner of such Debt or obligation against loss in respect thereof.

In any computation of the Debt or other liabilities of the obligor under any Guaranty, the Debt or other obligations that are the subject of such Guaranty shall be assumed to be direct obligations of such obligor, *provided* that the amount of such Debt outstanding for purposes of this Agreement shall not exceed the maximum amount of Debt that is the subject of such Guaranty.

“*Hazardous Material*” means any and all pollutants, toxic or hazardous wastes or other substances that might pose a hazard to health and safety, the removal of which may be required or the generation, manufacture, refining, production, processing, treatment, storage, handling, transportation, transfer, use, disposal, release, discharge, spillage, seepage or filtration of which is or shall be restricted, prohibited or penalized by any applicable law including, but not limited to, asbestos, urea formaldehyde foam insulation, polychlorinated biphenyls, petroleum, petroleum products, lead based paint, radon gas or similar restricted, prohibited or penalized substances.

“*holder*” is defined in the Indenture.

“*Indenture*” is defined in **Section 1**.

“*Institutional Investor*” means (a) any Purchaser of a Bond, (b) any holder of a Bond holding (together with one or more of its affiliates) more than 5% of the aggregate principal amount of the Bonds then outstanding, (c) any bank, trust company, savings and loan association or other financial institution, any pension plan, any investment company, any insurance company, any broker or dealer, or any other similar financial institution or entity, regardless of legal form, and (d) any Related Fund of any holder of any Bond.

“*Lien*” means, with respect to any Person, any mortgage, lien, pledge, charge, security interest or other encumbrance, or any interest or title of any vendor, lessor, lender or other secured party to or of such Person under any conditional sale or other title retention agreement or Capital Lease, upon or with respect to any property or asset of such Person (including in the case of stock, stockholder agreements, voting trust agreements and all similar arrangements).

“*Make-Whole Amount*” is defined in the Supplement.

“*Material*” means material in relation to the business, operations, affairs, financial condition, assets or properties of the Company and its Subsidiaries taken as a whole.

“*Material Adverse Effect*” means a material adverse effect on (a) the business, operations, affairs, financial condition, assets or properties of the Company and its Subsidiaries taken as a whole, (b) the ability of the Company to perform its obligations under this Agreement, the Bonds or the Indenture, or (c) the validity or enforceability of any Financing Agreement.

“*Multiemployer Plan*” means any Plan that is a “*multiemployer plan*” (as such term is defined in section 4001(a)(3) of ERISA).

“*NAIC*” means the National Association of Insurance Commissioners or any successor thereto.

“*Non-U.S. Plan*” means any plan, fund or other similar program that (a) is established or maintained outside the United States of America by the Company or any Subsidiary primarily for the benefit of employees of the Company or one or more Subsidiaries residing outside the United States of America, which plan, fund or other similar program provides, or results in, retirement income, a deferral of income in contemplation of retirement or payments to be made upon termination of employment, and (b) is not subject to ERISA or the Code.

“*OFAC*” means the Office of Foreign Assets Control of the United States Department of the Treasury.

“*OFAC Sanctions Program*” means any economic or trade sanction that OFAC is responsible for administering and enforcing. A list of OFAC Sanctions Programs may be found at <http://www.treasury.gov/resource-center/sanctions/Programs/Pages/Programs.aspx>.

“*Officer’s Certificate*” means a certificate of a Senior Financial Officer or of any other officer of the Company whose responsibilities extend to the subject matter of such certificate.

“*Original Indenture*” is defined in **Section 1**.

“*PBGC*” means the Pension Benefit Guaranty Corporation referred to and defined in ERISA or any successor thereto.

“*Permitted Liens*” shall have the meaning assigned to such term in the Indenture.

“*Person*” means an individual, partnership, corporation, limited liability company, association, trust, unincorporated organization, business entity or Governmental Authority.

“*Plan*” means an “*employee benefit plan*” (as defined in section 3(2) of ERISA) subject to Title I of ERISA that is or, within the preceding five years, has been established or maintained, or to which contributions are or, within the preceding five years, have been made or required to be made, by the Company or any ERISA Affiliate or with respect to which the Company or any ERISA Affiliate may have any liability.

“*property*” or “*properties*” means, unless otherwise specifically limited, real or personal property of any kind, tangible or intangible, choate or inchoate.

“*PTE*” is defined in **Section 6.2(a)**.

“*Purchaser*” is defined in the first paragraph of this Agreement.

“*Related Fund*” means, with respect to any holder of any Bond, any fund or entity that (i) invests in Securities or bank loans, and (ii) is advised or managed by such holder, the same investment advisor as such holder or by an affiliate of such holder or such investment advisor.

“*Required Holders*” means the holders of at least 51% in principal amount of the Bonds at the time outstanding (exclusive of Bonds then owned by the Company or any of its Affiliates).

“*Responsible Officer*” means any Senior Financial Officer and any other officer of the Company with responsibility for the administration of the relevant portion of this Agreement.

“*SEC*” means the Securities and Exchange Commission of the United States, or any successor thereto.

“*Securities*” or “*Security*” shall have the meaning specified in section 2(a)(1) of the Securities Act.

“*Securities Act*” means the Securities Act of 1933, as amended from time to time, and the rules and regulations promulgated thereunder from time to time in effect.

“*Senior Financial Officer*” means the chief financial officer, principal accounting officer, treasurer or comptroller of the Company.

“*Source*” is defined in **Section 6.2**.

“*State Sanctions List*” means a list that is adopted by any state Governmental Authority within the United States of America pertaining to Persons that engage in investment or other commercial activities in Iran or any other country that is a target of economic sanctions imposed under U.S. Economic Sanctions Laws.

“*Subsidiary*” means, as to any Person, any other Person in which such first Person or one or more of its Subsidiaries or such first Person and one or more of its Subsidiaries owns sufficient equity or voting interests to enable it or them (as a group) ordinarily, in the absence of contingencies, to elect a majority of the directors (or Persons performing similar functions) of such second Person, and any partnership or joint venture if more than a 50% interest in the profits or capital thereof is owned by such first Person or one or more of its Subsidiaries or such first Person and one or more of its Subsidiaries (unless such partnership or joint venture can and does ordinarily take major business actions without the prior approval of such Person or one or more of its Subsidiaries). Unless the context otherwise clearly requires, any reference to a “*Subsidiary*” is a reference to a Subsidiary of the Company.

“*Supplement*” is defined in **Section 1**.

“*SVO*” means the Securities Valuation Office of the NAIC or any successor to such Office.

“*Swaps*” means, with respect to any Person, payment obligations with respect to interest rate swaps, currency swaps and similar obligations obligating such Person to make payments, whether periodically or upon the happening of a contingency. For the purposes of this Agreement, the amount of the obligation under any Swap shall be the amount determined in respect thereof as of the end of the then most recently ended fiscal quarter of such Person, based on the assumption that such Swap had terminated at the end of such fiscal quarter, and in making such determination, if any agreement relating to such Swap provides for the netting of amounts payable by and to such Person thereunder or if any such agreement provides for the simultaneous payment of amounts by and to such Person, then in each such case, the amount of such obligation shall be the net amount so determined.

“*Trust Estate*” is defined in the Indenture.

“*Trustee*” is defined in **Section 1**.

“*UCC*” means, the Uniform Commercial Code as enacted and in effect from time to time in the state whose laws are treated as applying to the Trust Estate.

“*USA Patriot Act*” means United States Public Law 107-56, Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism (USA PATRIOT ACT) Act of 2001, as amended from time to time, and the rules and regulations promulgated thereunder from time to time in effect.

“*U.S. Economic Sanctions Laws*” means those laws, executive orders, enabling legislation or regulations administered and enforced by the United States pursuant to which economic sanctions have been imposed on any Person, entity, organization, country or regime, including the Trading with the Enemy Act, the International Emergency Economic Powers Act, the Iran Sanctions Act, the Sudan Accountability and Divestment Act, each as amended from time to time, and any other OFAC Sanctions Program.

**AQUA PENNSYLVANIA, INC.
SUBSIDIARIES OF THE COMPANY,
OWNERSHIP OF SUBSIDIARY STOCK**

Company Name	State of Incorporation	% of Ownership (Direct & Indirect)
Aqua Pennsylvania, Inc.	Pennsylvania	100%
1. Aqua Pennsylvania Wastewater, Inc.	Pennsylvania	100%
2. Honesdale Consolidated Water Company	Pennsylvania	100%

SCHEDULE 5.4
(to Bond Purchase Agreement)

FINANCIAL STATEMENTS

1. Aqua Pennsylvania, Inc. Consolidated Financial Statements as of and for the years ended December 31, 2018, 2017 and 2016 (audited)
2. Aqua Pennsylvania, Inc. Report for Quarter Ended September 30, 2019

SCHEDULE 5.5 (to Bond Purchase Agreement)

Aqua Pennsylvania and Subsidiaries
Schedule 5.15(a) - Existing Debt
as of 9/30/2019

		Outstanding Balance
Unsecured Note	5.64%	5,466,000
Unsecured Note	5.64%	5,461,000
Unsecured Note	5.95%	10,000,000
Unsecured Note	5.95%	10,000,000
Unsecured Note	5.95%	10,000,000
Unsecured Note	5.95%	10,000,000
Bank Loan	3.50%	50,000,000
Total Unsecured Notes		100,927,000
Tax Exempt-Bond Premium		1,347,335
Tax Exempt-Bond Premium		224,488
Tax Exempt	5.00%	58,000,000
Tax Exempt-Bond Discount		(1,340,792)
Tax Exempt	5.00%	62,165,000
Tax Exempt-Bond Premium		415,498
Tax Exempt	4.75%	12,520,000
Tax Exempt-Bond Discount		(203,349)
Tax Exempt	5.00%	25,910,000
Tax Exempt	5.00%	19,270,000
Tax Exempt-Bond Discount		(84,281)
Tax Exempt	4.50%	15,000,000
Tax Exempt-Bond Discount		(444,000)
Tax Exempt	5.00%	81,205,000
Tax Exempt-Bond Premium		1,891,110
Total Tax Exempt Bonds		275,876,009
PennVest	2.711%	360,162
PennVest	2.547%	754,469
PennVest	2.547%	250,850
PennVest	2.690%	725,775
PennVest	2.547%	1,432,582
PennVest	2.547%	474,826
PennVest	1.510%	1,875,515
PennVest	1.000%	842,029
PennVest	4.047%	89,784
PennVest	3.631%	14,563
PennVest	4.047%	34,305
PennVest	3.552%	(0)

SCHEDULE 5.15(a)
(to Bond Purchase Agreement)

PennVest	1.349%	35,484
PennVest	3.631%	48,106
PennVest	4.050%	153,836
PennVest	3.030%	168,818
PennVest	3.460%	2,996,678
PennVest	3.468%	263,493
PennVest	2.774%	1,160,797
PennVest	4.047%	62,409
PennVest	3.790%	514,525
PennVest	3.810%	241,600
PennVest	3.430%	286,292
PennVest	2.774%	485,334
PennVest	3.470%	1,944,440
PennVest	3.468%	114,574
PennVest	3.195%	1,048,499
PennVest	2.556%	533,398
PennVest	2.554%	670,287
PennVest	2.547%	342,264
PennVest	3.046%	804,610
PennVest	2.547%	915,756
PennVest	2.547%	664,228
PennVest	2.547%	779,452
PennVest	3.143%	1,290,608
PennVest	2.547%	631,440
PennVest	1.000%	5,961,386
PennVest	3.330%	152,818
PennVest	2.730%	1,456,160
PennVest	2.668%	776,750
PennVest	1.000%	586,692
PennVest	2.547%	739,251
PennVest	1.000%	293,259
PennVest	2.774%	120,719
PennVest	2.774%	93,673
PennVest	3.052%	437,175
PennVest	3.468%	2,134,305
PennVest	2.774%	607,750
PennVest	1.156%	168,690
PennVest	2.774%	877,558
PennVest	3.365%	1,025,666
PennVest	2.547%	1,134,366
Total PennVest		39,578,000

FMB	5.980%	3,000,000
FMB	6.060%	15,000,000
FMB	6.06%	5,000,000
FMB	7.72%	15,000,000
FMB	9.17%	800,000
FMB	9.29%	12,000,000
FMB	3.79%	40,000,000
FMB	3.80%	20,000,000
FMB	3.85%	20,000,000
FMB	3.94%	25,000,000
FMB	4.61%	25,000,000
FMB	4.62%	25,000,000
FMB	3.64%	25,000,000
FMB	4.01%	15,000,000
FMB	4.06%	13,000,000
FMB	4.11%	12,000,000
FMB	3.77%	65,000,000
FMB	3.82%	20,000,000
FMB	3.85%	25,000,000
FMB	4.16%	60,000,000
FMB	4.18%	20,000,000
FMB	4.20%	20,000,000
FMB	3.85%	25,000,000
FMB	3.95%	60,000,000
FMB	3.65%	10,000,000
FMB	3.69%	40,000,000
FMB	4.04%	40,000,000
FMB	4.06%	40,000,000
FMB	4.06%	35,000,000
FMB	4.07%	20,000,000
FMB	4.09%	20,000,000
FMB	3.99%	25,000,000
FMB	4.04%	10,000,000
FMB	4.09%	65,000,000
FMB	4.44%	65,000,000
FMB	4.49%	35,000,000
FMB	4.51%	25,000,000
FMB	4.02%	75,000,000
FMB	4.07%	25,000,000
FMB	4.12%	25,000,000
FMB	4.09%	50,000,000
FMB	4.13%	75,000,000
FMB	4.14%	50,000,000

Total First Mortgage Bonds

1,295,800,000

PennVest - Aqua PA WW	1.16%	594,063
PennVest - Aqua PA WW	1.00%	518,442

PennVest - Aqua PA WW	1.00%	83,352
PennVest - Aqua PA WW	1.35%	26,211
PennVest - Aqua PA WW	2.77%	143,834
		<hr/>
Total PennVest LWWW		1,365,902
Total Long Term Debt		\$1,713,546,910
		<hr/>
PNC Revolver		10,000,000
		<hr/>
Total Debt Aqua Pennsylvania		\$1,723,546,910
		<hr/>

5.15(a)-4

SCHEDULE 5.15(b)

**AQUA PENNSYLVANIA, INC. AND SUBSIDIARIES
DEBT ISSUANCE LIMITATIONS**

Indenture of Mortgage dated as of January 1, 1941 of Aqua Pennsylvania, Inc. as Supplemented and Amended

\$100 million Amended and Restated Credit Agreement among Aqua Pennsylvania, Inc. and PNC Bank, National Association as Agent dated as of November 8, 2019, as amended

Aqua Pennsylvania, Inc. \$40,000,000 5.95% Senior Notes dated March 31, 2006

Aqua Pennsylvania, Inc. \$10,927,000 5.64% Senior Notes dated September 29, 2006

\$50 million Term Loan Agreement among Aqua Pennsylvania, Inc. and PNC Bank, National Association as Agent and Dated as of May 4, 2018, as amended

SCHEDULE 5.15(b)
(to Bond Purchase Agreement)

FORM OF SUPPLEMENT

[SEE ATTACHED FIFTY-SEVENTH SUPPLEMENTAL INDENTURE]

EXHIBIT A
(to Bond Purchase Agreement)

**FORM OF OPINION OF GENERAL COUNSEL
TO THE COMPANY**

[SEE ATTACHED]

EXHIBIT 4.4(a)
(to Bond Purchase Agreement)

**FORM OF OPINION OF SPECIAL COUNSEL
TO THE COMPANY**

[SEE ATTACHED]

EXHIBIT 4.4(b)
(to Bond Purchase Agreement)

**FORM OF OPINION OF SPECIAL COUNSEL
TO THE PURCHASERS**

[DELIVERED TO PURCHASERS ONLY]

EXHIBIT 4.4(c)
(to Bond Purchase Agreement)

U.S. TAX COMPLIANCE CERTIFICATE

Reference is hereby made to the Bond Purchase Agreement dated as of December 20, 2019 (as amended, supplemented or otherwise modified from time to time, the “*Bond Purchase Agreement*”), among Aqua Pennsylvania, Inc., a corporation organized under the laws of the Commonwealth of Pennsylvania (the “*Company*”) and the Purchasers that are signatories thereto.

Unless otherwise defined herein, capitalized terms defined in the Bond Purchase Agreement and used herein have the meanings given to them in the Bond Purchase Agreement.

Pursuant to the provisions of Section 12.4 (Tax Withholding) of the Bond Purchase Agreement, the undersigned hereby certifies that:

- (i) it is the sole record and beneficial owner of the Bonds in respect of which it is providing this certificate;
- (ii) it is not a bank within the meaning of Section 881(c)(3)(A) of the Code;
- (iii) it is not a ten percent shareholder of the Company within the meaning of Section 871(h)(3)(B) of the Code; and
- (iv) it is not a controlled foreign corporation related to the Company as described in Section 881(c)(3)(C) of the Code.

The undersigned has furnished the Company with a certificate of its non-U.S. Person status on IRS W-8BEN-E.

[Purchaser Name]

By: _____

Name:

Title:

Date: _____, 20[___]

EXHIBIT 12.4
(to Bond Purchase Agreement)

**SCHEDULE OF SUPPLEMENTAL INDENTURES SUBSTANTIALLY IDENTICAL TO FORM OF
SUPPLEMENTAL INDENTURE DURING AND AFTER 2014**

In accordance with Instruction 2 to Item 601 of Regulation S-K, the Registrant has omitted filing the following Supplemental Indentures by and between Aqua Pennsylvania, Inc. and The Bank of New York Mellon Trust Company, N.A. because they are substantially identical in all material respects to the form of Supplemental Indenture filed as Exhibit 4.1.5 to Essential Utilities, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2015:

1. Forty-Ninth Supplemental Indenture, dated as of December 1, 2014
 2. Fiftieth Supplemental Indenture, dated as of November 1, 2015
 3. Fifty-First Supplemental Indenture, dated as of November 1, 2016
 4. Fifty-Second Supplemental Indenture, dated as of June 15, 2017
 5. Fifty-Third Supplemental Indenture, dated as of June 1, 2018
 6. Fifty-Fourth Supplemental Indenture, dated as of October 15, 2018
 7. Fifty-Fifth Supplemental Indenture, dated as of May 1, 2019
 8. Fifty-Sixth Supplemental Indenture, dated as of September 1, 2019
 9. Fifty-Seventh Supplemental Indenture, dated as of November 1, 2019
-

ESSENTIAL UTILITIES, INC. AND SUBSIDIARIES

The following table lists the significant subsidiaries and other active subsidiaries of Essential Utilities, Inc. at December 31, 2019:

Aqua Pennsylvania, Inc. (Pennsylvania)
Aqua Resources, Inc. (Delaware)
Aqua Services, Inc. (Pennsylvania)
Aqua Infrastructure, LLC (Pennsylvania)
Aqua Ohio, Inc. (Ohio)
Aqua Illinois, Inc. (Illinois)
Aqua New Jersey, Inc. (New Jersey)
Aqua North Carolina, Inc. (North Carolina)
Aqua Texas, Inc. (Texas)
Aqua Indiana, Inc. (Indiana)
Aqua Virginia, Inc. (Virginia)

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-3 (No. 333-219545, 333-223306), on Form S-4 (No. 333-202393), and on Form S-8 (Nos. 033-52557, 033-53689, 333-26613, 333-70859, 333-81085, 333-61768, 333-107673, 333-113502, 333-116776, 333-126042, 333-148206, 333-156047, 333-159897, and 333-181389) of Essential Utilities, Inc. of our report dated February 28, 2020 relating to the financial statements and financial statement schedules and the effectiveness of internal control over financial reporting, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP

Philadelphia, PA
February 28, 2020

CERTIFICATION OF CHIEF EXECUTIVE OFFICER, PURSUANT TO RULE 13A-14(A) AS ADOPTED
UNDER THE SECURITIES AND EXCHANGE ACT OF 1934

I, Christopher H. Franklin, certify that:

1. I have reviewed this annual report on Form 10-K of Essential Utilities, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ Christopher H. Franklin

Christopher H. Franklin

Chairman, President and Chief Executive Officer
February 28, 2020

CERTIFICATION OF CHIEF FINANCIAL OFFICER, PURSUANT TO RULE 13A-14(A) AS ADOPTED
UNDER THE SECURITIES AND EXCHANGE ACT OF 1934

I, Daniel J. Schuller, certify that:

1. I have reviewed this annual report on Form 10-K of Essential Utilities, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

\s\ Daniel J. Schuller

Daniel J. Schuller

Executive Vice President and Chief Financial Officer
February 28, 2020

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350

In connection with the Annual Report on Form 10-K for the year ended December 31, 2019 of Essential Utilities, Inc. (the "Company") as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Christopher H. Franklin, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

- (1) The Report of the Company fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. Section 78m(a) or Section 78o(d)); and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Christopher H. Franklin

Christopher H. Franklin

Chairman, President and Chief Executive Officer
February 28, 2020

CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350

In connection with the Annual Report on Form 10-K for the year ended December 31, 2019 of Essential Utilities, Inc. (the "Company") as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Daniel J. Schuller, Executive Vice President and Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. Section 78m(a) or Section 78o(d)); and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

/s/ Daniel J. Schuller _____

Daniel J. Schuller

Executive Vice President and Chief Financial Officer
February 28, 2020
