
EXHIBIT Q

FAIR MARKET VALUE APPRAISAL –
GANNETT FLEMING
VALUATION AND RATE CONSULTANTS, LLC

DELAWARE COUNTY REGIONAL WATER
QUALITY CONTROL AUTHORITY
WASTEWATER SYSTEM ASSETS

FAIR MARKET VALUE APPRAISAL

AT

DECEMBER 31, 2019

Prepared by:
GANNETT FLEMING
VALUATION AND RATE CONSULTANTS, LLC



Valley Forge, Pennsylvania



Gannett Fleming

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February 22, 2020

VIA EMAIL

Mr. William C. Packer
Vice President – Controller
Aqua Pennsylvania, Inc.
762 W. Lancaster Ave
Bryn Mawr, PA 19010

Re: Fair Market Value Appraisal

Dear Mr. Packer:

In accordance with your request, we have prepared a fair market value appraisal of Delaware County Regional Water Quality Control Authority's sanitary wastewater system assets ("Wastewater System") as of December 31, 2019.

Fair market value is defined as "the price, expressed in terms of cash equivalents, at which property would change hands between a hypothetical willing and able buyer and a hypothetical willing and able seller, acting at arm's length in an open and unrestricted market, when neither is under compulsion to buy or sell and when both have reasonable knowledge of the relevant facts."

Based on our analysis, as described in the attached appraisal report, the estimate of the fair market value of the Wastewater System as of December 31, 2019 is \$408,883,000 (rounded).

Our appraisal was developed consistent with the Uniform Standards of Professional Appraisal Practices. Our fair market value appraisal of the Wastewater System was based on the Cost, Market and Income Approaches to valuation. We used seven methods under the Cost, Market and Income Approaches to valuation: Original Cost Method, Replacement Cost Method, Capitalization of Earnings Method, Market Multiple Discounted Cash Flow Method, Capitalization Discounted Cash Flow Method, Market Multiples Method, and the Selected Transactions Method.

The attached narrative appraisal presents our findings and conclusions regarding the fair market value of the Wastewater System's assets of December 31, 2019. The report describes the valuation methodologies employed and the Exhibits that present the valuation results.

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Mr. William C. Packer
Bryn Mawr, PA 19010

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February 22, 2020

The results of the analyses and calculations completed for each applicable approach are detailed throughout the report and the Exhibits and are summarized as follows:

<u>Valuation Approach</u>	<u>Indicated Value</u>
Cost Approach	\$399,664,113
Income Approach	387,754,301
Market Approach	438,337,696

We thank Aqua for this opportunity to provide valuation services in connection with the fair market value appraisal of the Wastewater System's assets.

Respectfully Submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC



HAROLD WALKER, III
Manager, Financial Studies

HW:amp

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INTRODUCTION

Introduction and Summary. The following narrative report presents our findings and conclusions regarding the fair market value of the wastewater system assets of the Delaware County Regional Water Quality Control Authority as of December 31, 2019. The report describes the valuation methodologies employed and the Exhibits that present the valuation results. Based upon the analyses, we believe the fair market value of the wastewater system assets of the Delaware County Regional Water Quality Control Authority is \$408.9 million. This conclusion is based upon the values suggested by the Cost, Income and Market approaches. During our analysis we found indications of value that ranged from \$387.8 million to \$438.3 million. However, most of the appropriate indicated values approximated \$408.9 million.

Description of the Assignment. Gannett Fleming Valuation and Rate Consultants, LLC was retained by Aqua Pennsylvania Wastewater, Inc. (“Aqua”) to estimate the fair market value of the Delaware County Regional Water Quality Control Authority’s wastewater system assets (“Wastewater System”) as of December 31, 2019.

Standard and Premise of Value. The fair market value appraisal of the Wastewater System complies with the Uniform Standards of Professional Appraisal Practices, employing the cost, market and income approaches. Fair market value is defined as “the price, expressed in terms of cash equivalents, at which property would change hands between a hypothetical willing and able buyer and a hypothetical willing and able seller, acting at arm’s length in an open and unrestricted market, when neither is under compulsion to buy or sell and when both have reasonable knowledge of the relevant facts.”¹

¹ The International Glossary of Business Valuation Standards

As stated, the standard of value for this engagement is fair market value. The premise of value is going concern. The going concern premise of business value assumes that the business will continue running normally using all of its assets to produce income and will continue operating beyond the valuation date.

We valued the Wastewater System's assets as a group under the premise that the assets collectively comprise an ongoing operating business enterprise. Additionally, in accordance with 66 Pa. C.S. Section 1329 the original source of funding for any part of the Wastewater System's assets was not relevant to the determination of the value of said assets.

Intended Use of the Valuation. The intended use of the valuation is to comply with 66 Pa. C.S. Section 1329, Valuation of Acquired Water and Sewer System and conduct a fair market value appraisal of the Wastewater System in compliance with the Uniform Standards of Professional Appraisal Practices, employing the cost, market and income approaches.

Client and Users. The client is Aqua Pennsylvania Wastewater, Inc. The intended users of the valuation are Aqua Pennsylvania Wastewater, Inc. and the Pennsylvania Public Utility Commission.

Extraordinary Assumptions. There were no extraordinary assumptions required for this appraisal.

Hypothetical Conditions. There were no hypothetical conditions assumed for this appraisal.

Limiting Conditions. We accepted all information and data provided by the Delaware County Regional Water Quality Control Authority ("DELCORA") and/or Aqua as it pertains to this assignment "as is" after a limited review. That is, we neither audited nor verified any data, engineering assessment, financial record or operating data provided for this assignment. We

assumed all title to all assets included in the appraisal is good and marketable, no hidden defects in the property or soil and no hazardous conditions or materials exist which could affect the assets.

Site Inspection. We viewed or observed the Wastewater System's facilities on February 20, 2020. We also relied on engineering assessment of the Wastewater System's facilities report, "DELCORA Sewerage Facilities Engineering Assessment and Original Cost" (Rev. December 2019) and related files prepared by Pennoni Associates Inc., to confirm the condition of the Wastewater System's property and equipment.

Sources of Information. The following sources of information were reviewed during the assignment:

Engineer's assessment report "DELCORA Sewerage Facilities Engineering Assessment and Original Cost" (Rev. December 2019) and related files prepared by Pennoni Associates Inc.;

DELCORA/Aqua provided electronic files (PDF and Excel);

Wastewater System's Customer data;

Wastewater System's Fee Schedule;

DELCORA's Consent Decree;

DELCORA's CSO Long-Term Control Plan Update;

DELCORA's Act 537 Plan (2002, 2004 and 2011);

DELCORA's and customers' Chapter 94 Reports

Asset Purchase Agreement;

DELCORA's Audited Financials (2016-2018);

DELCORA's for Wastewater System (2019-2020);

Blue Chip Financial Forecasts;

US Census Bureau, various data files;

Value Line Investment Survey; and

S&P Research Insight.

Description of Delaware County. Delaware County is located in the southeastern tier of Pennsylvania. Delaware County has the 65th largest land mass of Pennsylvania's 67 counties and was the 5th most populous with 564,751 people (2019) and 224,871 housing units (2018). Delaware County consists of 183.8 square miles and lies approximately 21 miles southwest of Philadelphia, Pennsylvania. Delaware County is bordered by the Delaware River and Philadelphia, Chester and Montgomery Counties in southeastern Pennsylvania.

According to U.S. Census figures, Delaware County's population grew 1.5% from 2000 to 2010, while population in Pennsylvania grew 3.4%.

Description of Chester County. Chester County is also located in the southeastern Pennsylvania. Chester County has the 28th largest land mass of Pennsylvania's 67 counties and was the 7th most populous with 522,046 people (2019) and 201,353 housing units (2018). Chester County consists of 750.5 square miles and lies approximately 43 miles northwest of Philadelphia (the "City"), Pennsylvania. Chester County is bordered by the states of Delaware and Maryland and Pennsylvania's Counties of Lancaster, Berks, Montgomery and Delaware.

According to U.S. Census figures, Chester County's population grew 15.1% from 2000 to 2010, while population in Pennsylvania grew 3.4%.

Description of the Wastewater System. The DELCORA owns, operates and maintains wastewater treatment facilities and collection systems that serves more than half million people in the Greater Philadelphia area including 46 municipalities in Delaware and Chester Counties in southeastern Pennsylvania. The DELCORA is responsible for the collection, transmission,

treatment, and discharge of approximately 65 million gallons per day (“MGD”) of wastewater generated in southeastern Pennsylvania. The DELCORA’s wastewater facilities serve residential, commercial, institutional, and industrial customers.

The DELCORA is a body corporate and politic created by Delaware County, under the Municipal Authorities Act, with the power to construct, finance, operate and maintain sewer systems throughout Delaware County and adjacent areas included in its drainage basin. When DELCORA was established as a county-wide authority, Delaware County was divided into two regions, the Eastern Service Area and the Western Service Area, to address the County’s wastewater needs. The DELCORA owns and operates interceptors and pumping stations in both regions. The DELCORA constructed the Western Regional Treatment Plant (“WRTP”) in the Western Service Area for wastewater treatment primarily for the Western Service Area and acquired capacity in the City’s Southwest Water Pollution Control Plant (“SWWPCP”) for wastewater treatment for the Eastern Service Area.

DELCORA’s revenues are primarily derived from payments: from the users of DELCORA’s sewer collection systems in eight municipalities (retail customers); from various service agreements with municipal authorities and municipalities (wholesale customers); and from permit users of the system that deliver wastewater to DELCORA (permit users). The eight sewer collection systems (retail customers) owned by the DELCORA are located in the Western Service Area and serve the municipalities of the City of Chester, the Townships of Chester and Edgmont, and the Boroughs of Parkside, Marcus Hook, Rose Valley, Trainer, and Upland. Additionally, the DELCORA also owns parts of the sewer collection systems and three remote treatment plants in Pocopson Township, and Chadds Ford Township, which are also located in the Western Service Area.

The DELCORA's wholesale customers are located in both the Western Service Area and the Eastern Service Area. The Western Service Area wholesale customers include the Southern Delaware County Authority and multiple municipalities who have their wastewater delivered to DELCORA, which conveys the wastewater to the WRTP for treatment. In the Eastern Service Area, the DELCORA has separate wholesale service agreements with three municipal authorities: Central Delaware County Authority, the Darby Creek Joint Authority², and the Muckinipates Authority. Under the terms of these agreements, the Eastern Service Area's authorities deliver their wastewater to the DELCORA through their respective collection systems, and DELCORA conveys the wastewater to either the City's SWWPCP through DELCORA's eastern force mains for treatment, or to the WRTP via the Central Diversion force main.

In 2018 the DELCORA's average daily flow to the WRTP was 39.18 MGD and the Eastern Service Area's average daily flow to the SWWPCP was 25.76 MGD. Under the terms of the agreement with the City, the DELCORA pays the City for treatment of wastewater sent to the SWWPCP based on its proportionate share of the City's operating costs and capital cost plus the costs of the Philadelphia Water Department ("PWD") Long-Term Control Plan ("LTCP"). The LTCP addresses a federal and state-mandated combined sewer overflow ("CSO") program within the City ("City LTCP").

The WRTP is a permitted 44 MGD activated sludge treatment plant. The WRTP has a permitted hydraulic capacity of 50 MGD. The Pennsylvania Department of Environmental Protection has approved the re-rating of the capacity of the WRTP to 50 MGD. Re-rating of the capacity of the WRTP from 44 MGD to 50 MGD was conditionally approved by the Delaware

² The Radnor, Haverford and Marple Authority (RHM Authority) transports wastewater to the Darby Creek Joint Authority.

River Basin Commission based on the construction of a 455-foot outfall into the Delaware River. The WRTP employs an activated sludge process to provide secondary treatment. The WRTP's components include: a grit removal system; primary clarification; an aeration system comprised of aeration basins, secondary clarifiers, and a chlorine contact system; and solids handling including sludge holding tanks, dewatering, and an incinerator.

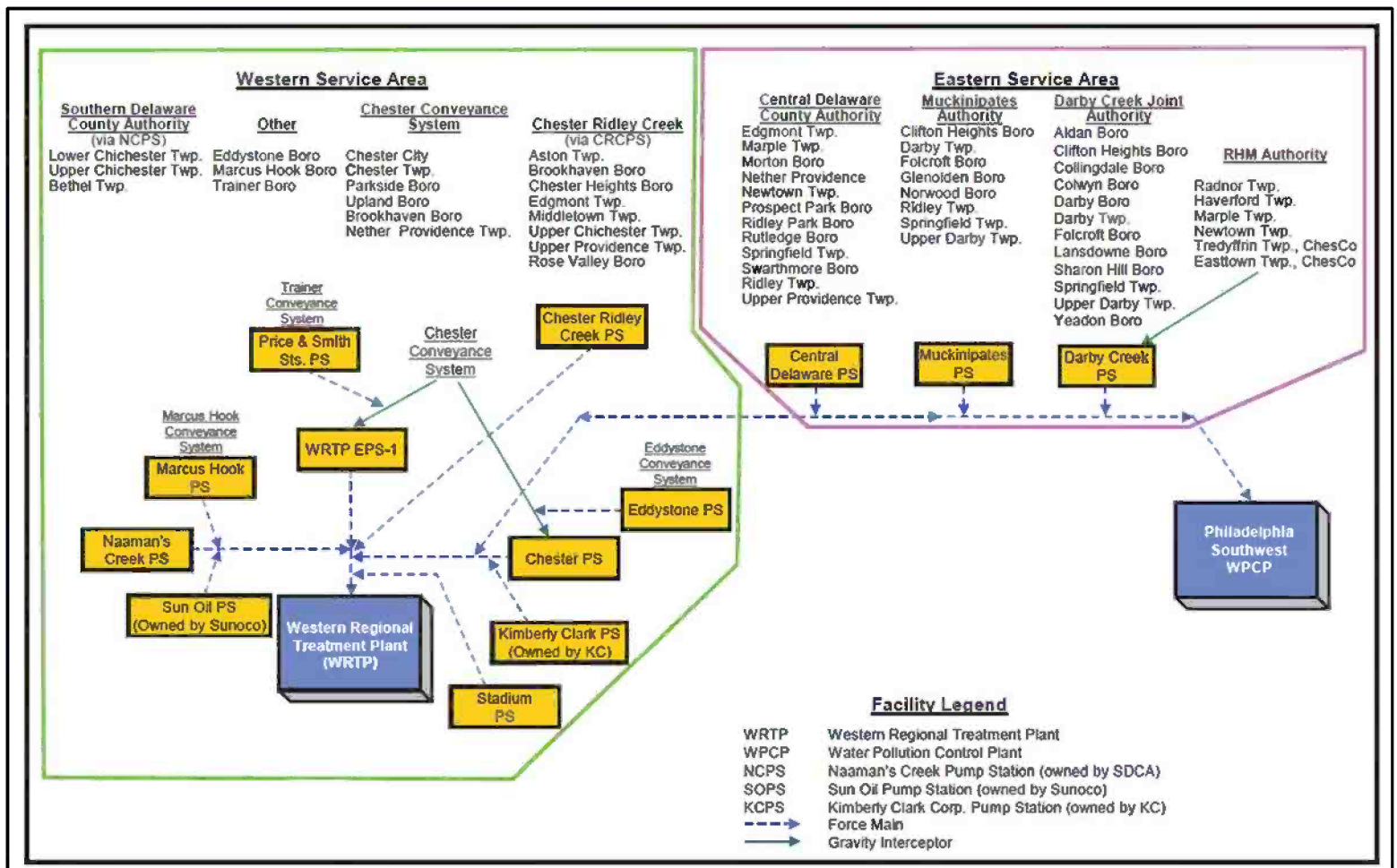
In addition to the WRTP, DELCORA owns and operates three remote treatment plants in the Western Service Area: Springhill Farms located in Chadds Ford Township; Sheeder Tract (Riverside) located in Pocopson Township; and Corinne Village (Pocopson Preserve) located in Pocopson Township. The Springhill Farms Wastewater Treatment Plant system includes: an influent wet well/pump station; bar screen; extended aeration treatment system; five blowers; service building; emergency generator and chlorination and dechlorination system. The average annual flow for Springhill Farms is 0.042 MGD. The Sheeder Tract Wastewater Treatment Plant system consists of: influent wet well/ pump station; influent grinder; two aerated lagoons; three pressurized sand filters; two blowers; service building; emergency generator; sodium hypochlorite disinfection system; and a spray irrigation system located on three fields. The average annual flow for Sheeder Tract is 0.021 MGD. The Corinne Village Wastewater Treatment Plant system includes: an influent wet well/ pump station; influent grinder; two aerated lagoons; two blowers; service building; emergency generator; and a 9.5-acre drip irrigation system. The average annual flow for Corinne Village is 0.013 MGD.

DELCORA's Western Service Area system includes eight pumping stations: Naaman's Creek Pump Station; Marcus Hook Pump Station; WRTP PS-6 Pump Station³; Price & Smith

³ Note that Figure 1 shows the WRTP EPS-1 Pump Station which was decommissioned in 2018 and replaced by the PS-6 Pump Station.

Streets Pump Station; Chester-Ridley Creek Pump Station; Eddystone Pump Station; Chester Pump Station; and the Stadium Pump Station. The Western Service Area also has five small lift stations: Broomall Street; Delaware Avenue; 8th Street; Feltonville; and Viscose Village. The DELCORA's three pump stations in its Eastern Service Area include the Central Delaware Pumping Station, Muckinipates Pumping Station, and Darby Creek Pumping Station. Figure 1, from DELCORA's 2018 Chapter 94 Report, shows DELCORA's conveyance system and the connections to the WRTP and SWWPCP treatment facilities.⁴ Page 3 of Exhibit 2 lists the multitude of municipalities serviced by DELCORA.

Figure 1



4 Delaware County Regional Water Quality Control Authority, "Chapter 94 Municipal Wasteload Management 2018 Annual Report Western Service Area Western Regional Treatment Plant," Attachment 4, pg 3.

The DELCORA's elaborate collection system includes 17 miles of force mains, 164 miles of gravity mains, and 4,248 manholes. The 17 miles of force mains were installed between 1931 and 2017 and range in diameter of from 4-inches to 66-inches. The 164 miles of gravity mains were installed between 1900 and 2019 and range in diameter of from 4-inches to 72-inches. DELCORA's 4,248 manholes were installed between 1900 and 2019.

One of the eight sewer collection systems owned by DELCORA (retail customer) is the City of Chester. The City of Chester is served by both separate and combined sewer systems. A combined sewer system includes conveying both rainwater runoff and sanitary wastewater in a single sewer pipe. The City of Chester combined sewer system is approximately 1,532 acres, which is about 3% of the service area for DELCORA's WRTP. In 2010 the United States Environmental Protection Agency ordered DELCORA to update DELCORA's Long Term Control Plan related to the City of Chester's combined sewer system ("DELCORA LTCP") which relates to the City of Chester's combined rainwater runoff and sanitary wastewater sewer system. The DELCORA LTCP, among other things, prohibits all dry weather discharges, requires an inlet replacement program, outlines a detailed monitoring and upkeep schedule of all combined sewer outfall regulators and maximizes flow from the City of Chester treated at the WRTP. DELCORA entered into a consent decree with the United States Government in 2015. Compliance with this consent decree requires measures to achieve a reduction in CSO volume. Several projects are being implemented to comply with the consent decree requirement. This includes the recent replacement of EPS-1 Pump Station at the WRTP with Pump Station-6 (PS-6). To date, all interim deliverables and milestones have been met and upcoming milestones are on schedule.

Exhibit 1 summarizes selected financial information from DELCORA's annual reports. For the year ended December 31, 2018, (Exhibit 1) the Wastewater System had operating revenues of \$62.158 million. At year end December 31, 2018 the Wastewater System was capitalized with \$185.035 million of fund equity and DELCORA had long-term debt of \$170.858 million. At the same point in time, the Wastewater System had total assets of \$380.690 million, including \$240.842 total net utility plant.

The Wastewater System is exempt from Pennsylvania Public Utility Commission ("PUC") regulation as a municipal utility. The Wastewater System's rate requirements are established by the needed funds to run the system. Most municipalities, including Wastewater System, use a Government Accounting Standards Board ("GASB") process of accounting or the PA Department of Community and Economic Development ("DCED") versus Financial Accounting Standards Board ("FASB") method of accounting used by investor owned utilities ("IOU"). Municipalities are not typically concerned with the return on and the return of their investments of their utility systems since they deem they are providing a public service to their taxpayers. Municipalities typically expense (i.e., maintenance expense) minor collections and renewals replacements. IOUs capitalize customer collection services and other capital expenditures (i.e., construction of capital asset, construction expenditures, etc.). Further, Municipalities do not typically fully account for the replacement of all capital assets which are all typically capitalized and "booked" at original cost by IOUs. For these reasons, we do not believe Wastewater System's financial statements should be fully relied upon without recognizing their limitations.

As shown on page 1 of Exhibit 2, the Wastewater System provides service to 16,473 customers, had average daily flows of 65.6 MGD (2018) and serviced approximately 197,769 Equivalent Dwelling Units ("EDU"). The Wastewater System is not dependent on industrial

customers.

Demographics and Growth for the Wastewater System. As shown on Exhibit 3, Table 3.1, according to U.S. Census figures, the U.S. population grew 9.7% from 2000 to 2010, and the population in Pennsylvania grew 3.4%. During this same period, Delaware County's population grew 1.5%, Chester County's population grew 15.1% and DELCORA's population grew 0.3% (Exhibit 3, Table 3.2). DELCORA's population growth was ranked 978 of the 2,572 municipalities in Pennsylvania.

The Census Bureau and planning agencies provide population projections for future time periods. Population projections are a primary indicator of expected future growth, and they help determine predictable demand for utility services, housing, roads, business services and facilities. The Delaware Valley Regional Planning Commission ("DVRPC") publishes population projections and employment projections for DELCORA and the nine Delaware Valley counties ("Nine DVRPC Counties"). The DVRPC counties include Bucks County, Chester County, Delaware County, Montgomery County and Philadelphia County, in Pennsylvania, and Burlington County, Camden County, Gloucester County, and Mercer County, in New Jersey.

As shown on Page 2 of Exhibit 3, Table 3.3, DELCORA's population growth is projected to be about 40% the growth rate projected for the Nine DVRPC Counties during each five-year period from 2015 through 2045. DELCORA's project population growth places them in the lower 26 percent or 26th percentile of the 369 municipalities analyzed by DVRPC. Page 3 of Exhibit 3, Table 3.4 shows DELCORA's employment growth is projected to be about 50% the growth rate projected growth rate projected for the Nine DVRPC Counties during each five-year period from 2015 through 2045.

Currently, there are approximately 615,245 people (Exhibit 2, page 1) in the Waste

System's service area. There are 244,712 household units in the Waste System's service area, and the ratio of people to households is 2.51 persons per household. The Wastewater System's service area density is 37.3 people per customer based on an estimated population of 615,245 and 16,473 customers. The Wastewater System's service area density is about 10-times higher than the 3.6 per customer density of water and wastewater systems (see Table 2 in this report) reflecting the wholesale nature of DELCORA's business. On an EDU basis, the Wastewater System's service area density is 3.1 people per EDU based on an estimated population of 615,245 and 197,769 EDUs. The large divergence between DELCORA's number of customers, 16,473, and the number of EDUs, 197,769, is another indication of the wholesale nature of DELCORA's business. Using the 3.6 per customer density of water and wastewater systems as an indication of primarily retail service suggests an equivalent adjusted DELCORA customer count of 170,901 ($615,245 \div 3.6$) being representative of primarily retail service.

HISTORY AND NATURE OF THE BUSINESS

Economic Outlook. In the valuation of any company, the general economic outlook as of the valuation date is important since it influences how investors perceive alternative investment opportunities at that point in time. As part of our analysis, we considered the forecasts for the U.S. economy that prevailed as of December 31, 2019. In particular, we focused on the forecasts and economic commentary presented in Blue Chip Financial Forecasts in the December 1, 2019 edition. Some of these economic forecasts are presented in Table 1.

<u>Economic Indicators</u>			
	<u>Latest Qtr</u>	<u>Consensus Forecasts</u>	
	<u>3Q 2019</u>	<u>4Q 2019</u>	<u>1Q 2020</u>
<u>Key Assumptions</u>			
Real GDP	1.9	1.5	1.7
GDP Price Index	1.7	2.1	2.0
Consumer Price Index	1.8	2.0	2.1
<u>Interest Rates</u>			
3-mo. Treasury Bills	2.02	1.6	1.5
10 Year Notes	1.80	1.7	1.8
30 Year Notes	2.28	2.2	2.2
Aaa Corporate Bond Yield	3.20	3.1	3.2
Baa Corporate Bond Yield	3.94	4.0	4.1
State & Local Bonds	3.15	2.9	2.9
Home Mortgage Rate	3.67	3.7	3.7

Table 1

Industry Review. A review of the industry in which the company operates is important in determining value. The trends and stability of the specific economic environment affecting operations need to be reviewed to gain further insight regarding the prospects and risks associated with the industry and each company.

The wastewater utility industry has a Standard Industrial Classification ("SIC") code of 4952 (Sewerage Systems), has sewer utilities, and includes establishments primarily engaged in the collection and disposal of wastes conducted through a sewer system, including such treatment processes as may be provided. There are currently 1,864 U.S. Businesses with a SIC code of 4952.

The wastewater utility industry is a fragmented industry, although not as fragmented as the

water supply industry. According to the U.S. Environmental Protection Agency's ("EPA") most recent survey of publicly-owned wastewater treatment facilities in 2012, there are approximately 15,000 such facilities in the nation, serving approximately 76% of the U.S. population. Eighty percent of domestic wastewater systems are government owned rather than IOUs. Currently, there are no wastewater utility companies that have actively traded stock.

A comparative industry to the wastewater utility industry is the water supply industry. The water supply industry has a SIC code of 4941 (Water Supply), has water utilities, and includes establishments primarily engaged in distributing water for sale for residential, commercial, and industrial uses. Government controlled establishments such as municipal service districts and public utilities dominate the industry. Private companies or IOUs are active in the construction and improvement of water supply facilities and infrastructure. There are currently 9,391 U.S. Businesses with a SIC code of 4941.

The water supply industry is the most fragmented of the major utility industries with more than 53,000 community water systems in the U.S. (82% of which serve less than 3,300 customers). The nation's water systems range in size from large municipally owned systems, such as the New York City water system that serves approximately 9 million people, to small systems, where a few customers share a common well.

An estimated 14% of all water supplies are managed or owned by IOUs. IOUs consist of companies with common stock that is either actively traded or inactively traded, as well as companies that are closely held, or not publicly traded. Currently (December 31, 2019), there are only about nine investor owned water utility companies with publicly traded stock in the U.S.

The wastewater utility industry and water utility industry's increased compliance with state and federal water purity levels and large infrastructure replacements are driving consolidation of

the wastewater utility and water utility industries. Because many wastewater utility and water utility operations do not have the means to finance the significant capital expenditures needed to comply with these requirements, many have been selling their operations to larger, financially stronger operations.

The larger IOUs have been following an aggressive acquisition program to expand their operations by acquiring smaller wastewater and water systems. Generally, they enter a new market by acquiring one or several wastewater or water utilities. After their initial entry into a new market, the larger investor-owned water utility companies continually seek to expand their market share and services through the acquisition of wastewater and water utility businesses and operations that can be integrated with their existing operations. Such acquisitions may allow a company to expand market share and increase asset utilization by eliminating duplicate management, administrative, and operational functions.

Acquisitions of small, independent utilities can often add earning assets without necessarily incurring the costs associated with the SDWA if such acquisitions are contiguous to the potential purchaser.

In summary, the result of increased capital spending, to meet the SDWA requirements⁵ and to replace the aging infrastructure of many systems, has moved the wastewater and water industries toward consolidation. Moreover, Federal and State regulations and controls concerning water quality are still in the process of being developed and it is not possible to predict

⁵ The SDWA, or Safe Drinking Water Act, is the principal federal law in the United States intended to ensure safe drinking water for the public. Pursuant to the act, the EPA is required to set standards for drinking water quality and oversee all states, localities, and water suppliers who implement these standards. The CWA, or Clean Water Act, is the primary federal law in the United States governing water pollution. The CWA's objective is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands.

the scope or the enforceability of regulations or standards which may be established in the future, or the cost and effect of existing and potential regulations and legislation upon the sewer and water systems. However, as a medium to large sewer system, the Wastewater System faces the cost of compliance with significantly limited financial resources when compared to larger IOU water utilities.

QUANTITATIVE AND QUALITATIVE ANALYSIS

Comparison Review. The comparison review considers the financial and operating statistics for the Wastewater System, and a group of companies (“Comparable Group”) that operate in the same basic or similar industry as the Wastewater System. Since no marketplace exists for the common stock of the Wastewater System, an alternative to estimate the value of the Wastewater System is to analyze the price investors are willing to pay for the publicly traded common stock of companies that are similar to the Wastewater System. We list the Comparable Group chosen for study in Table 2.

The companies in the Comparable Group were selected based upon: (1) the availability of financial information; (2) inclusion in the S&P Capital IQ database; (3) a December 31, 2019 market value of common stock, the product of multiplying the closing stock price by the number of common shares outstanding, greater than \$200.0 million; (4) a December 31, 2019 total enterprise, the sum of market value, preferred stock and total debt, greater than \$450.0 million; (5) were not the subject of a known acquisition at December 31, 2019; (6) with a Standard Industrial Classification (SIC) of 4941 (i.e., Water Supply Facilities and Infrastructure) and (7) with a North American Industry Classification System (NAICS) of 221310 (i.e., Water Supply and Irrigation Systems). The eight companies (“Comparable Group”) that met the criteria for selection are listed

in Table 2.

<u>Acquisition Date Size Statistics</u>				
	<u>Revenues</u> (Mill. \$)	<u>Customers</u>	<u>Population</u>	<u>Customer Density</u>
Delaware County Regional Water Quality Control	<u>\$64.978</u>	<u>16,473</u>	<u>615,245</u>	<u>37.3</u>
<u>Comparable Group</u>				
American States Water Co	\$436.816	284,272	1,000,000	3.5
American Water Works Co Inc	3,440.000	3,382,000	14,000,000	4.1
Aqua America Inc	838.091	1,005,590	3,000,000	3.0
Artesian Resources -CL A	80.411	90,440	300,000	3.3
California Water Service Gp	698.196	517,500	2,000,000	3.9
Middlesex Water Co	138.077	113,300	400,000	3.5
SJW Corp	397.699	247,267	1,114,200	4.5
York Water Co	<u>48.437</u>	<u>70,263</u>	<u>199,000</u>	<u>2.8</u>
Median	<u>\$417.258</u>	<u>265,770</u>	<u>1,057,100</u>	<u>3.6</u>

Table 2

We believe that similar economic, industry and business risks have affected the Comparable Group as those faced by the Wastewater System. However, consideration must be given to the fact that no two companies are exactly alike. Table 2 presents comparative statistics regarding total revenues, customers, population of the area served, and customer density (population ÷ customers). On average, the Comparable Group are larger than the Wastewater System. The relative size difference between the group and the Wastewater System suggests that the risk of the Wastewater System is greater than the Comparable Group. We will discuss the difference in risk resulting from size later in this report.

Financial Review. We conducted a financial review that considered the financial and operating statistics for the Wastewater System and the Comparable Group for the three-year period, 2016 to 2018. It is our opinion that the economic, industry and business risks affecting the Comparable Group selected are similar to those faced by the Wastewater System. However, consideration must be given to the fact that no two companies are exactly alike.

The determination of reasonable water rates and sewer rates for the Comparable Group is subject to rate regulation. For the Comparable Group, rate regulation serves as a substitute for competition in the marketplace since utility companies are precluded from exercising complete control over the price to be charged their customers. Under rate regulation, a cost of service formula is used to set the price for service charged to customers. The cost of service formula equates revenues to the sum of annual operating expenses, taxes other than income, depreciation expense, income taxes, and the product of the rate base times a fair rate of return.

It is the responsibility of the utility seeking changes in rates to present sufficient evidence to their regulators in support of their request. Historically, the Wastewater System's rates have not considered a fair rate of return nor taxes. That is, the Wastewater System's rates would have been higher and their financial results would have been healthier if they included a provision for a fair rate of return and taxes. Therefore, the results of the Wastewater System's historical financial performance shown on Exhibits 4 and 6 should be viewed with this knowledge.

Financial Benchmark Analysis. To gain insight into the risk differences between the Wastewater System and the Comparable Group, we reviewed financial ratios and coverages. Unfortunately, there is no single measure that best indicates investment risk from a common stockholder's perspective. However, from a creditor's viewpoint, the best measure of investment risk is debt rating. The debt rating process generally provides a good measure of investment risk

for common stockholders because the factors considered in the debt rating process are usually relevant factors that a common stock investor would consider in assessing the risk of an investment.

The types of financial benchmarks applied by credit rating agencies such as Standard and Poor's ("S&P") for rating IOU public utility debt are broader than the traditional measure of financial risk, leverage. Besides reviewing the amounts of leverage employed (i.e., percentage of debt used in the capital structure), S&P also focuses on earnings protection and cash flow adequacy. During the period 2016-2018, the Wastewater System's financial benchmark ratios show (Exhibit 4) higher investment risk than the Comparable Group based on coverage and cash flow.

Risk Analysis. From an operations standpoint, the Wastewater System and the Comparable Group are indistinguishable. Both are required to meet SDWA and CWA requirements and are also required to provide safe and reliable services to their customers.

A basic premise of finance is the tradeoff between risk and return. That is, the higher the perceived risk, the higher the required return. Conversely, the lower the perceived risk, the lower the required return.

As mentioned previously, size is a determinant of risk. Based on size, the Wastewater System's risk is higher than the Comparable Group given Wastewater System's relatively small size. Table 2 details the size difference between the Wastewater System and the Comparable Group. As shown on Table 2, the Wastewater System is many times smaller than the Comparable Group.

Size is a determinant of risk because the loss of a large customer impacts a small company much more than a large company because a large customer of a small company usually accounts

for a larger percentage of the small company's sales. Further, a larger company has much more diversification in customer mix, economic conditions, source of supplies, weather, demographic, and financing than the Wastewater System. Because the larger Comparable Group has a more diverse geographic operation than the Wastewater System, it enables them to sustain earnings fluctuations caused by adverse weather conditions in one portion of its service territory. Further, the larger Comparable Group has a more diverse customer base and is less susceptible to local downturns associated with regional economic conditions than the Wastewater System.

Exhibit 5, Table 5.1, provides an illustration which shows company size has been inversely related to returns and the volatility of their common stock. Specifically, Ibbotson Associates sorted 3,113 publicly traded common stocks based on size of market value (market price multiples by the number of shares) and placed them into four different portfolios (quartiles). The common stock quartile return and the resultant size premium, column B, increased at an increasing rate as you move from a larger stock quartile to a smaller stock quartile. Similarly, the total risk, or standard deviation of annual returns (a measure of risk), also increased with decreasing company size (column C).

The Comparable Group's market value on December 31, 2019 ranged from \$345 million to \$22,208 million as shown on Table 5.2 of Exhibit 5. Based on their market value, the Comparable Group's median market quartile was 3. Wastewater System's market value would place them in quartile 4 based upon Wastewater System's financial statements and since the largest company in quartile 4 had a market value of \$727 million.

The change in risk adjusted common stock return rate between quartile 3 and quartile 4 (column J) is 78 basis points. The results of the illustration shown on Exhibit 5 suggests the Wastewater System's common equity cost rate could be about 78 basis points higher than the

Comparable Group. The history of common stock returns indicates small company stocks are riskier than large company stocks because as one moves from the larger to smaller quartiles, the standard deviation (a measure of risk) of returns increases. Historically, common stock investors have been compensated for taking on this additional risk by the higher returns provided by small company stocks.

In general, it is reasonable to expect small companies to be more risky than large ones. Exhibit 5 shows small company stocks have been riskier over a long period of time than larger company stocks. This makes sense due to the various advantages that larger companies have over smaller companies. For example, small capitalized firms generally have less access to capital and, overall, not as many financial resources. Further, small capitalized stocks have lower trading liquidity than larger ones.

The bond market, particularly the corporate bond market, also differentiates between large and small bond issues, where many large institutional investors such as pension funds and insurance companies require large blocks of bonds for liquidity and performance. Because of this size preference, smaller bond issuers often pay a cost rate premium when compared to larger bond issuers.

A higher return requirement for companies the size of Wastewater System translates into a higher capitalization rate. All else being equal, a higher capitalization rate will produce a lower value. However, all things are seldom equal as shown by the array of market multiples for the companies that comprise the Comparable Group (Exhibit 17, page 2). As shown on Exhibit 17, the Comparable Group's current market multiples do not suggest a higher capitalization rate due to size as there are numerous other risks affecting the Comparable Group's market values.

Property Plant and Equipment Analysis. The Wastewater System can best be characterized as a wastewater collection system and integrated treatment system. The Wastewater System does not have the number of large treatment facilities that the Comparable Group has. The Wastewater System's gross property, plant and equipment is in relatively good condition given its age (Exhibit 6, Table 6.1) with 73% of their gross property, plant and equipment remaining undepreciated while 77% of the Comparable Group's gross property, plant and equipment remained undepreciated.

Property Plant and Equipment Analysis for Contributions. Most regulatory commissions determine rates for utilities based on a cost of service formula reflective of gross plant, property and equipment less accumulated depreciation (i.e., net property, plant and equipment) being roughly equal to investor provided capital (i.e., debt and equity capital) plus "cost free" capital such as customer contributions. Under 66 Pa. C.S. Section 1329 (Valuation of Acquired Water and Wastewater System'), the original source of funding for any part of the assets of a selling utility is not relevant to determining the value of a selling utility's assets.

We found a 26% (100% - 74%) differences between the Comparable Group's net property, plant and equipment and the Comparable Group's investor provided capital on the valuation date (Exhibit 6, page 1, Table 6.2). The difference between the Comparable Group's net property, plant and equipment and the Comparable Group's investor provided capital is comprised of "cost free" capital such as customer contributions.⁶ This is evidenced by the 26% difference in the Comparable Group's net property, plant and equipment and the Comparable Group's investor provided capital (Exhibit 6, page 1, Table 6.2). Additionally, we verified 77% ($20\% \div 26\%$) of

⁶ Under rate regulation "cost free" capital, such as customer contributions, is subtracted from plant assets in determining the dollar amount of property on which a utility may earn a "fair rate of return" and therefore, "cost free" capital has no economic value to investors.

known components of the Comparable Group’s “cost free” capital by reviewing their individual balance sheets (Exhibit 6, page 1, Table 6.2).

We did not analyze the Wastewater System’s property, plant and equipment for “cost free” capital, or customer contributions, because the original source of funding for any part of the assets of a selling utility is irrelevant to the valuation process under 66 Pa. C.S. Section 1329.

Capital Expenditures Analysis. The level of capital expenditures required for business purposes is an indicator of risk. Over the next four years (2020-2023), the Wastewater System estimates it will require \$68.049 million of capital expenditures on existing assets. Over the last four years, the Comparable Group had annual capital expenditures of about 8% of net plant (Exhibit 6, page 2, Table 6.3). During this same time, 2015-18, the Wastewater System had annual capital expenditures that averaged about 12% of net plant (based upon reported net plant). Therefore, the Wastewater System historical capital spending was greater than the Comparable Group’s average.

Growth Rate Analyses. Higher growth rates are an indication of less risk. A review of the growth rates in revenue, operating income plus depreciation and operating income, reveal that the Wastewater System’s revenues have been growing faster than the Comparable Group (Exhibit 6, page 4, Table 6.4) over the last three years as has operating income plus depreciation and operating income. Prospectively, the Wastewater System’s growth rates should continue due to the level of their planned capital additions.

Profit Margin Analyses. Higher profit margins are an indication of less risk. We compared earnings before interest and taxes (“EBIT”) to revenues to see how successful the Wastewater System’s management has been at generating income from the operation of the business. We also compared operating profitability or earnings before interest, tax, depreciation

and amortization (“EBITDA”) divided by total revenue to gain a clearer view of the Wastewater System's core profitability. The Wastewater System’s EBITDA profit margins are about the same as the Comparable Group’s and the EBIT profit margins are similar but lower than the Comparable Group’s indicating more risk (Exhibit 6, page 5, Table 6.5).

VALUATION

The purpose of this valuation is to comply with 66 Pa. C.S. Section 1329 (Valuation of Acquired Water and Wastewater System’) and conduct a fair market value appraisal of the Wastewater System’s assets as of December 31, 2019 in compliance with the Uniform Standards of Professional Appraisal Practices, employing the cost, market and income approaches. Consequently, three basic valuation approaches were considered in this analysis: the cost approach, the income approach and the market approach.

The Cost Approach. In general terms, the cost approach measures value by determining the amount of money required to replace the future service capability of an asset. The cost approach is based on the premise that an informed purchaser will not pay more for a property than the cost of constructing an equally desirable substitute property, minus applicable depreciation, and assuming no undue delay.

The cost approach can include the use of the: original cost method; trended original cost method; reproduction cost method; and replacement cost method. From these cost bases, the calculated accrued depreciation (accumulated depreciation) is subtracted.

The original cost method begins with determining the original cost new (“OCN”) measure of the cost of the assets when first constructed. The OCN is based on (1) a review and summary of the utility’s accounting records, contractors’ invoices and bid tabulations to determine the most

appropriate data sources of each type of asset; (2) and the “pricing out” of assets using unit costs for each vintage year that property was placed in service.

Under the trended cost method, the trended original cost (“TOC”) measures the reproduction cost by multiplying the OCN by specific cost indices. The TOC is based on (1) a review and summary of the OCN at each location to determine those elements that would be replaced-in-kind, those that would be replaced with current methods and technologies and those that would not be replaced; (2) the selection of cost indexes and the calculation of trended original cost for those elements that would be replaced-in-kind; and (3) the estimation of the cost to purchase or construct those elements that would be replaced with current methods and technologies. The TOC is a procedure for estimating reproduction cost new of property and is sometimes used as a substitute for reproduction cost method and may be considered a form of the reproduction cost method, though not as precise.

The reproduction cost method begins with determining the reproduction cost new (“RPCN”) by determining the current cost of constructing identical new property. The replacement cost method begins with estimating the replacement cost new (“RCN”) based on approximating the current cost of replacing service of existing property with similar new property having the nearest equivalent utility to the property being valued (as defined by the *International Glossary of Business Valuation Terms*).

The RPCN and the RCN method include the research and verification of the inventory of a company’s tangible personal property. Upon verification of the inventory, current material costs, current construction costs, engineering costs, administration costs, interest during

construction, and entrepreneurial profit⁷ are applied to the inventory listing in order to determine the RPCN and to determine the RCN.

The RPCN method assumes the assets would be recreated under the conditions existing at the date certain or valuation date, using the exact materials, standards, design, layout, and quality of workmanship used to create the original assets. The RCN assumes the assets would be recreated under the conditions existing at the date certain or valuation date, using similar materials, current standards, under current conditions with similarly functional property.

From these cost bases (i.e., OCN, TOC, RPCN and RCN), the calculated accrued depreciation (accumulated depreciation) is subtracted (“LD”). The calculated accrued depreciation is based on the assets’ attained ages, and the service life of the assets. The cost bases of depreciable assets are reduced annually by the accumulated depreciation to reflect the loss in the service value of the assets since being constructed.

Depreciation represents the loss in property value from: physical deterioration; functional obsolescence; and external obsolescence. The accrued depreciation represents the sum of the annual depreciation amounts that would have been charged for depreciation at a point in time. Accrued depreciation is a calculated amount that would be in the book reserve account at a point in time using the current depreciation parameters (i.e., average service life). The average service lives of depreciable assets are based on the materials used for construction and how long the depreciable assets are likely to meet service demands.

The range of survivor characteristics usually experienced by utility and industrial properties is encompassed by a system of generalized “survivor curves” known as the Iowa type

⁷ The administration costs and entrepreneurial profit are those of the contractors and engineers. The cost of overhead of the entity having the assets constructed can also be included. Generally overhead costs are allocated as part of an asset’s cost, and usually represent 5% to 15% of infrastructure asset total costs.

curves. The accrued depreciation ratio from a survivor curve is a concept that is used to estimate the consumed service capacity of plant at a point in time. The survivor curve is used to find the applicable accrued depreciation factors of the assets to result in the total accumulated depreciation.

The Original Cost Method. For this report, the Authority provided us a copy of the Engineer's assessment report "DELCORA Sewerage Facilities Engineering Assessment and Original Cost" (Rev. December 2019) and related files prepared by Pennoni Associates Inc. We utilized the Engineering Assessment and calculated the Original Cost and Related Accrued Depreciation of the Wastewater System as of December 31, 2019 ("OCNLD Study") shown on Exhibit 7.

Page 1 of Exhibit 7 summarizes the original cost and related accrued depreciation by account for the Wastewater System as of December 31, 2019. The original cost was brought forward from page 2 of Exhibit 7 and the accrued depreciation from page 3 of Exhibit 7.

The original cost of the Wastewater System was determined from the Engineering Assessment and is summarized on page 2 of Exhibit 7. A summarizing analysis of the original cost of the Wastewater System by account and vintage year is shown on Exhibit 10.

The accrued depreciation calculation, shown on page 3 of Exhibit 7, was based on recognized methods using estimated survivor characteristics and the straight-line depreciation method. The estimated survivor curves are those used by other Pennsylvania wastewater companies and the material and age of the assets. The average service life procedure was used to apply the methods of depreciation to group properties for which a survivor curve was used to recognize the existence of life dispersion. The detailed calculations of accrued depreciation applicable to original cost by account and vintage are included in Exhibit 8.

The results of the OCNLD Study established that the OCN of the Wastewater System's

utility plant in service as of December 31, 2019 was not less than \$263.7 million (\$263,682,616 rounded). The OCNLD Study also determined a theoretical calculated accrued depreciation reserve of the utility plant in service of \$71.9 million (\$71,908,130 rounded) as of December 31, 2019. After factoring in the OCNLD Study's accrued depreciation reserve, the OCNLD of Wastewater System's utility plant in service as of December 31, 2019 was determined to be \$191.8 million ($\$263,682,616 - \$71,908,130 = \$191,774,486$).

The Replacement Cost Method. We utilized the OCN to calculate the trended original cost (TOC) measures, or the replacement cost of the depreciable assets (RCN), by multiplying the OCN by specific transition factors.⁸ The result of this analysis is shown in the Replacement Cost and Related Accrued Depreciation of the Wastewater System as of December 31, 2019 ("RCNLD Study") shown on Exhibit 9.

Page 1 of Exhibit 9 summarizes the replacement cost new and related accrued depreciation by account for the Wastewater System as of December 31, 2019. The replacement cost new was brought forward from page 2 of Exhibit 9 and the accrued depreciation from page 3 of Exhibit 9.

The replacement cost new of the Wastewater System (see Exhibit 10) was calculated by trending the original cost measures by multiplying the OCN by Handy-Whitman indices and obsolescence factors. A summarizing analysis of the replacement cost new of the Wastewater System by account and vintage year and related transition factors is shown on Exhibit 10.⁹

The accrued depreciation calculation, shown on page 3 of Exhibit 9, was based on recognized methods using estimated survivor characteristics and the straight-line depreciation method. The estimated survivor curves are those used in the OCNLD Study. The average service

⁸ We used the TOC method because the mandated use of the Engineering Assessment's original cost essentially dictates the use of TOC over the reproduction cost or the replacement cost methods.

⁹ All land and land rights were valued at original cost.

life procedure was used to apply the methods of depreciation to group properties for which a survivor curve was used to recognize the existence of life dispersion. The detailed calculations of accrued depreciation applicable to replacement cost new by account and vintage are included in Exhibit 11.

The results of the RCNLD Study established that the RCN of the Wastewater System's utility plant in service as of December 31, 2019 was not less than \$792.4 million (\$792,388,733 rounded). The RCNLD Study also determined a theoretical calculated accrued depreciation reserve of the utility plant in service of \$392.7 million (\$392,724,620 rounded) as of December 31, 2019. After factoring in the RCNLD Study's accrued depreciation reserve, the RCNLD of Wastewater System's utility plant in service as of December 31, 2019 was determined to be \$399.7 million ($\$792,388,733 - \$392,724,620 = \$399,664,113$).

The results of the OCNLD and RCNLD Cost Approaches show a range of value for the Wastewater System of \$191.8 million to \$399.7 million and collectively, indicated value of \$399.7 million (\$399,664,113 rounded) for the Wastewater System based on the results of the RCNLD.

We note that DELCORA has historically carried a large balance of construction work in progress ("CWIP") on their balance sheet at year's end over the most recent three years of \$31.3 million in 2016, \$40.7 million in 2017 and \$57.5 million in 2018. We note these facts because the Engineer's Assessment included \$2.3 million of plant additions for 2019 and determined OCN inventory of used and useful plant at a point in time that does not account for CWIP, nor should it have. Accordingly, we believe a substantial amount of CWIP related plant assets are likely to be included in the currently proposed transaction which have not been accounted for under our Cost Approach.

Benchmark Metrics. Besides providing an indication of value based upon a cost method, the OCN and OCNLD can also provide a meaningful metric to evaluate the reasonableness of other indications of value produced by other valuation methods. For example, the Comparable Group's market value of common equity plus minority interest, preferred stock, and total debt net of cash and cash equivalents ("Enterprise Value") is currently 1.76-times (Exhibit 17, page 2) their OCNLD or net property, plant and equipment. Similarly, the Comparable Group's Enterprise Value is currently 1.35-times (Exhibit 17, page 2) their OCN or gross property, plant and equipment.

The above-mentioned property, plant and equipment "multiples" understate the multiple applicable to the Wastewater System because some of the Comparable Group's property, plant and equipment includes assets that were originally financed with "cost free" capital such as customer contributions.¹⁰ Subtracting customer contributions ("CIAC") from the Comparable Group's property, plant and equipment (Exhibit 17, page 3) results in CIAC adjusted multiples of 2.00-times OCNLD and 1.53-times OCN for the Comparable Group.

Multiplying the Wastewater System's OCN of \$263.7 million by the Comparable Group's 1.35-times OCN multiple or the 1.53-times contributions adjusted OCN multiple indicates a range of market value of \$356.0 million to \$403.5 million for the Wastewater System, similar to the RCNLD of \$399.7 million. Further, multiplying the Wastewater System's OCNLD of \$191.8 million by the Comparable Group's 1.76-times OCNLD multiple or the 2.00-times contributions adjusted OCNLD multiple indicates a range of market value of \$337.6 million to \$383.6 million for the Wastewater System, similar to the RCNLD of \$399.7 million. The aforementioned range

¹⁰ Under rate regulation "cost free" capital, such as customer contributions, is subtracted from plant assets in determining the dollar amount of property on which a utility may earn a "fair rate of return" and therefore, "cost free" capital has no economic value to investors.

of market values for the Wastewater System are not a substitute for an appraisal. However, the referenced range of market values for the Wastewater System can be a meaningful metric to evaluate the reasonableness of other indication of value produced by other valuation methods.

Comparing the results of the OCNLD method and RCNLD method to the benchmark metrics indicates that the value indicated by the OCNLD method of \$191.8 million is inconsistent with the benchmark metrics. Therefore, the results of \$399.7 million RCNLD method form the basis for our Cost Approach conclusion of \$399.7 million (\$399,664,113 rounded) and is used as the Cost Approach as part of our fair market value determination for the Wastewater System.

The Income Approach. Capitalizing or discounting a future income stream to a present value provides an indication of the value of a business. The capitalization or discount rate reflects future growth, business risk, economic factors, financial risk and industry risk of the assets. The theory behind the income approach is that the value of a business is the future economic benefit that ownership will provide.

The two most common methods of the income approach to valuation are the capitalization of earning or cash flow method and the discounted cash flow method (“DCF”). The capitalization of earning method converts a single base economic income number to a value by dividing it by a capitalization rate. The capitalization of earnings is best suited when the future earnings, or cash flow, can be predicted. The implicit assumption in the capitalization of earning method is that the cash flow is a perpetuity and the capitalization rate is a constant.

The DCF method uses estimates of future free cash flow and discounts them to arrive at a present value or price of the cash flows. Generally, the DCF analysis begins with an estimate of the Debt Free Net Cash Flow over the next five to twenty years along with a terminal value. In each year, the Debt Free Net Cash Flow is comprised of projected EBIT, minus income taxes, plus

projected depreciation and amortization, plus or minus projected changes in net cash working capital, less projected capital expenditures. The second element of the DCF analysis is the determination of an appropriate discount rate.

The capitalization rate used in the capitalization of earnings method and the discount rate used in the DCF method are related. The discount rate is the opportunity cost rate related to the risk of the cash flows. For the Wastewater System, the appropriate discount rate is the current municipal revenue bond yield on December 31, 2019 of 3.38%. The appropriate IOU discount rate is the current net of tax overall cost of capital (weighted average cost of capital) on December 31, 2019 and ranges from 5.91% to 7.16%.¹¹ The capitalization rate is simply the discount rate minus the expected growth rate. If no growth is assumed, the capitalization rate is equal to the discount rate.

The capitalization of earnings method is generally a reasonable approach for valuing the Wastewater System as it is currently owned (i.e., non-IOU) and operated. However, change in ownership of the Wastewater System to another large regional municipal authority (“MUNI”) or IOU produces a myriad of problems for both the capitalization of earnings method and the DCF Method because any future cash flow estimates would be hypothetical or estimated due to the uncertain nature that would accompany new ownership including future rates, future expenses, future capital expenditures, taxes, and regulation.

For a MUNI, the appropriate discount rate is the current municipal revenue bond, 3.38%, because debt is the only major source of capital available to finance an acquisition (Exhibit 20,

¹¹ Both the American Society of Appraisers, ASA Business Valuation Standards, 2009, and the National Association of Certified Valuation Analysts, Professional Standards, 2007, use the same definition: “Weighted Average Cost of Capital (WACC). The cost of capital (discount rate) determined by the weighted average, at market values, of the cost of all financing sources in the business enterprise's capital structure.”

pages 2-5). Although a MUNI likely carries equity on their books (balance sheet), all existing equity is already invested in other assets and therefore, cannot be used to finance an acquisition.¹² For valuation purposes, an embedded cost of debt, or the historical cost of all debt issuances outstanding is not used because this capital is already invested in assets. Whereas the marginal cost of debt, 3.38%, at the valuation date is used in accordance with accepted valuation practices and used for market valuation purposes.

As discussed previously, for an IOU, the appropriate discount rate is the net of tax overall cost of capital (weighted average cost of capital), 5.91% to 7.16% (Exhibit 20, pages 2-7). In this instance, the net of tax overall cost of capital (weighted average cost of capital) is based on the Comparable Group's market value capital structure of 21.8% debt and 78.2% equity, a market cost of debt of 3.37% and a range of market cost of equity of 6.88% to 8.48%.¹³ The Comparable Group's net of tax overall cost of capital (weighted average cost of capital) is used as a proxy to conform to the "hypothetical buyer" or "hypothetical seller" of fair market valuation. Use of the buyer's net of tax overall cost of capital (weighted average cost of capital) would produce an investment valuation, not a fair market valuation.¹⁴

We began the Income Approach for the Wastewater System by first determining the Debt Free Net Cash Flow to be capitalized or discounted. The Debt Free Net Cash Flow is comprised

12 For example, when a municipal or government entity, such as the Commonwealth of Pennsylvania, finance construction of a road or bridge, they only consider the marginal debt cost despite having "equity" reflected on their books (balance sheet).

13 For example, see <http://www.investinganswers.com/financial-dictionary/financial-statement-analysis/weighted-average-cost-capital-wacc-2905>. Also see <http://www.wallstreetmojo.com/weighted-average-cost-capital-wacc/>, or <http://accountingexplained.com/misc/corporate-finance/wacc>.

14 We did not use the 6.58% Comparable Group's DSIC (distribution system improvement charge) related net of tax overall cost of capital in our valuation because a "hypothetical buyer" cannot finance an acquisition at such a rate and therefore, its use would provide a meaningless result. Where the 6.58% DSIC related cost was determined based the Comparable Group's book value capital structure of 44.8% debt and 55.2% equity, a cost of debt of 3.37% and a DSIC cost of equity of 9.95%. However, we note the 6.58% Comparable Group's DSIC related net of tax overall cost of capital falls within the 5.91% to 7.16% range of discount rates used in our Income Approach.

of EBIT, minus income taxes, plus depreciation and amortization, plus or minus projected changes in net cash working capital, less projected capital expenditures. The development of Wastewater System's Debt Free Net Cash Flow begins on Exhibit 1 and ends on Exhibits 12 through 16.

Differences in accounting practices exist between GASB, DCED and FASB because there are differences in their purpose. That is, the GASB's and DCED's motivations are to make sure government entities are accountable for the money they receive from the public or taxpayers, while the FASB's focus is to help investors and creditors make decisions. These differences in accounting objectives between GASB, DCED and FASB can present a problem when it comes to comparing the financial statements of entities that are either publicly or privately owned, such as the Wastewater System and the Comparable Group.

Exhibit 1 presents the Wastewater System's financial information contained in their financial statements, so it is more consistent with the Comparable Group and more practical for valuation purposes. The information on Exhibit 1 was used to develop Exhibits 12 through 16. As noted previously, the Wastewater System's financial statements and their rates did not include taxes nor a fair rate of return. Accordingly, on Exhibits 13 through 16 we adjusted the Wastewater System's post-2020 financial information for pro forma expenses and returns to be reflective of a MUNI or IOU ownership.

The Capitalization of Earnings Method. The capitalization of earnings method begins with an estimate of the income or cash flow producing capabilities of the business (Exhibit 12) for a recent time period and assumes current ownership and operations. We began the capitalization of earning method for the Wastewater System by first determining the Debt Free Net Cash Flow to be capitalized. The Debt Free Net Cash Flow is comprised of current EBIT, minus income taxes, plus current depreciation and amortization, plus or minus projected changes in net cash

working capital, less projected capital expenditures. Specifically, our capitalization of earnings method capitalizes Wastewater System's current (2020) budgeted Debt Free Net Cash Flow. The second element of the capitalization of earnings method is the determination of an appropriate capitalization rate. Our analysis uses the current municipal revenue bond yield on December 31, 2019 of 3.38% (Exhibit 12, line 24) as a capitalization rate. We also did a second capitalization of earnings calculation based on a 3.18% capitalization rate (Exhibit 12, line 27), or 20-basis points below the current level to reflect the unique population growth projected for the Wastewater System's because we assumed the Wastewater System's Debt Free Net Cash Flow growth will be at least 0.2% (20-basis points).

We computed the Wastewater System's indicated value based on the capitalization of earnings method by dividing the projected Debt Free Net Cash Flow by the capitalization factor. The capitalization factor is equal to the discount rate minus assumed growth in projected Debt Free Net Cash Flow. We considered two ranges of growth in the capitalization of earnings method, no growth and 0.2% growth. However, based upon our quantitative and qualitative analysis, and the projected population growth, we believe the 0.2% growth scenario is the most probable for the Wastewater System based on current ownership and operations.

We adjusted the Wastewater System's Debt Free Net Cash Flow (Exhibit 12, line 23) to account (subtract) for the average projected capital expenditures of \$16,225,908 if system is not sold.¹⁵ Exhibit 12 shows the results of the capitalization of earnings method. For the Wastewater System, the capitalization of earnings method using a 3.38% capitalization rate (no growth) indicates a value of \$523.7 million (without rate increases) and \$210.0 million (without rate

¹⁵ The capital expenditures of \$16,225,908 utilized is the 2020-2040 average projected capital expenditure for existing assets.

increases) on pro forma 2020 results. The capitalization of earnings method using a 3.18% capitalization rate (growth) indicates a value of \$556.6 million (without rate increases) and \$223.2 million (without rate increases) on pro forma 2020 results. Collectively, for Wastewater System, we believe the 0.2% growth scenario is the most probable result based on current ownership and operations and therefore, the capitalization of earnings method suggests a value of \$223.2 million (without rate increases) based on pro forma 2020 results.

The DCF Method. For the Wastewater System, the DCF method considers two types of discounted cash flow analyses, the EBIT and EBITDA terminal value model (“Market Multiple DCF”) and the capitalization of terminal value model (“Capitalization DCF”). We show the results of these models on Exhibits 13 through 16.

The DCF method begins with an estimate of the income or cash flow producing capabilities of the business. Specifically, our DCF methods use estimates of the results of the Wastewater System’s operations over the next 24 years. We use two different assumptions for the Wastewater System’s future operations in the DCF methods: MUNI ownership shown on Exhibits 13 and 15; and IOU ownership shown on Exhibits 14 and 16.

Under the MUNI ownership the discount rate is the current 3.38% municipal revenue bond yield and under the IOU ownership the discount rate is the current net of tax overall cost of capital, reflecting the upper and lower range of the net of tax overall cost of capital for the Comparable Group of 5.91% to 7.16%. For the Capitalization DCF, the capitalization rate reflects a scenario of no additional growth (i.e., discount rate = capitalization rate) and a scenario of minimal growth of 0.2% (i.e., discount rate – 0.2% growth = capitalization rate) under MUNI ownership and 0.2% (i.e., discount rate – 0.2% growth = capitalization rate) under IOU ownership based on inflation, changes in Debt Free Net Cash Flows and the projected population growth.

We computed the Market Multiple DCF terminal values by multiplying the Wastewater System's projected EBIT and EBITDA by the Comparable Group's adjusted multiples of 27.9-times and 19.1-times, respectively. We computed the Capitalization DCF terminal value by dividing the projected Debt Free Net Cash Flow by the capitalization factor. The capitalization factor is equal to the discount rate minus assumed growth in projected Debt Free Net Cash Flow.

Exhibit 13 shows the results of the DCF method under the MUNI ownership scenario. The results of the Capitalization DCF shown on Exhibit 13 show a range of value for the Wastewater System of \$378.0 million to \$393.7 million. The results of the Market Multiple DCF shown on Exhibit 13 show a value of \$382.7 million. Collectively, the DCF method based on the MUNI ownership scenario indicates a value of \$388.2 million for the Wastewater System based on the 0.2% growth assumption.

Exhibit 14 shows the results of the DCF method under the IOU ownership scenario. The results of the Capitalization DCF shown on Exhibit 14 show a range of value for Wastewater System of \$162.3 million to \$218.8 million. The results of the Market Multiple DCF shown on Exhibit 14 show a range of value of \$267.0 million to \$336.0 million. Collectively, the DCF method based on the IOU ownership scenario and a 0.2% growth assumption indicates a value of \$242.9 million for the Wastewater System.¹⁶

¹⁶ If we used the 6.58% Comparable Group's DSIC (distribution system improvement charge) related net of tax overall cost of capital in our valuation shown on Exhibit 14, the results of the Capitalization DCF would show a range of value for Wastewater System of \$184.0 million to \$186.4 million. Further, the results of the Market Multiple DCF would show a value of \$296.8 million and collectively, the DCF method based on the IOU ownership scenario and a 0.2% growth assumption would indicate a value of \$241.6 million for the Wastewater System. The DCF method based on the MUNI ownership scenario indicates a value of \$388.2 million and the DCF method based on the IOU ownership scenario indicates a value of \$241.6 million. Collectively, the DCF method indicates a value of \$314.9 million when DSIC is considered.

The DCF method based on the MUNI ownership scenario indicates a value of \$388.2 million and the DCF method based on the IOU ownership scenario indicates a value of \$242.9 million. Collectively, the DCF method indicates a value of \$315.6 million.

Change in ownership of the Wastewater System to a MUNI or an IOU produces a myriad of problems for the DCF Method. Under a MUNI purchase, future cash flow estimates are uncertain because they would reflect the actual price paid for the acquisition. Under an IOU purchase and the associated regulation by the PUC, future cash flow estimates are uncertain since regulation by the PUC would result in an unknown determination of rate base and the related depreciation and authorized/achieved earning levels. In the current instance, the Asset Purchase Agreement's ("APA") negotiated purchase price for the Wastewater System is less than our RCNLD value but more than our OCNLD value.

Therefore, we recalculated our valuations shown on Exhibits 13 and 14 on Exhibits 15 and 16 to reflect revenues and cash flows derived from an earnings base between OCNLD and RCNLD. Exhibit 15 shows the results of the DCF method under the MUNI ownership scenario. The results of the Capitalization DCF shown on Exhibit 15 show a range of value for the Wastewater System of \$427.4 million to \$442.7 million. The results of the Market Multiple DCF shown on Exhibit 15 show a value of \$464.9 million. Collectively, the DCF method based on the MUNI ownership scenario indicates a value of \$453.8 million for the Wastewater System based on the 0.2% growth assumption.

Exhibit 16 shows the results of the DCF method under the IOU ownership. The results of the Capitalization DCF shown on Exhibit 16 show a range of value for Wastewater System of \$233.0 million to \$294.5 million. The results of the Market Multiple DCF shown on Exhibit 16 show a range of value of \$348.9 million to \$427.0 million. Collectively, the DCF method based

on the IOU ownership scenario and a 0.2% growth assumption indicates a value of \$321.7 million for the Wastewater System.¹⁷

The DCF method based on the MUNI ownership scenario indicates a value of \$453.8 million and the DCF method based on the IOU ownership scenario indicates a value of \$321.7 million. Collectively, the DCF method indicates a value of \$387.8 million based on the Income Approach.

Exhibits 15 and 16 include DELCORA's 2020 through 2040 projected capital expenditures for existing assets. In addition to developing projects capital expenditures for existing assets, DELCORA also developed projected capital expenditures related to their consent decree with the United States Government which addresses the City of Chester's CSO issue (DELCORA LTCP). If we included the DELCORA LTCP with the projected capital expenditures for existing assets in our valuations shown on Exhibits 15 and 16, the DCF method based on the MUNI ownership scenario indicates a value of \$508.6 million and the DCF method based on the IOU ownership scenario indicates a value of \$345.3 million. Collectively, the DCF method indicates a value of \$426.9 million after including the DELCORA LTCP expenditures.

The City estimates DELCORA's share of the City LTCP's arising from DELCORA's use of the SWWPCP to total \$605.8 million during the period 2018-2042, excluding the cost for water treatment which we have estimated to total at least \$327.4 million during this period. DELCORA's existing agreement with the City for treatment at the SWWPCP expires in 2028.

¹⁷ If we used the 6.58% Comparable Group's DSIC (distribution system improvement charge) related net of tax overall cost of capital in our valuation shown on Exhibit 16, the results of the Capitalization DCF would show a range of value for Wastewater System of \$257.0 million to \$259.4 million. Further, the results of the Market Multiple DCF would show a value of \$382.7 million and collectively, the DCF method based on the IOU ownership scenario and a 0.2% growth assumption would indicate a value of \$321.0 million for the Wastewater System. The DCF method based on the MUNI ownership scenario indicates a value of \$453.8 million and the DCF method based on the IOU ownership scenario indicates a value of \$321.0 million. Collectively, the DCF method indicates a value of \$387.4 million when DSIC is considered.

Since at least 2011, DELCORA and the Delaware County Planning Department have been exploring and evaluating options for the treatment of flows currently being sent to the SWWPCP by DELCORA. One such option includes the expansion of the WRTP to handle these flows.

DELCORA projects the capital expenditures relating to the expansion of the WRTP to handle the flows currently being sent to the SWWPCP to total \$447.1 million from 2020-2028. If we included the cost of the WRTP plant expansion along with DELCORA LTCP and the projected capital expenditures for existing assets, along with the reduction in water treatment costs and the removal of the City LTCP in our valuations shown on Exhibits 15 and 16, the DCF method based on the MUNI ownership scenario indicates a value of \$650.1 million and the DCF method based on the IOU ownership scenario indicates a value of \$387.8 million. Collectively, the DCF method indicates a value of \$519.0 million when the WRTP plant expansion and the DELCORA LTCP are considered.

The Market Approach. There are two methods of doing the Market Approach to valuation: the market multiples method; and the selected transaction method. We developed both the market multiples method and the selected transaction method in our valuation analysis.

The Market Multiples Method. The market multiples method valuation begins by reviewing market price data of corporations engaged in the same or a similar line of business as the Wastewater System. We relied upon market data for the Comparable Group for these purposes since they are equally affected by similar economic, industry, and business risks as the Wastewater System. Since no marketplace exists for the common stock of the Wastewater System, an alternative to estimate the value of the Wastewater System is to analyze the price investors are willing to pay for the publicly traded common stock of companies that are similar to the Wastewater System. The specific market price data reviewed includes the market value of

common equity plus minority interest, preferred stock, and total debt net of cash and cash equivalents (i.e., Enterprise Value). Where the market value of common equity is the product of multiplying the closing stock price by the number of common shares outstanding. The Enterprise Value provides an indication of the value of the entire business. The Enterprise Value multiples (“Market Multiples”) are shown on Exhibit 17. For the Comparable Group, the Market Multiples were calculated as of December 31, 2019 based on the latest twelve months of financial data available at the appraisal date.

We used the Comparable Group’s Enterprise Value at December 31, 2019 and calculated Market Multiples of: revenue (“Revenue”); EBITDA; EBIT; gross property plant and equipment (“GPPE”); net property plant and equipment (“NPPE”); investor provided capital (“ICAP”); utility customers (“Customers”); and population of the area served (“Population”).

The next step in the market multiples method valuation was applying the Comparable Group’s Market Multiples to corresponding financial and operating statistics of the Wastewater System. The Comparable Group’s Market Multiples reflect their capitalization rate of each financial and operating statistic. For example, a Market Multiple of EBIT of 16.14 times equates to a capitalization of EBIT of 6.20% ($1 \div 16.14 = 6.20\%$). Each capitalization rate is unique to the entity and the statistic being evaluated and reflects the growth and investment risk of the entity.

We believe that similar economic, industry and business risks have affected the Comparable Group as those faced by the Wastewater System. However, consideration must be given to the fact that no two companies are exactly alike. On average, the Comparable Group are larger than the Wastewater System. The relative size difference between the Comparable Group and Wastewater System suggests that the risk to investors of the Wastewater System is higher than

the Comparable Group. Further, based upon our quantitative and qualitative analysis, we concluded that the Wastewater System has more risk than the Comparable Group.

Accordingly, the Comparable Group's Market Multiples are not directly applicable to the Wastewater System. We assumed the higher risk due to the Wastewater System's size is added to the higher risk found in our quantitative and qualitative analysis. This combined risk was assumed to result in the Wastewater System being 5% more risky than the Comparable Group and produces a 95% (100% - 5%) base risk adjustment to the Comparable Group's Market Multiples. We applied the 95% base risk adjustment to all financial multiples. For example, the Comparable Group's ICAP multiple was multiplied by 95% to produce a lower multiple applicable to the Wastewater System to account for risk differences.

The Comparable Group's Market Multiples of Revenue, EBITDA, and EBIT were adjusted for the base risk adjustment to produce multiples applicable to the Wastewater System (Exhibit 17, page 3). The Comparable Group's Market Multiples of GPPE and NPPE were adjusted for the base risk adjustment and for their percentage of property plant and equipment (Exhibit 17, page 3) financed with "cost free" capital such as contributions because "cost free" capital should not be part of this valuation process. The Comparable Group's Market Multiples of Customers and Population were adjusted for the type of assets of the Wastewater System and growth.

The net risk adjustments to the Comparable Group's Market Multiples are shown on page 1 of Exhibit 17. The adjustments to the Comparable Group's Market Multiples are: 95% of ICAP (more risk/less growth), 108% of GPPE (more risk/lower growth and contributions), 107% of NPPE (more risk/lower growth and contributions), 95% of Revenue (more risk/lower growth); 95% of EBIT and 95% EBITDA (more risk/lower growth); and 95% of Customers and Population (growth and contributions).

Page 1 of Exhibit 17 shows the market multiples method indicated values based on: Revenue, EBIT and EBITDA (collectivity called “Income Statement Items”); ICAP, GPPE and NPPE (collectivity called “Capital Items”); and Customers and Population (collectivity called “Demographics Items”). For most municipal utilities, the indicated values based on Income Statement Items are far below the indicated values that are based on Capital Items and those based on Demographics Items. We attribute this to the dollars of Revenue, EBIT and EBITDA do not reflect any provision for taxes while the multiples for the Comparable Group do.¹⁸ Consequently, we do not believe the results of the multiples of Revenue, EBIT and EBITDA are meaningful and should not be used for municipal utilities.

In the market multiples method, the meaningful Market Multiples of the Comparable Group are used to develop an indicated value of the Wastewater System. This is accomplished by multiplying the Wastewater System’s financial and operating data by the Comparable Group’s median Market Multiples (Exhibit 17, page 1). The results of the market multiples method (Exhibit 17, page 1) show a range of value for the Wastewater System of \$518.4 million to \$916.7 million and collectively would indicate value of \$717.5 million. However, we note the Demographics Items are substantially different (higher) than the other indicated values and have given them no weight in determining an indicated value of \$518.4 million after considering only the Capital Items as producing meaningful Market Multiples.

The Selected Transactions Method. The selected transactions method entails analyzing certain public information relating to selected transactions involving the purchase or sales of businesses involved in the same or similar business line. The number of selected transactions

¹⁸ The Revenue, EBIT and EBITDA for the Wastewater Systems also do not include a fair rate of return.

available for review is limited because most acquisitions in the water and wastewater industry involve small acquisitions for which no public information exists. Additionally, not all transactions are comparable since some purchase prices may only involve the acquisition of the common stock, purchase prices may be net of cash and others may only involve assets. In any of these instances, the derived multiples (e.g., purchase price as a multiple of: Revenues; EBITDA; EBIT; etc.) would understate (overstate) the multiples involving a purchase price for an entire business enterprise (common stock) or business assets.

The selected transactions method provides a valuation of a business, or assets, at the time the acquisition of that business was completed, rather than the appraisal date market value (December 31, 2019). The change in the Comparable Group's market multiples of NPPE and ICAP, shown in Figure 1, shows the change in market valuation over a recent 72 month period. In Figure 1 the Comparable Group's market multiples of NPPE and ICAP were indexed to December 31, 2019 valuation multiples so that the December 31, 2019 valuation multiples have an index value of 100.

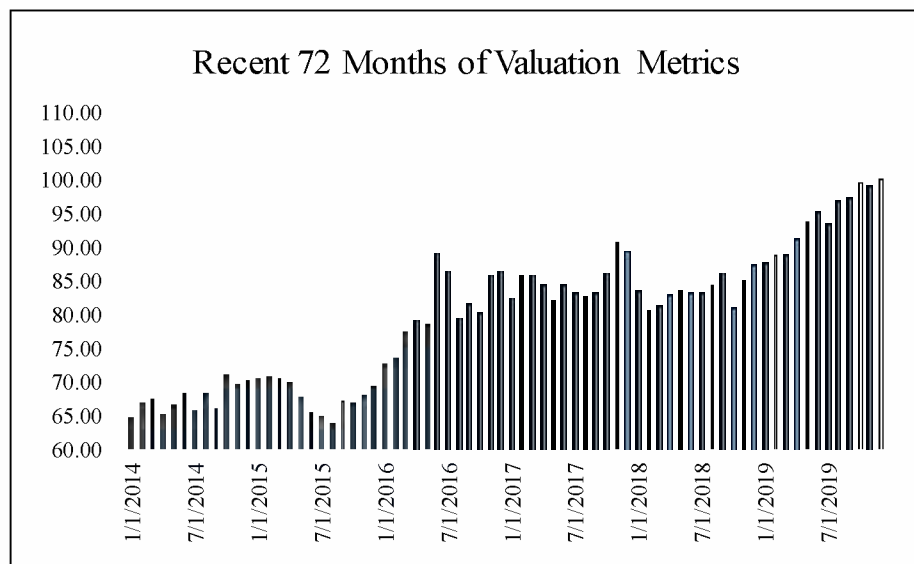


Figure 2

The Comparable Group's appraisal date (December 31, 2019) valuation multiples are 12% higher than 2019's lowest levels and equal to the 2019's highest levels and 20% higher than 2018's lowest levels and 13% above the 2018's highest levels. The Comparable Group's December 31, 2019 valuation multiples are 20% higher than 2017's lowest levels and 9% above the 2017's highest levels, are 11% to 27% higher than 2016's, are 29% to 36% higher than 2015's, and are 29% to 36% higher than 2014's multiples.

Because of the rapid rise in valuation multiples since early 2016 we limited our search for selected transactions to: (1) those that occurred in 2016 or later; (2) purchases of water or sewer systems; (3) assets being purchased; and (4) those that did not discount "cost free" capital/customer contributions in the valuation. The selected transactions that met the stated selection criteria are shown on pages 2 and 3 of Exhibit 18.

Using certain public information, we calculated sales price multiples of selected transactions involving the purchase or sale of businesses that met the stated selection criteria. The calculated sales price multiples included transactions multiples of: ICAP; GPPE; NPPE; Revenue; EBITDA; EBIT; Customers; and Population. As shown on pages 2 and 3 of Exhibit 18, the selected transactions method indicated values based on the Income Statement Items are far different than the Wastewater System's selected transactions method indicated values based on Capital Items and those based on Demographics Items. We attribute this to the fact the selling utilities' dollars of Income Statement Items do not reflect any provision for taxes.¹⁹ Consequently, we do not believe the results of the multiples of Income Statement Items are meaningful.

¹⁹ Further, Revenue, EBIT and EBITDA for the Wastewater Systems also do not include a fair rate of return.

The selected transaction method relies on and reflects information that was known, ex-ante, at the time the winning purchase bid (price) was given and the metrics used are time period sensitive. For example, bids made in 2016 only reflects metrics from 2015 since the results of 2016 could not be known at the time of the bids. The selected transaction method ex-ante information (metrics) is shown on page 2 of Exhibit 18. Complete information only exists for a few of the transactions, with only Customers and Population having ample data for all transactions as is evident from the information shown (Exhibit 18, page 2). Therefore, we supplemented the ex-ante data with ex-post information of GPPE and NPPE (collectivity called “Asset Items”) as shown on page 3 of Exhibit 18.

In the selected transactions method, the significant selected transactions multiples of the selling utilities are used to develop an indicated value of the Wastewater System. This is accomplished by multiplying the Wastewater System’s financial and operating data by the selling utilities’ transactions multiples (Exhibit 18, pages 2 and 3). The results of the selected transactions method (Exhibit 18, page 1) show a range of value for the Wastewater System of \$364.7 million to \$773.0 million when all transactions are considered, a range of value of \$351.9 million to \$1,095.1 million when fully integrated assets are solely considered, and collectively indicate value of \$646.2 million after giving additional weight to the integrated assets selected transactions multiples. However, we note that the value based on Demographics Items are substantially different (higher) than the other indicated values and have given them no weight in determining an indicated value of \$358.3 million after considering only the Asset Items as producing meaningful selected transactions multiples. When only Asset Items are considered, the results of the selected transactions method (Exhibit 18, page 1) show a range of value for the Wastewater System of \$362.1 million to \$413.8 million when all transactions are considered, a

range of value of \$312.0 million to \$374.6 million when fully integrated assets are solely considered, and collectively indicate value of \$358.3 million.

In 2018 two IOUs, Connecticut Water Service, Inc and SJW Group, announced a planned merger with Connecticut Water being acquired by SJW through a stock purchase. Although this acquisition is not directly applicable to the Wastewater System, it does provide a range of indicated value for the Wastewater System (Exhibit 18, page 4) which we relied on as a check. In this selected transaction, the significant selected transactions multiples of the selling utilities (Connecticut Water) are used to develop an indicated value of the Wastewater System. This is accomplished by multiplying the Wastewater System's financial and operating data by the selling utilities' transactions multiples. The results of the Connecticut Water selected transactions show a range of value for the Wastewater System of \$495.5 million when the reported significant selected transactions multiples (Capital Items) are considered and a value of \$564.2 million when the reported significant selected transactions multiples (Capital Items) have been adjusted for "cost free" capital. Since the Connecticut Water transaction is a stock transaction, we believe it may understate the value of an asset purchase. However, we also note that Connecticut Water is a fully integrated company which is publicly traded while the Wastewater System is not.

The results of the market multiples method shown on Exhibit 17 indicate value of \$518.4 million. The results of the selected transactions method shown on Exhibit 18 indicate value of \$358.3 million. Based on the aforesaid results, the Market Approach to valuation indicates a value of \$438.3 million for the Wastewater System based on the results of the market multiples method and the selected transactions method.

Conclusion. We summarize our findings for the Wastewater System on Exhibit 19. Our findings for the Wastewater System is based on the Cost, Market and Income Approaches to

valuation. We used seven methods under the Cost, Market and Income Approaches to valuation: Original Cost Method, Replacement Cost Method, Capitalization of Earnings Method, Market Multiple Discounted Cash Flow Method, Capitalization Discounted Cash Flow Method, Market Multiples Method, and the Selected Transactions Method.

The results from the capitalization of earnings method, market multiple discounted cash flow method and the capitalization discounted cash flow method form the basis for our Income Approach. Our Market Approach is supported by the market multiples method and selected transactions method. The results from the original cost method form the basis for our replacement cost method, and both methods form the basis for our Cost Approach.

We considered the results of each approach as an indicator of value individually, or as independent indicators of value. Therefore, all three approaches to valuation were given consideration in arriving at our estimate of the fair market value conclusion. Based on these facts, our conclusion regarding the fair market value is \$408.9 million. Our conclusion regarding the fair market value can be described by the weights and the specific results of the three approaches to valuation that are shown on Exhibit 19. The results of our analyses, shown on Exhibit 19, indicate a range of value for the Wastewater System of \$387.8 million to \$438.3 million and collectively indicate a fair market value of \$408,883,000 for the Wastewater System.

COMPLIANCE & APPRAISAL CERTIFICATION

Compliance with Uniform Standards of Professional

Appraisal Practice (USPAP) 2020-2021

Fulfillment of Requirements for a Personal Property Appraisal and Report

- **State the identity of the client and any intended users, by name or type:**

The client is Aqua Pennsylvania Wastewater, Inc. The intended users of the valuation are Aqua Pennsylvania Wastewater, Inc. and the Pennsylvania Public Utility Commission.

- **State the intended use of the appraisal**

The intended use of the valuation is to comply with 66 Pa. C.S. Section 1329, Valuation of Acquired Water and Wastewater Systems and conduct a fair market value appraisal of Delaware County Regional Water Quality Control Authority's wastewater system assets in compliance with the Uniform Standards of Professional Appraisal Practices, employing the cost, market and income approaches.

- **Describe information sufficient to identify the property, real, personal, and intangible, involved in the appraisal, including the physical and economic property characteristics relevant to the assignment.**

The Delaware County Regional Water Quality Control Authority owns, operates and maintains wastewater treatment facilities and collection systems that serves more than half million people in the Greater Philadelphia area including 46 municipalities in Delaware and Chester Counties in southeastern Pennsylvania. The Delaware County Regional Water Quality Control Authority's wastewater system assets include related assets necessary to run the System; all personal property and fixed assets, including all equipment and machinery, and auxiliary equipment and plant equipment. The Delaware County Regional Water Quality Control Authority's wastewater system assets include sewage collection, transmission and treatment assets, and related land and land rights.

The Delaware County Regional Water Quality Control Authority owns and operates the Wastewater System which consists of four treatment plants, 16 pump stations and lift stations, 17 miles of force mains, 164 miles of gravity mains, 4,248 manholes, associated infrastructure and appurtenances, and related land and land rights. The 17 miles of force mains were installed between 1931 and 2017 and range in diameter of from 4-inches to 66-inches. The 164 miles of gravity mains were installed between 1900 and 2019 and range in diameter of from 4-inches to 72-inches. The Delaware County Regional Water Quality Control Authority's 4,248 manholes were installed between 1900 and 2019.

Compliance with Uniform Standards of Professional

Appraisal Practice (USPAP) 2020-2021

Fulfillment of Requirements for a Personal Property Appraisal and Report

The Delaware County Regional Water Quality Control Authority's Wastewater System property is in reasonable condition for their age based on physical observations and reviews of operating and financial statements. The property is an operating wastewater utility, the economics of which were analyzed from budgeted financial statements which were incorporated into the income approach to value in this appraisal.

The Delaware County Regional Water Quality Control Authority's Wastewater System land and land rights include land used for wastewater sewage collection and transmission, 181 miles of sewers, 16 pump stations, four treatment plants and multiple easements and rights-of-way necessary to operate the Wastewater System.

- **State the type and definition of value and cite the source of the definition, including whether the opinion of value is in terms of cash or of financing terms equivalent to cash, or based on non-market financing or financing with unusual conditions or incentives**

Fair market value is defined as:

“The price, expressed in terms of cash equivalents, at which property would change hands between a hypothetical willing and able buyer and a hypothetical willing and able seller, acting at arm's length in an open and unrestricted market, when neither is under compulsion to buy or sell and when both have reasonable knowledge of the relevant facts.” The International Glossary of Business Valuation Standards

- **State the effective date of the appraisal and the date of the report**

The effective date of the appraisal is as of December 31, 2019 and the appraisal report date is February 2020.

- **Describe sufficient information to disclose to the client and any other intended users of the appraisal the scope of work used to develop the appraisal**

Conduct a fair market value appraisal of the Delaware County Regional Water Quality Control Authority's Wastewater System assets in compliance with the Uniform Standards of Professional Appraisal Practices, employing the cost, market and income approaches.

Compliance with Uniform Standards of Professional

Appraisal Practice (USPAP) 2020-2021

Fulfillment of Requirements for a Personal Property Appraisal and Report

The premise of value is going concern and the assets are valued as a group under the premise that they collectively comprise an ongoing operating business enterprise.

We accepted all information and data provided by the Delaware County Regional Water Quality Control Authority as it pertains to this assignment “as is” after a limited review. That is, we neither audited nor verify any data, original cost data, financial records or operating data provided for this assignment.

The appraisal considered all three approaches to value: the cost, income and market. Briefly the scopes of work for each are as follows:

The cost approach utilized the original cost method and replacement cost method. The reproduction cost method was calculated by trending (trended cost method) the asset inventory developed by Pennoni Associates Inc. from its original cost new inventory. The original cost method determined the original cost new measure of the cost of the assets when first constructed. The original cost new inventory was trended using the Handy Whitman Index of Public Utility Construction Costs for the water industry to produce the reproduction cost new and converted to replacement cost new after obsolescence was factored. The calculated accrued depreciation was determined for the original cost new and for the replacement cost new. The calculated accrued depreciation was based on the assets’ attained ages, and the service life of the assets. The cost basis of depreciable assets was reduced annually by the accumulated depreciation to reflect the loss in the service value of the assets since being constructed. All land and land rights were valued at original cost.

Income Approach - The income approach utilized the capitalization of earning (cash flow) method and the discounted cash flow method. The capitalization of earning method converted a single base economic income number to a value by dividing it by a capitalization rate. The discounted cash flow method used estimates of future debt free net cash flow and discounted them to arrive at a present value or price of the cash flows. The capitalization rate and the discount rate were developed based on market debt and equity rates at the appraisal date. The discounted cash flow method reflected two types of discounted cash flow analyses, the EBIT and EBITDA terminal value model and a capitalization of terminal value model.

Market Approach - The market approach was developed based on the market multiples method and the selected transaction method. The market multiples method was based on the market price data of publicly traded corporations engaged in the same or a similar line of business as the Wastewater System. The market price data of these comparable publicly traded corporations was used to calculate

Compliance with Uniform Standards of Professional

Appraisal Practice (USPAP) 2020-2021

Fulfillment of Requirements for a Personal Property Appraisal and Report

the market multiples for the comparable publicly traded corporations at the appraisal date. The selected transactions method used certain public information relating to the purchase or sales of businesses involved in the same or a similar business line as the Wastewater System to calculate market multiples at the time of transaction (sale/purchase). The calculated market multiples determined by the market multiples method and the selected transaction method were then multiplied by the corresponding the Wastewater System financial and operating statistic to produce an indicated value for the Wastewater System.

Reconciliation of the Valuation Approaches - The fair market value conclusion was based on reconciliation of each of the three approaches to value and the intended purpose of the appraisal.

- **Clearly and conspicuously:**

- **State all extraordinary assumptions and hypothetical conditions;**

There were no extraordinary assumptions required or hypothetical conditions in this appraisal.

- **State that their use might have affected the assignment results**

Not applicable.

- **Clearly and accurately disclose all assumptions, extraordinary assumptions, hypothetical conditions, and limiting conditions used in the assignment**

Not applicable.

- **Describe the information analyzed, the appraisal procedures followed, and the reasoning that supports the analyses, opinions, and conclusions**

See scope of work above.

- **State the use of the real estate existing as of the date of value and the use of the real estate reflected in the appraisal**

The Delaware County Regional Water Quality Control Authority's Wastewater System land and land rights include land used for wastewater sewage collection

Compliance with Uniform Standards of Professional

Appraisal Practice (USPAP) 2020-2021

Fulfillment of Requirements for a Personal Property Appraisal and Report

and transmission, 181 miles of sewers, 16 pump stations, four treatment plants and multiple easements and rights-of-way necessary to operate the Wastewater System.

The Delaware County Regional Water Quality Control Authority Wastewater System's land and land rights were assumed to be used for the operation of the wastewater system for the appraisal.

- **State and describe the support and rationale for the appraiser's opinion of the highest and best use of the real estate**

All land and land rights were assumed to be used for the operation of the Wastewater System for the appraisal, were valued at original cost, and not at highest and best use of the real estate.

- **State and explain any permitted departures from specific requirements of STANDARD 1 and the reason for excluding any of the usual valuation approaches. The appraisal then becomes a limited appraisal - a limited appraisal report must contain a prominent section that clearly identifies the extent of the appraisal process performed and the departures taken**

No departures for Standard 1 were made.

- **Include a signed certification in accordance with Standards Rule 2-3**

See attached for signed certification.

APPRAISAL CERTIFICATION
Chester, Pennsylvania
Delaware County Regional Water Quality Control Authority
Wastewater System Assets
Fair Market Value Appraisal Report
As of December 31, 2019

Gannett Fleming Valuation and Rate Consultants, LLC certify that, to the best of its knowledge and belief:

- The statements of fact contained in this report are true and correct.

- The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are our personal, impartial, and unbiased professional analyses, opinions, and conclusions.

- Gannett Fleming Valuation and Rate Consultants, LLC has not performed an appraisal of the Delaware County Regional Water Quality Control Authority Wastewater System prior to this current appraisal.

- Gannett Fleming Valuation and Rate Consultants, LLC, nor its professional staff has any present or prospective interest in the property that is the subject of this report, and has no interest or bias with respect to the parties involved.

- We have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.

- Our engagement in this assignment is not contingent upon developing or reporting predetermined results.

- Our compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.

- Our analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice (2020-2021)

APPRAISAL CERTIFICATION
Chester, Pennsylvania
Delaware County Regional Water Quality Control Authority
Wastewater System Assets
Fair Market Value Appraisal Report
As of December 31, 2019

- The signers of this report have made a personal inspection of the property that is the subject of this report.

- Individuals providing significant appraisal assistance to the person signing this certification include: John J. Spanos, President, Joanna Lappin, Depreciation Analyst and Gregory R. Herbert, Rate Analyst at Gannett Fleming Valuation and Rate Consultants, LLC.

Gannett Fleming Valuation and Rate Consultants, LLC

By,



HAROLD WALKER, III

Manager, Financial Studies

APPENDIX A - QUALIFICATIONS

APPENDIX A

Professional Qualifications
of
Harold Walker, III
Manager, Financial Studies
Gannett Fleming Valuation and Rate Consultants, LLC.

EDUCATION

Mr. Walker graduated from Pennsylvania State University in 1984 with a Bachelor of Science Degree in Finance. His studies concentrated on securities analysis and portfolio management with an emphasis on economics and quantitative business analysis. He has also completed the regulation and the rate-making process courses presented by the College of Business Administration and Economics Center for Public Utilities at New Mexico State University. Additionally, he has attended programs presented by The Institute of Chartered Financial Analysts (CFA).

Mr. Walker was awarded the professional designation "Certified Rate of Return Analyst" (CRRA) by the Society of Utility and Regulatory Financial Analysts. This designation is based upon education, experience and the successful completion of a comprehensive examination. He is also a member of the Society of Utility and Regulatory Financial Analysts (SURFA) and has attended numerous financial forums sponsored by the Society. The SURFA forums are recognized by the Association for Investment Management and Research (AIMR) and the National Association of State Boards of Accountancy for continuing education credits.

Mr. Walker is also a licensed Municipal Advisor Representative (Series 50) by Municipal Securities Rulemaking Board (MSRB) and Financial Industry Regulatory Authority (FINRA).

BUSINESS EXPERIENCE

In 1996, Mr. Walker joined Gannett Fleming Valuation and Rate Consultants, LLC. In his capacity as Manager, Financial Studies and for the past twenty years, he has continuously studied rates of return requirements for regulated firms. In this regard, he supervised the preparation of rate of return studies in connection with his testimony and in the past, for other individuals. He also assisted and/or developed dividend policy studies, nuclear prudence studies, calculated fixed charge rates for avoided costs involving cogeneration projects, financial decision studies for capital budgeting purposes and developed financial models for determining future capital requirements and the effect of those requirements on investors and ratepayers, valued utility property and common stock for acquisition and divestiture, and assisted in the private placement of fixed capital securities for public utilities.

Head, Gannett Fleming GASB 34 Task Force responsible for developing Governmental Accounting Standards Board (GASB) 34 services, and educating Gannett Fleming personnel and

Gannett Fleming clients on GASB 34 and how it may affect them. The GASB 34 related services include inventory of assets, valuation of assets, salvage estimation, annual depreciation rate determination, estimation of depreciation reserve, asset service life determination, asset condition assessment, condition assessment documentation, maintenance estimate for asset preservation, establishment of condition level index, geographic information system (GIS) and data management services, management discussion and analysis (MD&A) reporting, required supplemental information (RSI) reporting, auditor interface, and GASB 34 compliance review.

In 2004, Mr. Walker was elected to serve on the Board of Directors of SURFA. Previously, he served as an ex-officio directors as an advisor to SURFA's existing President. In 2000, Mr. Walker was elected President of SURFA for the 2001-2002 term. Prior to that, he was elected to serve on the Board of Directors of SURFA during the period 1997-1998 and 1999-2000. Currently, he also serves on the Pennsylvania Municipal Authorities Association, Electric Deregulation Committee.

Prior to joining Gannett Fleming Valuation and Rate Consultants, LLC., Mr. Walker was employed by AUS Consultants - Utility Services. He held various positions during his eleven years with AUS, concluding his employment there as a Vice President. His duties included providing and supervising financial and economic studies on behalf of investor owned and municipally owned water, waste water, electric, natural gas distribution and transmission, oil pipeline and telephone utilities as well as resource recovery companies.

Mr. Walker was also the Publisher of C.A. Turner Utility Reports from 1988 to 1996. C.A. Turner Utility Reports is a financial publication which provides financial data and related ratios and forecasts covering the utility industry. From 1993 to 1994, he became a contributing author for the Fortnightly, a utility trade journal. His column was the Financial News column and focused mainly on the natural gas industry.

EXPERT TESTIMONY

Mr. Walker has submitted testimony or been deposed on various topics before regulatory commissions and courts in 25 states including: Arizona, California, Colorado, Connecticut, Delaware, Hawaii, Illinois, Indiana, Kentucky, Maryland, Massachusetts, Michigan, Missouri, New Hampshire, Nevada, New Jersey, New York, North Carolina, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia, and West Virginia. His testimonies covered various subjects including: fair market value, the taking of natural resources, appropriate capital structure and fixed capital cost rates, depreciation, fair rate of return, purchased water adjustments, synchronization of interest charges for income tax purposes, valuation, cash working capital, lead-lag studies, financial analyses of investment alternatives, and fair value.

PROFESSIONAL AFFILIATIONS

Society of Utility and Regulatory Financial Analysts
Board of Directors, 1996-2000, 2005-2008
President, 2000-2002
Treasurer, 1996-1998

National Association of Water Companies
Pennsylvania Municipal Authorities Association
Electric Deregulation Committee

TECHNICAL PUBLICATIONS & PRESENTATIONS

Walker, Harold. Panelist "Now is the Time to Maximize Your Utility's Value." Presented at the Pennsylvania Association of Township Supervisors 97th Annual State Convention, April 2019.

Walker, Harold. Panelist "Fair Market Acquisitions Debate." Presented at National Association of Regulatory Utilities Commissioners Winter Policy Summit, February 2019.

Walker, Harold. Panelist "Fair Market Value Legislation." Presented at the National Association of Water Companies Water Summit, October 2018.

Walker, Harold. Panelist "Leveraging Water & Sewer to Address Roads, Schools, and Pension Obligations." Presented at the Maryland Association of Counties 2018 Summer Conference, August 2018.

Walker, Harold. Panelist "Is the Glass Half Full or Half Empty? Valuing Municipal Water Acquisitions." Presented at the Mid-Atlantic Conference of Regulatory Utilities Commissioners 23rd Annual Education Conference, June 2018.

Walker, Harold. "Valuation and Inventory of Governmental Assets Under GASB 34." Presented at the Society of Depreciation Professionals 21st Annual Conference, September 2007.

Walker, Harold. "The Paradox of State Regulatory Opinions and Investor Behavior." Presented at the National Association of Water Companies New England Chapter conference, November 2006.

Walker, Harold. "Valuation and Inventory Under GASB 34." Presented at the Government Finance Officers Association South Central Pennsylvania Regional Chapter conference, August 2003.

Walker, Harold. "Valuation and Inventory under GASB 34." Presented at the Government Finance Officers Association Southeastern Pennsylvania Regional Chapter conference, April 2002.

Walker, Harold. "GASB 34 & Your Infrastructure." *The Authority*, August 2001, Volume XXXII, No. 4, pages 10-13.

Walker, Harold. "Managing Risk." Conference Chairperson, presented at the Society of Utility & Regulatory Financial Analysts 33rd Financial Forum, April 2001.

Walker, Harold. "Paying for Your MSW System - Waste Generation Fees." Presented at the Federation of New York Solid Waste Association Solid Waste/Recycling Conference and Trade Show, May 2001.

Walker, Harold. "Statement No. 34 of the Government Accounting Standards Board." Presented at the Pennsylvania Association of Township Supervisors 79th Annual State Convention, April 2001.

Walker, Harold. "Cost of Capital Issues." Presented at the National Association of Water Companies New England Chapter conference, October 2000.

Walker, Harold, Timothy Hartman, and Mark Everett. "Waste Generation Study: Life After Flow Control." Presented at Waste Con 2000, October 1999.

Walker, Harold, and Timothy Hartman. "The Enhancement of Revenues Through a Waste Generation Study." Presented at SWANA's Planning and Management Symposium, July 1999.

EXHIBITS

Delaware County Regional Water Quality Control Authority
Selected Audited Financial Information

	12-Months Ended December 31:			
	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
Gross property, plant & equipment	298,303,624	297,134,173	322,826,033	360,730,118
Accumulated depreciation	115,881,436	106,308,431	113,343,700	119,888,167
Net property, plant & equipment	182,422,188	190,825,742	209,482,333	240,841,951
Assets	301,035,882	367,117,686	374,936,142	380,689,954
Debt Current	3,569,381	4,056,378	5,917,778	6,142,895
Debt	113,036,856	172,089,769	170,877,168	164,715,148
Equity	160,562,396	165,886,681	172,851,245	185,035,336
Total Capital	277,168,633	342,032,828	349,646,191	355,893,379
OPERATING REVENUES				
Charges for services	53,756,315	55,849,791	58,281,844	62,157,984
Other operating income	0	0	0	0
TOTAL OPERATING REVENUES	53,756,315	55,849,791	58,281,844	62,157,984
Advertising	22,517	28,201	26,367	25,799
Consulting	81,157	233,280	146,495	270,054
Depreciation	5,422,490	6,744,284	7,049,095	6,588,896
Dues and Conferences	71,113	86,465	53,283	73,574
Employee Benefits	3,825,635	4,231,330	4,655,986	4,648,744
Engineering and Tech Services	326,862	333,828	247,709	198,361
Insurance	690,150	696,650	744,418	797,348
Minor equipment and supplies	890,393	1,921,473	2,477,234	2,915,007
Office	141,190	154,068	161,393	130,418
Other Contract Services	753,321	873,221	710,207	477,313
Pension	1,399,862	1,721,826	1,671,290	1,944,894
Philadelphia Plant Treatment Costs	10,112,057	8,103,206	8,367,590	9,625,120
Provision for Doubtful accounts	109,307	35,986	52,149	61,782
Repairs and maintenance	4,374,365	3,661,418	2,951,073	2,778,617
Salaries and wages	10,356,021	10,825,887	11,752,017	12,396,648
Solicitor	719,453	569,826	254,020	172,119
Solids disposal	491,024	491,024	1,457,857	1,329,837
Utilities	2,757,167	2,822,879	3,028,848	2,529,871
TOTAL OPERATING EXPENSES	42,544,084	43,534,852	45,807,031	46,964,402
CAPX	20,989,493	14,914,830	25,704,689	37,949,513
Interest	3,877,473	4,912,537	7,522,879	6,926,355
Principal	4,794,583	3,036,590	39,595,876	4,594,927

Source of Information: Audited Financial Statements (2016-2018)

Delaware County Regional Water Quality Control Authority
Population, Housing Units, Customer Count, EDUs and
Sewage Flows

	DELCORA <u>2019</u>	Population <u>To Customers</u>
Population	615,245	<u>37.3</u>
Housing Units	<u>244,712</u>	
Average Size	<u>2.51</u>	
	<u>Current</u>	EDU per <u>Customer</u>
Customers		
Residential - Retail	14,466	
Ridley Mills	25	
Pocopson Riverside	155	
Pocopson Preserve	67	
Edgmont	960	
Springhill Farms	285	
Rose Valley	489	
EDU Wholesale	2	
Western Wholesale	6	
Wholesale Industrial	6	
Retail Industrial	7	
Chester Ridley Creek	2	
Eastern Wholesale	3	
Total	<u>16,473</u>	
Total EDUs	<u>197,769</u>	<u>12.0</u>

Annual Daily Average Sewage Flow (MGD)

	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
Eastern Service Area	25.5	23.1	21.5	19.9	26.4
Western Service Area	31.2	33.5	31.8	31.8	39.2
Total	<u>56.7</u>	<u>56.6</u>	<u>53.3</u>	<u>51.7</u>	<u>65.6</u>

Delaware County Regional Water Quality Control Authority
Population and Housing Units

Municipality	Total Population	Population in Households	Total Housing Units	Vacancy Rate	Population per Housing Unit
Easttown Township	10,537	10,509	4,150	7.2%	2.54
Tredyffrin Twp.	30,078	30,038	12,967	4.6%	2.32
Aldan Borough	4,123	4,116	1,826	6.0%	2.26
Aston Township	16,947	15,983	6,167	2.0%	2.75
Bethel Township	9,216	9,162	3,150	0.5%	2.93
Brookhaven Borough	8,134	8,119	3,710	3.8%	2.19
Chadds Ford Township	3,760	3,756	1,516	3.7%	2.48
Chester City	34,377	31,287	13,912	15.9%	2.47
Chester Heights Borough	2,898	2,826	1,394	4.2%	2.08
Chester Township	3,912	3,912	1,588	11.6%	2.46
Clifton Heights Borough	6,794	6,793	2,896	5.7%	2.35
Collingdale Borough	9,001	9,001	3,466	6.3%	2.60
Colwyn Borough	2,733	2,733	941	8.0%	2.90
Concord Township	18,141	16,446	6,838	4.1%	2.65
Darby Borough	11,434	10,961	3,997	10.9%	2.86
Darby Township	9,119	9,119	3,928	6.8%	2.32
East Lansdowne Borough	2,628	2,619	1,025	12.4%	2.56
Eddystone Borough	2,404	2,404	1,022	10.4%	2.35
Edgmont Township	4,124	4,042	1,822	6.9%	2.26
Folcroft Borough	6,436	6,436	2,661	10.2%	2.42
Glenolden Borough	7,064	7,062	3,113	6.5%	2.27
Haverford Township	48,747	47,044	18,541	3.8%	2.63
Lansdowne Borough	10,618	10,602	5,004	8.7%	2.12
Lower Chichester Township	3,401	3,398	1,346	9.4%	2.53
Marcus Hook Borough	2,336	2,336	1,018	14.1%	2.29
Marple Township	23,849	22,973	9,099	3.3%	2.62
Media Borough	5,438	5,268	3,026	6.9%	1.80
Middletown Township	16,420	14,467	6,216	3.9%	2.64
Millbourne Borough	1,208	1,208	417	7.7%	2.90
Morton Borough	2,582	2,572	1,215	11.2%	2.13
Nether Providence Township	13,754	13,538	5,317	3.7%	2.59
Newtown Township	14,581	14,349	6,215	5.6%	2.35
Norwood Borough	5,875	5,873	2,343	5.7%	2.51
Parkside Borough	2,276	2,276	912	6.6%	2.50
Pocopson Township	4,871	3,665	1,266	2.9%	3.85
Prospect Park Borough	6,383	6,214	2,703	8.2%	2.36
Radnor Township	31,665	24,725	10,898	8.1%	2.91
Ridley Park Borough	7,050	7,000	3,214	7.1%	2.19
Ridley Township	31,177	31,137	12,789	5.2%	2.44
Rose Valley Borough	1,008	1,001	390	0.3%	2.58
Rutledge Borough	846	838	302	0.3%	2.80
Sharon Hill Borough	5,683	5,678	2,268	8.4%	2.51
Springfield Township	24,514	24,352	8,966	2.3%	2.73
Swarthmore Borough	6,201	4,920	2,095	6.2%	2.96
Thornbury Township	8,199	6,510	2,217	2.5%	3.70
Tinicum Township	4,143	4,138	1,856	8.4%	2.23
Trainer Borough	1,866	1,866	667	6.6%	2.80
Upland Borough	3,265	3,184	1,314	7.5%	2.48
Upper Chichester Township	16,970	16,937	7,187	6.0%	2.36
Upper Darby Township	84,405	84,206	34,480	7.6%	2.45
Upper Providence Township	10,508	10,492	4,453	3.9%	2.36
Yeadon Borough	11,546	11,247	4,889	7.3%	2.36
DELCORA	615,245	591,338	244,712	2.6%	2.51

Delaware County Regional Water Quality Control Authority

Communities Served

<u>Municipality</u>	<u>Association to DELCORA</u>	<u>County</u>	<u>Service Area</u>
Brookhaven Borough	Chester Conveyance System	Delaware	WSA
Chester City	Chester Conveyance System	Delaware	WSA
Chester Township	Chester Conveyance System	Delaware	WSA
Nether Providence Twp	Chester Conveyance System	Delaware	WSA
Parkside Borough	Chester Conveyance System	Delaware	WSA
Upland Borough	Chester Conveyance System	Delaware	WSA
Aston Township	Chester Ridley Creek	Delaware	WSA
Brookhaven Borough	Chester Ridley Creek	Delaware	WSA
Chester Heights Borough	Chester Ridley Creek	Delaware	WSA
Edgmont Township	Chester Ridley Creek	Delaware	WSA
Middletown Township	Chester Ridley Creek	Delaware	WSA
Rose Valley Borough	Chester Ridley Creek	Delaware	WSA
Upper Chichester Township	Chester Ridley Creek	Delaware	WSA
Upper Providence Township	Chester Ridley Creek	Delaware	WSA
Eddystone Borough	Other	Delaware	WSA
Marcus Hook Borough	Other	Delaware	WSA
Trainer Borough	Other	Delaware	WSA
Bethel Township	Southern Delaware County Authority	Delaware	WSA
Lower Chichester Twp	Southern Delaware County Authority	Delaware	WSA
Upper Chichester Twp	Southern Delaware County Authority	Delaware	WSA
Pocopson Township	Corinne Village WWTP	Delaware	RTP-WSA
Pocopson Township	Sheeder Tract WWTP	Delaware	RTP-WSA
Chadds Ford Township	Springhill Farms WWTP	Delaware	RTP-WSA
Edgmont Township	Central Delaware County Authority	Delaware	ESA
Marple Township	Central Delaware County Authority	Delaware	ESA
Morton Borough	Central Delaware County Authority	Delaware	ESA
Nether Providence Twp	Central Delaware County Authority	Delaware	ESA
Newtown Township	Central Delaware County Authority	Delaware	ESA
Prospect Park Borough	Central Delaware County Authority	Delaware	ESA
Ridley Park Borough	Central Delaware County Authority	Delaware	ESA
Ridley Township	Central Delaware County Authority	Delaware	ESA
Rutledge Borough	Central Delaware County Authority	Delaware	ESA
Springfield Township	Central Delaware County Authority	Delaware	ESA
Swarthmore Borough	Central Delaware County Authority	Delaware	ESA
Upper Providence Twp	Central Delaware County Authority	Delaware	ESA
Aldan Borough	Darby Creek Joint Authority	Delaware	ESA
Clifton Heights Borough	Darby Creek Joint Authority	Delaware	ESA
Collingdale Borough	Darby Creek Joint Authority	Delaware	ESA
Colwyn Borough	Darby Creek Joint Authority	Delaware	ESA
Darby Borough	Darby Creek Joint Authority	Delaware	ESA
Darby Township	Darby Creek Joint Authority	Delaware	ESA
Folcroft Borough	Darby Creek Joint Authority	Delaware	ESA
Lansdowne Borough	Darby Creek Joint Authority	Delaware	ESA
Sharon Hill Borough	Darby Creek Joint Authority	Delaware	ESA
Springfield Township	Darby Creek Joint Authority	Delaware	ESA
Upper Darby Township	Darby Creek Joint Authority	Delaware	ESA
Yeadon Borough	Darby Creek Joint Authority	Delaware	ESA
Clifton Heights Borough	Muckinipates Authority	Delaware	ESA
Darby Township	Muckinipates Authority	Delaware	ESA
Folcroft Borough	Muckinipates Authority	Delaware	ESA
Glenolden Borough	Muckinipates Authority	Delaware	ESA
Norwood Borough	Muckinipates Authority	Delaware	ESA
Ridley Township	Muckinipates Authority	Delaware	ESA
Springfield Township	Muckinipates Authority	Delaware	ESA
Upper Darby Township	Muckinipates Authority	Delaware	ESA
Easttown Township	RHM Authority	Chester	ESA
Haverford Township	RHM Authority	Delaware	ESA
Marple Township	RHM Authority	Delaware	ESA
Newtown Township	RHM Authority	Delaware	ESA
Radnor Township	RHM Authority	Delaware	ESA
Tredyffrin Township	RHM Authority	Chester	ESA

Key : WSA = Western Service Area
ESA = Eastern Service Area
RTP = Remote Treatment Plant

TABLE 3.1 US Population Census Counts, 2000 & 2010

State	Population		Percentage Change
	2000	2010	
Alabama	4,447,351	4,779,736	7.5%
Alaska	626,931	710,231	13.3%
Arizona	5,130,632	6,392,017	24.6%
Arkansas	2,673,400	2,915,918	9.1%
California	33,871,653	37,253,956	10.0%
Colorado	4,302,015	5,029,196	16.9%
Connecticut	3,405,602	3,574,097	4.9%
Delaware	783,600	897,934	14.6%
District of Columbia	572,059	601,723	5.2%
Florida	15,982,824	18,801,310	17.6%
Georgia	8,186,816	9,687,653	18.3%
Hawaii	1,211,537	1,360,301	12.3%
Idaho	1,293,956	1,567,582	21.1%
Illinois	12,419,647	12,830,632	3.3%
Indiana	6,080,517	6,483,802	6.6%
Iowa	2,926,382	3,046,355	4.1%
Kansas	2,688,824	2,853,118	6.1%
Kentucky	4,042,285	4,339,367	7.3%
Louisiana	4,468,958	4,533,372	1.4%
Maine	1,274,923	1,328,361	4.2%
Maryland	5,296,507	5,773,552	9.0%
Massachusetts	6,349,105	6,547,629	3.1%
Michigan	9,938,480	9,883,640	-0.6%
Minnesota	4,919,492	5,303,925	7.8%
Mississippi	2,844,656	2,967,297	4.3%
Missouri	5,596,683	5,988,927	7.0%
Montana	902,195	989,415	9.7%
Nebraska	1,711,265	1,826,341	6.7%
Nevada	1,998,257	2,700,551	35.1%
New Hampshire	1,235,786	1,316,470	6.5%
New Jersey	8,414,347	8,791,894	4.5%
New Mexico	1,819,046	2,059,179	13.2%
New York	18,976,821	19,378,102	2.1%
North Carolina	8,046,485	9,535,483	18.5%
North Dakota	642,200	672,591	4.7%
Ohio	11,353,145	11,536,504	1.6%
Oklahoma	3,450,652	3,751,351	8.7%
Oregon	3,421,436	3,831,074	12.0%
Pennsylvania	12,281,054	12,702,379	3.4%
Rhode Island	1,048,319	1,052,567	0.4%
South Carolina	4,011,816	4,625,364	15.3%
South Dakota	754,844	814,180	7.9%
Tennessee	5,689,267	6,346,105	11.5%
Texas	20,851,790	25,145,561	20.6%
Utah	2,233,198	2,763,885	23.8%
Vermont	608,827	625,741	2.8%
Virginia	7,079,030	8,001,024	13.0%
Washington	5,894,141	6,724,540	14.1%
West Virginia	1,808,350	1,852,994	2.5%
Wisconsin	5,363,715	5,686,986	6.0%
Wyoming	493,782	563,626	14.1%
Total - States & D.C.	281,424,603	308,745,538	9.7%

Source: U.S. Census Bureau, Population Division

TABLE 3.2 Pennsylvania Population Census by County and Municipality, 2000 & 2010

Geographic Area	Population		Percentage Change	Municipal Growth Rank
	2000	2010		
Pennsylvania	12,281,054	12,702,379	3.4%	-
Chester County	433,501	498,886	15.1%	-
Delaware County	550,864	558,979	1.5%	-
Easttown township	10,270	10,477	2.0%	1,074 out of 2,572
Tredyffrin township	29,062	29,332	0.9%	1,185 out of 2,572
Aldan borough	4,313	4,152	-3.7%	1,685 out of 2,572
Aston township	16,203	16,592	2.4%	1,039 out of 2,572
Bethel township	6,421	8,791	36.9%	70 out of 2,572
Brookhaven borough	7,985	8,006	0.3%	1,250 out of 2,572
Chadds Ford township	3,170	3,640	14.8%	306 out of 2,572
Chester city	36,854	33,972	-7.8%	2,079 out of 2,572
Chester Heights borough	2,481	2,531	2.0%	1,074 out of 2,572
Chester township	4,604	3,940	-14.4%	2,433 out of 2,572
Clifton Heights borough	6,779	6,652	-1.9%	1,488 out of 2,572
Collingdale borough	8,664	8,786	1.4%	1,135 out of 2,572
Colwyn borough	2,453	2,546	3.8%	916 out of 2,572
Darby borough	10,299	10,687	3.8%	916 out of 2,572
Darby township	9,622	9,264	-3.7%	1,685 out of 2,572
Eddystone borough	2,442	2,410	-1.3%	1,430 out of 2,572
Edgmont township	3,918	3,987	1.8%	1,093 out of 2,572
Folcroft borough	6,978	6,606	-5.3%	1,864 out of 2,572
Glenolden borough	7,476	7,153	-4.3%	1,759 out of 2,572
Haverford township	48,498	48,491	0.0%	1,270 out of 2,572
Lansdowne borough	11,044	10,620	-3.8%	1,696 out of 2,572
Lower Chichester township	3,591	3,469	-3.4%	1,643 out of 2,572
Marcus Hook borough	2,314	2,397	3.6%	931 out of 2,572
Marple township	23,737	23,428	-1.3%	1,430 out of 2,572
Middletown township	16,064	15,807	-1.6%	1,460 out of 2,572
Morton borough	2,715	2,669	-1.7%	1,467 out of 2,572
Nether Providence township	13,456	13,706	1.9%	1,085 out of 2,572
Newtown township	11,700	12,216	4.4%	858 out of 2,572
Norwood borough	5,985	5,890	-1.6%	1,460 out of 2,572
Parkside borough	2,267	2,328	2.7%	1,016 out of 2,572
Pocopson township	3,350	4,582	36.8%	71 out of 2,572
Prospect Park borough	6,594	6,454	-2.1%	1,520 out of 2,572
Radnor township	30,878	31,531	2.1%	1,065 out of 2,572
Ridley Park borough	7,196	7,002	-2.7%	1,572 out of 2,572
Ridley township	30,791	30,768	-0.1%	1,285 out of 2,572
Rose Valley borough	944	913	-3.3%	1,626 out of 2,572
Rutledge borough	860	784	-8.8%	2,167 out of 2,572
Sharon Hill borough	5,468	5,697	4.2%	879 out of 2,572
Springfield township	23,677	24,211	2.3%	1,048 out of 2,572
Swarthmore borough	6,170	6,194	0.4%	1,239 out of 2,572
Trainer borough	1,901	1,828	-3.8%	1,696 out of 2,572
Upland borough	2,977	3,239	8.8%	542 out of 2,572
Upper Chichester township	16,842	16,738	-0.6%	1,357 out of 2,572
Upper Darby township	81,821	82,795	1.2%	1,153 out of 2,572
Upper Providence township	10,509	10,142	-3.5%	1,658 out of 2,572
Yeadon borough	11,762	11,443	-2.7%	1,572 out of 2,572
DELCORA	563,105	564,866	0.3%	978 out of 2,572

Source: U.S. Census Bureau, Census 2000 & 2010 Redistricting Data (Public Law 94-171) Summary File.

TABLE 3.3 Forecasted Population by County and Municipality, 2015-2045

	Population							Percentage Change						
	Estimate 2015	Forecast 2020	Forecast 2025	Forecast 2030	Forecast 2035	Forecast 2040	Forecast 2045	2015 to 2020	2020 to 2025	2025 to 2030	2030 to 2035	2035 to 2040	2040 to 2045	2015 to 2045
Bucks County	627,367	640,495	654,792	669,299	681,273	691,111	699,498	2.1%	2.2%	2.2%	1.8%	1.4%	1.2%	11.5%
Chester County	515,939	543,702	571,641	599,932	624,832	645,562	662,283	5.4%	5.1%	4.9%	4.2%	3.3%	2.6%	28.4%
Delaware County	563,894	568,337	572,758	577,248	581,136	584,329	587,037	0.8%	0.8%	0.8%	0.7%	0.5%	0.5%	4.1%
Montgomery County	819,264	840,934	863,327	884,387	903,114	918,918	932,820	2.6%	2.7%	2.4%	2.1%	1.7%	1.5%	13.9%
Philadelphia County	1,567,443	1,594,787	1,616,816	1,643,971	1,667,290	1,683,402	1,696,133	1.7%	1.4%	1.7%	1.4%	1.0%	0.8%	8.2%
Subtotal - Five Pennsylvania Counties	4,093,907	4,188,255	4,279,334	4,374,837	4,457,645	4,523,322	4,577,771	2.3%	2.2%	2.2%	1.9%	1.5%	1.2%	11.8%
Burlington County	450,226	459,344	468,428	475,978	482,560	488,026	492,709	2.0%	2.0%	1.6%	1.4%	1.1%	1.0%	9.4%
Camden County	510,923	514,006	517,073	520,189	522,886	525,101	526,997	0.6%	0.6%	0.6%	0.5%	0.4%	0.4%	3.1%
Gloucester County	291,479	307,766	323,969	340,425	354,677	366,383	376,308	5.6%	5.3%	5.1%	4.2%	3.3%	2.7%	29.1%
Mercer County	371,398	377,328	383,227	389,219	394,407	398,669	402,283	1.6%	1.6%	1.6%	1.3%	1.1%	0.9%	8.3%
Subtotal - Four New Jersey Counties	1,624,026	1,658,444	1,692,697	1,725,811	1,754,530	1,778,179	1,798,297	2.1%	2.1%	2.0%	1.7%	1.3%	1.1%	10.7%
Total - Nine DVRPC Counties	5,717,933	5,846,699	5,972,031	6,100,648	6,212,175	6,301,501	6,376,068	2.3%	2.1%	2.2%	1.8%	1.4%	1.2%	11.5%
Easttown Township	10,620	10,966	11,309	11,659	11,961	12,209	12,420	3.3%	3.1%	3.1%	2.6%	2.1%	1.7%	16.9%
Tredyffrin Township	29,559	30,232	30,900	31,578	32,165	32,648	33,059	2.3%	2.2%	2.2%	1.9%	1.5%	1.3%	11.8%
Aldan Borough	4,165	4,186	4,208	4,230	4,248	4,264	4,277	0.5%	0.5%	0.5%	0.4%	0.4%	0.3%	2.7%
Aston Township	16,799	16,942	17,083	17,227	17,352	17,455	17,541	0.9%	0.8%	0.8%	0.7%	0.6%	0.5%	4.4%
Bethel Township	9,166	9,359	9,550	9,745	9,914	10,052	10,170	2.1%	2.0%	2.0%	1.7%	1.4%	1.2%	11.0%
Brookhaven Borough	8,078	8,138	8,198	8,259	8,311	8,355	8,391	0.7%	0.7%	0.7%	0.6%	0.5%	0.4%	3.9%
Chadds Ford Township	3,740	3,848	3,955	4,064	4,159	4,237	4,302	2.9%	2.8%	2.8%	2.3%	1.9%	1.5%	15.0%
Chester City	34,092	34,281	34,468	34,659	34,824	34,960	35,075	0.6%	0.5%	0.6%	0.5%	0.4%	0.3%	2.9%
Chester Heights Borough	2,626	2,647	2,667	2,688	2,706	2,721	2,733	0.8%	0.8%	0.8%	0.7%	0.6%	0.4%	4.1%
Chester Township	4,103	4,140	4,178	4,216	4,248	4,275	4,298	0.9%	0.9%	0.9%	0.8%	0.6%	0.5%	4.8%
Clifton Heights Borough	6,684	6,709	6,733	6,758	6,780	6,798	6,813	0.4%	0.4%	0.4%	0.3%	0.3%	0.2%	1.9%
Collingdale Borough	8,792	8,866	8,939	9,014	9,079	9,132	9,177	0.8%	0.8%	0.8%	0.7%	0.6%	0.5%	4.4%
Colwyn Borough	2,553	2,584	2,615	2,646	2,673	2,695	2,714	1.2%	1.2%	1.2%	1.0%	0.8%	0.7%	6.3%
Darby Borough	10,687	10,756	10,825	10,896	10,956	11,006	11,049	0.6%	0.6%	0.7%	0.6%	0.5%	0.4%	3.4%
Darby Township	9,318	9,322	9,326	9,330	9,333	9,336	9,338	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%
Eddystone Borough	2,407	2,414	2,420	2,427	2,433	2,438	2,442	0.3%	0.2%	0.3%	0.2%	0.2%	0.2%	1.5%
Edgmont Township	4,069	4,214	4,358	4,504	4,631	4,735	4,823	3.6%	3.4%	3.4%	2.8%	2.2%	1.9%	18.5%
Folcroft Borough	6,637	6,631	6,625	6,619	6,614	6,610	6,606	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.5%
Glenolden Borough	7,173	7,194	7,215	7,236	7,255	7,270	7,283	0.3%	0.3%	0.3%	0.3%	0.2%	0.2%	1.5%
Haverford Township	49,057	49,279	49,500	49,724	49,918	50,078	50,213	0.5%	0.4%	0.5%	0.4%	0.3%	0.3%	2.4%
Lansdowne Borough	10,639	10,655	10,671	10,688	10,702	10,714	10,724	0.2%	0.2%	0.2%	0.1%	0.1%	0.1%	0.8%
Lower Chichester Townshi	3,477	3,488	3,499	3,510	3,519	3,527	3,534	0.3%	0.3%	0.3%	0.3%	0.2%	0.2%	1.6%
Marcus Hook Borough	2,397	2,415	2,433	2,451	2,466	2,479	2,490	0.8%	0.7%	0.7%	0.6%	0.5%	0.4%	3.9%
Marple Township	23,743	23,794	23,846	23,898	23,942	23,979	24,011	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%	1.1%
Middletown Township	15,998	16,185	16,371	16,560	16,724	16,858	16,972	1.2%	1.1%	1.2%	1.0%	0.8%	0.7%	6.1%
Morton Borough	2,695	2,707	2,720	2,732	2,743	2,752	2,760	0.4%	0.5%	0.4%	0.4%	0.3%	0.3%	2.4%
Nether Providence Townshi	13,808	13,893	13,977	14,063	14,138	14,199	14,251	0.6%	0.6%	0.6%	0.5%	0.4%	0.4%	3.2%
Newtown Township	12,754	12,849	12,943	13,038	13,121	13,189	13,246	0.7%	0.7%	0.7%	0.6%	0.5%	0.4%	3.9%
Norwood Borough	5,898	5,917	5,935	5,954	5,970	5,984	5,995	0.3%	0.3%	0.3%	0.3%	0.2%	0.2%	1.6%
Parkside Borough	2,334	2,349	2,365	2,380	2,394	2,405	2,414	0.6%	0.7%	0.6%	0.6%	0.5%	0.4%	3.4%
Pocopson Township	4,856	5,060	5,264	5,471	5,649	5,796	5,921	4.2%	4.0%	3.9%	3.3%	2.6%	2.2%	21.9%
Prospect Park Borough	6,481	6,515	6,548	6,582	6,612	6,636	6,656	0.5%	0.5%	0.5%	0.5%	0.4%	0.3%	2.7%
Radnor Township	31,612	31,808	32,003	32,201	32,373	32,513	32,633	0.6%	0.6%	0.6%	0.5%	0.4%	0.4%	3.2%
Ridley Park Borough	7,035	7,071	7,106	7,143	7,174	7,200	7,221	0.5%	0.5%	0.5%	0.4%	0.4%	0.3%	2.6%
Ridley Township	31,053	31,129	31,205	31,281	31,348	31,402	31,449	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%	1.3%
Rose Valley Borough	949	970	991	1,012	1,031	1,046	1,058	2.2%	2.2%	2.1%	1.9%	1.5%	1.1%	11.5%
Rutledge Borough	795	798	801	804	807	809	811	0.4%	0.4%	0.4%	0.4%	0.2%	0.2%	2.0%
Sharon Hill Borough	5,702	5,733	5,764	5,795	5,822	5,845	5,863	0.5%	0.5%	0.5%	0.5%	0.4%	0.3%	2.8%
Springfield Township	24,401	24,612	24,822	25,035	25,220	25,372	25,500	0.9%	0.9%	0.9%	0.7%	0.6%	0.5%	4.5%
Swarthmore Borough	6,211	6,249	6,287	6,325	6,359	6,386	6,409	0.6%	0.6%	0.6%	0.5%	0.4%	0.4%	3.2%
Trainer Borough	1,844	1,833	1,822	1,810	1,801	1,793	1,786	-0.6%	-0.6%	-0.7%	-0.5%	-0.4%	-0.4%	-3.1%
Upland Borough	3,251	3,263	3,274	3,286	3,296	3,304	3,311	0.4%	0.3%	0.4%	0.3%	0.2%	0.2%	1.8%
Upper Chichester Township	17,003	17,177	17,350	17,526	17,678	17,803	17,909	1.0%	1.0%	1.0%	0.9%	0.7%	0.6%	5.3%
Upper Darby Township	82,878	83,699	84,521	85,354	86,073	86,662	87,167	1.0%	1.0%	1.0%	0.8%	0.7%	0.6%	5.2%
Upper Providence Townshi	10,448	10,592	10,735	10,881	11,007	11,110	11,198	1.4%	1.4%	1.4%	1.2%	0.9%	0.8%	7.2%
Yeadon Borough	11,523	11,528	11,533	11,539	11,543	11,547	11,550	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.2%
DELCORA	570,110	574,997	579,858	584,798	589,072	592,584	595,563	0.9%	0.8%	0.9%	0.7%	0.6%	0.5%	4.5%

Source: Delaware Valley Regional Planning Commission, June 2016.

TABLE 3.4 Forecasted Employment by County and Municipality, 2015-2045

	Employment							Percentage Change						
	Estimate 2015	Forecast 2020	Forecast 2025	Forecast 2030	Forecast 2035	Forecast 2040	Forecast 2045	2015 to 2020	2020 to 2025	2025 to 2030	2030 to 2035	2035 to 2040	2040 to 2045	2015 to 2045
Bucks County	322,731	329,645	337,203	344,859	351,310	356,671	361,124	2.1%	2.3%	2.3%	1.9%	1.5%	1.2%	11.9%
Chester County	309,605	326,320	343,050	359,774	374,967	387,391	397,405	5.4%	5.1%	4.9%	4.2%	3.3%	2.6%	28.4%
Delaware County	268,054	270,167	272,269	274,401	276,248	277,763	279,050	0.8%	0.8%	0.8%	0.7%	0.5%	0.5%	4.1%
Montgomery County	582,443	598,434	614,469	629,563	642,996	654,966	664,385	2.7%	2.7%	2.5%	2.1%	1.9%	1.4%	14.1%
Philadelphia County	772,847	786,308	797,156	810,574	822,002	829,937	836,825	1.7%	1.4%	1.7%	1.4%	1.0%	0.8%	8.3%
Subtotal - Five Pennsylvania Counties	2,255,680	2,310,874	2,364,147	2,419,171	2,467,523	2,506,728	2,538,789	2.4%	2.3%	2.3%	2.0%	1.6%	1.3%	12.6%
Burlington County	241,298	246,351	251,368	255,562	258,363	261,195	263,622	2.1%	2.0%	1.7%	1.1%	1.1%	0.9%	9.3%
Camden County	263,582	265,169	266,753	268,359	269,750	270,892	271,869	0.6%	0.6%	0.6%	0.5%	0.4%	0.4%	3.1%
Gloucester County	121,382	128,161	134,902	141,752	147,682	152,554	156,686	5.6%	5.3%	5.1%	4.2%	3.3%	2.7%	29.1%
Mercer County	286,295	290,864	295,408	300,025	304,021	307,302	310,084	1.6%	1.6%	1.6%	1.3%	1.1%	0.9%	8.3%
Subtotal - Four New Jersey Counties	912,557	930,545	948,431	965,698	979,816	991,943	1,002,261	2.0%	1.9%	1.8%	1.5%	1.2%	1.0%	9.8%
Total - Nine DVRPC Counties	3,168,237	3,241,419	3,312,578	3,384,869	3,447,339	3,498,671	3,541,050	2.3%	2.2%	2.2%	1.8%	1.5%	1.2%	11.8%
Easttown Township	7,006	7,347	7,667	7,992	8,291	8,545	8,694	4.9%	4.4%	4.2%	3.7%	3.1%	1.7%	24.1%
Tredyffrin Township	55,495	57,323	58,540	59,802	61,270	62,518	62,120	3.3%	2.1%	2.2%	2.5%	2.0%	-0.6%	11.9%
Aldan Borough	957	963	966	969	973	978	978	0.6%	0.3%	0.3%	0.4%	0.5%	0.0%	2.2%
Aston Township	6,558	6,615	6,678	6,742	6,793	6,832	6,876	0.9%	1.0%	1.0%	0.8%	0.6%	0.6%	4.8%
Bethel Township	2,297	2,331	2,388	2,445	2,478	2,497	2,548	1.5%	2.4%	2.4%	1.3%	0.8%	2.0%	10.9%
Brookhaven Borough	2,702	2,722	2,739	2,756	2,773	2,787	2,796	0.7%	0.6%	0.6%	0.6%	0.5%	0.3%	3.5%
Chadds Ford Twp.	4,153	4,232	4,374	4,516	4,593	4,634	4,768	1.9%	3.4%	3.2%	1.7%	0.9%	2.9%	14.8%
Chester City	11,939	12,014	12,062	12,112	12,174	12,234	12,244	0.6%	0.4%	0.4%	0.5%	0.5%	0.1%	2.6%
Chester Heights Borough	2,926	2,945	2,958	2,971	2,987	3,002	3,005	0.6%	0.4%	0.4%	0.5%	0.5%	0.1%	2.7%
Chester Township	942	956	980	1,004	1,017	1,025	1,047	1.5%	2.5%	2.4%	1.3%	0.8%	2.1%	11.1%
Clifton Heights Borough	2,142	2,153	2,155	2,157	2,165	2,175	2,169	0.5%	0.1%	0.1%	0.4%	0.5%	-0.3%	1.3%
Collingdale Borough	2,108	2,125	2,143	2,161	2,176	2,188	2,199	0.8%	0.8%	0.8%	0.7%	0.6%	0.5%	4.3%
Colwyn Borough	417	421	425	430	433	435	439	1.0%	1.0%	1.2%	0.7%	0.5%	0.9%	5.3%
Darby Borough	3,955	3,982	4,003	4,025	4,047	4,068	4,077	0.7%	0.5%	0.5%	0.5%	0.5%	0.2%	3.1%
Darby Township	2,593	2,602	2,595	2,588	2,594	2,604	2,588	0.3%	-0.3%	-0.3%	0.2%	0.4%	-0.6%	-0.2%
Eddystone Borough	2,429	2,439	2,436	2,433	2,440	2,450	2,439	0.4%	-0.1%	-0.1%	0.3%	0.4%	-0.4%	0.4%
Edgmont Township	2,247	2,307	2,424	2,542	2,601	2,630	2,745	2.7%	5.1%	4.9%	2.3%	1.1%	4.4%	22.2%
Folcroft Borough	3,501	3,507	3,484	3,460	3,462	3,474	3,437	0.2%	-0.7%	-0.7%	0.1%	0.3%	-1.1%	-1.8%
Glenolden Borough	2,366	2,376	2,376	2,375	2,383	2,394	2,385	0.4%	0.0%	0.0%	0.3%	0.5%	-0.4%	0.8%
Haverford Township	16,973	17,066	17,103	17,142	17,217	17,298	17,279	0.5%	0.2%	0.2%	0.4%	0.5%	-0.1%	1.8%
Lansdowne Borough	2,650	2,659	2,652	2,646	2,652	2,662	2,646	0.3%	-0.3%	-0.2%	0.2%	0.4%	-0.6%	-0.2%
Lower Chichester Townshi	1,374	1,380	1,381	1,381	1,386	1,392	1,387	0.4%	0.1%	0.0%	0.4%	0.4%	-0.4%	0.9%
Marcus Hook Borough	3,014	3,037	3,058	3,079	3,099	3,115	3,127	0.8%	0.7%	0.7%	0.6%	0.5%	0.4%	3.7%
Marple Township	14,026	14,082	14,063	14,045	14,085	14,143	14,075	0.4%	-0.1%	-0.1%	0.3%	0.4%	-0.5%	0.3%
Middletown Township	14,076	14,220	14,407	14,597	14,727	14,820	14,968	1.0%	1.3%	1.3%	0.9%	0.6%	1.0%	6.3%
Morton Borough	1,290	1,297	1,300	1,303	1,309	1,315	1,314	0.5%	0.2%	0.2%	0.5%	0.5%	-0.1%	1.9%
Nether Providence Townshi	4,626	4,656	4,677	4,698	4,723	4,747	4,753	0.6%	0.5%	0.4%	0.5%	0.5%	0.1%	2.7%
Newtown Township	12,615	12,710	12,798	12,888	12,971	13,040	13,090	0.8%	0.7%	0.7%	0.6%	0.5%	0.4%	3.8%
Norwood Borough	1,140	1,145	1,146	1,146	1,151	1,156	1,152	0.4%	0.1%	0.0%	0.4%	0.4%	-0.3%	1.1%
Parkside Borough	328	330	332	334	336	337	338	0.6%	0.6%	0.6%	0.6%	0.3%	0.3%	3.0%
Pocopson Township	1,030	1,081	1,123	1,165	1,208	1,244	1,252	5.0%	3.9%	3.7%	3.7%	3.0%	0.6%	21.6%
Prospect Park Borough	1,726	1,736	1,742	1,747	1,756	1,764	1,764	0.6%	0.3%	0.3%	0.5%	0.5%	0.0%	2.2%
Radnor Township	25,694	25,861	25,978	26,099	26,239	26,371	26,407	0.6%	0.5%	0.5%	0.5%	0.5%	0.1%	2.8%
Ridley Park Borough	9,411	9,463	9,483	9,505	9,546	9,591	9,580	0.6%	0.2%	0.2%	0.4%	0.5%	-0.1%	1.8%
Ridley Township	2,809	2,814	2,795	2,776	2,777	2,786	2,757	0.2%	-0.7%	-0.7%	0.0%	0.3%	-1.0%	-1.9%
Rose Valley Borough	297	302	310	318	323	326	333	1.7%	2.6%	2.6%	1.6%	0.9%	2.1%	12.1%
Rutledge Borough	131	132	132	132	133	133	133	0.8%	0.0%	0.0%	0.8%	0.0%	0.0%	1.5%
Sharon Hill Borough	2,985	3,003	3,014	3,026	3,041	3,056	3,058	0.6%	0.4%	0.4%	0.5%	0.5%	0.1%	2.4%
Springfield Township	14,177	14,292	14,411	14,532	14,633	14,715	14,791	0.8%	0.8%	0.8%	0.7%	0.6%	0.5%	4.3%
Swarthmore Borough	2,660	2,677	2,688	2,700	2,714	2,727	2,730	0.6%	0.4%	0.4%	0.5%	0.5%	0.1%	2.6%
Trainer Borough	1,799	1,799	1,779	1,760	1,757	1,762	1,735	0.0%	-1.1%	-1.1%	-0.2%	0.3%	-1.5%	-3.6%
Upland Borough	1,222	1,227	1,228	1,228	1,232	1,237	1,233	0.4%	0.1%	0.0%	0.3%	0.4%	-0.3%	0.9%
Upper Chichester Township	6,648	6,710	6,786	6,862	6,918	6,959	7,016	0.9%	1.1%	1.1%	0.8%	0.6%	0.8%	5.5%
Upper Darby Township	25,058	25,282	25,543	25,806	26,007	26,159	26,346	0.9%	1.0%	1.0%	0.8%	0.6%	0.7%	5.1%
Upper Providence Townshi	5,055	5,114	5,198	5,283	5,338	5,373	5,445	1.2%	1.6%	1.6%	1.0%	0.7%	1.3%	7.7%
Yeadon Borough	2,782	2,791	2,784	2,776	2,783	2,794	2,776	0.3%	-0.3%	-0.3%	0.3%	0.4%	-0.6%	-0.2%
DELCORA	292,329	296,226	299,304	302,454	305,711	308,492	309,039	1.3%	1.0%	1.1%	1.1%	0.9%	0.2%	5.7%

Source: Delaware Valley Regional Planning Commission, September 2016. Base employment data from the National Establishments Time Series (NETS) database, 2010 and 2013.

Comparison of Credit Market Financial Risk Metrics
For Delaware County Regional Water Quality Control Authority
And the Comparable Group
2016 - 2018 (1)

	Delaware County Regional Water Quality Control Authority			Comparable Group		
	2018	2017	2016	2018	2017	2016
Debt Service Coverage	1.9	0.4	2.4	3.7	3.3	3.6
Pre-Tax Interest Coverage - Including AFC(2)(x)	2.2	1.7	2.5	3.6	4.4	4.3
Post-Tax Interest Coverage - Including AFC(2)(x)	2.2	1.7	2.5	3.1	3.4	3.2
GCF / Interest Coverage(3)(x)	3.1	2.6	3.9	4.9	5.4	5.2
GCF / Tot. Debt(4)(%)	8.7	6.8	8.0	18.3	23.2	22.9
GCF / Construction(5)(%)	39.1	46.7	94.8	62.2	82.6	94.2

Notes: (1) Average of the achieved results for each individual company based upon the financials as originally reported.

(2) Represents the number of times available earnings, including AFC, cover all interest charges.

(3) GCF or gross cash flow (sum of net income, depreciation, amortization, net deferred income taxes and investment tax credits, less AFC), plus interest charges, divided by interest charges.

(4) GCF (see note 3) as a percentage of total debt.

(5) The percent of GCF (see note 3) which cover gross construction expenditures.

Source: 2016-18 Annual Reports
S&P Research Insight
EXHIBIT 1

Delaware County Regional Water Quality Control Authority
Illustrating the Impact of Size on Risk and Return
Through Common Stock Returns

TABLE 5.1 Change in Return and Risk for Size-Quartiles Portfolio of the NYSE/AMEX/NASDAQ Common Stocks (1)

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>H</u>	<u>I</u>	<u>J</u>
	Market	Average	Standard	Change in	Largest	Quartile	Comparison	Beta	Beta Adjusted	
Market	Quartile	Quartile	Deviation	Quartile	Market Value	Beta	Group	Ratio	Quartile	Change in
Quartile	Name	Premium	of	Premium	in the Quartile		Beta		Size	Quartile
		1926-18	Return	(%)	(Mill \$)				Premium	Premium
		(%)	(%)	(%)					(%)	(%)
(Largest Stocks)										
1	Large-Cap	0.00	19.9	--	1,073,390	1.00	0.65	65%	0.00	
2	Mid-Cap	0.89	24.3	0.89	13,456	1.12	0.65	58%	0.52	0.52
3	Low-Cap	1.60	28.5	0.71	2,993	1.22	0.65	53%	0.85	0.34
4	Mico-Cap	3.40	38.5	1.80	728	1.35	0.65	48%	1.64	0.78
(Smallest Stocks)										

Notes: (1) 2019 Ibbotson Stocks, Bonds, Bills, and Inflation (SBBI) Yearbook

TABLE 5.2 Recent Market Values and Ibbotson Associates Market Quartiles for the Comparable Group

	12/31/2019	Market	
	Market	Quartile	Market
	Value	Name	Quartile
	(Mill \$)		
<u>Comparable Group</u>			
American States Water Co	3,192	Mid-Cap	2
American Water Works Co Inc	22,208	Large-Cap	1
Aqua America Inc	10,132	Mid-Cap	2
Artesian Resources -CI A	345	Mico-Cap	4
California Water Service Gp	2,482	Low-Cap	3
Middlesex Water Co	1,108	Low-Cap	3
SJW Corp	2,022	Low-Cap	3
York Water Co	599	Mico-Cap	4
<hr/>			
Median	2,252	Low-Cap	3
<hr/>			

Delaware County Regional Water Quality Control Authority
Property Plant & Equipment Analysis
Capital Expenditures Analysis
Growth Rate Analyses
Profit Margin Analyses

TABLE 6.1 Property Plant & Equipment Analysis

(Current Know Statistics)			
	Gross Property, Plant & Equipment	Net Property, Plant & Equipment	Percentage of Property, Plant & Equipment Not Depreciated
(Millions of \$)			
Delaware County Regional Water Quality Control Authority	\$263.683	\$191.774	<u>73%</u>
<u>Comparable Group</u>			
American States Water Co	\$1,977.307	\$1,400.162	71%
American Water Works Co Inc	23,916.000	18,260.000	76%
Aqua America Inc	8,011.744	6,209.835	78%
Artesian Resources -CL A	658.034	522.944	79%
California Water Service Gp	3,425.568	2,357.603	69%
Middlesex Water Co	862.262	694.189	81%
SJW Corp	2,096.920	1,435.855	68%
York Water Co	395.584	312.035	<u>79%</u>
Median			<u>77%</u>

TABLE 6.2 Property Plant & Equipment Analysis for Contributions

(As of 12/31/2019)				
	Net Property, Plant & Equipment	Investor's Capital	Percentage of Property, Plant & Equipment Net of Contributions	2018 Percentage of Known "Cost Free" Capital
(Millions of \$)				
<u>Comparable Group</u>				
American States Water Co	\$1,400.162	\$1,085.169	78%	24%
American Water Works Co Inc	18,260.000	15,444.000	85%	19%
Aqua America Inc	6,209.835	6,966.927	112%	26%
Artesian Resources -CL A	522.944	305.354	58%	40%
California Water Service Gp	2,357.603	1,739.959	74%	28%
Middlesex Water Co	694.189	578.420	83%	25%
SJW Corp	1,435.855	1,469.740	102%	24%
York Water Co	312.035	234.955	<u>75%</u>	<u>28%</u>
Median			<u>80%</u>	<u>26%</u>

Delaware County Regional Water Quality Control Authority
Property Plant & Equipment Analysis
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TABLE 6.3 Capital Expenditures Analysis

	PP&E-Total Net				Capital Expenditures			
	2018	2017	2016	2015	2018	2017	2016	2015
	(Millions of \$)				(Millions of \$)			
Delaware County Regional Water Quality Control Authority	\$240.842	\$209.482	\$190.826	\$182.422	\$37.950	\$25.705	\$14.915	\$20.989
<u>Comparable Group</u>								
American States Water Co	\$1,204.992	\$1,150.926	\$1,060.794	\$1,003.520	\$113.126	\$129.867	\$87.323	\$72.553
American Water Works Co Inc	14,970.000	13,774.000	12,812.000	11,824.832	1,434.000	1,311.000	1,160.000	956.119
Aqua America Inc	5,399.860	5,001.615	4,688.925	4,401.990	478.089	382.996	364.689	328.605
Artesian Resources -CL A	464.384	429.383	409.562	397.823	41.094	28.251	20.694	23.730
California Water Service Gp	2,036.971	1,847.460	1,689.252	1,579.060	259.194	228.938	176.833	132.015
Middlesex Water Co	557.240	517.776	481.870	465.406	50.301	47.375	25.773	22.596
SJW Corp	1,284.345	1,196.822	1,098.247	1,025.215	149.055	142.220	106.774	101.936
York Water Co	289.524	271.652	262.189	253.959	24.602	13.158	13.844	14.139
	Capital Expenditures / PP&E-Total Net							
	2018	2017	2016	2015				
Delaware County Regional Water Quality Control Authority	16%	12%	8%	12%				
<u>Comparable Group</u>								
American States Water Co	9%	11%	8%	7%				
American Water Works Co Inc	10%	10%	9%	8%				
Aqua America Inc	9%	8%	8%	7%				
Artesian Resources -CL A	9%	7%	5%	6%				
California Water Service Gp	13%	12%	10%	8%				
Middlesex Water Co	9%	9%	5%	5%				
SJW Corp	12%	12%	10%	10%				
York Water Co	8%	5%	5%	6%				
Median	9%	9%	8%	7%				

Delaware County Regional Water Quality Control Authority
Property Plant & Equipment Analysis
Capital Expenditures Analysis
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Profit Margin Analyses

Revenues			
2018	2017	2016	2015

(Millions of \$)

EBITDA			
2018	2017	2016	2015

(Millions of \$)

Delaware County Regional Water Quality Control Authority	\$62.158	\$58.282	\$55.850	\$53.756	\$21.782	\$19.524	\$19.059	\$16.635
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Comparable Group

American States Water Co	\$436.816	\$440.603	\$436.087	\$458.641	\$141.323	\$157.789	\$153.566	\$160.522
American Water Works Co Inc	3,440.000	3,357.000	3,302.000	3,159.000	1,306.476	1,154.957	1,102.741	917.849
Aqua America Inc	838.091	809.525	819.875	814.204	433.284	387.423	380.137	340.460
Artesian Resources -CL A	80.411	82.235	79.089	77.024	30.401	25.800	26.382	25.061
California Water Service Gp	698.196	666.890	609.370	588.368	147.867	140.577	127.710	122.709
Middlesex Water Co	138.077	130.775	132.906	126.025	38.056	33.947	35.841	28.720
SJW Corp	397.699	389.225	339.706	305.082	86.302	83.532	68.003	63.335
York Water Co	48.437	48.589	47.584	47.089	25.743	24.780	24.359	21.800

EBIT			
2018	2017	2016	2015

(Millions of \$)

Delaware County Regional Water Quality Control Authority	\$15.194	\$12.475	\$12.315	\$11.212
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Comparable Group

American States Water Co	\$100.898	\$118.758	\$114.716	\$118.489
American Water Works Co Inc	1,139.000	1,222.000	1,145.000	1,075.000
Aqua America Inc	397.141	328.967	325.585	321.100
Artesian Resources -CL A	23.946	26.895	27.150	25.366
California Water Service Gp	129.129	123.551	100.998	95.681
Middlesex Water Co	37.142	38.620	40.632	35.840
SJW Corp	92.050	98.079	93.116	79.960
York Water Co	22.517	22.473	22.888	22.661

Delaware County Regional Water Quality Control Authority
Property Plant & Equipment Analysis
Capital Expenditures Analysis
Growth Rate Analyses
Profit Margin Analyses

TABLE 6.4 Growth Rate Analyses

	Revenue Growth			EBITDA Growth		
	2018	2017	2016	2018	2017	2016
Delaware County Regional Water Quality Control Authority	6.7%	4.4%	3.9%	11.6%	2.4%	14.6%
<u>Comparable Group</u>						
American States Water Co	-0.9%	1.0%	-4.9%	-10.4%	2.7%	-4.3%
American Water Works Co Inc	2.5%	1.7%	4.5%	13.1%	4.7%	20.1%
Aqua America Inc	3.5%	-1.3%	0.7%	11.8%	1.9%	11.7%
Artesian Resources -CL A	-2.2%	4.0%	2.7%	17.8%	-2.2%	5.3%
California Water Service Gp	4.7%	9.4%	3.6%	5.2%	10.1%	4.1%
Middlesex Water Co	5.6%	-1.6%	5.5%	12.1%	-5.3%	24.8%
SJW Corp	2.2%	14.6%	11.3%	3.3%	22.8%	7.4%
York Water Co	-0.3%	2.1%	1.1%	3.9%	1.7%	11.7%
Median	2.4%	1.9%	3.2%	8.5%	2.3%	9.6%
	EBIT Growth					
	2018	2017	2016			
Delaware County Regional Water Quality Control Authority	21.8%	1.3%	9.8%			
<u>Comparable Group</u>						
American States Water Co	-15.0%	3.5%	-3.2%			
American Water Works Co Inc	-6.8%	6.7%	6.5%			
Aqua America Inc	20.7%	1.0%	1.4%			
Artesian Resources -CL A	-11.0%	-0.9%	7.0%			
California Water Service Gp	4.5%	22.3%	5.6%			
Middlesex Water Co	-3.8%	-5.0%	13.4%			
SJW Corp	-6.1%	5.3%	16.5%			
York Water Co	0.2%	-1.8%	1.0%			
Median	-5.0%	2.3%	6.1%			

Delaware County Regional Water Quality Control Authority
Property Plant & Equipment Analysis
Capital Expenditures Analysis
Growth Rate Analyses
Profit Margin Analyses

TABLE 6.5 Profit Margin Analyses			
	EBITDA / Revenue - Margin		
	2018	2017	2016
Delaware County Regional Water Quality Control Authority	35.0%	33.5%	34.1%
<u>Comparable Group</u>			
American States Water Co	32.4%	35.8%	35.2%
American Water Works Co Inc	38.0%	34.4%	33.4%
Aqua America Inc	51.7%	47.9%	46.4%
Artesian Resources -CL A	37.8%	31.4%	33.4%
California Water Service Gp	21.2%	21.1%	21.0%
Middlesex Water Co	27.6%	26.0%	27.0%
SJW Corp	21.7%	21.5%	20.0%
York Water Co	53.1%	51.0%	51.2%
Median	35.1%	32.9%	33.4%
	EBIT / Revenue - Margin		
	2018	2017	2016
Delaware County Regional Water Quality Control Authority	24.4%	21.4%	22.1%
<u>Comparable Group</u>			
American States Water Co	23.1%	27.0%	26.3%
American Water Works Co Inc	33.1%	36.4%	34.7%
Aqua America Inc	47.4%	40.6%	39.7%
Artesian Resources -CL A	29.8%	32.7%	34.3%
California Water Service Gp	18.5%	18.5%	16.6%
Middlesex Water Co	26.9%	29.5%	30.6%
SJW Corp	23.1%	25.2%	27.4%
York Water Co	46.5%	46.3%	48.1%
Median	28.3%	31.1%	32.5%

Source: S&P Research Insight
EXHIBIT 1

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

SUMMARY OF ORIGINAL COST AND ACCRUED DEPRECIATION
OF WASTEWATER SYSTEM AS OF DECEMBER 31, 2019

ACCOUNT	DESCRIPTION	ORIGINAL COST	ACCRUED DEPRECIATION
(1)	(2)	(3)	(4)
353.30	LAND AND LAND RIGHTS - PUMPING	131,500.00	
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	28,944,363.80	9,400,320
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	12,681,792.80	4,245,712
354.70	STRUCTURES AND IMPROVEMENTS - GENERAL PLANT	2,434,828.00	656,182
360.21	COLLECTION SEWERS - FORCE - MAINS	40,269,449.52	9,392,620
361.21	COLLECTION SEWERS - GRAVITY - MAINS	8,324,260.53	3,236,462
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	3,473,591.31	1,012,002
362.20	SPECIAL COLLECTING STRUCTURES	8,739,493.82	2,204,358
363.20	SERVICES TO CUSTOMERS	307,904.86	240,012
364.20	FLOW MEASURING DEVICES	634,716.66	46,311
365.20	FLOW MEASURING INSTALLATIONS	12,625.00	10,987
371.30	PUMPING EQUIPMENT	11,042,301.00	2,417,951
380.30	TREATMENT AND DISPOSAL EQUIP - PUMP STATIONS	37,071,005.38	7,351,116
380.40	TREATMENT AND DISPOSAL EQUIPMENT	105,317,582.56	29,427,905
390.70	COMPUTER AND SOFTWARE	311,997.68	218,398
391.70	TRANSPORTATION EQUIPMENT	3,788,348.39	2,001,862
396.70	COMMUNICATION EQUIPMENT	196,855.00	45,932
	TOTAL COMPANY	263,682,616.31	71,908,130

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

SUMMARY OF ANALYSIS OF ORIGINAL COST
OF WASTEWATER SYSTEM AS OF DECEMBER 31, 2019

ACCOUNT	DESCRIPTION	ORIGINAL COST
(1)	(2)	(3)
353.30	LAND AND LAND RIGHTS - PUMPING	131,500.00
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	28,944,363.80
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	12,681,792.80
354.70	STRUCTURES AND IMPROVEMENTS - GENERAL PLANT	2,434,828.00
360.21	COLLECTION SEWERS - FORCE - MAINS	40,269,449.52
361.21	COLLECTION SEWERS - GRAVITY - MAINS	8,324,260.53
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	3,473,591.31
362.20	SPECIAL COLLECTING STRUCTURES	8,739,493.82
363.20	SERVICES TO CUSTOMERS	307,904.86
364.20	FLOW MEASURING DEVICES	634,716.66
365.20	FLOW MEASURING INSTALLATIONS	12,625.00
371.30	PUMPING EQUIPMENT	11,042,301.00
380.30	TREATMENT AND DISPOSAL EQUIP - PUMP STATIONS	37,071,005.38
380.40	TREATMENT AND DISPOSAL EQUIPMENT	105,317,582.56
390.70	COMPUTER AND SOFTWARE	311,997.68
391.70	TRANSPORTATION EQUIPMENT	3,788,348.39
396.70	COMMUNICATION EQUIPMENT	196,855.00
	TOTAL COMPANY	263,682,616.31

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

SUMMARY OF SERVICE LIFE ESTIMATES AND CALCULATED ACCRUED
DEPRECIATION RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

ACCOUNT	DESCRIPTION	SURVIVOR CURVE	ORIGINAL COST	ACCRUED DEPRECIATION
(1)	(2)	(3)	(4)	(5)
353.30	LAND AND LAND RIGHTS - PUMPING	NONDEPRECIABLE	131,500.00	
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	65-R3	28,944,363.80	9,400,320
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	70-R2.5	12,681,792.80	4,245,712
354.70	STRUCTURES AND IMPROVEMENTS - GENERAL PLANT	60-R3	2,434,828.00	656,182
360.21	COLLECTION SEWERS - FORCE - MAINS	75-R2.5	40,269,449.52	9,392,620
361.21	COLLECTION SEWERS - GRAVITY - MAINS	70-R2.5	8,324,260.53	3,236,462
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	65-R3	3,473,591.31	1,012,002
362.20	SPECIAL COLLECTING STRUCTURES	65-R3	8,739,493.82	2,204,358
363.20	SERVICES TO CUSTOMERS	60-R2.5	307,904.86	240,012
364.20	FLOW MEASURING DEVICES	30-L3	634,716.66	46,311
365.20	FLOW MEASURING INSTALLATIONS	35-S3	12,625.00	10,987
371.30	PUMPING EQUIPMENT	40-R1.5	11,042,301.00	2,417,951
380.30	TREATMENT AND DISPOSAL EQUIP - PUMP STATIONS	45-S0.5	37,071,005.38	7,351,116
380.40	TREATMENT AND DISPOSAL EQUIPMENT	45-S0.5	105,317,582.56	29,427,905
390.70	COMPUTER AND SOFTWARE	5-SQ	311,997.68	218,398
391.70	TRANSPORTATION EQUIPMENT	11-S1.5	3,788,348.39	2,001,862
396.70	COMMUNICATION EQUIPMENT	15-SQ	196,855.00	45,932
	TOTAL COMPANY		263,682,616.31	71,908,130

DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 353.30 LAND AND LAND RIGHTS - PUMPING

RELATED TO ORIGINAL COST AT DECEMBER 31, 2019

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL RATE	ACCRUAL-- AMOUNT	EXP.	--ACCRUED FACTOR	DEPREC.-- AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

NONDEPRECIABLE

1976	12,000.00
1977	79,500.00
2014	40,000.00

131,500.00

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.00

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 354.30 STRUCTURES AND IMPROVEMENTS - PUMPING

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 65-R3							
NET SALVAGE PERCENT.. 0							
1937	8,161.06	65.00	1.54	125.68	6.87	0.8943	7,299
1951	66,554.00	65.00	1.54	1,024.93	11.56	0.8222	54,717
1955	389,440.99	65.00	1.54	5,997.39	13.35	0.7946	309,458
1956	8,979.67	65.00	1.54	138.29	13.84	0.7871	7,068
1964	42,481.72	65.00	1.54	654.22	18.23	0.7195	30,567
1965	105,297.59	65.00	1.54	1,621.58	18.84	0.7102	74,777
1966	13,222.96	65.00	1.54	203.63	19.46	0.7006	9,264
1970	17,920.42	65.00	1.54	275.97	22.08	0.6603	11,833
1974	2,828,683.00	65.00	1.54	43,561.72	24.87	0.6174	1,746,372
1976	3,981,717.75	65.00	1.54	61,318.45	26.33	0.5949	2,368,804
1978	5,121,775.71	65.00	1.54	78,875.35	27.82	0.5720	2,929,656
1979	38,968.15	65.00	1.54	600.11	28.58	0.5603	21,834
1997	522,606.21	65.00	1.54	8,048.14	43.62	0.3289	171,896
2006	950,018.53	65.00	1.54	14,630.29	51.93	0.2011	191,030
2009	2,124,321.04	65.00	1.54	32,714.54	54.78	0.1572	334,007
2013	8,647,630.00	65.00	1.54	133,173.50	58.64	0.0979	846,171
2014	2,327,800.00	65.00	1.54	35,848.12	59.61	0.0829	193,021
2016	1,748,785.00	65.00	1.54	26,931.29	61.56	0.0529	92,546
28,944,363.80				445,743.20	9,400,320		

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.54

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 354.40 STRUCTURES AND IMPROVEMENTS - TREATMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 70-R2.5							
NET SALVAGE PERCENT.. 0							
1972	121,787.00	70.00	1.43	1,741.55	29.94	0.5723	69,697
1974	3,916,571.00	70.00	1.43	56,006.97	31.35	0.5521	2,162,496
1988	142,621.00	70.00	1.43	2,039.48	42.03	0.3996	56,987
1989	471,738.00	70.00	1.43	6,745.85	42.85	0.3879	182,968
1992	1,496,152.00	70.00	1.43	21,394.97	45.32	0.3526	527,498
1993	142,477.00	70.00	1.43	2,037.42	46.16	0.3406	48,523
1994	4,000.00	70.00	1.43	57.20	47.00	0.3286	1,314
2000	18,816.00	70.00	1.43	269.07	52.16	0.2549	4,795
2001	878,370.00	70.00	1.43	12,560.69	53.04	0.2423	212,820
2003	3,189,840.00	70.00	1.43	45,614.71	54.81	0.2170	692,195
2005	447,933.00	70.00	1.43	6,405.44	56.60	0.1914	85,748
2006	294,000.00	70.00	1.43	4,204.20	57.50	0.1786	52,500
2007	478,363.35	70.00	1.43	6,840.60	58.41	0.1656	79,203
2010	423,715.45	70.00	1.43	6,059.13	61.14	0.1266	53,630
2015	50,800.00	70.00	1.43	726.44	65.77	0.0604	3,070
2018	604,609.00	70.00	1.43	8,645.91	68.58	0.0203	12,268
	12,681,792.80			181,349.63			4,245,712
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.43							

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 354.70 STRUCTURES AND IMPROVEMENTS - GENERAL PLANT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 60-R3							
NET SALVAGE PERCENT.. 0							
1997	1,749,072.00	60.00	1.67	29,209.50	38.72	0.3547	620,343
2013	104,328.00	60.00	1.67	1,742.28	53.64	0.1060	11,059
2016	407,428.00	60.00	1.67	6,804.05	56.56	0.0573	23,358
2019	174,000.00	60.00	1.67	2,905.80	59.51	0.0082	1,422
	2,434,828.00			40,661.63			656,182
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.67							

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 360.21 COLLECTION SEWERS - FORCE - MAINS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT DECEMBER 31, 2019

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL RATE	ACCRUAL-- AMOUNT	EXP.	--ACCRUED FACTOR	DEPREC.-- AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 75-R2.5							
NET SALVAGE PERCENT.. 0							
1931	9,078.00	75.00	1.33	120.74	12.75	0.8300	7,535
1937	15,043.00	75.00	1.33	200.07	14.80	0.8027	12,075
1951	6,592.00	75.00	1.33	87.67	21.15	0.7180	4,733
1956	14,731.00	75.00	1.33	195.92	23.95	0.6807	10,027
1964	18,572.00	75.00	1.33	247.01	28.95	0.6140	11,403
1965	21,675.00	75.00	1.33	288.28	29.61	0.6052	13,118
1966	27,934.00	75.00	1.33	371.52	30.28	0.5963	16,656
1970	45,790.00	75.00	1.33	609.01	33.05	0.5593	25,612
1972	2,099,084.50	75.00	1.33	27,917.82	34.48	0.5403	1,134,072
1974	2,579,569.00	75.00	1.33	34,308.27	35.94	0.5208	1,343,440
1977	4,814,287.57	75.00	1.33	64,030.02	38.18	0.4909	2,363,478
1978	2,435,466.00	75.00	1.33	32,391.70	38.94	0.4808	1,170,972
1990	69,192.00	75.00	1.33	920.25	48.53	0.3529	24,420
2000	2,542,300.00	75.00	1.33	33,812.59	57.11	0.2385	606,415
2007	949,741.00	75.00	1.33	12,631.56	63.39	0.1548	147,020
2009	11,706,121.00	75.00	1.33	155,691.41	65.21	0.1305	1,528,000
2010	1,068,448.00	75.00	1.33	14,210.36	66.13	0.1183	126,365
2013	5,792,392.00	75.00	1.33	77,038.81	68.90	0.0813	471,095
2014	4,933,283.45	75.00	1.33	65,612.67	69.84	0.0688	339,410
2016	121,500.00	75.00	1.33	1,615.95	71.70	0.0440	5,346
2017	998,650.00	75.00	1.33	13,282.04	72.64	0.0315	31,428
	40,269,449.52			535,583.67			9,392,620

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.33

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 361.21 COLLECTION SEWERS - GRAVITY - MAINS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL RATE (4)	ACCRUAL-- AMOUNT (5)	EXP. (6)	--ACCRUED FACTOR (7)	DEPREC.-- AMOUNT (8)
SURVIVOR CURVE.. IOWA 70-R2.5							
NET SALVAGE PERCENT.. 0							
1900	221,170.00	70.00	1.43	3,162.73	2.75	0.9607	212,480
1926	11,462.83	70.00	1.43	163.92	8.91	0.8727	10,004
1930	714,058.76	70.00	1.43	10,211.04	9.93	0.8581	612,762
1931	15,306.26	70.00	1.43	218.88	10.19	0.8544	13,078
1937	122,108.00	70.00	1.43	1,746.14	11.93	0.8296	101,297
1944	35,684.00	70.00	1.43	510.28	14.39	0.7944	28,348
1956	8,190.00	70.00	1.43	117.12	19.97	0.7147	5,853
1960	926,852.00	70.00	1.43	13,253.98	22.22	0.6826	632,641
1961	202,807.69	70.00	1.43	2,900.15	22.81	0.6741	136,721
1966	41,967.00	70.00	1.43	600.13	25.91	0.6299	26,433
1969	38,986.35	70.00	1.43	557.50	27.88	0.6017	23,458
1970	463,628.00	70.00	1.43	6,629.88	28.56	0.5920	274,468
1971	37,918.00	70.00	1.43	542.23	29.24	0.5823	22,079
1976	6,446.00	70.00	1.43	92.18	32.79	0.5316	3,427
1985	42,591.00	70.00	1.43	609.05	39.63	0.4339	18,479
1986	155,076.95	70.00	1.43	2,217.60	40.43	0.4224	65,509
1990	1,327,633.00	70.00	1.43	18,985.15	43.67	0.3761	499,376
1992	11,823.00	70.00	1.43	169.07	45.32	0.3526	4,168
2004	79,312.00	70.00	1.43	1,134.16	55.70	0.2043	16,203
2005	1,611,245.00	70.00	1.43	23,040.80	56.60	0.1914	308,441
2006	200,635.00	70.00	1.43	2,869.08	57.50	0.1786	35,827
2007	30,558.00	70.00	1.43	436.98	58.41	0.1656	5,059
2008	108,931.00	70.00	1.43	1,557.71	59.31	0.1527	16,635
2009	519,931.92	70.00	1.43	7,435.03	60.23	0.1396	72,567
2010	130,748.00	70.00	1.43	1,869.70	61.14	0.1266	16,549
2012	209,338.77	70.00	1.43	2,993.54	62.98	0.1003	20,995
2015	317,346.00	70.00	1.43	4,538.05	65.77	0.0604	19,177
2016	732,506.00	70.00	1.43	10,474.84	66.71	0.0470	34,428
	8,324,260.53			119,036.92			3,236,462

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.43

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 361.23 COLLECTION SEWERS - GRAVITY - MANHOLES

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 65-R3							
NET SALVAGE PERCENT.. 0							
1900	12,422.20	65.00				1.0000	12,422
1930	103,718.84	65.00	1.54	1,597.27	5.03	0.9226	95,693
1937	9,366.84	65.00	1.54	144.25	6.87	0.8943	8,377
1949	189,783.57	65.00	1.54	2,922.67	10.75	0.8346	158,397
1956	6,953.78	65.00	1.54	107.09	13.84	0.7871	5,473
1960	75,117.37	65.00	1.54	1,156.81	15.92	0.7551	56,720
1966	6,437.13	65.00	1.54	99.13	19.46	0.7006	4,510
1970	120,089.06	65.00	1.54	1,849.37	22.08	0.6603	79,296
1971	853.71	65.00	1.54	13.15	22.76	0.6499	555
1985	11,945.16	65.00	1.54	183.96	33.32	0.4874	5,822
1990	118,409.05	65.00	1.54	1,823.50	37.49	0.4232	50,114
1992	3,994.91	65.00	1.54	61.52	39.21	0.3968	1,585
2000	132,377.37	65.00	1.54	2,038.61	46.34	0.2871	38,003
2004	50,435.96	65.00	1.54	776.71	50.05	0.2300	11,600
2005	1,583,347.74	65.00	1.54	24,383.56	50.99	0.2155	341,275
2006	367,981.46	65.00	1.54	5,666.91	51.93	0.2011	73,994
2007	12,936.21	65.00	1.54	199.22	52.88	0.1865	2,412
2008	47,837.03	65.00	1.54	736.69	53.83	0.1719	8,221
2009	156,815.50	65.00	1.54	2,414.96	54.78	0.1572	24,656
2010	14,093.41	65.00	1.54	217.04	55.74	0.1425	2,008
2011	23,998.69	65.00	1.54	369.58	56.71	0.1275	3,061
2012	63,542.30	65.00	1.54	978.55	57.67	0.1128	7,166
2015	111,429.26	65.00	1.54	1,716.01	60.59	0.0679	7,560
2016	246,780.36	65.00	1.54	3,800.42	61.56	0.0529	13,060
2019	2,924.40	65.00	1.54	45.04	64.51	0.0075	22
	3,473,591.31			53,302.02			1,012,002

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.53

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 362.20 SPECIAL COLLECTING STRUCTURES

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 65-R3							
NET SALVAGE PERCENT.. 0							
1926	4,077.76	65.00	1.54	62.80	4.00	0.9385	3,827
1930	25,868.27	65.00	1.54	398.37	5.03	0.9226	23,867
1931	12,419.51	65.00	1.54	191.26	5.29	0.9186	11,409
1961	416,766.49	65.00	1.54	6,418.20	16.48	0.7465	311,100
1969	62,195.58	65.00	1.54	957.81	21.41	0.6706	41,710
1974	308,294.95	65.00	1.54	4,747.74	24.87	0.6174	190,335
1984	3,564.22	65.00	1.54	54.89	32.51	0.4999	1,782
1986	85,398.07	65.00	1.54	1,315.13	34.14	0.4748	40,544
1987	308,294.95	65.00	1.54	4,747.74	34.96	0.4622	142,479
1999	616,589.91	65.00	1.54	9,495.48	45.43	0.3011	185,643
2002	773,549.91	65.00	1.54	11,912.67	48.18	0.2588	200,172
2003	616,589.91	65.00	1.54	9,495.48	49.11	0.2445	150,732
2005	2,360,021.50	65.00	1.54	36,344.33	50.99	0.2155	508,679
2009	1,764,154.93	65.00	1.54	27,167.99	54.78	0.1572	277,378
2012	924,884.86	65.00	1.54	14,243.23	57.67	0.1128	104,299
2018	456,823.00	65.00	1.54	7,035.07	63.52	0.0228	10,402
	8,739,493.82			134,588.19			2,204,358
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.54							

DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 363.20 SERVICES TO CUSTOMERS

RELATED TO ORIGINAL COST AT DECEMBER 31, 2019

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.67

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 364.20 FLOW MEASURING DEVICES

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 30-L3							
NET SALVAGE PERCENT.. 0							
2011	5,329.51	30.00	3.33	177.47	21.60	0.2800	1,492
2012	6,646.66	30.00	3.33	221.33	22.56	0.2480	1,648
2013	14,671.76	30.00	3.33	488.57	23.53	0.2157	3,164
2014	64,806.70	30.00	3.33	2,158.06	24.51	0.1830	11,860
2015	3,266.10	30.00	3.33	108.76	25.50	0.1500	490
2016	177,488.35	30.00	3.33	5,910.36	26.50	0.1167	20,708
2017	11,550.38	30.00	3.33	384.63	27.50	0.0833	962
2018	4,100.00	30.00	3.33	136.53	28.50	0.0500	205
2019	346,857.20	30.00	3.33	11,550.34	29.50	0.0167	5,782
	634,716.66			21,136.05			46,311

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 3.33

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 365.20 FLOW MEASURING INSTALLATIONS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 35-S3							
NET SALVAGE PERCENT.. 0							
1977	12,625.00	35.00	2.86	361.08	4.54	0.8703	10,987
	12,625.00			361.08			10,987
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.86							

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 371.30 PUMPING EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 40-R1.5							
NET SALVAGE PERCENT.. 0							
1975	17,787.00	40.00	2.50	444.68	10.88	0.7280	12,949
1977	168,026.00	40.00	2.50	4,200.65	11.73	0.7068	118,752
1994	163,400.00	40.00	2.50	4,085.00	20.99	0.4753	77,656
1995	478,000.00	40.00	2.50	11,950.00	21.65	0.4588	219,282
1996	149,500.00	40.00	2.50	3,737.50	22.31	0.4423	66,116
1997	284,800.00	40.00	2.50	7,120.00	22.98	0.4255	121,182
1998	210,480.00	40.00	2.50	5,262.00	23.66	0.4085	85,981
1999	157,932.00	40.00	2.50	3,948.30	24.35	0.3913	61,791
2002	260,000.00	40.00	2.50	6,500.00	26.46	0.3385	88,010
2006	3,784,877.00	40.00	2.50	94,621.92	29.39	0.2653	1,003,939
2009	1,532,000.00	40.00	2.50	38,300.00	31.65	0.2088	319,805
2013	575,779.00	40.00	2.50	14,394.48	34.76	0.1310	75,427
2017	3,259,720.00	40.00	2.50	81,493.00	37.95	0.0513	167,061
	11,042,301.00			276,057.53			2,417,951
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.50							

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 380.30 TREATMENT AND DISPOSAL EQUIP - PUMP STATIONS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 45-S0.5							
NET SALVAGE PERCENT.. 0							
1974	2,784,965.00	45.00	2.22	61,826.22	15.96	0.6453	1,797,221
1994	5,563,800.00	45.00	2.22	123,516.36	25.75	0.4278	2,380,082
1998	343,000.00	45.00	2.22	7,614.60	28.14	0.3747	128,512
2002	791,877.00	45.00	2.22	17,579.67	30.72	0.3173	251,286
2003	1,102,245.00	45.00	2.22	24,469.84	31.40	0.3022	333,120
2005	5,414,119.00	45.00	2.22	120,193.44	32.80	0.2711	1,467,822
2007	49,465.14	45.00	2.22	1,098.13	34.26	0.2387	11,806
2010	54,643.24	45.00	2.22	1,213.08	36.57	0.1873	10,236
2017	13,923,660.00	45.00	2.22	309,105.25	42.60	0.0533	742,549
2018	7,043,231.00	45.00	2.22	156,359.73	43.54	0.0324	228,482
	37,071,005.38			822,976.32			7,351,116

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.22

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 380.40 TREATMENT AND DISPOSAL EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 45-S0.5							
NET SALVAGE PERCENT.. 0							
1939	66,200.80	45.00	2.22	1,469.66	3.30	0.9267	61,346
1974	29,170,465.00	45.00	2.22	647,584.32	15.96	0.6453	18,824,576
1982	79,765.00	45.00	2.22	1,770.78	19.52	0.5662	45,165
1984	55,834.00	45.00	2.22	1,239.51	20.47	0.5451	30,436
1985	78,800.00	45.00	2.22	1,749.36	20.96	0.5342	42,097
1988	1,042,115.00	45.00	2.22	23,134.95	22.47	0.5007	521,756
1990	9,987.00	45.00	2.22	221.71	23.53	0.4771	4,765
1991	2,473,501.00	45.00	2.22	54,911.72	24.07	0.4651	1,150,450
1992	175,780.00	45.00	2.22	3,902.32	24.62	0.4529	79,609
1996	123,865.00	45.00	2.22	2,749.80	26.92	0.4018	49,766
1997	446,885.00	45.00	2.22	9,920.85	27.52	0.3884	173,588
1999	421,755.00	45.00	2.22	9,362.96	28.76	0.3609	152,207
2000	404,492.25	45.00	2.22	8,979.73	29.40	0.3467	140,225
2001	163,319.00	45.00	2.22	3,625.68	30.05	0.3322	54,258
2002	750,439.00	45.00	2.22	16,659.75	30.72	0.3173	238,137
2003	2,705,380.00	45.00	2.22	60,059.44	31.40	0.3022	817,620
2004	4,285,650.00	45.00	2.22	95,141.43	32.09	0.2869	1,229,510
2005	959,549.00	45.00	2.22	21,301.99	32.80	0.2711	260,143
2006	322,817.00	45.00	2.22	7,166.54	33.52	0.2551	82,354
2007	822,422.46	45.00	2.22	18,257.78	34.26	0.2387	196,288
2008	1,392,579.00	45.00	2.22	30,915.25	35.02	0.2218	308,846
2009	199,037.00	45.00	2.22	4,418.62	35.79	0.2047	40,737
2010	369,786.80	45.00	2.22	8,209.27	36.57	0.1873	69,272
2011	4,670,635.00	45.00	2.22	103,688.10	37.38	0.1693	790,879
2012	3,022,083.45	45.00	2.22	67,090.25	38.20	0.1511	456,667
2013	4,474,358.80	45.00	2.22	99,330.77	39.04	0.1324	592,584
2014	2,442,470.00	45.00	2.22	54,222.83	39.90	0.1133	276,805
2015	12,201,400.00	45.00	2.22	270,871.08	40.78	0.0938	1,144,247
2016	10,059,523.00	45.00	2.22	223,321.41	41.68	0.0738	742,192
2017	8,328,755.00	45.00	2.22	184,898.36	42.60	0.0533	444,173
2018	12,024,392.00	45.00	2.22	266,941.50	43.54	0.0324	390,071
2019	1,573,541.00	45.00	2.22	34,932.61	44.51	0.0109	17,136
105,317,582.56				2,338,050.33	29,427,905		

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.22

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 390.70 COMPUTER AND SOFTWARE

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. 5-SQUARE							
NET SALVAGE PERCENT.. 0							
2016	311,997.68	5.00	20.00	62,399.54	1.50	0.7000	218,398
	311,997.68			62,399.54			218,398
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 20.00							

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 391.70 TRANSPORTATION EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 11-S1.5							
NET SALVAGE PERCENT.. 0							
1998	54,322.00	11.00	9.09	4,937.87	0.13	0.9882	53,680
1999	263,103.00	11.00	9.09	23,916.06	0.39	0.9646	253,776
2004	83,805.00	11.00	9.09	7,617.87	1.68	0.8473	71,005
2005	23,242.00	11.00	9.09	2,112.70	1.97	0.8209	19,080
2006	334,757.00	11.00	9.09	30,429.41	2.27	0.7936	265,677
2007	122,811.00	11.00	9.09	11,163.52	2.60	0.7636	93,783
2008	351,835.00	11.00	9.09	31,981.80	2.97	0.7300	256,840
2009	305,895.25	11.00	9.09	27,805.88	3.36	0.6946	212,460
2011	235,541.83	11.00	9.09	21,410.75	4.29	0.6100	143,681
2012	283,177.30	11.00	9.09	25,740.82	4.84	0.5600	158,579
2013	52,875.22	11.00	9.09	4,806.36	5.45	0.5046	26,678
2014	430,647.00	11.00	9.09	39,145.81	6.12	0.4436	191,052
2015	107,500.00	11.00	9.09	9,771.75	6.87	0.3755	40,361
2016	341,660.59	11.00	9.09	31,056.95	7.69	0.3009	102,809
2017	269,437.00	11.00	9.09	24,491.82	8.58	0.2200	59,276
2018	327,035.20	11.00	9.09	29,727.50	9.52	0.1346	44,003
2019	200,704.00	11.00	9.09	18,243.99	10.50	0.0455	9,122

3,788,348.39

344,360.86

2,001,862

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 9.09

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 396.70 COMMUNICATION EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO ORIGINAL COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. 15-SQUARE							
NET SALVAGE PERCENT.. 0							
2016	196,855.00	15.00	6.67	13,130.23	11.50	0.2333	45,932
	196,855.00			13,130.23			45,932
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 6.67							

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

SUMMARY OF REPLACEMENT COST AND ACCRUED DEPRECIATION
OF WASTEWATER SYSTEM AS OF DECEMBER 31, 2019

ACCOUNT	DESCRIPTION	REPLACEMENT COST	ACCRUED DEPRECIATION
(1)	(2)	(3)	(4)
353.30	LAND AND LAND RIGHTS - PUMPING	131,500.00	
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	94,737,336.70	48,627,436
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	41,392,404.48	18,010,504
354.70	STRUCTURES AND IMPROVEMENTS - GENERAL PLANT	4,526,549.93	1,383,438
360.21	COLLECTION SEWERS - FORCE - MAINS	112,781,556.77	43,471,330
361.21	COLLECTION SEWERS - GRAVITY - MAINS	91,584,839.74	71,000,745
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	16,957,657.71	11,443,391
362.20	SPECIAL COLLECTING STRUCTURES	22,676,812.63	10,374,244
363.20	SERVICES TO CUSTOMERS	5,084,185.13	3,963,122
364.20	FLOW MEASURING DEVICES	667,373.70	51,272
365.20	FLOW MEASURING INSTALLATIONS	66,073.91	57,503
371.30	PUMPING EQUIPMENT	20,869,242.09	5,782,503
380.30	TREATMENT AND DISPOSAL EQUIP - PUMP STATIONS	68,566,085.85	23,286,127
380.40	TREATMENT AND DISPOSAL EQUIPMENT	307,705,283.35	152,768,306
390.70	COMPUTER AND SOFTWARE	303,617.33	212,532
391.70	TRANSPORTATION EQUIPMENT	4,146,483.65	2,247,431
396.70	COMMUNICATION EQUIPMENT	191,730.14	44,736
	TOTAL COMPANY	792,388,733.11	392,724,620

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

SUMMARY OF ANALYSIS OF REPLACEMENT COST
OF WASTEWATER SYSTEM AS OF DECEMBER 31, 2019

ACCOUNT	DESCRIPTION	REPLACEMENT COST
(1)	(2)	(3)
353.30	LAND AND LAND RIGHTS - PUMPING	131,500.00
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	94,737,336.70
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	41,392,404.48
354.70	STRUCTURES AND IMPROVEMENTS - GENERAL PLANT	4,526,549.93
360.21	COLLECTION SEWERS - FORCE - MAINS	112,781,556.77
361.21	COLLECTION SEWERS - GRAVITY - MAINS	91,584,839.74
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	16,957,657.71
362.20	SPECIAL COLLECTING STRUCTURES	22,676,812.63
363.20	SERVICES TO CUSTOMERS	5,084,185.13
364.20	FLOW MEASURING DEVICES	667,373.70
365.20	FLOW MEASURING INSTALLATIONS	66,073.91
371.30	PUMPING EQUIPMENT	20,869,242.09
380.30	TREATMENT AND DISPOSAL EQUIP - PUMP STATIONS	68,566,085.85
380.40	TREATMENT AND DISPOSAL EQUIPMENT	307,705,283.35
390.70	COMPUTER AND SOFTWARE	303,617.33
391.70	TRANSPORTATION EQUIPMENT	4,146,483.65
396.70	COMMUNICATION EQUIPMENT	191,730.14
	TOTAL COMPANY	792,388,733.11

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

SUMMARY OF SERVICE LIFE ESTIMATES AND CALCULATED ACCRUED
DEPRECIATION RELATED TO REPLACEMENT COST AS OF DECEMBER 31, 2019

ACCOUNT	DESCRIPTION	SURVIVOR CURVE	REPLACEMENT COST	ACCRUED DEPRECIATION
(1)	(2)	(3)	(4)	(5)
353.30	LAND AND LAND RIGHTS - PUMPING	NONDEPRECIABLE	131,500.00	
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	65-R3	94,737,336.70	48,627,436
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	70-R2.5	41,392,404.48	18,010,504
354.70	STRUCTURES AND IMPROVEMENTS - GENERAL PLANT	60-R3	4,526,549.93	1,383,438
360.21	COLLECTION SEWERS - FORCE - MAINS	75-R2.5	112,781,556.77	43,471,330
361.21	COLLECTION SEWERS - GRAVITY - MAINS	70-R2.5	91,584,839.74	71,000,745
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	65-R3	16,957,657.71	11,443,391
362.20	SPECIAL COLLECTING STRUCTURES	65-R3	22,676,812.63	10,374,244
363.20	SERVICES TO CUSTOMERS	60-R2.5	5,084,185.13	3,963,122
364.20	FLOW MEASURING DEVICES	30-L3	667,373.70	51,272
365.20	FLOW MEASURING INSTALLATIONS	35-S3	66,073.91	57,503
371.30	PUMPING EQUIPMENT	40-R1.5	20,869,242.09	5,782,503
380.30	TREATMENT AND DISPOSAL EQUIP - PUMP STATIONS	45-S0.5	68,566,085.85	23,286,127
380.40	TREATMENT AND DISPOSAL EQUIPMENT	45-S0.5	307,705,283.35	152,768,306
390.70	COMPUTER AND SOFTWARE	5-SQ	303,617.33	212,532
391.70	TRANSPORTATION EQUIPMENT	11-S1.5	4,146,483.65	2,247,431
396.70	COMMUNICATION EQUIPMENT	15-SQ	191,730.14	44,736
	TOTAL COMPANY		792,388,733.11	392,724,620

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

SUMMARY OF REPLACEMENT COST AND TRANSITION FACTORS BY ACCOUNT AND VINTAGE YEAR
OF WATER SYSTEM AS OF DECEMBER 31, 2019

ACCOUNT (1)	DESCRIPTION (2)	VINTAGE YEAR (3)	BASE COST (4)	TRANSITION FACTOR (5)	FACTOR REFERENCE (6)	REPLACEMENT COST (7)
353.30	LAND AND LAND RIGHTS - PUMPING	1976	12,000.00	1.00	(1)	12,000.00
353.30	LAND AND LAND RIGHTS - PUMPING	1977	79,500.00	1.00	(1)	79,500.00
353.30	LAND AND LAND RIGHTS - PUMPING	2014	40,000.00	1.00	(1)	40,000.00
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	1937	8,161.06	39.83	(2)	325,082.22
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	1951	66,554.00	18.87	(2)	1,255,768.89
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	1955	389,440.99	16.67	(2)	6,493,702.09
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	1956	8,979.67	15.59	(2)	139,965.73
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	1964	42,481.72	12.80	(2)	543,917.74
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	1965	105,297.59	12.58	(2)	1,324,532.84
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	1966	13,222.96	12.80	(2)	169,301.11
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	1970	17,920.42	9.56	(2)	171,319.22
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	1974	2,828,683.00	6.13	(2)	17,334,749.67
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	1976	3,981,717.75	5.52	(2)	21,960,704.82
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	1978	5,121,775.71	4.84	(2)	24,812,926.92
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	1979	38,968.15	4.40	(2)	171,412.05
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	1997	522,606.21	2.17	(2)	1,132,050.31
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	2006	950,018.53	1.54	(2)	1,461,723.79
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	2009	2,124,321.04	1.32	(2)	2,799,886.37
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	2013	8,647,630.00	1.17	(2)	10,098,291.06
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	2014	2,327,800.00	1.14	(2)	2,645,059.59
354.30	STRUCTURES AND IMPROVEMENTS - PUMPING	2016	1,748,785.00	1.08	(2)	1,896,942.28
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	1972	121,787.00	7.79	(2)	949,144.34
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	1974	3,916,571.00	6.13	(2)	24,001,550.49
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	1988	142,621.00	2.86	(2)	407,407.40
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	1989	471,738.00	2.71	(2)	1,276,362.82
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	1992	1,496,152.00	2.55	(2)	3,817,583.57
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	1993	142,477.00	2.44	(2)	347,469.42
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	1994	4,000.00	2.33	(2)	9,311.69
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	2000	18,816.00	1.98	(2)	37,268.15
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	2001	878,370.00	1.90	(2)	1,666,114.52
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	2003	3,189,840.00	1.82	(2)	5,804,861.12
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	2005	447,933.00	1.60	(2)	716,892.77
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	2006	294,000.00	1.54	(2)	452,356.22
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	2007	478,363.35	1.45	(2)	691,505.08
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	2010	423,715.45	1.28	(2)	542,507.10
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	2015	50,800.00	1.11	(2)	56,296.14
354.40	STRUCTURES AND IMPROVEMENTS - TREATMENT	2018	604,609.00	1.02	(2)	615,773.65
354.70	STRUCTURES AND IMPROVEMENTS - GENERAL PLANT	1997	1,749,072.00	2.17	(2)	3,788,775.30
354.70	STRUCTURES AND IMPROVEMENTS - GENERAL PLANT	2013	104,328.00	1.17	(2)	121,829.28
354.70	STRUCTURES AND IMPROVEMENTS - GENERAL PLANT	2016	407,428.00	1.08	(2)	441,945.35
354.70	STRUCTURES AND IMPROVEMENTS - GENERAL PLANT	2019	174,000.00	1.00	(2)	174,000.00
360.21	COLLECTION SEWERS - FORCE - MAINS	1931	9,078.00	40.95	(3)	371,744.10
360.21	COLLECTION SEWERS - FORCE - MAINS	1937	15,043.00	39.00	(3)	586,677.00
360.21	COLLECTION SEWERS - FORCE - MAINS	1951	6,592.00	18.20	(3)	119,974.40
360.21	COLLECTION SEWERS - FORCE - MAINS	1956	14,731.00	14.37	(3)	211,661.21
360.21	COLLECTION SEWERS - FORCE - MAINS	1964	18,572.00	11.22	(3)	208,362.58
360.21	COLLECTION SEWERS - FORCE - MAINS	1965	21,675.00	11.07	(3)	239,889.53
360.21	COLLECTION SEWERS - FORCE - MAINS	1966	27,934.00	10.92	(3)	305,039.28
360.21	COLLECTION SEWERS - FORCE - MAINS	1970	45,790.00	9.75	(3)	446,452.50
360.21	COLLECTION SEWERS - FORCE - MAINS	1972	2,099,084.50	8.36	(3)	17,542,349.04
360.21	COLLECTION SEWERS - FORCE - MAINS	1974	2,579,569.00	7.45	(3)	19,206,063.74
360.21	COLLECTION SEWERS - FORCE - MAINS	1977	4,814,287.57	5.06	(3)	24,338,898.27
360.21	COLLECTION SEWERS - FORCE - MAINS	1978	2,435,466.00	4.73	(3)	11,529,749.45
360.21	COLLECTION SEWERS - FORCE - MAINS	1990	69,192.00	2.72	(3)	188,266.60
360.21	COLLECTION SEWERS - FORCE - MAINS	2000	2,542,300.00	2.17	(3)	5,522,927.59
360.21	COLLECTION SEWERS - FORCE - MAINS	2007	949,741.00	1.55	(3)	1,467,618.64
360.21	COLLECTION SEWERS - FORCE - MAINS	2009	11,706,121.00	1.33	(3)	15,614,516.45
360.21	COLLECTION SEWERS - FORCE - MAINS	2010	1,068,448.00	1.31	(3)	1,402,338.00
360.21	COLLECTION SEWERS - FORCE - MAINS	2013	5,792,392.00	1.17	(3)	6,767,430.88
360.21	COLLECTION SEWERS - FORCE - MAINS	2014	4,933,283.45	1.12	(3)	5,527,167.09
360.21	COLLECTION SEWERS - FORCE - MAINS	2016	121,500.00	1.08	(3)	131,799.34

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

SUMMARY OF REPLACEMENT COST AND TRANSITION FACTORS BY ACCOUNT AND VINTAGE YEAR
OF WATER SYSTEM AS OF DECEMBER 31, 2019

ACCOUNT (1)	DESCRIPTION (2)	VINTAGE YEAR (3)	BASE COST (4)	TRANSITION FACTOR (5)	FACTOR REFERENCE (6)	REPLACEMENT COST (7)
360.21	COLLECTION SEWERS - FORCE - MAINS	2017	998,650.00	1.05	(3)	1,052,631.08
361.21	COLLECTION SEWERS - GRAVITY - MAINS	1900	221,170.00	117.00	(3)	25,876,890.00
361.21	COLLECTION SEWERS - GRAVITY - MAINS	1926	11,462.83	39.00	(3)	447,050.37
361.21	COLLECTION SEWERS - GRAVITY - MAINS	1930	714,058.76	40.95	(3)	29,240,706.22
361.21	COLLECTION SEWERS - GRAVITY - MAINS	1931	15,306.26	40.95	(3)	626,791.35
361.21	COLLECTION SEWERS - GRAVITY - MAINS	1937	122,108.00	39.00	(3)	4,762,212.00
361.21	COLLECTION SEWERS - GRAVITY - MAINS	1944	35,684.00	32.76	(3)	1,169,007.84
361.21	COLLECTION SEWERS - GRAVITY - MAINS	1956	8,190.00	14.37	(3)	117,677.37
361.21	COLLECTION SEWERS - GRAVITY - MAINS	1960	926,852.00	12.04	(3)	11,163,114.53
361.21	COLLECTION SEWERS - GRAVITY - MAINS	1961	202,807.69	11.87	(3)	2,407,239.10
361.21	COLLECTION SEWERS - GRAVITY - MAINS	1966	41,967.00	10.92	(3)	458,279.64
361.21	COLLECTION SEWERS - GRAVITY - MAINS	1969	38,986.35	10.24	(3)	399,122.76
361.21	COLLECTION SEWERS - GRAVITY - MAINS	1970	463,628.00	9.75	(3)	4,520,373.00
361.21	COLLECTION SEWERS - GRAVITY - MAINS	1971	37,918.00	8.71	(3)	330,370.66
361.21	COLLECTION SEWERS - GRAVITY - MAINS	1976	6,446.00	5.32	(3)	34,281.00
361.21	COLLECTION SEWERS - GRAVITY - MAINS	1985	42,591.00	3.22	(3)	137,330.82
361.21	COLLECTION SEWERS - GRAVITY - MAINS	1986	155,076.95	3.21	(3)	498,070.67
361.21	COLLECTION SEWERS - GRAVITY - MAINS	1990	1,327,633.00	2.72	(3)	3,612,396.77
361.21	COLLECTION SEWERS - GRAVITY - MAINS	1992	11,823.00	2.63	(3)	31,135.17
361.21	COLLECTION SEWERS - GRAVITY - MAINS	2004	79,312.00	1.90	(3)	150,362.33
361.21	COLLECTION SEWERS - GRAVITY - MAINS	2005	1,611,245.00	1.75	(3)	2,813,666.64
361.21	COLLECTION SEWERS - GRAVITY - MAINS	2006	200,635.00	1.64	(3)	329,298.73
361.21	COLLECTION SEWERS - GRAVITY - MAINS	2007	30,558.00	1.55	(3)	47,220.76
361.21	COLLECTION SEWERS - GRAVITY - MAINS	2008	108,931.00	1.39	(3)	151,725.32
361.21	COLLECTION SEWERS - GRAVITY - MAINS	2009	519,931.92	1.33	(3)	693,524.82
361.21	COLLECTION SEWERS - GRAVITY - MAINS	2010	130,748.00	1.31	(3)	171,606.75
361.21	COLLECTION SEWERS - GRAVITY - MAINS	2012	209,338.77	1.19	(3)	249,561.07
361.21	COLLECTION SEWERS - GRAVITY - MAINS	2015	317,346.00	1.11	(3)	351,224.83
361.21	COLLECTION SEWERS - GRAVITY - MAINS	2016	732,506.00	1.08	(3)	794,599.22
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	1900	12,422.20	117.00	(3)	1,453,397.40
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	1930	103,718.84	40.95	(3)	4,247,286.50
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	1937	9,366.84	39.00	(3)	365,306.76
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	1949	189,783.57	19.50	(3)	3,700,779.62
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	1956	6,953.78	14.37	(3)	99,914.84
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	1960	75,117.37	12.04	(3)	904,722.44
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	1966	6,437.13	10.92	(3)	70,293.46
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	1970	120,089.06	9.75	(3)	1,170,868.34
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	1971	853.71	8.71	(3)	7,438.18
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	1985	11,945.16	3.22	(3)	38,516.09
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	1990	118,409.05	2.72	(3)	322,182.76
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	1992	3,994.91	2.63	(3)	10,520.36
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	2000	132,377.37	2.17	(3)	287,578.42
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	2004	50,435.96	1.90	(3)	95,618.17
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	2005	1,583,347.74	1.75	(3)	2,764,950.53
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	2006	367,981.46	1.64	(3)	603,961.55
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	2007	12,936.21	1.55	(3)	19,990.11
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	2008	47,837.03	1.39	(3)	66,630.15
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	2009	156,815.50	1.33	(3)	209,172.47
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	2010	14,093.41	1.31	(3)	18,497.60
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	2011	23,998.69	1.26	(3)	30,331.68
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	2012	63,542.30	1.19	(3)	75,751.30
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	2015	111,429.26	1.11	(3)	123,325.09
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	2016	246,780.36	1.08	(3)	267,699.49
361.23	COLLECTION SEWERS - GRAVITY - MANHOLES	2019	2,924.40	1.00	(3)	2,924.40
362.20	SPECIAL COLLECTING STRUCTURES	1926	4,077.76	37.74	(2)	153,881.79
362.20	SPECIAL COLLECTING STRUCTURES	1930	25,868.27	42.18	(2)	1,091,032.33
362.20	SPECIAL COLLECTING STRUCTURES	1931	12,419.51	44.81	(2)	556,549.29
362.20	SPECIAL COLLECTING STRUCTURES	1961	416,766.49	13.53	(2)	5,638,142.89
362.20	SPECIAL COLLECTING STRUCTURES	1969	62,195.58	10.39	(2)	646,293.20
362.20	SPECIAL COLLECTING STRUCTURES	1974	308,294.95	6.13	(2)	1,889,294.69
362.20	SPECIAL COLLECTING STRUCTURES	1984	3,564.22	3.29	(2)	11,722.69

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

SUMMARY OF REPLACEMENT COST AND TRANSITION FACTORS BY ACCOUNT AND VINTAGE YEAR
OF WATER SYSTEM AS OF DECEMBER 31, 2019

ACCOUNT (1)	DESCRIPTION (2)	VINTAGE YEAR (3)	BASE COST (4)	TRANSITION FACTOR (5)	FACTOR REFERENCE (6)	REPLACEMENT COST (7)
362.20	SPECIAL COLLECTING STRUCTURES	1986	85,398.07	3.08	(2)	262,791.49
362.20	SPECIAL COLLECTING STRUCTURES	1987	308,294.95	3.00	(2)	924,884.85
362.20	SPECIAL COLLECTING STRUCTURES	1999	616,589.91	2.09	(2)	1,288,906.60
362.20	SPECIAL COLLECTING STRUCTURES	2002	773,549.91	1.84	(2)	1,425,797.65
362.20	SPECIAL COLLECTING STRUCTURES	2003	616,589.91	1.82	(2)	1,122,068.44
362.20	SPECIAL COLLECTING STRUCTURES	2005	2,360,021.50	1.60	(2)	3,777,087.98
362.20	SPECIAL COLLECTING STRUCTURES	2009	1,764,154.93	1.32	(2)	2,325,182.14
362.20	SPECIAL COLLECTING STRUCTURES	2012	924,884.86	1.19	(2)	1,097,917.95
362.20	SPECIAL COLLECTING STRUCTURES	2018	456,823.00	1.02	(2)	465,258.65
363.20	SERVICES TO CUSTOMERS	1957	307,904.86	16.51	(4)	5,084,185.13
364.20	FLOW MEASURING DEVICES	2011	5,329.51	1.17	(5)	6,229.48
364.20	FLOW MEASURING DEVICES	2012	6,646.66	1.17	(5)	7,769.05
364.20	FLOW MEASURING DEVICES	2013	14,671.76	1.16	(5)	17,059.29
364.20	FLOW MEASURING DEVICES	2014	64,806.70	1.15	(5)	74,376.60
364.20	FLOW MEASURING DEVICES	2015	3,266.10	1.10	(5)	3,599.21
364.20	FLOW MEASURING DEVICES	2016	177,488.35	1.10	(5)	195,105.06
364.20	FLOW MEASURING DEVICES	2017	11,550.38	1.06	(5)	12,211.98
364.20	FLOW MEASURING DEVICES	2018	4,100.00	1.02	(5)	4,165.83
364.20	FLOW MEASURING DEVICES	2019	346,857.20	1.00	(5)	346,857.20
365.20	FLOW MEASURING INSTALLATIONS	1977	12,625.00	5.23	(2)	66,073.91
371.30	PUMPING EQUIPMENT	1975	17,787.00	8.14	(6)	144,705.85
371.30	PUMPING EQUIPMENT	1977	168,026.00	6.85	(6)	1,151,526.01
371.30	PUMPING EQUIPMENT	1994	163,400.00	2.95	(6)	481,419.16
371.30	PUMPING EQUIPMENT	1995	478,000.00	2.85	(6)	1,363,705.88
371.30	PUMPING EQUIPMENT	1996	149,500.00	2.80	(6)	418,932.22
371.30	PUMPING EQUIPMENT	1997	284,800.00	2.67	(6)	759,265.96
371.30	PUMPING EQUIPMENT	1998	210,480.00	2.58	(6)	542,771.53
371.30	PUMPING EQUIPMENT	1999	157,932.00	2.50	(6)	394,360.90
371.30	PUMPING EQUIPMENT	2002	260,000.00	2.38	(6)	619,773.16
371.30	PUMPING EQUIPMENT	2006	3,784,877.00	2.02	(6)	7,648,605.60
371.30	PUMPING EQUIPMENT	2009	1,532,000.00	1.82	(6)	2,795,733.72
371.30	PUMPING EQUIPMENT	2013	575,779.00	1.51	(6)	868,489.62
371.30	PUMPING EQUIPMENT	2017	3,259,720.00	1.13	(6)	3,679,952.48
380.30	TREATMENT AND DISPOSAL EQUIPMENT - PUMP STATION	1974	2,784,965.00	7.05	(7)	19,636,363.39
380.30	TREATMENT AND DISPOSAL EQUIPMENT - PUMP STATION	1994	5,563,800.00	2.39	(7)	13,301,958.62
380.30	TREATMENT AND DISPOSAL EQUIPMENT - PUMP STATION	1998	343,000.00	2.13	(7)	729,861.89
380.30	TREATMENT AND DISPOSAL EQUIPMENT - PUMP STATION	2002	791,877.00	1.88	(7)	1,487,227.23
380.30	TREATMENT AND DISPOSAL EQUIPMENT - PUMP STATION	2003	1,102,245.00	1.84	(7)	2,028,911.15
380.30	TREATMENT AND DISPOSAL EQUIPMENT - PUMP STATION	2005	5,414,119.00	1.71	(7)	9,268,615.24
380.30	TREATMENT AND DISPOSAL EQUIPMENT - PUMP STATION	2007	49,465.14	1.55	(7)	76,638.73
380.30	TREATMENT AND DISPOSAL EQUIPMENT - PUMP STATION	2010	54,643.24	1.31	(7)	71,370.76
380.30	TREATMENT AND DISPOSAL EQUIPMENT - PUMP STATION	2017	13,923,660.00	1.06	(7)	14,757,305.89
380.30	TREATMENT AND DISPOSAL EQUIPMENT - PUMP STATION	2018	7,043,231.00	1.02	(7)	7,207,832.95
380.40	TREATMENT AND DISPOSAL EQUIPMENT	1939	66,200.80	41.60	(7)	2,753,953.28
380.40	TREATMENT AND DISPOSAL EQUIPMENT	1974	29,170,465.00	7.05	(7)	205,676,498.98
380.40	TREATMENT AND DISPOSAL EQUIPMENT	1982	79,765.00	3.67	(7)	292,354.54
380.40	TREATMENT AND DISPOSAL EQUIPMENT	1984	55,834.00	3.31	(7)	185,075.25
380.40	TREATMENT AND DISPOSAL EQUIPMENT	1985	78,800.00	3.18	(7)	250,235.11
380.40	TREATMENT AND DISPOSAL EQUIPMENT	1988	1,042,115.00	2.91	(7)	3,031,607.27
380.40	TREATMENT AND DISPOSAL EQUIPMENT	1990	9,987.00	2.66	(7)	26,546.91
380.40	TREATMENT AND DISPOSAL EQUIPMENT	1991	2,473,501.00	2.58	(7)	6,391,157.86
380.40	TREATMENT AND DISPOSAL EQUIPMENT	1992	175,780.00	2.51	(7)	440,508.92
380.40	TREATMENT AND DISPOSAL EQUIPMENT	1996	123,865.00	2.27	(7)	280,805.67
380.40	TREATMENT AND DISPOSAL EQUIPMENT	1997	446,885.00	2.19	(7)	978,442.95
380.40	TREATMENT AND DISPOSAL EQUIPMENT	1999	421,755.00	2.07	(7)	875,062.74
380.40	TREATMENT AND DISPOSAL EQUIPMENT	2000	404,492.25	2.01	(7)	814,860.90
380.40	TREATMENT AND DISPOSAL EQUIPMENT	2001	163,319.00	1.94	(7)	317,479.93
380.40	TREATMENT AND DISPOSAL EQUIPMENT	2002	750,439.00	1.88	(7)	1,409,402.37
380.40	TREATMENT AND DISPOSAL EQUIPMENT	2003	2,705,380.00	1.84	(7)	4,979,814.51
380.40	TREATMENT AND DISPOSAL EQUIPMENT	2004	4,285,650.00	1.79	(7)	7,651,632.62
380.40	TREATMENT AND DISPOSAL EQUIPMENT	2005	959,549.00	1.71	(7)	1,642,684.71

**DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
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**SUMMARY OF REPLACEMENT COST AND TRANSITION FACTORS BY ACCOUNT AND VINTAGE YEAR
OF WATER SYSTEM AS OF DECEMBER 31, 2019**

ACCOUNT (1)	DESCRIPTION (2)	VINTAGE YEAR (3)	BASE COST (4)	TRANSITION FACTOR (5)	FACTOR REFERENCE (6)	REPLACEMENT COST (7)
380.40	TREATMENT AND DISPOSAL EQUIPMENT	2006	322,817.00	1.65	(7)	532,904.25
380.40	TREATMENT AND DISPOSAL EQUIPMENT	2007	822,422.46	1.55	(7)	1,274,218.78
380.40	TREATMENT AND DISPOSAL EQUIPMENT	2008	1,392,579.00	1.42	(7)	1,977,177.01
380.40	TREATMENT AND DISPOSAL EQUIPMENT	2009	199,037.00	1.34	(7)	267,526.31
380.40	TREATMENT AND DISPOSAL EQUIPMENT	2010	369,786.80	1.31	(7)	482,986.84
380.40	TREATMENT AND DISPOSAL EQUIPMENT	2011	4,670,635.00	1.27	(7)	5,941,847.58
380.40	TREATMENT AND DISPOSAL EQUIPMENT	2012	3,022,083.45	1.22	(7)	3,697,607.99
380.40	TREATMENT AND DISPOSAL EQUIPMENT	2013	4,474,358.80	1.19	(7)	5,325,703.18
380.40	TREATMENT AND DISPOSAL EQUIPMENT	2014	2,442,470.00	1.15	(7)	2,802,944.88
380.40	TREATMENT AND DISPOSAL EQUIPMENT	2015	12,201,400.00	1.12	(7)	13,699,817.54
380.40	TREATMENT AND DISPOSAL EQUIPMENT	2016	10,059,523.00	1.09	(7)	10,998,059.31
380.40	TREATMENT AND DISPOSAL EQUIPMENT	2017	8,328,755.00	1.06	(7)	8,827,419.31
380.40	TREATMENT AND DISPOSAL EQUIPMENT	2018	12,024,392.00	1.02	(7)	12,305,404.85
380.40	TREATMENT AND DISPOSAL EQUIPMENT	2019	1,573,541.00	1.00	(7)	1,573,541.00
390.70	COMPUTER AND SOFTWARE	2016	311,997.68	0.97	(8)	303,617.33
391.70	TRANSPORTATION EQUIPMENT	1998	54,322.00	1.13	(9)	61,570.01
391.70	TRANSPORTATION EQUIPMENT	1999	263,103.00	1.13	(9)	296,474.73
391.70	TRANSPORTATION EQUIPMENT	2004	83,805.00	1.14	(9)	95,242.03
391.70	TRANSPORTATION EQUIPMENT	2005	23,242.00	1.15	(9)	26,689.30
391.70	TRANSPORTATION EQUIPMENT	2006	334,757.00	1.19	(9)	396,897.52
391.70	TRANSPORTATION EQUIPMENT	2007	122,811.00	1.18	(9)	145,275.09
391.70	TRANSPORTATION EQUIPMENT	2008	351,835.00	1.17	(9)	410,632.28
391.70	TRANSPORTATION EQUIPMENT	2009	305,895.25	1.13	(9)	346,963.40
391.70	TRANSPORTATION EQUIPMENT	2011	235,541.83	1.13	(9)	265,337.40
391.70	TRANSPORTATION EQUIPMENT	2012	283,177.30	1.10	(9)	310,943.71
391.70	TRANSPORTATION EQUIPMENT	2013	52,875.22	1.09	(9)	57,456.42
391.70	TRANSPORTATION EQUIPMENT	2014	430,647.00	1.07	(9)	459,587.27
391.70	TRANSPORTATION EQUIPMENT	2015	107,500.00	1.04	(9)	111,988.69
391.70	TRANSPORTATION EQUIPMENT	2016	341,660.59	1.03	(9)	353,022.09
391.70	TRANSPORTATION EQUIPMENT	2017	269,437.00	1.02	(9)	274,811.57
391.70	TRANSPORTATION EQUIPMENT	2018	327,035.20	1.01	(9)	330,983.10
391.70	TRANSPORTATION EQUIPMENT	2019	200,704.00	1.01	(9)	202,609.04
396.70	COMMUNICATION EQUIPMENT	2016	196,855.00	0.97	(10)	191,730.14
TOTAL COMPANY			263,682,616.31			792,388,733.11

- NOTES : (1) Not trended
- (2) Handy-Whitman Index of Public Utility Costs, 1/1/19, Cost Trends of Water Utility Construction, North Atlantic Region, Line 8
- (3) Handy-Whitman Index of Public Utility Costs, 1/1/19, Cost Trends of Water Utility Construction, North Atlantic Region, Line 34
- (4) Handy-Whitman Index of Public Utility Costs, 1/1/19, Cost Trends of Water Utility Construction, North Atlantic Region, Line 39
- (5) Handy-Whitman Index of Public Utility Costs, 1/1/19, Cost Trends of Water Utility Construction, North Atlantic Region, Line 40
- (6) Handy-Whitman Index of Public Utility Costs, 1/1/19, Cost Trends of Water Utility Construction, North Atlantic Region, Line 9
- (7) Handy-Whitman Index of Public Utility Costs, 1/1/19, Cost Trends of Water Utility Construction, North Atlantic Region, Line 16
- (8) U.S. Bureau of Labor Statistics, Producer Price Index: Series Title: PPI industry data for Computer terminal and other computer peripheral equipment mfg, not seasonally adjusted
- (9) U.S. Bureau of Labor Statistics, Producer Price Index: Series Title: PPI industry data for Automobile, light truck and utility vehicle mfg, not seasonally adjusted
- (10) U.S. Bureau of Labor Statistics, Producer Price Index: PPI industry data for Broadcast and wireless communications equipment mfg, not seasonally adjusted

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
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ACCOUNT 353.30 LAND AND LAND RIGHTS - PUMPING

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT DECEMBER 31, 2019

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL ACCRUAL-- RATE	AMOUNT	EXP.	--ACCRUED DEPREC.-- FACTOR	AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
NONDEPRECIABLE							
1976	12,000.00						
1977	79,500.00						
2014	40,000.00						
	131,500.00						
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 0.00							

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
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ACCOUNT 354.30 STRUCTURES AND IMPROVEMENTS - PUMPING

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 65-R3							
NET SALVAGE PERCENT.. 0							
1937	325,082.22	65.00	1.54	5,006.27	6.87	0.8943	290,724
1951	1,255,768.89	65.00	1.54	19,338.84	11.56	0.8222	1,032,430
1955	6,493,702.09	65.00	1.54	100,003.01	13.35	0.7946	5,160,026
1956	139,965.73	65.00	1.54	2,155.47	13.84	0.7871	110,164
1964	543,917.74	65.00	1.54	8,376.33	18.23	0.7195	391,371
1965	1,324,532.84	65.00	1.54	20,397.81	18.84	0.7102	940,617
1966	169,301.11	65.00	1.54	2,607.24	19.46	0.7006	118,616
1970	171,319.22	65.00	1.54	2,638.32	22.08	0.6603	113,124
1974	17,334,749.67	65.00	1.54	266,955.14	24.87	0.6174	10,702,128
1976	21,960,704.82	65.00	1.54	338,194.85	26.33	0.5949	13,064,863
1978	24,812,926.92	65.00	1.54	382,119.07	27.82	0.5720	14,192,994
1979	171,412.05	65.00	1.54	2,639.75	28.58	0.5603	96,044
1997	1,132,050.31	65.00	1.54	17,433.57	43.62	0.3289	372,354
2006	1,461,723.79	65.00	1.54	22,510.55	51.93	0.2011	293,923
2009	2,799,886.37	65.00	1.54	43,118.25	54.78	0.1572	440,226
2013	10,098,291.06	65.00	1.54	155,513.68	58.64	0.0979	988,118
2014	2,645,059.59	65.00	1.54	40,733.92	59.61	0.0829	219,328
2016	1,896,942.28	65.00	1.54	29,212.91	61.56	0.0529	100,386
94,737,336.70				1,458,954.98		48,627,436	

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.54

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 354.40 STRUCTURES AND IMPROVEMENTS - TREATMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT DECEMBER 31, 2019

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL RATE	ACCRUAL--AMOUNT	EXP.	--ACCRUED FACTOR	DEPREC.--AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 70-R2.5							
NET SALVAGE PERCENT.. 0							
1972	949,144.34	70.00	1.43	13,572.76	29.94	0.5723	543,186
1974	24,001,550.49	70.00	1.43	343,222.17	31.35	0.5521	13,252,216
1988	407,407.40	70.00	1.43	5,825.93	42.03	0.3996	162,788
1989	1,276,362.82	70.00	1.43	18,251.99	42.85	0.3879	495,050
1992	3,817,583.57	70.00	1.43	54,591.45	45.32	0.3526	1,345,965
1993	347,469.42	70.00	1.43	4,968.81	46.16	0.3406	118,338
1994	9,311.69	70.00	1.43	133.16	47.00	0.3286	3,060
2000	37,268.15	70.00	1.43	532.93	52.16	0.2549	9,498
2001	1,666,114.52	70.00	1.43	23,825.44	53.04	0.2423	403,683
2003	5,804,861.12	70.00	1.43	83,009.51	54.81	0.2170	1,259,655
2005	716,892.77	70.00	1.43	10,251.57	56.60	0.1914	137,235
2006	452,356.22	70.00	1.43	6,468.69	57.50	0.1786	80,777
2007	691,505.08	70.00	1.43	9,888.52	58.41	0.1656	114,492
2010	542,507.10	70.00	1.43	7,757.85	61.14	0.1266	68,665
2015	56,296.14	70.00	1.43	805.03	65.77	0.0604	3,402
2018	615,773.65	70.00	1.43	8,805.56	68.58	0.0203	12,494
41,392,404.48				591,911.37	18,010,504		
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.43							

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.43

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 354.70 STRUCTURES AND IMPROVEMENTS - GENERAL PLANT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL RATE (4)	ACCRUAL-- AMOUNT (5)	EXP. (6)	--ACCRUED FACTOR (7)	DEPREC.-- AMOUNT (8)
SURVIVOR CURVE.. IOWA 60-R3							
NET SALVAGE PERCENT.. 0							
1997	3,788,775.30	60.00	1.67	63,272.55	38.72	0.3547	1,343,765
2013	121,829.28	60.00	1.67	2,034.55	53.64	0.1060	12,914
2016	441,945.35	60.00	1.67	7,380.49	56.56	0.0573	25,337
2019	174,000.00	60.00	1.67	2,905.80	59.51	0.0082	1,422
	4,526,549.93			75,593.39			1,383,438
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.67							

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 360.21 COLLECTION SEWERS - FORCE - MAINS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL RATE (4)	ACCRUAL-- AMOUNT (5)	EXP. (6)	--ACCRUED FACTOR (7)	DEPREC.-- AMOUNT (8)
SURVIVOR CURVE.. IOWA 75-R2.5							
NET SALVAGE PERCENT.. 0							
1931	371,744.10	75.00	1.33	4,944.20	12.75	0.8300	308,548
1937	586,677.00	75.00	1.33	7,802.80	14.80	0.8027	470,908
1951	119,974.40	75.00	1.33	1,595.66	21.15	0.7180	86,142
1956	211,661.21	75.00	1.33	2,815.09	23.95	0.6807	144,071
1964	208,362.58	75.00	1.33	2,771.22	28.95	0.6140	127,935
1965	239,889.53	75.00	1.33	3,190.53	29.61	0.6052	145,181
1966	305,039.28	75.00	1.33	4,057.02	30.28	0.5963	181,886
1970	446,452.50	75.00	1.33	5,937.82	33.05	0.5593	249,714
1972	17,542,349.04	75.00	1.33	233,313.24	34.48	0.5403	9,477,605
1974	19,206,063.74	75.00	1.33	255,440.65	35.94	0.5208	10,002,518
1977	24,338,898.27	75.00	1.33	323,707.35	38.18	0.4909	11,948,695
1978	11,529,749.45	75.00	1.33	153,345.67	38.94	0.4808	5,543,504
1990	188,266.60	75.00	1.33	2,503.95	48.53	0.3529	66,445
2000	5,522,927.59	75.00	1.33	73,454.94	57.11	0.2385	1,317,384
2007	1,467,618.64	75.00	1.33	19,519.33	63.39	0.1548	227,187
2009	15,614,516.45	75.00	1.33	207,673.07	65.21	0.1305	2,038,163
2010	1,402,338.00	75.00	1.33	18,651.10	66.13	0.1183	165,855
2013	6,767,430.88	75.00	1.33	90,006.83	68.90	0.0813	550,395
2014	5,527,167.09	75.00	1.33	73,511.32	69.84	0.0688	380,269
2016	131,799.34	75.00	1.33	1,752.93	71.70	0.0440	5,799
2017	1,052,631.08	75.00	1.33	13,999.99	72.64	0.0315	33,126
112,781,556.77				1,499,994.71	43,471,330		

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.33

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 361.21 COLLECTION SEWERS - GRAVITY - MAINS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL RATE (4)	ACCRUAL-- AMOUNT (5)	EXP. (6)	--ACCRUED FACTOR (7)	DEPREC.-- AMOUNT (8)
SURVIVOR CURVE.. IOWA 70-R2.5							
NET SALVAGE PERCENT.. 0							
1900	25,876,890.00	70.00	1.43	370,039.53	2.75	0.9607	24,860,187
1926	447,050.37	70.00	1.43	6,392.82	8.91	0.8727	390,145
1930	29,240,706.22	70.00	1.43	418,142.10	9.93	0.8581	25,092,620
1931	626,791.35	70.00	1.43	8,963.12	10.19	0.8544	535,549
1937	4,762,212.00	70.00	1.43	68,099.63	11.93	0.8296	3,950,588
1944	1,169,007.84	70.00	1.43	16,716.81	14.39	0.7944	928,695
1956	117,677.37	70.00	1.43	1,682.79	19.97	0.7147	84,105
1960	11,163,114.53	70.00	1.43	159,632.54	22.22	0.6826	7,619,607
1961	2,407,239.10	70.00	1.43	34,423.52	22.81	0.6741	1,622,816
1966	458,279.64	70.00	1.43	6,553.40	25.91	0.6299	288,652
1969	399,122.76	70.00	1.43	5,707.46	27.88	0.6017	240,156
1970	4,520,373.00	70.00	1.43	64,641.33	28.56	0.5920	2,676,061
1971	330,370.66	70.00	1.43	4,724.30	29.24	0.5823	192,372
1976	34,281.00	70.00	1.43	490.22	32.79	0.5316	18,223
1985	137,330.82	70.00	1.43	1,963.83	39.63	0.4339	59,582
1986	498,070.67	70.00	1.43	7,122.41	40.43	0.4224	210,400
1990	3,612,396.77	70.00	1.43	51,657.27	43.67	0.3761	1,358,767
1992	31,135.17	70.00	1.43	445.23	45.32	0.3526	10,977
2004	150,362.33	70.00	1.43	2,150.18	55.70	0.2043	30,718
2005	2,813,666.64	70.00	1.43	40,235.43	56.60	0.1914	538,620
2006	329,298.73	70.00	1.43	4,708.97	57.50	0.1786	58,803
2007	47,220.76	70.00	1.43	675.26	58.41	0.1656	7,818
2008	151,725.32	70.00	1.43	2,169.67	59.31	0.1527	23,170
2009	693,524.82	70.00	1.43	9,917.40	60.23	0.1396	96,795
2010	171,606.75	70.00	1.43	2,453.98	61.14	0.1266	21,720
2012	249,561.07	70.00	1.43	3,568.72	62.98	0.1003	25,028
2015	351,224.83	70.00	1.43	5,022.52	65.77	0.0604	21,225
2016	794,599.22	70.00	1.43	11,362.77	66.71	0.0470	37,346
	91,584,839.74			1,309,663.21			71,000,745

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.43

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 361.23 COLLECTION SEWERS - GRAVITY - MANHOLES

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 65-R3							
NET SALVAGE PERCENT.. 0							
1900	1,453,397.40	65.00				1.0000	1,453,397
1930	4,247,286.50	65.00	1.54	65,408.21	5.03	0.9226	3,918,631
1937	365,306.76	65.00	1.54	5,625.72	6.87	0.8943	326,697
1949	3,700,779.62	65.00	1.54	56,992.01	10.75	0.8346	3,088,745
1956	99,914.84	65.00	1.54	1,538.69	13.84	0.7871	78,641
1960	904,722.44	65.00	1.54	13,932.73	15.92	0.7551	683,138
1966	70,293.46	65.00	1.54	1,082.52	19.46	0.7006	49,249
1970	1,170,868.34	65.00	1.54	18,031.37	22.08	0.6603	773,136
1971	7,438.18	65.00	1.54	114.55	22.76	0.6499	4,834
1985	38,516.09	65.00	1.54	593.15	33.32	0.4874	18,772
1990	322,182.76	65.00	1.54	4,961.61	37.49	0.4232	136,357
1992	10,520.36	65.00	1.54	162.01	39.21	0.3968	4,174
2000	287,578.42	65.00	1.54	4,428.71	46.34	0.2871	82,558
2004	95,618.17	65.00	1.54	1,472.52	50.05	0.2300	21,992
2005	2,764,950.53	65.00	1.54	42,580.24	50.99	0.2155	595,957
2006	603,961.55	65.00	1.54	9,301.01	51.93	0.2011	121,445
2007	19,990.11	65.00	1.54	307.85	52.88	0.1865	3,727
2008	66,630.15	65.00	1.54	1,026.10	53.83	0.1719	11,450
2009	209,172.47	65.00	1.54	3,221.26	54.78	0.1572	32,888
2010	18,497.60	65.00	1.54	284.86	55.74	0.1425	2,635
2011	30,331.68	65.00	1.54	467.11	56.71	0.1275	3,869
2012	75,751.30	65.00	1.54	1,166.57	57.67	0.1128	8,542
2015	123,325.09	65.00	1.54	1,899.21	60.59	0.0679	8,368
2016	267,699.49	65.00	1.54	4,122.57	61.56	0.0529	14,167
2019	2,924.40	65.00	1.54	45.04	64.51	0.0075	22
16,957,657.71				238,765.62	11,443,391		

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.41

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 362.20 SPECIAL COLLECTING STRUCTURES

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT DECEMBER 31, 2019

YEAR	ORIGINAL COST	AVG. LIFE	--ANNUAL RATE	ACCRUAL-- AMOUNT	EXP.	--ACCRUED FACTOR	DEPREC.-- AMOUNT
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SURVIVOR CURVE.. IOWA 65-R3							
NET SALVAGE PERCENT.. 0							
1926	153,881.79	65.00	1.54	2,369.78	4.00	0.9385	144,412
1930	1,091,032.33	65.00	1.54	16,801.90	5.03	0.9226	1,006,608
1931	556,549.29	65.00	1.54	8,570.86	5.29	0.9186	511,257
1961	5,638,142.89	65.00	1.54	86,827.40	16.48	0.7465	4,208,648
1969	646,293.20	65.00	1.54	9,952.92	21.41	0.6706	433,417
1974	1,889,294.69	65.00	1.54	29,095.14	24.87	0.6174	1,166,413
1984	11,722.69	65.00	1.54	180.53	32.51	0.4999	5,860
1986	262,791.49	65.00	1.54	4,046.99	34.14	0.4748	124,766
1987	924,884.85	65.00	1.54	14,243.23	34.96	0.4622	427,436
1999	1,288,906.60	65.00	1.54	19,849.16	45.43	0.3011	388,064
2002	1,425,797.65	65.00	1.54	21,957.28	48.18	0.2588	368,954
2003	1,122,068.44	65.00	1.54	17,279.85	49.11	0.2445	274,301
2005	3,777,087.98	65.00	1.54	58,167.15	50.99	0.2155	814,114
2009	2,325,182.14	65.00	1.54	35,807.80	54.78	0.1572	365,588
2012	1,097,917.95	65.00	1.54	16,907.94	57.67	0.1128	123,812
2018	465,258.65	65.00	1.54	7,164.98	63.52	0.0228	10,594
	22,676,812.63			349,222.91			10,374,244

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.54

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 363.20 SERVICES TO CUSTOMERS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL RATE (4)	ACCRUAL-- AMOUNT (5)	EXP. (6)	--ACCRUED FACTOR (7)	DEPREC.-- AMOUNT (8)
SURVIVOR CURVE.. IOWA 60-R2.5							
NET SALVAGE PERCENT.. 0							
1957	5,084,185.13	60.00	1.67	84,905.89	13.23	0.7795	3,963,122
	5,084,185.13			84,905.89			3,963,122
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 1.67							

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 364.20 FLOW MEASURING DEVICES

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	EXP. AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 30-L3							
NET SALVAGE PERCENT.. 0							
2011	6,229.48	30.00	3.33	207.44	21.60	0.2800	1,744
2012	7,769.05	30.00	3.33	258.71	22.56	0.2480	1,927
2013	17,059.29	30.00	3.33	568.07	23.53	0.2157	3,679
2014	74,376.60	30.00	3.33	2,476.74	24.51	0.1830	13,611
2015	3,599.21	30.00	3.33	119.85	25.50	0.1500	540
2016	195,105.06	30.00	3.33	6,497.00	26.50	0.1167	22,763
2017	12,211.98	30.00	3.33	406.66	27.50	0.0833	1,018
2018	4,165.83	30.00	3.33	138.72	28.50	0.0500	208
2019	346,857.20	30.00	3.33	11,550.34	29.50	0.0167	5,782
	667,373.70			22,223.53			51,272
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 3.33							

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 365.20 FLOW MEASURING INSTALLATIONS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL RATE (4)	ACCRUAL-- AMOUNT (5)	EXP. (6)	--ACCRUED FACTOR (7)	DEPREC.-- AMOUNT (8)
SURVIVOR CURVE.. IOWA 35-S3							
NET SALVAGE PERCENT.. 0							
1977	66,073.91	35.00	2.86	1,889.71	4.54	0.8703	57,503
	66,073.91			1,889.71			57,503
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.86							

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 371.30 PUMPING EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL RATE (4)	ACCRUAL-- AMOUNT (5)	EXP. (6)	--ACCRUED FACTOR (7)	DEPREC.-- AMOUNT (8)
SURVIVOR CURVE.. IOWA 40-R1.5							
NET SALVAGE PERCENT.. 0							
1975	144,705.85	40.00	2.50	3,617.65	10.88	0.7280	105,346
1977	1,151,526.01	40.00	2.50	28,788.15	11.73	0.7068	813,841
1994	481,419.16	40.00	2.50	12,035.48	20.99	0.4753	228,794
1995	1,363,705.88	40.00	2.50	34,092.65	21.65	0.4588	625,600
1996	418,932.22	40.00	2.50	10,473.31	22.31	0.4423	185,273
1997	759,265.96	40.00	2.50	18,981.65	22.98	0.4255	323,068
1998	542,771.53	40.00	2.50	13,569.29	23.66	0.4085	221,722
1999	394,360.90	40.00	2.50	9,859.02	24.35	0.3913	154,294
2002	619,773.16	40.00	2.50	15,494.33	26.46	0.3385	209,793
2006	7,648,605.60	40.00	2.50	191,215.14	29.39	0.2653	2,028,793
2009	2,795,733.72	40.00	2.50	69,893.34	31.65	0.2088	583,609
2013	868,489.62	40.00	2.50	21,712.24	34.76	0.1310	113,772
2017	3,679,952.48	40.00	2.50	91,998.81	37.95	0.0513	188,598
	20,869,242.09			521,731.06			5,782,503
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.50							

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 380.30 TREATMENT AND DISPOSAL EQUIP - PUMP STATIONS

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL RATE (4)	ACCRUAL-- AMOUNT (5)	EXP. (6)	--ACCRUED FACTOR (7)	DEPREC.-- AMOUNT (8)
SURVIVOR CURVE.. IOWA 45-S0.5							
NET SALVAGE PERCENT.. 0							
1974	19,636,363.39	45.00	2.22	435,927.27	15.96	0.6453	12,671,934
1994	13,301,958.62	45.00	2.22	295,303.48	25.75	0.4278	5,690,312
1998	729,861.89	45.00	2.22	16,202.93	28.14	0.3747	273,457
2002	1,487,227.23	45.00	2.22	33,016.44	30.72	0.3173	471,942
2003	2,028,911.15	45.00	2.22	45,041.83	31.40	0.3022	613,178
2005	9,268,615.24	45.00	2.22	205,763.26	32.80	0.2711	2,512,814
2007	76,638.73	45.00	2.22	1,701.38	34.26	0.2387	18,291
2010	71,370.76	45.00	2.22	1,584.43	36.57	0.1873	13,370
2017	14,757,305.89	45.00	2.22	327,612.19	42.60	0.0533	787,007
2018	7,207,832.95	45.00	2.22	160,013.89	43.54	0.0324	233,822
	68,566,085.85			1,522,167.10			23,286,127
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.22							

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 380.40 TREATMENT AND DISPOSAL EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. IOWA 45-S0.5							
NET SALVAGE PERCENT.. 0							
1939	2,753,953.28	45.00	2.22	61,137.76	3.30	0.9267	2,552,006
1974	205,676,498.98	45.00	2.22	4,566,018.28	15.96	0.6453	132,729,215
1982	292,354.54	45.00	2.22	6,490.27	19.52	0.5662	165,537
1984	185,075.25	45.00	2.22	4,108.67	20.47	0.5451	100,886
1985	250,235.11	45.00	2.22	5,555.22	20.96	0.5342	133,681
1988	3,031,607.27	45.00	2.22	67,301.68	22.47	0.5007	1,517,835
1990	26,546.91	45.00	2.22	589.34	23.53	0.4771	12,666
1991	6,391,157.86	45.00	2.22	141,883.70	24.07	0.4651	2,972,591
1992	440,508.92	45.00	2.22	9,779.30	24.62	0.4529	199,502
1996	280,805.67	45.00	2.22	6,233.89	26.92	0.4018	112,822
1997	978,442.95	45.00	2.22	21,721.43	27.52	0.3884	380,066
1999	875,062.74	45.00	2.22	19,426.39	28.76	0.3609	315,801
2000	814,860.90	45.00	2.22	18,089.91	29.40	0.3467	282,488
2001	317,479.93	45.00	2.22	7,048.05	30.05	0.3322	105,473
2002	1,409,402.37	45.00	2.22	31,288.73	30.72	0.3173	447,246
2003	4,979,814.51	45.00	2.22	110,551.88	31.40	0.3022	1,505,000
2004	7,651,632.62	45.00	2.22	169,866.24	32.09	0.2869	2,195,177
2005	1,642,684.71	45.00	2.22	36,467.60	32.80	0.2711	445,348
2006	532,904.25	45.00	2.22	11,830.47	33.52	0.2551	135,949
2007	1,274,218.78	45.00	2.22	28,287.66	34.26	0.2387	304,118
2008	1,977,177.01	45.00	2.22	43,893.33	35.02	0.2218	438,498
2009	267,526.31	45.00	2.22	5,939.08	35.79	0.2047	54,755
2010	482,986.84	45.00	2.22	10,722.31	36.57	0.1873	90,478
2011	5,941,847.58	45.00	2.22	131,909.02	37.38	0.1693	1,006,133
2012	3,697,607.99	45.00	2.22	82,086.90	38.20	0.1511	558,746
2013	5,325,703.18	45.00	2.22	118,230.61	39.04	0.1324	705,336
2014	2,802,944.88	45.00	2.22	62,225.38	39.90	0.1133	317,658
2015	13,699,817.54	45.00	2.22	304,135.95	40.78	0.0938	1,284,769
2016	10,998,059.31	45.00	2.22	244,156.92	41.68	0.0738	811,437
2017	8,827,419.31	45.00	2.22	195,968.71	42.60	0.0533	470,766
2018	12,305,404.85	45.00	2.22	273,179.99	43.54	0.0324	399,187
2019	1,573,541.00	45.00	2.22	34,932.61	44.51	0.0109	17,136
307,705,283.35				6,831,057.28	152,768,306		

COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 2.22

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 390.70 COMPUTER AND SOFTWARE

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL RATE (4)	ACCRUAL-- AMOUNT (5)	EXP. (6)	--ACCRUED FACTOR (7)	DEPREC.-- AMOUNT (8)
SURVIVOR CURVE.. 5-SQUARE							
NET SALVAGE PERCENT.. 0							
2016	303,617.33	5.00	20.00	60,723.47	1.50	0.7000	212,532
	303,617.33			60,723.47			212,532
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 20.00							

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 391.70 TRANSPORTATION EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL RATE (4)	ACCRUAL-- AMOUNT (5)	EXP. (6)	--ACCRUED FACTOR (7)	DEPREC.-- AMOUNT (8)
SURVIVOR CURVE.. IOWA 11-S1.5							
NET SALVAGE PERCENT.. 0							
1998	61,570.01	11.00	9.09	5,596.71	0.13	0.9882	60,842
1999	296,474.73	11.00	9.09	26,949.55	0.39	0.9646	285,965
2004	95,242.03	11.00	9.09	8,657.50	1.68	0.8473	80,696
2005	26,689.30	11.00	9.09	2,426.06	1.97	0.8209	21,910
2006	396,897.52	11.00	9.09	36,077.98	2.27	0.7936	314,994
2007	145,275.09	11.00	9.09	13,205.51	2.60	0.7636	110,938
2008	410,632.28	11.00	9.09	37,326.47	2.97	0.7300	299,762
2009	346,963.40	11.00	9.09	31,538.97	3.36	0.6946	240,983
2011	265,337.40	11.00	9.09	24,119.17	4.29	0.6100	161,856
2012	310,943.71	11.00	9.09	28,264.78	4.84	0.5600	174,128
2013	57,456.42	11.00	9.09	5,222.79	5.45	0.5046	28,990
2014	459,587.27	11.00	9.09	41,776.48	6.12	0.4436	203,891
2015	111,988.69	11.00	9.09	10,179.77	6.87	0.3755	42,046
2016	353,022.09	11.00	9.09	32,089.71	7.69	0.3009	106,228
2017	274,811.57	11.00	9.09	24,980.37	8.58	0.2200	60,459
2018	330,983.10	11.00	9.09	30,086.36	9.52	0.1346	44,534
2019	202,609.04	11.00	9.09	18,417.16	10.50	0.0455	9,209

4,146,483.65	376,915.34	2,247,431
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COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 9.09

DELAWARE COUNTY REGIONAL WATER QUALITY CONTROL AUTHORITY
DELCORA WASTEWATER SYSTEM ASSETS

ACCOUNT 396.70 COMMUNICATION EQUIPMENT

CALCULATED ANNUAL AND ACCRUED DEPRECIATION
RELATED TO REPLACEMENT COST AT DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	AVG. LIFE (3)	--ANNUAL ACCRUAL-- RATE (4)	AMOUNT (5)	EXP. (6)	--ACCRUED DEPREC.-- FACTOR (7)	AMOUNT (8)
SURVIVOR CURVE.. 15-SQUARE							
NET SALVAGE PERCENT.. 0							
2016	191,730.14	15.00	6.67	12,788.40	11.50	0.2333	44,736
	191,730.14			12,788.40			44,736
COMPOSITE ANNUAL ACCRUAL RATE, PERCENT .. 6.67							

Income Approach
 DELCORA Wastewater System
 Pro Forma Operations
Earnings Capitalization Model
 (DELCORA Base CAPX)

	Actual		Budget	Budget
			Year 0	
	2017	2018	2019	2020
1. <u>OPERATING REVENUES (1)</u>				
2. Charges for services	58,281,844	62,157,984	64,978,097	70,678,127
3. Other operating revenue	0	0	0	0
4. Tap Fees	0	0	0	0
5. Total Operating Revenues	58,281,844	62,157,984	64,978,097	70,678,127
6. Rate Increase				
7. <u>OPERATING EXPENSES (1)</u>				
8. Operating & Maintenance Expenses	38,757,936	40,375,506	42,861,264	47,306,365
9. Operating Expenses Before Depreciation	38,757,936	40,375,506	42,861,264	47,306,365
10. Depreciation (2)	7,049,095	6,588,896	0	11,118,335
11. Total Operating Expenses	45,807,031	46,964,402	42,861,264	58,424,700
12. Operating Income	12,474,813	15,193,582	22,116,833	12,253,427
13. Revenues (3)	58,281,844	62,157,984	64,978,097	70,678,127
14. EBITDA (4)	19,523,908	21,782,478	22,116,833	23,371,762
15. EBIT (5)	12,474,813	15,193,582	22,116,833	12,253,427
16. EBIT	12,474,813	15,193,582	22,116,833	12,253,427
17. (-) Income Taxes	0	0	0	0
18. Debt Free Net Income	12,474,813	15,193,582	22,116,833	12,253,427
19. (+) Depreciation & Amortization	7,049,095	6,588,896	0	11,118,335
20. (-) Capital Expenditures (6)	25,704,689	37,949,513	0	5,622,240
21. (-) Changes in Working Capital (7)	40,797	43,511	45,485	49,475
22. Debt Free Net Cash Flow	(\$6,221,578)	(\$16,210,546)	\$22,071,348	\$17,700,048

Income Approach
 DELCORA Wastewater System
 Pro Forma Operations
Earnings Capitalization Model
 (DELCORA Base CAPX)

	<u>2020</u>	Pro Forma <u>2020 (11)</u>
	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> 3.38% Capitalization Rate Model (No Growth) </div>	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> 3.38% Capitalization Rate Model (No Growth) </div>
23. Debt Free Net Cash Flow (10)	\$17,700,048	\$7,096,379
24. Capitalization Factor: (8)	3.38%	3.38%
25. Indicated Value (line 23 ÷ line 24)	\$523,670,049	\$209,952,051
	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> 3.18% Capitalization Rate Model (0.20% Growth) </div>	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> 3.18% Capitalization Rate Model (0.20% Growth) </div>
26. Debt Free Net Cash Flow (10)	\$17,700,048	\$7,096,379
27. Capitalization Factor: (9)	3.18%	3.18%
28. Indicated Value (line 26 ÷ line 27)	\$556,605,272	\$223,156,582

See last page of this EXHIBIT for notes and assumptions.

Income Approach
 DELCORA Wastewater System
 Pro Forma Operations
Earnings Capitalization Model

Notes: (1) Assumptions:

Charges for services - Pre-2021 are actual or budget. Post-2020 based on customer growth (EDU) and average revenue per customer.

OPERATING EXPENSES - increase at 2.5% annually after 2020 unless noted elsewhere. Assumed economies of scale are shown on lines below.

- (2) Depreciation - Pre-2021 based on actual depreciation rate plus same rate on half of CAPX. Post-2020 based on depreciation rate plus same rate on half of CAPX.
- (3) Line 5.
- (4) Line 12 + line 10.
- (5) Line 12.
- (6) Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCORA's 20-year capital improvement plan for existing assets.
- (7) Changes in Working Capital - based on water industry 0.07% of revenues.
- (8) Discount rate is the the current MUNI discount rate. Capitalization rate (K) at 12/31/2019 equal to discount rate, where capitalization rate = $K - g$.
- (10) Final year shown, line 22.
- (11) Debt Free Net Cash Flow adjusted for average existing assets's CAPX of \$16,225,908 if system is not sold.

Terms:

CAPX - Capital Expenditures
 CIP - Capital improvement plan
 Dep - Depreciation expense
 GROSS PPE - GROSS Property, plant and equipment
 IOU - Investor owned utility
 MUNI - Large regional municipally owned utility
 NET PPE - NET Property, plant and equipment

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With MUNI Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

(DELCORA Base CAPX)

	Actual		Budget	Budget	Estimated	Estimated
				Year 0	Year 1	Year 2
	2017	2018	2019	2020	2021	2022
1. OPERATING REVENUES (1)						
2. Charges for services	58,281,844	62,157,984	64,978,097	70,678,127	70,729,539	70,780,913
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	0	0	0	0
6. Total Operating Revenues	58,281,844	62,157,984	64,978,097	70,678,127	70,729,539	70,780,913
7. Rate Increase						
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	38,757,936	40,375,506	42,861,264	47,306,365	46,383,147	47,542,726
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	0	0	0	0	(3,065,159)	(3,141,788)
12. LESS: EOS - Professional Services	0	0	0	0	(1,925,719)	(1,973,862)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	3,038,584	4,494,002
15. Operating Expenses Before Depreciation	38,757,936	40,375,506	42,861,264	47,306,365	44,430,853	46,921,078
16. Depreciation (2)	7,049,095	6,588,896	0	5,434,220	5,611,051	5,887,943
17. Total Operating Expenses	45,807,031	46,964,402	42,861,264	52,740,585	50,041,905	52,809,022
18. Operating Income	12,474,813	15,193,582	22,116,833	17,937,542	20,687,634	17,971,891
19. Revenues (3)	58,281,844	62,157,984	64,978,097	70,678,127	70,729,539	70,780,913
20. EBITDA (4)	19,523,908	21,782,478	22,116,833	23,371,762	26,298,686	23,859,835
21. EBIT (5)	12,474,813	15,193,582	22,116,833	17,937,542	20,687,634	17,971,891
22. EBIT	12,474,813	15,193,582	22,116,833	17,937,542	20,687,634	17,971,891
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	12,474,813	15,193,582	22,116,833	17,937,542	20,687,634	17,971,891
25. (+) Depreciation & Amortization	7,049,095	6,588,896	0	5,434,220	5,611,051	5,887,943
26. (-) Capital Expenditures (6)	25,704,689	37,949,513	0	5,622,240	14,995,092	17,169,801
27. (-) Changes in Working Capital (7)	40,797	43,511	45,485	49,475	49,511	49,547
28. Debt Free Net Cash Flow	(\$6,221,578)	(\$16,210,546)	\$22,071,348	\$17,700,048	\$11,254,083	\$6,640,487
29. PV Time Period (mid-year)				(0.5)	0.5	1.5
					1	2
30. Present Value Factor: 3.38% (8)					0.9835	0.9514
31. Present Value Debt Free Net Cash Flow					\$11,068,391	\$6,317,760
					1	2
32. Present Value Factor: 3.18% (9)					0.9845	0.9541
33. Present Value Debt Free Net Cash Flow					\$11,079,645	\$6,335,689

See last page of this EXHIBIT for notes and assumptions.

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With MUNI Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

(DELCORA Base CAPX)

	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
	2023	2024	2025	2026	2027	2028
1. <u>OPERATING REVENUES (1)</u>						
2. Charges for services	70,883,662	70,986,410	71,091,063	74,892,860	75,005,200	89,915,896
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	3,689,626	0	14,776,024	0
6. Total Operating Revenues	70,883,662	70,986,410	74,780,689	74,892,860	89,781,224	89,915,896
7.	Rate Increase		5%		20%	
8. <u>OPERATING EXPENSES (1)</u>						
9. Operating & Maintenance Expenses	48,731,294	49,949,576	51,198,316	52,478,274	53,790,231	55,134,986
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(3,220,333)	(3,300,841)	(3,383,362)	(3,467,946)	(3,554,645)	(3,643,511)
12. LESS: EOS - Professional Services	(2,023,208)	(2,073,788)	(2,125,633)	(2,178,774)	(2,233,243)	(2,289,074)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	4,113,573	6,083,889	8,997,944	13,307,772	19,681,917	15,108,845
15. Operating Expenses Before Depreciation	47,601,326	50,658,836	54,687,265	60,139,326	67,684,259	64,311,246
16. Depreciation (2)	6,214,050	6,493,619	6,684,787	7,021,707	7,444,285	7,786,776
17. Total Operating Expenses	53,815,376	57,152,455	61,372,051	67,161,032	75,128,544	72,098,022
18. Operating Income	17,068,286	13,833,955	13,408,638	7,731,828	14,652,680	17,817,874
19. Revenues (3)	70,883,662	70,986,410	74,780,689	74,892,860	89,781,224	89,915,896
20. EBITDA (4)	23,282,336	20,327,574	20,093,424	14,753,534	22,096,965	25,604,650
21. EBIT (5)	17,068,286	13,833,955	13,408,638	7,731,828	14,652,680	17,817,874
22. EBIT	17,068,286	13,833,955	13,408,638	7,731,828	14,652,680	17,817,874
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	17,068,286	13,833,955	13,408,638	7,731,828	14,652,680	17,817,874
25. (+) Depreciation & Amortization	6,214,050	6,493,619	6,684,787	7,021,707	7,444,285	7,786,776
26. (-) Capital Expenditures (6)	20,922,071	9,075,591	13,678,412	27,416,940	19,728,889	19,549,775
27. (-) Changes in Working Capital (7)	49,619	49,690	52,346	52,425	62,847	62,941
28. Debt Free Net Cash Flow	\$2,310,646	\$11,202,293	\$6,362,666	(\$12,715,831)	\$2,305,229	\$5,991,934
29. PV Time Period (mid-year)	2.5	3.5	4.5	5.5	6.5	7.5
	3	4	5	6	7	8
30. Present Value Factor: 3.38% (8)	0.9203	0.8902	0.8611	0.8329	0.8057	0.7793
31. Present Value Debt Free Net Cash Flow	\$2,126,488	\$9,972,281	\$5,478,892	(\$10,591,015)	\$1,857,323	\$4,669,514
	3	4	5	6	7	8
32. Present Value Factor: 3.18% (9)	0.9247	0.8962	0.8686	0.8418	0.8159	0.7907
33. Present Value Debt Free Net Cash Flow	\$2,136,655	\$10,039,495	\$5,526,612	(\$10,704,186)	\$1,880,836	\$4,737,822

See last page of this EXHIBIT for notes and assumptions.

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With MUNI Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

(DELCORA Base CAPX)

	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14
	2029	2030	2031	2032	2033	2034
1. OPERATING REVENUES (1)						
2. Charges for services	90,050,769	90,185,846	96,806,181	96,951,390	112,341,018	112,509,529
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	6,475,344	0	15,221,368	0	4,050,343
6. Total Operating Revenues	90,050,769	96,661,190	96,806,181	112,172,758	112,341,018	116,559,872
7. Rate Increase		7%		16%		4%
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	56,513,361	57,926,195	59,374,350	60,858,709	62,380,176	63,939,681
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(3,734,599)	(3,827,964)	(3,923,663)	(4,021,754)	(4,122,298)	(4,225,356)
12. LESS: EOS - Professional Services	(2,346,301)	(2,404,959)	(2,465,083)	(2,526,710)	(2,589,878)	(2,654,625)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	18,564,735	22,811,100	28,028,749	34,439,847	29,914,616	33,794,057
15. Operating Expenses Before Depreciation	68,997,196	74,504,373	81,014,353	88,750,091	85,582,617	90,853,758
16. Depreciation (2)	8,026,094	8,113,266	8,182,641	8,317,889	8,628,579	9,043,028
17. Total Operating Expenses	77,023,290	82,617,638	89,196,995	97,067,980	94,211,196	99,896,785
18. Operating Income	13,027,479	14,043,552	7,609,186	15,104,778	18,129,822	16,663,087
19. Revenues (3)	90,050,769	96,661,190	96,806,181	112,172,758	112,341,018	116,559,872
20. EBITDA (4)	21,053,573	22,156,817	15,791,828	23,422,667	26,758,401	25,706,114
21. EBIT (5)	13,027,479	14,043,552	7,609,186	15,104,778	18,129,822	16,663,087
22. EBIT	13,027,479	14,043,552	7,609,186	15,104,778	18,129,822	16,663,087
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	13,027,479	14,043,552	7,609,186	15,104,778	18,129,822	16,663,087
25. (+) Depreciation & Amortization	8,026,094	8,113,266	8,182,641	8,317,889	8,628,579	9,043,028
26. (-) Capital Expenditures (6)	5,426,129	4,397,890	3,386,381	14,012,090	23,284,468	24,499,458
27. (-) Changes in Working Capital (7)	63,036	67,663	67,764	78,521	78,639	81,592
28. Debt Free Net Cash Flow	\$15,564,408	\$17,691,265	\$12,337,682	\$9,332,056	\$3,395,295	\$1,125,064
29. PV Time Period (mid-year)	8.5	9.5	10.5	11.5	12.5	13.5
	9	10	11	12	13	14
30. Present Value Factor: 3.38% (8)	0.7539	0.7292	0.7054	0.6823	0.6600	0.6384
31. Present Value Debt Free Net Cash Flow	\$11,734,008	\$12,900,470	\$8,703,001	\$6,367,262	\$2,240,895	\$718,241
	9	10	11	12	13	14
32. Present Value Factor: 3.18% (9)	0.7664	0.7427	0.7199	0.6977	0.6762	0.6553
33. Present Value Debt Free Net Cash Flow	\$11,928,563	\$13,139,302	\$8,881,897	\$6,510,975	\$2,295,898	\$737,255

See last page of this EXHIBIT for notes and assumptions.

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With MUNI Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

(DELCORA Base CAPX)

	Estimated Year 15	Estimated Year 16	Estimated Year 17	Estimated Year 18	Estimated Year 19	Estimated Year 20
	2035	2036	2037	2038	2039	2040
1. OPERATING REVENUES (1)						
2. Charges for services	116,734,712	116,909,814	130,667,060	130,863,060	133,942,661	134,143,575
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	13,561,538	0	2,878,987	0	7,243,753
6. Total Operating Revenues	116,734,712	130,471,352	130,667,060	133,742,047	133,942,661	141,387,328
7. Rate Increase		12%		2%		5%
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	65,538,173	67,176,627	68,856,043	70,577,444	72,341,880	74,150,427
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(4,330,990)	(4,439,264)	(4,550,246)	(4,664,002)	(4,780,602)	(4,900,117)
12. LESS: EOS - Professional Services	(2,720,990)	(2,789,015)	(2,858,740)	(2,930,209)	(3,003,464)	(3,078,551)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	38,176,598	43,127,484	48,720,421	42,144,331	43,993,869	45,924,576
15. Operating Expenses Before Depreciation	96,662,791	103,075,832	110,167,478	105,127,564	108,551,683	112,096,335
16. Depreciation (2)	9,458,308	9,826,501	10,163,490	10,488,252	10,766,072	11,030,613
17. Total Operating Expenses	106,121,099	112,902,333	120,330,968	115,615,816	119,317,755	123,126,948
18. Operating Income	10,613,613	17,569,019	10,336,092	18,126,231	14,624,906	18,260,380
19. Revenues (3)	116,734,712	130,471,352	130,667,060	133,742,047	133,942,661	141,387,328
20. EBITDA (4)	20,071,921	27,395,520	20,499,582	28,614,483	25,390,978	29,290,993
21. EBIT (5)	10,613,613	17,569,019	10,336,092	18,126,231	14,624,906	18,260,380
22. EBIT	10,613,613	17,569,019	10,336,092	18,126,231	14,624,906	18,260,380
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	10,613,613	17,569,019	10,336,092	18,126,231	14,624,906	18,260,380
25. (+) Depreciation & Amortization	9,458,308	9,826,501	10,163,490	10,488,252	10,766,072	11,030,613
26. (-) Capital Expenditures (6)	22,879,544	18,631,000	20,351,369	16,189,650	15,592,470	14,594,850
27. (-) Changes in Working Capital (7)	81,714	91,330	91,467	93,619	93,760	98,971
28. Debt Free Net Cash Flow	(\$2,889,337)	\$8,673,190	\$56,746	\$12,331,214	\$9,704,748	\$14,597,172
29. PV Time Period (mid-year)	14.5	15.5	16.5	17.5	18.5	19.5
	15	16	17	18	19	20
30. Present Value Factor: 3.38% (8)	0.6175	0.5974	0.5778	0.5589	0.5407	0.5230
31. Present Value Debt Free Net Cash Flow	(\$1,784,166)	\$5,181,364	\$32,788	\$6,891,915	\$5,247,357	\$7,634,321
	15	16	17	18	19	20
32. Present Value Factor: 3.18% (9)	0.6351	0.6156	0.5966	0.5782	0.5604	0.5431
33. Present Value Debt Free Net Cash Flow	(\$1,835,018)	\$5,339,216	\$33,855	\$7,129,908	\$5,438,541	\$7,927,724

See last page of this EXHIBIT for notes and assumptions.

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With MUNI Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

(DELCORA Base CAPX)

	Estimated Year 21 2041	Estimated Year 22 2042	Estimated Year 23 2043	Estimated Year 24 2044
1. OPERATING REVENUES (1)				
2. Charges for services	141,599,409	141,811,808	149,551,825	149,776,153
3. Other operating revenue	0	0	0	0
4. Tap Fees	0	0	0	0
5. Other (Rate Increase)	0	7,516,026	0	5,991,046
6. Total Operating Revenues	141,599,409	149,327,834	149,551,825	155,767,199
7. Rate Increase		5%		4%
8. OPERATING EXPENSES (1)				
9. Operating & Maintenance Expenses	76,004,188	77,904,292	79,851,900	81,848,197
10. Remove Economies of Scale				
11. LESS: EOS - Wages & Benefits	(5,022,620)	(5,148,186)	(5,276,890)	(5,408,812)
12. LESS: EOS - Professional Services	(3,155,514)	(3,234,402)	(3,315,262)	(3,398,144)
13. LESS: EOS - Eliminated Expenses	0	0	0	0
14. ADD: Additional O&M	47,940,014	50,043,900	51,294,998	52,577,372
15. Operating Expenses Before Depreciation	115,766,067	119,565,605	122,554,745	125,618,613
16. Depreciation (2)	11,259,626	11,453,863	11,651,451	11,852,447
17. Total Operating Expenses	127,025,693	131,019,467	134,206,195	137,471,060
18. Operating Income	14,573,716	18,308,367	15,345,630	18,296,139
19. Revenues (3)	141,599,409	149,327,834	149,551,825	155,767,199
20. EBITDA (4)	25,833,342	29,762,229	26,997,080	30,148,586
21. EBIT (5)	14,573,716	18,308,367	15,345,630	18,296,139
22. EBIT	14,573,716	18,308,367	15,345,630	18,296,139
23. (-) Income Taxes	0	0	0	0
24. Debt Free Net Income	14,573,716	18,308,367	15,345,630	18,296,139
25. (+) Depreciation & Amortization	11,259,626	11,453,863	11,651,451	11,852,447
26. (-) Capital Expenditures (6)	11,068,408	11,259,346	11,453,579	11,651,161
27. (-) Changes in Working Capital (7)	99,120	104,529	104,686	109,037
28. Debt Free Net Cash Flow	\$14,665,814	\$18,398,354	\$15,438,815	\$18,388,388
29. PV Time Period (mid-year)	20.5	21.5	22.5	23.5
	21	22	23	24
30. Present Value Factor: 3.38% (8)	0.5059	0.4893	0.4733	0.4579
31. Present Value Debt Free Net Cash Flow	\$7,419,435	\$9,002,315	\$7,307,191	\$8,420,043
	21	22	23	24
32. Present Value Factor: 3.18% (9)	0.5264	0.5101	0.4944	0.4792
33. Present Value Debt Free Net Cash Flow	\$7,720,085	\$9,385,000	\$7,632,950	\$8,811,715

See last page of this EXHIBIT for notes and assumptions.

Income Approach
 DELCORA Wastewater System
 Pro Forma and Estimated Operations With MUNI Ownership
 DCF With Capitalization of Terminal Value Model and
 DCF With EBIT & EBITDA Terminal Value Model

DCF With Capitalization of Terminal Value Model @ 3.38%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$18,388,388
Divided by Capitalization Factor (8)	3.38%
24th Year Terminal Value	544,035,139
24th Year Present Value Factor (11)	0.4579
Present Value of Terminal Value	249,113,690
Present Value Debt Free Net	
Cash Flow for 24 Years	128,916,071
Indicated Value	\$378,029,761

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 3.38%			
		Multiples (13)	Terminal Value
Projected EBIT	\$18,296,139	27.9	\$510,462,282
Projected EBITDA	30,148,586	19.1	575,837,987
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			554,264,004
24th Year Present Value Factor (11)			0.4579
Present Value of Terminal Value			253,797,487
Present Value Debt Free Net			
Cash Flow for 24 Years			128,916,071
Indicated Value			\$382,713,559

DCF With Capitalization of Terminal Value Model @ 3.18%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$18,388,388
Divided by Capitalization Factor (9)	3.18%
24th Year Terminal Value	578,251,185
24th Year Present Value Factor (12)	0.4579
Present Value of Terminal Value	264,781,218
Present Value Debt Free Net	
Cash Flow for 24 Years	128,916,071
Indicated Value	\$393,697,289

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 3.18%			
		Multiples (13)	Terminal Value
Projected EBIT	\$18,296,139	27.9	\$510,462,282
Projected EBITDA	30,148,586	19.1	575,837,987
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			554,264,004
24th Year Present Value Factor (12)			0.4579
Present Value of Terminal Value			253,797,487
Present Value Debt Free Net			
Cash Flow for 24 Years			128,916,071
Indicated Value			\$382,713,559

See last page of this EXHIBIT for notes and assumptions.

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With MUNI Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

Notes: (1) Assumptions:

Charges for services - Pre-2021 are actual or budget. Post-2020 based on customer growth (EDU) and average revenue per customer. Rate increases (Other rate increase line item) are added year after they occur.

Other (Rate Increase) - Assumed purchase by MUNI at end of 2020 with shown rate increases.

OPERATING EXPENSES - increase at 2.5% annually after 2020 unless noted elsewhere. Assumed economies of scale are shown on lines below.

Wages & Benefits - Post-2020 assumed 15% savings due to economies of scale. Increase at 2.5% afterwards.

Professional Services - Post-2020 assumed 50% savings due to economies of scale. Increase at 2.5% afterwards.

Additional O&M - Includes PDW's LTCP charges.

- (2) Depreciation - Pre-2021 based on actual depreciation rate plus same rate on half of CAPX. Post-2020 based on depreciation rate plus same rate on half of CAPX.
- (3) Line 6.
- (4) Line 18 + line 16.
- (5) Line 18.
- (6) Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCORA's 20-year capital improvement plan for existing assets.
- (7) Changes in Working Capital - based on water industry 0.07% of revenues.
- (8) Discount rate is the the current MUNI discount rate. Capitalization rate (K) at 12/31/2019 equal to discount rate, where capitalization rate = $K - g$.
- (9) Discount rate is the current MUNI discount rate. Capitalization rate (K) at 12/31/2019 adjusted for stated growth (g) where capitalization rate = $K - g$.
- (10) Final year shown, line 28.
- (11) Final year shown, line 30.
- (12) Final year shown, line 30.
- (13) Developed on Market Multiples EXHIBIT 17.

Terms:

CAPX - Capital Expenditures

CIP - Capital improvement plan

Dep - Depreciation expense

GROSS PPE - GROSS Property, plant and equipment

IOU - Investor owned utility

MUNI - Large regional municipally owned utility

NET PPE - NET Property, plant and equipment

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With IOU Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

(DELCORA Base CAPX)

	Actual		Budget	Budget	Estimated	Estimated
				Year 0	Year 1	Year 2
	2017	2018	2019	2020	2021	2022
1. OPERATING REVENUES (1)						
2. Charges for services	58,281,844	62,157,984	64,978,097	70,678,127	70,729,539	70,780,913
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	0	0	0	3,185,141
6. Total Operating Revenues	58,281,844	62,157,984	64,978,097	70,678,127	70,729,539	73,966,054
7. Rate Increase						4%
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	38,757,936	40,375,506	42,861,264	47,306,365	46,383,147	47,542,726
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	0	0	0	0	(3,065,159)	(3,141,788)
12. LESS: EOS - Professional Services	0	0	0	0	(1,925,719)	(1,973,862)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	3,038,584	4,494,002
15. ADD: PURTA & Reg Assessment	0	0	0	0	677,049	690,779
16. Operating Expenses Before Depreciation	38,757,936	40,375,506	42,861,264	47,306,365	45,107,902	47,611,857
17. Depreciation (2)	7,049,095	6,588,896	0	5,434,220	5,611,051	5,887,943
18. Total Operating Expenses	45,807,031	46,964,402	42,861,264	52,740,585	50,718,954	53,499,801
19. Operating Income	12,474,813	15,193,582	22,116,833	17,937,542	20,010,585	20,466,253
20. Revenues (3)	58,281,844	62,157,984	64,978,097	70,678,127	70,729,539	73,966,054
21. EBITDA (4)	19,523,908	21,782,478	22,116,833	23,371,762	25,621,637	26,354,197
22. EBIT (5)	12,474,813	15,193,582	22,116,833	17,937,542	20,010,585	20,466,253
23. EBIT	12,474,813	15,193,582	22,116,833	17,937,542	20,010,585	20,466,253
24. (-) Income Taxes	0	0	0	5,182,156	5,781,058	5,912,701
25. Debt Free Net Income	12,474,813	15,193,582	22,116,833	12,755,386	14,229,527	14,553,552
26. (+) Depreciation & Amortization	7,049,095	6,588,896	0	5,434,220	5,611,051	5,887,943
27. (-) Capital Expenditures (6)	25,704,689	37,949,513	0	5,622,240	14,995,092	17,169,801
28. (-) Changes in Working Capital (7)	40,797	43,511	45,485	49,475	49,511	51,776
29. Debt Free Net Cash Flow	(\$6,221,578)	(\$16,210,546)	\$22,071,348	\$12,517,892	\$4,795,976	\$3,219,919
30. PV Time Period (mid-year)				(0.5)	0.5	1.5
31. Present Value Factor: 5.91% (8)					0.9717	0.9175
32. Present Value Debt Free Net Cash Flow					\$4,660,250	\$2,954,275
					1	2
33. Present Value Factor: 7.16% (9)					0.9660	0.9015
34. Present Value Debt Free Net Cash Flow					\$4,632,913	\$2,902,757
					1	2
35. Present Value Factor: 5.71% (8)					0.9726	0.9201
36. Present Value Debt Free Net Cash Flow					\$4,664,566	\$2,962,647
					1	2
37. Present Value Factor: 6.96% (9)					0.9669	0.9040
38. Present Value Debt Free Net Cash Flow					\$4,637,229	\$2,910,806

See last page of this EXHIBIT for notes and assumptions.

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With IOU Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

(DELCORA Base CAPX)

	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
	2023	2024	2025	2026	2027	2028
1. OPERATING REVENUES (1)						
2. Charges for services	74,073,427	74,180,799	79,341,892	79,460,905	92,392,491	92,531,080
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	5,044,294	0	12,793,206	0	5,551,865
6. Total Operating Revenues	74,073,427	79,225,093	79,341,892	92,254,111	92,392,491	98,082,945
7. Rate Increase		7%		16%		6%
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	48,731,294	49,949,576	51,198,316	52,478,274	53,790,231	55,134,986
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(3,220,333)	(3,300,841)	(3,383,362)	(3,467,946)	(3,554,645)	(3,643,511)
12. LESS: EOS - Professional Services	(2,023,208)	(2,073,788)	(2,125,633)	(2,178,774)	(2,233,243)	(2,289,074)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	4,113,573	6,083,889	8,997,944	13,307,772	19,681,917	15,108,845
15. ADD: PURTA & Reg Assessment	725,351	747,024	780,034	790,713	893,390	911,769
16. Operating Expenses Before Depreciation	48,326,677	51,405,860	55,467,299	60,930,039	68,577,649	65,223,015
17. Depreciation (2)	6,214,050	6,493,619	6,684,787	7,021,707	7,444,285	7,786,776
18. Total Operating Expenses	54,540,727	57,899,479	62,152,085	67,951,745	76,021,934	73,009,791
19. Operating Income	19,532,700	21,325,614	17,189,807	24,302,366	16,370,557	25,073,154
20. Revenues (3)	74,073,427	79,225,093	79,341,892	92,254,111	92,392,491	98,082,945
21. EBITDA (4)	25,746,750	27,819,233	23,874,593	31,324,072	23,814,842	32,859,930
22. EBIT (5)	19,532,700	21,325,614	17,189,807	24,302,366	16,370,557	25,073,154
23. EBIT	19,532,700	21,325,614	17,189,807	24,302,366	16,370,557	25,073,154
24. (-) Income Taxes	5,642,997	6,160,970	4,966,135	7,020,953	4,729,454	7,243,634
25. Debt Free Net Income	13,889,703	15,164,644	12,223,672	17,281,413	11,641,103	17,829,520
26. (+) Depreciation & Amortization	6,214,050	6,493,619	6,684,787	7,021,707	7,444,285	7,786,776
27. (-) Capital Expenditures (6)	20,922,071	9,075,591	13,678,412	27,416,940	19,728,889	19,549,775
28. (-) Changes in Working Capital (7)	51,851	55,458	55,539	64,578	64,675	68,658
29. Debt Free Net Cash Flow	(\$870,169)	\$12,527,215	\$5,174,507	(\$3,178,398)	(\$708,176)	\$5,997,863
30. PV Time Period (mid-year)	2.5	3.5	4.5	5.5	6.5	7.5
31. Present Value Factor: 5.91% (8)	0.8663	0.8179	0.7723	0.7292	0.6885	0.6501
32. Present Value Debt Free Net Cash Flow	(\$753,828)	\$10,246,009	\$3,996,272	(\$2,317,688)	(\$487,579)	\$3,899,211
	3	4	5	6	7	8
33. Present Value Factor: 7.16% (9)	0.8412	0.7850	0.7326	0.6836	0.6380	0.5953
34. Present Value Debt Free Net Cash Flow	(\$731,987)	\$9,833,863	\$3,790,844	(\$2,172,753)	(\$451,816)	\$3,570,528
	3	4	5	6	7	8
35. Present Value Factor: 5.71% (8)	0.8704	0.8234	0.7789	0.7368	0.6970	0.6594
36. Present Value Debt Free Net Cash Flow	(\$757,396)	\$10,314,908	\$4,030,424	(\$2,341,844)	(\$493,599)	\$3,954,991
	3	4	5	6	7	8
37. Present Value Factor: 6.96% (9)	0.8452	0.7902	0.7388	0.6907	0.6457	0.6037
38. Present Value Debt Free Net Cash Flow	(\$735,467)	\$9,899,005	\$3,822,926	(\$2,195,320)	(\$457,269)	\$3,620,910

See last page of this EXHIBIT for notes and assumptions.

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With IOU Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

(DELCORA Base CAPX)

	Estimated Year 9	Estimated Year 10	Estimated Year 11	Estimated Year 12	Estimated Year 13	Estimated Year 14
	2029	2030	2031	2032	2033	2034
1. OPERATING REVENUES (1)						
2. Charges for services	98,230,069	98,377,415	108,081,904	108,244,027	124,450,539	124,637,215
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	9,542,609	0	16,020,116	0	5,110,126
6. Total Operating Revenues	98,230,069	107,920,024	108,081,904	124,264,143	124,450,539	129,747,341
7. Rate Increase		10%		15%		4%
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	56,513,361	57,926,195	59,374,350	60,858,709	62,380,176	63,939,681
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(3,734,599)	(3,827,964)	(3,923,663)	(4,021,754)	(4,122,298)	(4,225,356)
12. LESS: EOS - Professional Services	(2,346,301)	(2,404,959)	(2,465,083)	(2,526,710)	(2,589,878)	(2,654,625)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	18,564,735	22,811,100	28,028,749	34,439,847	29,914,616	33,794,057
15. ADD: PURTA & Reg Assessment	960,992	958,106	1,007,922	1,001,974	1,102,205	1,124,254
16. Operating Expenses Before Depreciation	69,958,188	75,462,479	82,022,275	89,752,065	86,684,822	91,978,012
17. Depreciation (2)	8,026,094	8,113,266	8,182,641	8,317,889	8,628,579	9,043,028
18. Total Operating Expenses	77,984,282	83,575,744	90,204,917	98,069,954	95,313,401	101,021,039
19. Operating Income	20,245,787	24,344,280	17,876,987	26,194,189	29,137,138	28,726,302
20. Revenues (3)	98,230,069	107,920,024	108,081,904	124,264,143	124,450,539	129,747,341
21. EBITDA (4)	28,271,881	32,457,545	26,059,629	34,512,078	37,765,717	37,769,329
22. EBIT (5)	20,245,787	24,344,280	17,876,987	26,194,189	29,137,138	28,726,302
23. EBIT	20,245,787	24,344,280	17,876,987	26,194,189	29,137,138	28,726,302
24. (-) Income Taxes	5,849,008	7,033,062	5,164,662	7,567,501	8,417,719	8,299,029
25. Debt Free Net Income	14,396,779	17,311,218	12,712,325	18,626,688	20,719,419	20,427,273
26. (+) Depreciation & Amortization	8,026,094	8,113,266	8,182,641	8,317,889	8,628,579	9,043,028
27. (-) Capital Expenditures (6)	5,426,129	4,397,890	3,386,381	14,012,090	23,284,468	24,499,458
28. (-) Changes in Working Capital (7)	68,761	75,544	75,657	86,985	87,115	90,823
29. Debt Free Net Cash Flow	\$16,927,983	\$20,951,049	\$17,432,928	\$12,845,502	\$5,976,415	\$4,880,019
30. PV Time Period (mid-year)	8.5	9.5	10.5	11.5	12.5	13.5
31. Present Value Factor: 5.91% (8)	0.6138	0.5796	0.5472	0.5167	0.4879	0.4606
32. Present Value Debt Free Net Cash Flow	\$10,390,396	\$12,143,228	\$9,539,298	\$6,637,271	\$2,915,893	\$2,247,737
	9	10	11	12	13	14
33. Present Value Factor: 7.16% (9)	0.5555	0.5184	0.4838	0.4515	0.4213	0.3932
34. Present Value Debt Free Net Cash Flow	\$9,403,495	\$10,861,024	\$8,434,051	\$5,799,744	\$2,517,864	\$1,918,824
	9	10	11	12	13	14
35. Present Value Factor: 5.71% (8)	0.6238	0.5901	0.5582	0.5280	0.4995	0.4725
36. Present Value Debt Free Net Cash Flow	\$10,559,676	\$12,363,214	\$9,731,061	\$6,782,425	\$2,985,219	\$2,305,809
	9	10	11	12	13	14
37. Present Value Factor: 6.96% (9)	0.5644	0.5277	0.4934	0.4613	0.4313	0.4032
38. Present Value Debt Free Net Cash Flow	\$9,554,154	\$11,055,869	\$8,601,407	\$5,925,630	\$2,577,628	\$1,967,624

See last page of this EXHIBIT for notes and assumptions.

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With IOU Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

(DELCORA Base CAPX)

	Estimated Year 15	Estimated Year 16	Estimated Year 17	Estimated Year 18	Estimated Year 19	Estimated Year 20
	2035	2036	2037	2038	2039	2040
1. OPERATING REVENUES (1)						
2. Charges for services	129,941,961	130,136,874	144,798,940	145,016,139	148,574,037	148,796,898
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	14,445,193	0	3,335,371	0	7,439,845
6. Total Operating Revenues	129,941,961	144,582,067	144,798,940	148,351,510	148,574,037	156,236,743
7. Rate Increase		11%		2%		5%
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	65,538,173	67,176,627	68,856,043	70,577,444	72,341,880	74,150,427
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(4,330,990)	(4,439,264)	(4,550,246)	(4,664,002)	(4,780,602)	(4,900,117)
12. LESS: EOS - Professional Services	(2,720,990)	(2,789,015)	(2,858,740)	(2,930,209)	(3,003,464)	(3,078,551)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	38,176,598	43,127,484	48,720,421	42,144,331	43,993,869	45,924,576
15. ADD: PURTA & Reg Assessment	1,176,525	1,196,852	1,292,763	1,308,586	1,336,964	1,345,141
16. Operating Expenses Before Depreciation	97,839,316	104,272,684	111,460,241	106,436,150	109,888,647	113,441,476
17. Depreciation (2)	9,458,308	9,826,501	10,163,490	10,488,252	10,766,072	11,030,613
18. Total Operating Expenses	107,297,624	114,099,185	121,623,731	116,924,402	120,654,719	124,472,089
19. Operating Income	22,644,337	30,482,882	23,175,209	31,427,108	27,919,318	31,764,654
20. Revenues (3)	129,941,961	144,582,067	144,798,940	148,351,510	148,574,037	156,236,743
21. EBITDA (4)	32,102,645	40,309,383	33,338,699	41,915,360	38,685,390	42,795,267
22. EBIT (5)	22,644,337	30,482,882	23,175,209	31,427,108	27,919,318	31,764,654
23. EBIT	22,644,337	30,482,882	23,175,209	31,427,108	27,919,318	31,764,654
24. (-) Income Taxes	6,541,949	8,806,505	6,695,318	9,079,291	8,065,891	9,176,809
25. Debt Free Net Income	16,102,388	21,676,377	16,479,891	22,347,817	19,853,427	22,587,845
26. (+) Depreciation & Amortization	9,458,308	9,826,501	10,163,490	10,488,252	10,766,072	11,030,613
27. (-) Capital Expenditures (6)	22,879,544	18,631,000	20,351,369	16,189,650	15,592,470	14,594,850
28. (-) Changes in Working Capital (7)	90,959	101,207	101,359	103,846	104,002	109,366
29. Debt Free Net Cash Flow	\$2,590,193	\$12,770,671	\$6,190,653	\$16,542,573	\$14,923,027	\$18,914,242
30. PV Time Period (mid-year)	14.5	15.5	16.5	17.5	18.5	19.5
31. Present Value Factor: 5.91% (8)	0.4349	0.4107	0.3877	0.3661	0.3457	0.3264
32. Present Value Debt Free Net Cash Flow	\$1,126,475	\$5,244,914	\$2,400,116	\$6,056,236	\$5,158,891	\$6,173,609
33. Present Value Factor: 7.16% (9)	0.3669	0.3424	0.3195	0.2981	0.2782	0.2596
34. Present Value Debt Free Net Cash Flow	\$950,342	\$4,372,678	\$1,977,914	\$4,931,341	\$4,151,586	\$4,910,137
35. Present Value Factor: 5.71% (8)	0.4470	0.4229	0.4000	0.3784	0.3580	0.3386
36. Present Value Debt Free Net Cash Flow	\$1,157,816	\$5,400,717	\$2,476,261	\$6,259,710	\$5,342,444	\$6,404,362
37. Present Value Factor: 6.96% (9)	0.3770	0.3524	0.3295	0.3081	0.2880	0.2693
38. Present Value Debt Free Net Cash Flow	\$976,503	\$4,500,384	\$2,039,820	\$5,096,767	\$4,297,832	\$5,093,605

See last page of this EXHIBIT for notes and assumptions.

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With IOU Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

(DELCORA Base CAPX)

	Estimated	Estimated	Estimated	Estimated
	Year 21	Year 22	Year 23	Year 24
	2041	2042	2043	2044
1. OPERATING REVENUES (1)				
2. Charges for services	156,471,098	156,705,805	164,317,084	164,563,560
3. Other operating revenue	0	0	0	0
4. Tap Fees	0	0	0	0
5. Other (Rate Increase)	0	7,365,173	0	5,924,288
6. Total Operating Revenues	156,471,098	164,070,978	164,317,084	170,487,848
7. Rate Increase		5%		4%
8. OPERATING EXPENSES (1)				
9. Operating & Maintenance Expenses	76,004,188	77,904,292	79,851,900	81,848,197
10. Remove Economies of Scale				
11. LESS: EOS - Wages & Benefits	(5,022,620)	(5,148,186)	(5,276,890)	(5,408,812)
12. LESS: EOS - Professional Services	(3,155,514)	(3,234,402)	(3,315,262)	(3,398,144)
13. LESS: EOS - Eliminated Expenses	0	0	0	0
14. ADD: Additional O&M	47,940,014	50,043,900	51,294,998	52,577,372
15. ADD: PURTA & Reg Assessment	1,393,846	1,394,907	1,437,871	1,438,988
16. Operating Expenses Before Depreciation	117,159,913	120,960,512	123,992,616	127,057,601
17. Depreciation (2)	11,259,626	11,453,863	11,651,451	11,852,447
18. Total Operating Expenses	128,419,539	132,414,374	135,644,066	138,910,048
19. Operating Income	28,051,559	31,656,604	28,673,018	31,577,800
20. Revenues (3)	156,471,098	164,070,978	164,317,084	170,487,848
21. EBITDA (4)	39,311,185	43,110,466	40,324,468	43,430,247
22. EBIT (5)	28,051,559	31,656,604	28,673,018	31,577,800
23. EBIT	28,051,559	31,656,604	28,673,018	31,577,800
24. (-) Income Taxes	8,104,095	9,145,593	8,283,635	9,122,826
25. Debt Free Net Income	19,947,464	22,511,011	20,389,383	22,454,974
26. (+) Depreciation & Amortization	11,259,626	11,453,863	11,651,451	11,852,447
27. (-) Capital Expenditures (6)	11,068,408	11,259,346	11,453,579	11,651,161
28. (-) Changes in Working Capital (7)	109,530	114,850	115,022	119,341
29. Debt Free Net Cash Flow	\$20,029,152	\$22,590,678	\$20,472,232	\$22,536,918
30. PV Time Period (mid-year)	20.5	21.5	22.5	23.5
31. Present Value Factor: 5.91% (8)	0.3082	0.2910	0.2747	0.2594
32. Present Value Debt Free Net Cash Flow	\$6,172,985	\$6,573,887	\$5,623,722	\$5,846,077
	21	22	23	24
33. Present Value Factor: 7.16% (9)	0.2423	0.2261	0.2110	0.1969
34. Present Value Debt Free Net Cash Flow	\$4,853,064	\$5,107,752	\$4,319,641	\$4,437,519
	21	22	23	24
35. Present Value Factor: 5.71% (8)	0.3203	0.3030	0.2867	0.2712
36. Present Value Debt Free Net Cash Flow	\$6,415,337	\$6,844,975	\$5,869,389	\$6,112,012
	21	22	23	24
37. Present Value Factor: 6.96% (9)	0.2517	0.2354	0.2200	0.2057
38. Present Value Debt Free Net Cash Flow	\$5,041,338	\$5,317,846	\$4,503,891	\$4,635,844

See last page of this EXHIBIT for notes and assumptions.

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With IOU Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

DCF With Capitalization of Terminal Value Model @ 5.91%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$22,536,918
Divided by Capitalization Factor (8)	5.91%
24th Year Terminal Value	381,335,334
24th Year Present Value Factor (11)	0.2594
Present Value of Terminal Value	98,918,386
Present Value Debt Free Net	
Cash Flow for 24 Years	116,447,655
Indicated Value	\$215,366,041

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 5.91%			
		Multiples (13)	Terminal Value
Projected EBIT	\$31,577,800	27.9	\$881,020,624
Projected EBITDA	43,430,247	19.1	829,517,712
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			846,513,673
24th Year Present Value Factor (11)			0.2594
Present Value of Terminal Value			219,585,647
Present Value Debt Free Net			
Cash Flow for 24 Years			116,447,655
Indicated Value			\$336,033,302

DCF With Capitalization of Terminal Value Model @ 7.16%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$22,536,918
Divided by Capitalization Factor (9)	7.16%
24th Year Terminal Value	314,761,428
24th Year Present Value Factor (12)	0.1969
Present Value of Terminal Value	61,976,525
Present Value Debt Free Net	
Cash Flow for 24 Years	100,321,322
Indicated Value	\$162,297,847

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 7.16%			
		Multiples (13)	Terminal Value
Projected EBIT	\$31,577,800	27.9	\$881,020,624
Projected EBITDA	43,430,247	19.1	829,517,712
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			846,513,673
24th Year Present Value Factor (12)			0.1969
Present Value of Terminal Value			166,678,542
Present Value Debt Free Net			
Cash Flow for 24 Years			100,321,322
Indicated Value			\$266,999,864

DCF With Capitalization of Terminal Value Model @ 5.71%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$22,536,918
Divided by Capitalization Factor (8)	5.71%
24th Year Terminal Value	394,692,088
24th Year Present Value Factor (11)	0.2594
Present Value of Terminal Value	102,383,128
Present Value Debt Free Net	
Cash Flow for 24 Years	116,447,655
Indicated Value	\$218,830,783

DCF With Capitalization of Terminal Value Model @ 6.96%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$22,536,918
Divided by Capitalization Factor (9)	6.96%
24th Year Terminal Value	323,806,296
24th Year Present Value Factor (12)	0.1969
Present Value of Terminal Value	63,757,460
Present Value Debt Free Net	
Cash Flow for 24 Years	100,321,322
Indicated Value	\$164,078,782

See last page of this EXHIBIT for notes and assumptions.

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With IOU Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

Notes: (1) Assumptions:

Charges for services - Pre-2021 are actual or budget. Post-2020 based on customer growth (EDU) and average revenue per customer. Rate increases (Other rate increase line item) are added year after they occur.

Other (Rate Increase) - Assumed purchase by IOU at end of 2020 with shown rate increases.

OPERATING EXPENSES - increase at 2.5% annually after 2020 unless noted elsewhere. Assumed economies of scale are shown on lines below.

Wages & Benefits - Post-2020 assumed 15% savings due to economies of scale. Increase at 2.5% afterwards.

Professional Services - Post-2020 assumed 50% savings due to economies of scale. Increase at 2.5% afterwards.

Additional O&M - Includes PDW's LTCP charges.

PURTA & Reg Assessment - 2021 assumed due to IOU purchase at the end of 2020.

- (2) Depreciation - Pre-2021 based on actual depreciation rate plus same rate on half of CAPX. Post-2020 based on depreciation rate plus same rate on half of CAPX.
- (3) Line 6.
- (4) Line 19 + line 17.
- (5) Line 19.
- (6) Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCORA's 20-year capital improvement plan for existing assets.
- (7) Changes in Working Capital - based on water industry 0.07% of revenues.
- (8) Discount rate is the current lower end of the IOU discount rate. Capitalization rate (K) at 12/31/2019 adjusted for stated growth (g) where capitalization rate = $K - g$.
- (9) Discount rate is the current upper end of the IOU discount rate. Capitalization rate (K) at 12/31/2019 adjusted for stated growth (g) where capitalization rate = $K - g$.
- (10) Final year shown, line 29.
- (11) Final year shown, line 31.
- (12) Final year shown, line 33.
- (13) Developed on Market Multiples EXHIBIT 17.

Terms:

CAPX - Capital Expenditures

CIP - Capital improvement plan

Dep - Depreciation expense

GROSS PPE - GROSS Property, plant and equipment

IOU - Investor owned utility

MUNI - Large regional municipally owned utility

NET PPE - NET Property, plant and equipment

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With MUNI Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

(DELCORA Base CAPX)

	Actual		Budget	Budget	Estimated	Estimated
				Year 0	Year 1	Year 2
	2017	2018	2019	2020	2021	2022
1. OPERATING REVENUES (1)						
2. Charges for services	58,281,844	62,157,984	64,978,097	70,678,127	70,729,539	70,780,913
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	0	0	0	3,680,607
6. Total Operating Revenues	58,281,844	62,157,984	64,978,097	70,678,127	70,729,539	74,461,520
7. Rate Increase						5%
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	38,757,936	40,375,506	42,861,264	47,306,365	46,383,147	47,542,726
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	0	0	0	0	(3,065,159)	(3,141,788)
12. LESS: EOS - Professional Services	0	0	0	0	(1,925,719)	(1,973,862)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	3,038,584	4,494,002
15. Operating Expenses Before Depreciation	38,757,936	40,375,506	42,861,264	47,306,365	44,430,853	46,921,078
16. Depreciation (2)	7,049,095	6,588,896	0	11,118,335	11,270,658	11,525,940
17. Total Operating Expenses	45,807,031	46,964,402	42,861,264	58,424,700	55,701,512	58,447,018
18. Operating Income	12,474,813	15,193,582	22,116,833	12,253,427	15,028,027	16,014,502
19. Revenues (3)	58,281,844	62,157,984	64,978,097	70,678,127	70,729,539	74,461,520
20. EBITDA (4)	19,523,908	21,782,478	22,116,833	23,371,762	26,298,686	27,540,442
21. EBIT (5)	12,474,813	15,193,582	22,116,833	12,253,427	15,028,027	16,014,502
22. EBIT	12,474,813	15,193,582	22,116,833	12,253,427	15,028,027	16,014,502
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	12,474,813	15,193,582	22,116,833	12,253,427	15,028,027	16,014,502
25. (+) Depreciation & Amortization	7,049,095	6,588,896	0	11,118,335	11,270,658	11,525,940
26. (-) Capital Expenditures (6)	25,704,689	37,949,513	0	5,622,240	14,995,092	17,169,801
27. (-) Changes in Working Capital (7)	40,797	43,511	45,485	49,475	49,511	52,123
28. Debt Free Net Cash Flow	(\$6,221,578)	(\$16,210,546)	\$22,071,348	\$17,700,048	\$11,254,083	\$10,318,518
29. PV Time Period (mid-year)				(0.5)	0.5	1.5
					1	2
30. Present Value Factor: 3.38% (8)					0.9835	0.9514
31. Present Value Debt Free Net Cash Flow					\$11,068,391	\$9,817,038
					1	2
32. Present Value Factor: 3.18% (9)					0.9845	0.9541
33. Present Value Debt Free Net Cash Flow					\$11,079,645	\$9,844,898

See last page of this EXHIBIT for notes and assumptions.

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With MUNI Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

(DELCORA Base CAPX)

	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
	2023	2024	2025	2026	2027	2028
1. OPERATING REVENUES (1)						
2. Charges for services	74,569,612	74,677,704	74,787,798	83,813,078	83,938,797	84,064,705
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	8,899,748	0	0	10,508,088
6. Total Operating Revenues	74,569,612	74,677,704	83,687,546	83,813,078	83,938,797	94,572,793
7. Rate Increase			12%			12%
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	48,731,294	49,949,576	51,198,316	52,478,274	53,790,231	55,134,986
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(3,220,333)	(3,300,841)	(3,383,362)	(3,467,946)	(3,554,645)	(3,643,511)
12. LESS: EOS - Professional Services	(2,023,208)	(2,073,788)	(2,125,633)	(2,178,774)	(2,233,243)	(2,289,074)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	4,113,573	6,083,889	8,997,944	13,307,772	19,681,917	15,108,845
15. Operating Expenses Before Depreciation	47,601,326	50,658,836	54,687,265	60,139,326	67,684,259	64,311,246
16. Depreciation (2)	11,826,594	12,084,342	12,260,589	12,571,213	12,960,810	13,276,569
17. Total Operating Expenses	59,427,920	62,743,178	66,947,854	72,710,539	80,645,070	77,587,815
18. Operating Income	15,141,692	11,934,526	16,739,692	11,102,539	3,293,727	16,984,978
19. Revenues (3)	74,569,612	74,677,704	83,687,546	83,813,078	83,938,797	94,572,793
20. EBITDA (4)	26,968,286	24,018,868	29,000,281	23,673,752	16,254,538	30,261,547
21. EBIT (5)	15,141,692	11,934,526	16,739,692	11,102,539	3,293,727	16,984,978
22. EBIT	15,141,692	11,934,526	16,739,692	11,102,539	3,293,727	16,984,978
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	15,141,692	11,934,526	16,739,692	11,102,539	3,293,727	16,984,978
25. (+) Depreciation & Amortization	11,826,594	12,084,342	12,260,589	12,571,213	12,960,810	13,276,569
26. (-) Capital Expenditures (6)	20,922,071	9,075,591	13,678,412	27,416,940	19,728,889	19,549,775
27. (-) Changes in Working Capital (7)	52,199	52,274	58,581	58,669	58,757	66,201
28. Debt Free Net Cash Flow	\$5,994,016	\$14,891,003	\$15,263,288	(\$3,801,857)	(\$3,533,109)	\$10,645,571
29. PV Time Period (mid-year)	2.5	3.5	4.5	5.5	6.5	7.5
	3	4	5	6	7	8
30. Present Value Factor: 3.38% (8)	0.9203	0.8902	0.8611	0.8329	0.8057	0.7793
31. Present Value Debt Free Net Cash Flow	\$5,516,293	\$13,255,971	\$13,143,217	(\$3,166,566)	(\$2,846,626)	\$8,296,094
	3	4	5	6	7	8
32. Present Value Factor: 3.18% (9)	0.9247	0.8962	0.8686	0.8418	0.8159	0.7907
33. Present Value Debt Free Net Cash Flow	\$5,542,667	\$13,345,317	\$13,257,692	(\$3,200,403)	(\$2,882,663)	\$8,417,453

See last page of this EXHIBIT for notes and assumptions.

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With MUNI Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

(DELCORA Base CAPX)

	Estimated Year 9	Estimated Year 10	Estimated Year 11	Estimated Year 12	Estimated Year 13	Estimated Year 14
	2029	2030	2031	2032	2033	2034
1. OPERATING REVENUES (1)						
2. Charges for services	94,714,653	94,856,725	94,999,010	110,839,857	111,006,117	111,172,626
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	15,674,837	0	0	11,561,953
6. Total Operating Revenues	94,714,653	94,856,725	110,673,847	110,839,857	111,006,117	122,734,579
7. Rate Increase			17%			10%
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	56,513,361	57,926,195	59,374,350	60,858,709	62,380,176	63,939,681
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(3,734,599)	(3,827,964)	(3,923,663)	(4,021,754)	(4,122,298)	(4,225,356)
12. LESS: EOS - Professional Services	(2,346,301)	(2,404,959)	(2,465,083)	(2,526,710)	(2,589,878)	(2,654,625)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	18,564,735	22,811,100	28,028,749	34,439,847	29,914,616	33,794,057
15. Operating Expenses Before Depreciation	68,997,196	74,504,373	81,014,353	88,750,091	85,582,617	90,853,758
16. Depreciation (2)	13,497,209	13,577,578	13,641,539	13,766,230	14,052,671	14,434,773
17. Total Operating Expenses	82,494,405	88,081,951	94,655,892	102,516,321	99,635,288	105,288,531
18. Operating Income	12,220,248	6,774,774	16,017,955	8,323,536	11,370,829	17,446,048
19. Revenues (3)	94,714,653	94,856,725	110,673,847	110,839,857	111,006,117	122,734,579
20. EBITDA (4)	25,717,457	20,352,352	29,659,494	22,089,766	25,423,500	31,880,821
21. EBIT (5)	12,220,248	6,774,774	16,017,955	8,323,536	11,370,829	17,446,048
22. EBIT	12,220,248	6,774,774	16,017,955	8,323,536	11,370,829	17,446,048
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	12,220,248	6,774,774	16,017,955	8,323,536	11,370,829	17,446,048
25. (+) Depreciation & Amortization	13,497,209	13,577,578	13,641,539	13,766,230	14,052,671	14,434,773
26. (-) Capital Expenditures (6)	5,426,129	4,397,890	3,386,381	14,012,090	23,284,468	24,499,458
27. (-) Changes in Working Capital (7)	66,300	66,400	77,472	77,588	77,704	85,914
28. Debt Free Net Cash Flow	\$20,225,028	\$15,888,063	\$26,195,641	\$8,000,088	\$2,061,328	\$7,295,449
29. PV Time Period (mid-year)	8.5	9.5	10.5	11.5	12.5	13.5
	9	10	11	12	13	14
30. Present Value Factor: 3.38% (8)	0.7539	0.7292	0.7054	0.6823	0.6600	0.6384
31. Present Value Debt Free Net Cash Flow	\$15,247,648	\$11,585,575	\$18,478,405	\$5,458,460	\$1,360,477	\$4,657,415
	9	10	11	12	13	14
32. Present Value Factor: 3.18% (9)	0.7664	0.7427	0.7199	0.6977	0.6762	0.6553
33. Present Value Debt Free Net Cash Flow	\$15,500,461	\$11,800,064	\$18,858,242	\$5,581,661	\$1,393,870	\$4,780,708

See last page of this EXHIBIT for notes and assumptions.

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With MUNI Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

(DELCORA Base CAPX)

	Estimated Year 15	Estimated Year 16	Estimated Year 17	Estimated Year 18	Estimated Year 19	Estimated Year 20
	2035	2036	2037	2038	2039	2040
1. OPERATING REVENUES (1)						
2. Charges for services	122,918,681	123,103,059	136,356,211	136,560,746	138,953,836	139,162,267
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	13,048,924	0	2,184,972	0	6,958,113
6. Total Operating Revenues	122,918,681	136,151,983	136,356,211	138,745,718	138,953,836	146,120,380
7. Rate Increase		11%		2%		5%
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	65,538,173	67,176,627	68,856,043	70,577,444	72,341,880	74,150,427
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(4,330,990)	(4,439,264)	(4,550,246)	(4,664,002)	(4,780,602)	(4,900,117)
12. LESS: EOS - Professional Services	(2,720,990)	(2,789,015)	(2,858,740)	(2,930,209)	(3,003,464)	(3,078,551)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	38,176,598	43,127,484	48,720,421	42,144,331	43,993,869	45,924,576
15. Operating Expenses Before Depreciation	96,662,791	103,075,832	110,167,478	105,127,564	108,551,683	112,096,335
16. Depreciation (2)	14,817,642	15,157,097	15,467,784	15,767,199	16,023,336	16,267,229
17. Total Operating Expenses	111,480,433	118,232,929	125,635,262	120,894,763	124,575,019	128,363,564
18. Operating Income	11,438,248	17,919,054	10,720,949	17,850,955	14,378,817	17,756,816
19. Revenues (3)	122,918,681	136,151,983	136,356,211	138,745,718	138,953,836	146,120,380
20. EBITDA (4)	26,255,890	33,076,151	26,188,733	33,618,154	30,402,153	34,024,045
21. EBIT (5)	11,438,248	17,919,054	10,720,949	17,850,955	14,378,817	17,756,816
22. EBIT	11,438,248	17,919,054	10,720,949	17,850,955	14,378,817	17,756,816
23. (-) Income Taxes	0	0	0	0	0	0
24. Debt Free Net Income	11,438,248	17,919,054	10,720,949	17,850,955	14,378,817	17,756,816
25. (+) Depreciation & Amortization	14,817,642	15,157,097	15,467,784	15,767,199	16,023,336	16,267,229
26. (-) Capital Expenditures (6)	22,879,544	18,631,000	20,351,369	16,189,650	15,592,470	14,594,850
27. (-) Changes in Working Capital (7)	86,043	95,306	95,449	97,122	97,268	102,284
28. Debt Free Net Cash Flow	\$3,290,303	\$14,349,845	\$5,741,915	\$17,331,382	\$14,712,415	\$19,326,910
29. PV Time Period (mid-year)	14.5	15.5	16.5	17.5	18.5	19.5
	15	16	17	18	19	20
30. Present Value Factor: 3.38% (8)	0.6175	0.5974	0.5778	0.5589	0.5407	0.5230
31. Present Value Debt Free Net Cash Flow	\$2,031,762	\$8,572,597	\$3,317,678	\$9,686,509	\$7,955,003	\$10,107,974
	15	16	17	18	19	20
32. Present Value Factor: 3.18% (9)	0.6351	0.6156	0.5966	0.5782	0.5604	0.5431
33. Present Value Debt Free Net Cash Flow	\$2,089,671	\$8,833,764	\$3,425,626	\$10,021,005	\$8,244,838	\$10,496,445

See last page of this EXHIBIT for notes and assumptions.

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With MUNI Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

(DELCORA Base CAPX)

	Estimated	Estimated	Estimated	Estimated	
	Year 21	Year 22	Year 23	Year 24	
	<u>2041</u>	<u>2042</u>	<u>2043</u>	<u>2044</u>	
1. <u>OPERATING REVENUES (1)</u>					
2. Charges for services	146,339,561	146,559,070	154,264,633	154,496,030	
3. Other operating revenue	0	0	0	0	
4. Tap Fees	0	0	0	0	
5. Other (Rate Increase)	0	7,474,513	0	6,179,841	
6. Total Operating Revenues	<u>146,339,561</u>	<u>154,033,583</u>	<u>154,264,633</u>	<u>160,675,871</u>	
7.	Rate Increase	5%		4%	
8. <u>OPERATING EXPENSES (1)</u>					
9. Operating & Maintenance Expenses	76,004,188	77,904,292	79,851,900	81,848,197	
10. Remove Economies of Scale					
11. LESS: EOS - Wages & Benefits	(5,022,620)	(5,148,186)	(5,276,890)	(5,408,812)	
12. LESS: EOS - Professional Services	(3,155,514)	(3,234,402)	(3,315,262)	(3,398,144)	
13. LESS: EOS - Eliminated Expenses	0	0	0	0	
14. ADD: Additional O&M	47,940,014	50,043,900	51,294,998	52,577,372	
15. Operating Expenses Before Depreciation	<u>115,766,067</u>	<u>119,565,605</u>	<u>122,554,745</u>	<u>125,618,613</u>	
16. Depreciation (2)	16,512,585	16,775,207	17,042,006	17,313,048	
17. Total Operating Expenses	<u>132,278,653</u>	<u>136,340,812</u>	<u>139,596,751</u>	<u>142,931,661</u>	
18. Operating Income	<u>14,060,908</u>	<u>17,692,771</u>	<u>14,667,882</u>	<u>17,744,210</u>	
19. Revenues (3)	146,339,561	154,033,583	154,264,633	160,675,871	
20. EBITDA (4)	30,573,494	34,467,978	31,709,888	35,057,258	
21. EBIT (5)	14,060,908	17,692,771	14,667,882	17,744,210	
22. EBIT	14,060,908	17,692,771	14,667,882	17,744,210	
23. (-) Income Taxes	0	0	0	0	
24. Debt Free Net Income	14,060,908	17,692,771	14,667,882	17,744,210	
25. (+) Depreciation & Amortization	16,512,585	16,775,207	17,042,006	17,313,048	
26. (-) Capital Expenditures (6)	16,241,099	16,499,403	16,761,816	17,028,401	
27. (-) Changes in Working Capital (7)	102,438	107,824	107,985	112,473	
28. Debt Free Net Cash Flow	<u>\$14,229,957</u>	<u>\$17,860,752</u>	<u>\$14,840,087</u>	<u>\$17,916,384</u>	
29.	PV Time Period (mid-year)	20.5	21.5	22.5	23.5
	21	22	23	24	
30. Present Value Factor: 3.38% (8)	0.5059	0.4893	0.4733	0.4579	
31. Present Value Debt Free Net Cash Flow	<u>\$7,198,935</u>	<u>\$8,739,266</u>	<u>\$7,023,813</u>	<u>\$8,203,912</u>	
	21	22	23	24	
32. Present Value Factor: 3.18% (9)	0.5264	0.5101	0.4944	0.4792	
33. Present Value Debt Free Net Cash Flow	<u>\$7,490,649</u>	<u>\$9,110,770</u>	<u>\$7,336,939</u>	<u>\$8,585,531</u>	

See last page of this EXHIBIT for notes and assumptions.

Income Approach
 DELCORA Wastewater System
 Pro Forma and Estimated Operations With MUNI Ownership
 DCF With Capitalization of Terminal Value Model and
 DCF With EBIT & EBITDA Terminal Value Model

DCF With Capitalization of Terminal Value Model @ 3.38%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$17,916,384
Divided by Capitalization Factor (8)	3.38%
24th Year Terminal Value	530,070,521
24th Year Present Value Factor (11)	0.4579
Present Value of Terminal Value	242,719,292
Present Value Debt Free Net	
Cash Flow for 24 Years	184,709,242
Indicated Value	\$427,428,533

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 3.38%			
		Multiples (13)	Terminal Value
Projected EBIT	\$17,744,210	27.9	\$495,063,450
Projected EBITDA	35,057,258	19.1	669,593,622
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			611,998,666
24th Year Present Value Factor (11)			0.4579
Present Value of Terminal Value			280,234,189
Present Value Debt Free Net			
Cash Flow for 24 Years			184,709,242
Indicated Value			\$464,943,431

DCF With Capitalization of Terminal Value Model @ 3.18%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$17,916,384
Divided by Capitalization Factor (9)	3.18%
24th Year Terminal Value	563,408,290
24th Year Present Value Factor (12)	0.4579
Present Value of Terminal Value	257,984,656
Present Value Debt Free Net	
Cash Flow for 24 Years	184,709,242
Indicated Value	\$442,693,897

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 3.18%			
		Multiples (13)	Terminal Value
Projected EBIT	\$17,744,210	27.9	\$495,063,450
Projected EBITDA	35,057,258	19.1	669,593,622
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			611,998,666
24th Year Present Value Factor (12)			0.4579
Present Value of Terminal Value			280,234,189
Present Value Debt Free Net			
Cash Flow for 24 Years			184,709,242
Indicated Value			\$464,943,431

See last page of this EXHIBIT for notes and assumptions.

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With MUNI Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

Notes: (1) Assumptions:

Charges for services - Pre-2021 are actual or budget. Post-2020 based on customer growth (EDU) and average revenue per customer. Rate increases (Other rate increase line item) are added year after they occur.

Other (Rate Increase) - Assumed purchase by MUNI at end of 2020 with shown rate increases.

OPERATING EXPENSES - increase at 2.5% annually after 2020 unless noted elsewhere. Assumed economies of scale are shown on lines below.

Wages & Benefits - Post-2020 assumed 15% savings due to economies of scale. Increase at 2.5% afterwards.

Professional Services - Post-2020 assumed 50% savings due to economies of scale. Increase at 2.5% afterwards.

Additional O&M - Includes PDW's LTCP charges.

- (2) Depreciation - Pre-2021 based on actual depreciation rate plus same rate on half of CAPX. Post-2020 based on depreciation rate plus same rate on half of CAPX.
- (3) Line 6.
- (4) Line 18 + line 16.
- (5) Line 18.
- (6) Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCORA's 20-year capital improvement plan for existing assets.
- (7) Changes in Working Capital - based on water industry 0.07% of revenues.
- (8) Discount rate is the the current MUNI discount rate. Capitalization rate (K) at 12/31/2019 equal to discount rate, where capitalization rate = $K - g$.
- (9) Discount rate is the current MUNI discount rate. Capitalization rate (K) at 12/31/2019 adjusted for stated growth (g) where capitalization rate = $K - g$.
- (10) Final year shown, line 28.
- (11) Final year shown, line 30.
- (12) Final year shown, line 30.
- (13) Developed on Market Multiples EXHIBIT 17.

Terms:

CAPX - Capital Expenditures

CIP - Capital improvement plan

Dep - Depreciation expense

GROSS PPE - GROSS Property, plant and equipment

IOU - Investor owned utility

MUNI - Large regional municipally owned utility

NET PPE - NET Property, plant and equipment

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With IOU Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

(DELCORA Base CAPX)

	Actual		Budget	Budget	Estimated	Estimated
				Year 0	Year 1	Year 2
	2017	2018	2019	2020	2021	2022
1. OPERATING REVENUES (1)						
2. Charges for services	58,281,844	62,157,984	64,978,097	70,678,127	70,729,539	70,780,913
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	0	0	0	16,279,610
6. Total Operating Revenues	58,281,844	62,157,984	64,978,097	70,678,127	70,729,539	87,060,523
7. Rate Increase						23%
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	38,757,936	40,375,506	42,861,264	47,306,365	46,383,147	47,542,726
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	0	0	0	0	(3,065,159)	(3,141,788)
12. LESS: EOS - Professional Services	0	0	0	0	(1,925,719)	(1,973,862)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	0	0	0	0	3,038,584	4,494,002
15. ADD: PURTA & Reg Assessment	0	0	0	0	817,759	823,384
16. Operating Expenses Before Depreciation	38,757,936	40,375,506	42,861,264	47,306,365	45,248,612	47,744,462
17. Depreciation (2)	7,049,095	6,588,896	0	11,118,335	11,270,658	11,525,940
18. Total Operating Expenses	45,807,031	46,964,402	42,861,264	58,424,700	56,519,271	59,270,402
19. Operating Income	12,474,813	15,193,582	22,116,833	12,253,427	14,210,268	27,790,121
20. Revenues (3)	58,281,844	62,157,984	64,978,097	70,678,127	70,729,539	87,060,523
21. EBITDA (4)	19,523,908	21,782,478	22,116,833	23,371,762	25,480,927	39,316,061
22. EBIT (5)	12,474,813	15,193,582	22,116,833	12,253,427	14,210,268	27,790,121
23. EBIT	12,474,813	15,193,582	22,116,833	12,253,427	14,210,268	27,790,121
24. (-) Income Taxes	0	0	0	3,540,015	4,105,347	8,028,566
25. Debt Free Net Income	12,474,813	15,193,582	22,116,833	8,713,412	10,104,921	19,761,555
26. (+) Depreciation & Amortization	7,049,095	6,588,896	0	11,118,335	11,270,658	11,525,940
27. (-) Capital Expenditures (6)	25,704,689	37,949,513	0	5,622,240	14,995,092	17,169,801
28. (-) Changes in Working Capital (7)	40,797	43,511	45,485	49,475	49,511	60,942
29. Debt Free Net Cash Flow	(\$6,221,578)	(\$16,210,546)	\$22,071,348	\$14,160,033	\$6,330,977	\$14,056,751
30. PV Time Period (mid-year)				(0.5)	0.5	1.5
31. Present Value Factor: 5.91% (8)					0.9717	0.9175
32. Present Value Debt Free Net Cash Flow					\$6,151,810	\$12,897,069
					1	2
33. Present Value Factor: 7.16% (9)					0.9660	0.9015
34. Present Value Debt Free Net Cash Flow					\$6,115,724	\$12,672,161
					1	2
35. Present Value Factor: 5.71% (8)					0.9726	0.9201
36. Present Value Debt Free Net Cash Flow					\$6,157,508	\$12,933,617
					1	2
37. Present Value Factor: 6.96% (9)					0.9669	0.9040
38. Present Value Debt Free Net Cash Flow					\$6,121,422	\$12,707,303

See last page of this EXHIBIT for notes and assumptions.

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With IOU Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

(DELCORA Base CAPX)

	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
	2023	2024	2025	2026	2027	2028
1. OPERATING REVENUES (1)						
2. Charges for services	87,186,904	87,313,285	87,442,008	97,031,073	97,176,620	97,322,384
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	9,443,737	0	0	10,705,462
6. Total Operating Revenues	87,186,904	87,313,285	96,885,745	97,031,073	97,176,620	108,027,846
7. Rate Increase			11%			11%
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	48,731,294	49,949,576	51,198,316	52,478,274	53,790,231	55,134,986
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(3,220,333)	(3,300,841)	(3,383,362)	(3,467,946)	(3,554,645)	(3,643,511)
12. LESS: EOS - Professional Services	(2,023,208)	(2,073,788)	(2,125,633)	(2,178,774)	(2,233,243)	(2,289,074)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	4,113,573	6,083,889	8,997,944	13,307,772	19,681,917	15,108,845
15. ADD: PURTA & Reg Assessment	924,389	938,133	934,544	991,042	1,013,128	1,023,648
16. Operating Expenses Before Depreciation	48,525,715	51,596,969	55,621,809	61,130,368	68,697,387	65,334,894
17. Depreciation (2)	11,826,594	12,084,342	12,260,589	12,571,213	12,960,810	13,276,569
18. Total Operating Expenses	60,352,309	63,681,311	67,882,398	73,701,581	81,658,198	78,611,463
19. Operating Income	26,834,595	23,631,974	29,003,347	23,329,492	15,518,422	29,416,383
20. Revenues (3)	87,186,904	87,313,285	96,885,745	97,031,073	97,176,620	108,027,846
21. EBITDA (4)	38,661,189	35,716,316	41,263,936	35,900,705	28,479,233	42,692,952
22. EBIT (5)	26,834,595	23,631,974	29,003,347	23,329,492	15,518,422	29,416,383
23. EBIT	26,834,595	23,631,974	29,003,347	23,329,492	15,518,422	29,416,383
24. (-) Income Taxes	7,752,514	6,827,277	8,379,067	6,739,890	4,483,272	8,498,393
25. Debt Free Net Income	19,082,081	16,804,697	20,624,280	16,589,602	11,035,150	20,917,990
26. (+) Depreciation & Amortization	11,826,594	12,084,342	12,260,589	12,571,213	12,960,810	13,276,569
27. (-) Capital Expenditures (6)	20,922,071	9,075,591	13,678,412	27,416,940	19,728,889	19,549,775
28. (-) Changes in Working Capital (7)	61,031	61,119	67,820	67,922	68,024	75,619
29. Debt Free Net Cash Flow	\$9,925,573	\$19,752,329	\$19,138,637	\$1,675,954	\$4,199,048	\$14,569,165
30. PV Time Period (mid-year)	2.5	3.5	4.5	5.5	6.5	7.5
31. Present Value Factor: 5.91% (8)	0.8663	0.8179	0.7723	0.7292	0.6885	0.6501
32. Present Value Debt Free Net Cash Flow	\$8,598,524	\$16,155,430	\$14,780,770	\$1,222,105	\$2,891,044	\$9,471,414
33. Present Value Factor: 7.16% (9)	0.8412	0.7850	0.7326	0.6836	0.6380	0.5953
34. Present Value Debt Free Net Cash Flow	\$8,349,392	\$15,505,578	\$14,020,966	\$1,145,682	\$2,678,993	\$8,673,024
35. Present Value Factor: 5.71% (8)	0.8704	0.8234	0.7789	0.7368	0.6970	0.6594
36. Present Value Debt Free Net Cash Flow	\$8,639,219	\$16,264,068	\$14,907,085	\$1,234,843	\$2,926,736	\$9,606,907
37. Present Value Factor: 6.96% (9)	0.8452	0.7902	0.7388	0.6907	0.6457	0.6037
38. Present Value Debt Free Net Cash Flow	\$8,389,094	\$15,608,290	\$14,139,625	\$1,157,581	\$2,711,325	\$8,795,405

See last page of this EXHIBIT for notes and assumptions.

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With IOU Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

(DELCORA Base CAPX)

	Estimated Year 9	Estimated Year 10	Estimated Year 11	Estimated Year 12	Estimated Year 13	Estimated Year 14
	2029	2030	2031	2032	2033	2034
1. OPERATING REVENUES (1)						
2. Charges for services	108,189,889	108,352,173	108,514,702	123,566,288	123,751,637	123,937,264
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	0	14,866,514	0	0	12,641,601
6. Total Operating Revenues	108,189,889	108,352,173	123,381,216	123,566,288	123,751,637	136,578,865
7. Rate Increase			14%			10%
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	56,513,361	57,926,195	59,374,350	60,858,709	62,380,176	63,939,681
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(3,734,599)	(3,827,964)	(3,923,663)	(4,021,754)	(4,122,298)	(4,225,356)
12. LESS: EOS - Professional Services	(2,346,301)	(2,404,959)	(2,465,083)	(2,526,710)	(2,589,878)	(2,654,625)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	18,564,735	22,811,100	28,028,749	34,439,847	29,914,616	33,794,057
15. ADD: PURTA & Reg Assessment	1,094,374	1,083,738	1,071,517	1,142,346	1,143,751	1,158,026
16. Operating Expenses Before Depreciation	70,091,570	75,588,111	82,085,870	89,892,437	86,726,368	92,011,784
17. Depreciation (2)	13,497,209	13,577,578	13,641,539	13,766,230	14,052,671	14,434,773
18. Total Operating Expenses	83,588,779	89,165,689	95,727,409	103,658,667	100,779,039	106,446,557
19. Operating Income	24,601,110	19,186,484	27,653,807	19,907,621	22,972,598	30,132,308
20. Revenues (3)	108,189,889	108,352,173	123,381,216	123,566,288	123,751,637	136,578,865
21. EBITDA (4)	38,098,319	32,764,062	41,295,346	33,673,851	37,025,269	44,567,081
22. EBIT (5)	24,601,110	19,186,484	27,653,807	19,907,621	22,972,598	30,132,308
23. EBIT	24,601,110	19,186,484	27,653,807	19,907,621	22,972,598	30,132,308
24. (-) Income Taxes	7,107,261	5,542,975	7,989,185	5,751,312	6,636,784	8,705,224
25. Debt Free Net Income	17,493,849	13,643,509	19,664,622	14,156,309	16,335,814	21,427,084
26. (+) Depreciation & Amortization	13,497,209	13,577,578	13,641,539	13,766,230	14,052,671	14,434,773
27. (-) Capital Expenditures (6)	5,426,129	4,397,890	3,386,381	14,012,090	23,284,468	24,499,458
28. (-) Changes in Working Capital (7)	75,733	75,847	86,367	86,496	86,626	95,605
29. Debt Free Net Cash Flow	\$25,489,196	\$22,747,351	\$29,833,413	\$13,823,952	\$7,017,391	\$11,266,794
30. PV Time Period (mid-year)	8.5	9.5	10.5	11.5	12.5	13.5
31. Present Value Factor: 5.91% (8)	0.6138	0.5796	0.5472	0.5167	0.4879	0.4606
32. Present Value Debt Free Net Cash Flow	\$15,645,269	\$13,184,365	\$16,324,843	\$7,142,836	\$3,423,785	\$5,189,485
33. Present Value Factor: 7.16% (9)	0.5555	0.5184	0.4838	0.4515	0.4213	0.3932
34. Present Value Debt Free Net Cash Flow	\$14,159,248	\$11,792,227	\$14,433,405	\$6,241,514	\$2,956,427	\$4,430,103
35. Present Value Factor: 5.71% (8)	0.6238	0.5901	0.5582	0.5280	0.4995	0.4725
36. Present Value Debt Free Net Cash Flow	\$15,900,160	\$13,423,212	\$16,653,011	\$7,299,047	\$3,505,187	\$5,323,560
37. Present Value Factor: 6.96% (9)	0.5644	0.5277	0.4934	0.4613	0.4313	0.4032
38. Present Value Debt Free Net Cash Flow	\$14,386,102	\$12,003,777	\$14,719,806	\$6,376,989	\$3,026,601	\$4,542,771

See last page of this EXHIBIT for notes and assumptions.

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With IOU Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

(DELCORA Base CAPX)

	Estimated	Estimated	Estimated	Estimated	Estimated	Estimated
	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20
	2035	2036	2037	2038	2039	2040
1. OPERATING REVENUES (1)						
2. Charges for services	136,783,734	136,988,909	150,639,443	150,865,402	153,358,076	153,588,113
3. Other operating revenue	0	0	0	0	0	0
4. Tap Fees	0	0	0	0	0	0
5. Other (Rate Increase)	0	13,424,913	0	2,262,981	0	6,911,465
6. Total Operating Revenues	136,783,734	150,413,822	150,639,443	153,128,383	153,358,076	160,499,578
7. Rate Increase		10%		1%		4%
8. OPERATING EXPENSES (1)						
9. Operating & Maintenance Expenses	65,538,173	67,176,627	68,856,043	70,577,444	72,341,880	74,150,427
10. Remove Economies of Scale						
11. LESS: EOS - Wages & Benefits	(4,330,990)	(4,439,264)	(4,550,246)	(4,664,002)	(4,780,602)	(4,900,117)
12. LESS: EOS - Professional Services	(2,720,990)	(2,789,015)	(2,858,740)	(2,930,209)	(3,003,464)	(3,078,551)
13. LESS: EOS - Eliminated Expenses	0	0	0	0	0	0
14. ADD: Additional O&M	38,176,598	43,127,484	48,720,421	42,144,331	43,993,869	45,924,576
15. ADD: PURTA & Reg Assessment	1,245,426	1,258,136	1,340,666	1,348,942	1,363,709	1,364,399
16. Operating Expenses Before Depreciation	97,908,217	104,333,968	111,508,144	106,476,506	109,915,392	113,460,734
17. Depreciation (2)	14,817,642	15,157,097	15,467,784	15,767,199	16,023,336	16,267,229
18. Total Operating Expenses	112,725,859	119,491,065	126,975,928	122,243,705	125,938,728	129,727,963
19. Operating Income	24,057,875	30,922,757	23,663,515	30,884,678	27,419,348	30,771,615
20. Revenues (3)	136,783,734	150,413,822	150,639,443	153,128,383	153,358,076	160,499,578
21. EBITDA (4)	38,875,517	46,079,854	39,131,299	46,651,877	43,442,684	47,038,844
22. EBIT (5)	24,057,875	30,922,757	23,663,515	30,884,678	27,419,348	30,771,615
23. EBIT	24,057,875	30,922,757	23,663,515	30,884,678	27,419,348	30,771,615
24. (-) Income Taxes	6,950,320	8,933,584	6,836,390	8,922,583	7,921,450	8,889,919
25. Debt Free Net Income	17,107,555	21,989,173	16,827,125	21,962,095	19,497,898	21,881,696
26. (+) Depreciation & Amortization	14,817,642	15,157,097	15,467,784	15,767,199	16,023,336	16,267,229
27. (-) Capital Expenditures (6)	22,879,544	18,631,000	20,351,369	16,189,650	15,592,470	14,594,850
28. (-) Changes in Working Capital (7)	95,749	105,290	105,448	107,190	107,351	112,350
29. Debt Free Net Cash Flow	\$8,949,904	\$18,409,980	\$11,838,093	\$21,432,454	\$19,821,413	\$23,441,725
30. PV Time Period (mid-year)	14.5	15.5	16.5	17.5	18.5	19.5
31. Present Value Factor: 5.91% (8)	0.4349	0.4107	0.3877	0.3661	0.3457	0.3264
32. Present Value Debt Free Net Cash Flow	\$3,892,313	\$7,560,979	\$4,589,629	\$7,846,421	\$6,852,263	\$7,651,379
33. Present Value Factor: 7.16% (9)	0.3669	0.3424	0.3195	0.2981	0.2782	0.2596
34. Present Value Debt Free Net Cash Flow	\$3,283,720	\$6,303,577	\$3,782,271	\$6,389,015	\$5,514,317	\$6,085,472
35. Present Value Factor: 5.71% (8)	0.4470	0.4229	0.4000	0.3784	0.3580	0.3386
36. Present Value Debt Free Net Cash Flow	\$4,000,607	\$7,785,581	\$4,735,237	\$8,110,041	\$7,096,066	\$7,937,368
37. Present Value Factor: 6.96% (9)	0.3770	0.3524	0.3295	0.3081	0.2880	0.2693
38. Present Value Debt Free Net Cash Flow	\$3,374,114	\$6,487,677	\$3,900,652	\$6,603,339	\$5,708,567	\$6,312,857

See last page of this EXHIBIT for notes and assumptions.

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With IOU Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

(DELCORA Base CAPX)

	Estimated	Estimated	Estimated	Estimated
	Year 21	Year 22	Year 23	Year 24
	2041	2042	2043	2044
1. OPERATING REVENUES (1)				
2. Charges for services	160,740,328	160,981,438	168,639,164	168,892,123
3. Other operating revenue	0	0	0	0
4. Tap Fees	0	0	0	0
5. Other (Rate Increase)	0	7,405,146	0	6,080,116
6. Total Operating Revenues	160,740,328	168,386,584	168,639,164	174,972,239
7. Rate Increase		5%		4%
8. OPERATING EXPENSES (1)				
9. Operating & Maintenance Expenses	76,004,188	77,904,292	79,851,900	81,848,197
10. Remove Economies of Scale				
11. LESS: EOS - Wages & Benefits	(5,022,620)	(5,148,186)	(5,276,890)	(5,408,812)
12. LESS: EOS - Professional Services	(3,155,514)	(3,234,402)	(3,315,262)	(3,398,144)
13. LESS: EOS - Eliminated Expenses	0	0	0	0
14. ADD: Additional O&M	47,940,014	50,043,900	51,294,998	52,577,372
15. ADD: PURTA & Reg Assessment	1,402,641	1,403,621	1,446,734	1,447,770
16. Operating Expenses Before Depreciation	117,168,708	120,969,226	124,001,479	127,066,383
17. Depreciation (2)	16,512,585	16,775,207	17,042,006	17,313,048
18. Total Operating Expenses	133,681,294	137,744,433	141,043,485	144,379,431
19. Operating Income	27,059,034	30,642,151	27,595,679	30,592,808
20. Revenues (3)	160,740,328	168,386,584	168,639,164	174,972,239
21. EBITDA (4)	43,571,620	47,417,358	44,637,685	47,905,856
22. EBIT (5)	27,059,034	30,642,151	27,595,679	30,592,808
23. EBIT	27,059,034	30,642,151	27,595,679	30,592,808
24. (-) Income Taxes	7,817,355	8,852,517	7,972,392	8,838,262
25. Debt Free Net Income	19,241,679	21,789,634	19,623,287	21,754,546
26. (+) Depreciation & Amortization	16,512,585	16,775,207	17,042,006	17,313,048
27. (-) Capital Expenditures (6)	16,241,099	16,499,403	16,761,816	17,028,401
28. (-) Changes in Working Capital (7)	112,518	117,871	118,047	122,481
29. Debt Free Net Cash Flow	\$19,400,648	\$21,947,568	\$19,785,430	\$21,916,712
30. PV Time Period (mid-year)	20.5	21.5	22.5	23.5
31. Present Value Factor: 5.91% (8)	0.3082	0.2910	0.2747	0.2594
32. Present Value Debt Free Net Cash Flow	\$5,979,280	\$6,386,742	\$5,435,058	\$5,685,195
33. Present Value Factor: 7.16% (9)	0.2423	0.2261	0.2110	0.1969
34. Present Value Debt Free Net Cash Flow	\$4,700,777	\$4,962,345	\$4,174,726	\$4,315,401
35. Present Value Factor: 5.71% (8)	0.3203	0.3030	0.2867	0.2712
36. Present Value Debt Free Net Cash Flow	\$6,214,027	\$6,650,113	\$5,672,483	\$5,943,812
37. Present Value Factor: 6.96% (9)	0.2517	0.2354	0.2200	0.2057
38. Present Value Debt Free Net Cash Flow	\$4,883,143	\$5,166,457	\$4,352,795	\$4,508,268

See last page of this EXHIBIT for notes and assumptions.

Income Approach
 DELCORA Wastewater System
 Pro Forma and Estimated Operations With IOU Ownership
 DCF With Capitalization of Terminal Value Model and
 DCF With EBIT & EBITDA Terminal Value Model

DCF With Capitalization of Terminal Value Model @ 5.91%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$21,916,712
Divided by Capitalization Factor (8)	5.91%
24th Year Terminal Value	370,841,153
24th Year Present Value Factor (11)	0.2594
Present Value of Terminal Value	96,196,195
Present Value Debt Free Net	
Cash Flow for 24 Years	194,958,009
Indicated Value	\$291,154,204

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 5.91%			
		Multiples (13)	Terminal Value
Projected EBIT	\$30,592,808	27.9	\$853,539,335
Projected EBITDA	47,905,856	19.1	915,001,844
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			894,719,216
24th Year Present Value Factor (11)			0.2594
Present Value of Terminal Value			232,090,165
Present Value Debt Free Net			
Cash Flow for 24 Years			194,958,009
Indicated Value			\$427,048,173

DCF With Capitalization of Terminal Value Model @ 7.16%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$21,916,712
Divided by Capitalization Factor (9)	7.16%
24th Year Terminal Value	306,099,332
24th Year Present Value Factor (12)	0.1969
Present Value of Terminal Value	60,270,958
Present Value Debt Free Net	
Cash Flow for 24 Years	172,686,064
Indicated Value	\$232,957,022

DCF With EBIT & EBITDA Terminal Value Model - Discount Rate of 7.16%			
		Multiples (13)	Terminal Value
Projected EBIT	\$30,592,808	27.9	\$853,539,335
Projected EBITDA	47,905,856	19.1	915,001,844
Weighted (1/3 EBIT 2/3 EBITDA) Terminal Value			894,719,216
24th Year Present Value Factor (12)			0.1969
Present Value of Terminal Value			176,170,214
Present Value Debt Free Net			
Cash Flow for 24 Years			172,686,064
Indicated Value			\$348,856,278

DCF With Capitalization of Terminal Value Model @ 5.71%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$21,916,712
Divided by Capitalization Factor (8)	5.71%
24th Year Terminal Value	383,830,335
24th Year Present Value Factor (11)	0.2594
Present Value of Terminal Value	99,565,589
Present Value Debt Free Net	
Cash Flow for 24 Years	194,958,009
Indicated Value	\$294,523,598

DCF With Capitalization of Terminal Value Model @ 6.96%	
	Terminal Value
Projected Debt Free Net Cash Flow (10)	\$21,916,712
Divided by Capitalization Factor (9)	6.96%
24th Year Terminal Value	314,895,290
24th Year Present Value Factor (12)	0.1969
Present Value of Terminal Value	62,002,883
Present Value Debt Free Net	
Cash Flow for 24 Years	172,686,064
Indicated Value	\$234,688,946

See last page of this EXHIBIT for notes and assumptions.

Income Approach

DELCORA Wastewater System

Pro Forma and Estimated Operations With IOU Ownership

DCF With Capitalization of Terminal Value Model and

DCF With EBIT & EBITDA Terminal Value Model

Notes: (1) Assumptions:

Charges for services - Pre-2021 are actual or budget. Post-2020 based on customer growth (EDU) and average revenue per customer. Rate increases (Other rate increase line item) are added year after they occur.

Other (Rate Increase) - Assumed purchase by IOU at end of 2020 with shown rate increases.

OPERATING EXPENSES - increase at 2.5% annually after 2020 unless noted elsewhere. Assumed economies of scale are shown on lines below.

Wages & Benefits - Post-2020 assumed 15% savings due to economies of scale. Increase at 2.5% afterwards.

Professional Services - Post-2020 assumed 50% savings due to economies of scale. Increase at 2.5% afterwards.

Additional O&M - Includes PDW's LTCP charges.

PURTA & Reg Assessment - 2021 assumed due to IOU purchase at the end of 2020.

- (2) Depreciation - Pre-2021 based on actual depreciation rate plus same rate on half of CAPX. Post-2020 based on depreciation rate plus same rate on half of CAPX.
- (3) Line 6.
- (4) Line 19 + line 17.
- (5) Line 19.
- (6) Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCORA's 20-year capital improvement plan for existing assets.
- (7) Changes in Working Capital - based on water industry 0.07% of revenues.
- (8) Discount rate is the current lower end of the IOU discount rate. Capitalization rate (K) at 12/31/2019 adjusted for stated growth (g) where capitalization rate = $K - g$.
- (9) Discount rate is the current upper end of the IOU discount rate. Capitalization rate (K) at 12/31/2019 adjusted for stated growth (g) where capitalization rate = $K - g$.
- (10) Final year shown, line 29.
- (11) Final year shown, line 31.
- (12) Final year shown, line 33.
- (13) Developed on Market Multiples EXHIBIT 17.

Terms:

CAPX - Capital Expenditures

CIP - Capital improvement plan

Dep - Depreciation expense

GROSS PPE - GROSS Property, plant and equipment

IOU - Investor owned utility

MUNI - Large regional municipally owned utility

NET PPE - NET Property, plant and equipment

Market Multiples Method
DELCORA Wastewater System
2018 Operations
Market Multiple Method

	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u> (Col B × Col C)	<u>E</u> (Col A × Col D)
	Subject Company <u>Statistic (1)</u>	Comparison Group's Valuation Multiples <u>12/31/2019</u>	DELCORA's Growth & Risk <u>Adjustment</u>	DELCORA's Risk Adjusted Valuation Multiples <u>12/31/2019</u>	DELCORA's Market Multiples <u>Valuation</u>
Risk Adjusted Multiple					
1. <u>DELCORA Wastewater System</u>					
2. Investor Provided Capital	\$355,893,379	2.00	95.00%	1.90	\$676,197,420
3. Gross PP&E	\$263,682,616	1.35	108.00%	1.46	384,976,619
4. Net PP&E	\$191,774,486	1.76	107.00%	1.88	360,536,034
5. Revenues	\$64,978,097	8.30	95.00%	7.89	512,677,185
6. EBITDA	\$22,116,833	20.08	95.00%	19.08	421,989,174
7. EBIT	\$22,116,833	29.37	95.00%	27.90	617,059,641
8. Customers	16,473	\$9,631	95.00%	\$9,149	150,711,477
9. Population	615,245	\$2,879	95.00%	\$2,735	1,682,695,075
10.					
11. Average					<u>\$600,855,328</u>

Conclusion of Market Multiple Method Valuation

		<u>Low</u>	<u>High</u>	<u>Conclusion</u>
12.	Capital Items	\$360,536,034	\$676,197,420	\$518,366,727
13.	(Items 3-4)			
14.	Income Statement Items	421,989,174	617,059,641	-
15.	(Items 5 -7)			
16.	Demographics Items	150,711,477	1,682,695,075	916,703,276
17.	(Item 8)			
			Conclusion	<u>\$518,366,727</u>

Market Multiples Method
DELCORA Wastewater System
Development of Market Multiples Method for the Market Multiples Method

	Latest Quarter End			Latest 12 Months			2018		12/31/2019
	Gross PP&E	Net PP&E	Invest. Total Capital	12 Mos. Rev.	12 Mos. EBITDA	12 Mos. EBIT	Customers	Population	Enterprise Value
	(\$ Mill)	(\$ Mill)	(\$ Mill)	(\$ Mill)	(\$ Mill)	(\$ Mill)			(\$ Mill)
American States Water Co	\$1,977.307	\$1,400.162	\$1,085.169	\$471.881	\$164.391	\$126.974	284,272	1,000,000	\$3,670.581
American Water Works Company Inc	\$23,916.000	\$18,260.000	\$15,444.000	\$3,558.000	\$1,758.000	\$1,187.000	3,382,000	14,000,000	\$31,355.352
Aqua America Inc	\$8,011.744	\$6,209.835	\$6,966.927	\$869.397	\$488.741	\$336.610	1,005,590	3,000,000	\$11,205.363
Artesian Resources Corp	\$658.034	\$522.944	\$305.354	\$81.929	\$34.872	\$24.090	90,440	300,000	\$493.271
California Water Service Group	\$3,425.568	\$2,357.603	\$1,739.959	\$705.096	\$204.496	\$114.398	517,500	2,000,000	\$3,413.263
Middlesex Water Co	\$862.262	\$694.189	\$578.420	\$135.127	\$50.065	\$34.370	113,300	400,000	\$1,407.556
SJW Corp.	\$2,096.920	\$1,435.855	\$1,469.740	\$393.362	\$136.957	\$75.336	247,267	1,114,200	\$2,170.492
York Water Company (The)	\$395.584	\$312.035	\$234.955	\$50.628	\$29.821	\$22.296	70,263	199,000	\$702.048
Average	\$5,167.927	\$3,899.078	\$3,478.066	\$783.178	\$358.418	\$240.134	713,829	2,751,650	\$6,802.241
Max	\$23,916.000	\$18,260.000	\$15,444.000	\$3,558.000	\$1,758.000	\$1,187.000	3,382,000	14,000,000	\$31,355.352
Min	\$395.584	\$312.035	\$234.955	\$50.628	\$29.821	\$22.296	70,263	199,000	\$493.271
Median	\$2,037.114	\$1,418.009	\$1,277.455	\$432.622	\$150.674	\$94.867	265,770	1,057,100	\$2,791.878

	Enterprise Value as a Multiple of								Population Per Customer
	Invest. Capital	Gross PP&E	Net PP&E	Rev.	EBITDA	EBIT	Customers	Population	
	(x)	(x)	(x)	(x)	(x)	(x)	(\$)	(\$)	
American States Water Co	3.38	1.86	2.62	7.78	22.33	28.91	\$12,912	\$3,671	3.52
American Water Works Company Inc	2.03	1.31	1.72	8.81	17.84	26.42	\$9,271	\$2,240	4.14
Aqua America Inc	1.61	1.40	1.80	12.89	22.93	33.29	\$11,143	\$3,735	2.98
Artesian Resources Corp	1.62	0.75	0.94	6.02	14.15	20.48	\$5,454	\$1,644	3.32
California Water Service Group	1.96	1.00	1.45	4.84	16.69	29.84	\$6,596	\$1,707	3.86
Middlesex Water Co	2.43	1.63	2.03	10.42	28.11	40.95	\$12,423	\$3,519	3.53
SJW Corp.	1.48	1.04	1.51	5.52	15.85	28.81	\$8,778	\$1,948	4.51
York Water Company (The)	2.99	1.77	2.25	13.87	23.54	31.49	\$9,992	\$3,528	2.83
Average	2.19	1.34	1.79	8.77	20.18	30.02	\$9,571	\$2,749	3.59
Max	3.38	1.86	2.62	13.87	28.11	40.95	\$12,912	\$3,735	4.51
Min	1.48	0.75	0.94	4.84	14.15	20.48	\$5,454	\$1,644	2.83
Median	2.00	1.35	1.76	8.30	20.08	29.37	\$9,631	\$2,879	3.52

Market Multiples Method
 DELCORA Wastewater System
Quantification of the Effective Risk/Growth Adjustments

	Net PP&E	Gross PP&E	Invest. Capital
Comparable Group Multiple	1.76	1.35	2.00
Ratio to Net PPE		76.70%	
Not Contributed Multiple (NPPE = ICAP mult.)	2.00	1.53	
Base Risk Factor	X 95%	95%	
Subject Company Adjusted Multiple	1.90	1.45	
Subject Company Adjusted Multiple	1.90	1.45	
Comparable Group Multiple	÷ 1.76	1.35	
Effective Risk/Growth Adjustment	108%	107%	

	Net PP&E	Gross PP&E
Plant Assets	100%	100%
Ratio of Known "Cost Free" Capital	26%	26%
Plant Assets Less Known "Cost Free" Capital	74%	74%
Comparable Group Multiple	1.76	1.35
Plant Assets Less Known "Cost Free" Capital	÷ 74%	74%
Multiple Without "Cost Free" Capital	2.38	1.82
Base Risk Factor	X 95%	95%
Subject Company Adjusted Multiple	2.26	1.73
Subject Company Adjusted Multiple	2.26	1.73
Comparable Group Multiple	÷ 1.76	1.35
Effective Risk/Growth Adjustment	128%	128%

	Rev.	EBITDA	EBIT
Comparable Group Multiple	8.30	20.08	29.37
Implied Capitalization Rate (1÷Multiple)	12.05%	4.98%	3.40%
(-) Growth Adjustment	- 0.00%	0.00%	0.00%
Adjusted Capitalization Rate (k-G)	12.05%	4.98%	3.40%
Adjusted Multiple (1÷Adj. Cap. Rate))	8.30	20.08	29.37
Base Risk Factor	X 95%	95%	95%
Subject Company Adjusted Multiple	7.89	19.08	27.90
Subject Company Adjusted Multiple	7.89	19.08	27.90
Comparable Group Multiple	÷ 8.30	20.08	29.37
Effective Risk/Growth Adjustment	95%	95%	95%

Selected Transactions Method
For DELCORA Wastewater System
Summary

	<u>Median</u>	<u>Mid-Point</u>	<u>Value</u>
<u>All Selected Transactions Companies</u>			
1. Asset Items			\$364,699,039
2. Ex-Ante (page 2)	\$362,125,239	\$374,592,804	
3. Ex-Post (page 3)	\$308,317,396	\$413,760,718	
4. Demographics Items			\$773,015,030
5. Ex-Ante (page 2)	\$289,996,282	\$1,256,033,778	
6. Ex-Post (page 3)	\$289,996,282	\$1,256,033,778	
7.		Indicated Value	<u>\$364,699,039</u>
<u>Fully Integrated Selected Transactions Companies</u>			
8. Asset Items			\$351,918,292
9. Ex-Ante (page 2)	\$362,125,239	\$374,592,804	
10. Ex-Post (page 3)	\$311,998,297	\$358,956,828	
11. Demographics Items			\$1,095,079,975
12. Ex-Ante (page 2)	\$886,207,354	\$1,303,952,596	
13. Ex-Post (page 3)	\$886,207,354	\$1,303,952,596	
14.		Indicated Value	<u>\$351,918,292</u>
<u>Mostly Collection/Distribution Selected Transactions Companies</u>			
15. Asset Items			\$349,863,922
16. Ex-Ante (page 2)	NA	NA	
17. Ex-Post (page 3)	\$285,967,125	\$413,760,718	
18. Demographics Items			\$498,595,605
19. Ex-Ante (page 2)	\$231,048,865	\$766,142,344	
20. Ex-Post (page 3)	\$231,048,865	\$766,142,344	
21.		Indicated Value	<u>\$349,863,922</u>

Selected Transactions Method - Ex-Ante

For DELCORA Wastewater System

Based on 2016 - 2019 Acquisitions of Assets of Water or Sewer System, Without Discount for Customer Contributions

Selected Transactions' Metrics											
Name	Service	System	Announced Purchase Price was:	Investor Provided Capital	Gross PP&E	Net PP&E	Revenues	EBITDA	EBIT	Customers	Population
Municipal Authority of the City of McKeesport	WW	INT	\$156,000,000	\$83,903,219	\$91,435,797	\$73,813,794	\$13,047,844	\$6,180,616	\$3,811,679	12,780	50,570
New Garden Township/Authority's WW System's Assets	WW	INT	\$29,500,000	\$23,001,140	\$25,988,330	\$17,967,319	\$2,261,294	\$907,386	\$499,638	1,796	12,085
Limerick Township Wastewater System's Assets	WW	INT	\$75,100,000	\$43,501,755	\$60,847,250	\$36,113,701	\$4,418,775	\$2,487,775	\$893,600	5,416	18,798
Steeltown Borough (Water) Authority	W	INT	\$22,500,000	NA	NA	NA	NA	NA	NA	2,472	5,932
Exeter Township Wastewater System Assets	WW	INT	\$96,000,000	NA	NA	NA	\$7,735,788	\$4,660,967	\$4,660,967	8,984	27,609
Sadsbury Township Wastewater Utility	WW	C/D	\$9,250,000	NA	NA	NA	NA	NA	NA	998	3,850
East Bradford Township Wastewater System Assets	WW	C/D	\$5,000,000	\$1,298,627	NA	NA	\$1,130,372	\$49,804	\$49,804	1,248	9,942
Township of Mahoning Water System Assets	W	C/D	\$4,734,800	NA	NA	NA	\$753,857	\$151,916	\$91,468	1,186	4,218
Township of Mahoning Sewer System Assets	WW	C/D	\$4,765,200	NA	NA	NA	\$1,193,055	(\$173,564)	(\$244,337)	1,451	4,218
Cheltenham Township Wastewater System Assets	WW	C/D	\$50,250,000	NA	NA	NA	\$9,290,500	\$4,506,168	\$4,506,168	10,219	37,841
East Norriton Township Wastewater System Assets	WW	C/D	\$21,000,000	\$4,055,138	NA	NA	\$3,320,000	\$612,827	\$612,827	4,966	14,296

Subject Company's Metrics									
DELCORA Wastewater System	\$355,893,379	\$263,682,616	\$191,774,486	\$64,978,097	\$22,116,833	\$22,116,833	16,473	615,245	

Subject Company's Selected Transactions Multiples Valuations											
Municipal Authority of the City of McKeesport	WW	INT	\$732,021,479	\$661,707,236	\$449,872,910	\$405,301,207	\$776,878,014	\$558,233,346	\$905,172,221	\$201,078,873	\$1,897,928,021
New Garden Township/Authority's WW System's Assets	WW	INT	\$714,450,480	\$456,449,319	\$299,312,698	\$314,868,753	\$847,680,072	\$719,039,718	\$1,305,838,574	\$270,575,445	\$1,501,839,264
Limerick Township Wastewater System's Assets	WW	INT	\$956,973,337	\$614,402,632	\$325,447,156	\$398,803,321	\$1,104,345,681	\$667,654,494	\$1,858,744,582	\$228,419,922	\$2,457,968,906
Steeltown Borough (Water) Authority	W	INT	\$1,241,776,344	NA	NA	NA	NA	NA	NA	\$149,936,286	\$2,333,616,403
Exeter Township Wastewater System Assets	WW	INT	\$806,548,216	NA	NA	NA	\$806,368,700	\$455,531,217	\$455,531,217	\$176,024,933	\$2,139,285,016
Sadsbury Township Wastewater Utility	WW	C/D	\$815,433,325	NA	NA	NA	NA	NA	NA	\$152,680,611	\$1,478,186,039
East Bradford Township Wastewater System Assets	WW	C/D	\$1,078,979,356	\$1,370,267,902	NA	NA	\$287,419,084	\$2,220,387,218	\$2,220,387,218	\$65,997,596	\$309,417,119
Township of Mahoning Water System Assets	W	C/D	\$599,737,487	NA	NA	NA	\$408,112,286	\$689,319,313	\$1,144,865,251	\$65,764,216	\$690,626,369
Township of Mahoning Sewer System Assets	WW	C/D	(\$5,973,192)	NA	NA	NA	\$259,530,075	(\$607,219,308)	(\$431,335,946)	\$54,098,649	\$695,060,568
Cheltenham Township Wastewater System Assets	WW	C/D	\$348,543,751	NA	NA	NA	\$351,450,339	\$246,633,250	\$246,633,250	\$81,002,862	\$816,999,055
East Norriton Township Wastewater System Assets	WW	C/D	\$790,539,048	\$1,843,034,925	NA	NA	\$411,006,035	\$757,886,798	\$757,886,798	\$69,660,290	\$903,759,443

Definitions: Where "INT" is "Fully Integrated Assets" and "C/D" is "Mostly Collection/Distribution Assets".

Where "WW" is wastewater and "W" is water.

Selected Transactions Method - Ex-Post

For DELCORA Wastewater System

Based on 2016 - 2019 Acquisitions of Assets of Water or Sewer System, Without Discount for Customer Contributions

Ex-Post Selected Transactions' Metrics											
Name	Service	System	Announced Purchase Price was:	Investor Provided Capital	Ex-POST - OCN - Gross PP&E	Ex-Post - OCNLD - Net PP&E	Revenues	EBITDA	EBIT	Customers	Population
Municipal Authority of the City of McKeesport	WW	INT	\$156,000,000	\$83,903,219	\$108,231,570	\$80,085,602	\$13,047,844	\$6,180,616	\$3,811,679	12,780	50,570
New Garden Township/Authority's WW System's Assets	WW	INT	\$29,500,000	\$23,001,140	\$27,146,852	\$18,567,728	\$2,261,294	\$907,386	\$499,638	1,796	12,085
Limerick Township Wastewater System's Assets	WW	INT	\$75,100,000	\$43,501,755	\$63,480,402	\$46,153,867	\$4,418,775	\$2,487,775	\$893,600	5,416	18,798
Steelton Borough (Water) Authority	W	INT	\$22,500,000	NA	\$19,739,906	\$14,433,435	NA	NA	NA	2,472	5,932
Exeter Township Wastewater System Assets	WW	INT	\$96,000,000	NA	\$68,404,345	\$42,678,351	\$7,735,788	\$4,660,967	\$4,660,967	8,984	27,609
Sadsbury Township Wastewater Utility	WW	C/D	\$9,250,000	NA	\$7,480,601	\$6,128,876	NA	NA	NA	998	3,850
East Bradford Township Wastewater System Assets	WW	C/D	\$5,000,000	\$1,298,627	\$8,294,931	\$5,473,948	\$1,130,372	\$49,804	\$49,804	1,248	9,942
Township of Mahoning Water System Assets	W	C/D	\$4,734,800	NA	\$5,294,272	\$3,507,138	\$753,857	\$151,916	\$91,468	1,186	4,218
Township of Mahoning Sewer System Assets	WW	C/D	\$4,765,200	NA	\$4,931,649	\$3,234,859	\$1,193,055	(\$173,564)	(\$244,337)	1,451	4,218
Cheltenham Township Wastewater System Assets	WW	C/D	\$50,250,000	NA	\$19,818,216	\$15,408,458	\$9,290,500	\$4,506,168	\$4,506,168	10,219	37,841
East Norriton Township Wastewater System Assets	WW	C/D	\$21,000,000	\$4,055,138	\$16,916,212	\$9,251,450	\$3,320,000	\$612,827	\$612,827	4,966	14,296

Subject Company's Metrics									
DELCORA Wastewater System	\$355,893,379	\$263,682,616	\$191,774,486	\$64,978,097	\$22,116,833	\$22,116,833	16,473	615,245	

Ex-Post Subject Company's Selected Transactions Multiples Valuations											
Municipal Authority of the City of McKeesport	WW	INT	\$719,327,277	\$661,707,236	\$380,059,978	\$373,560,529	\$776,878,014	\$558,233,346	\$905,172,221	\$201,078,873	\$1,897,928,021
New Garden Township/Authority's WW System's Assets	WW	INT	\$711,581,087	\$456,449,319	\$286,539,196	\$304,687,107	\$847,680,072	\$719,039,718	\$1,305,838,574	\$270,575,445	\$1,501,839,264
Limerick Township Wastewater System's Assets	WW	INT	\$944,441,601	\$614,402,632	\$311,947,685	\$312,048,909	\$1,104,345,681	\$667,654,494	\$1,858,744,582	\$228,419,922	\$2,457,968,906
Steelton Borough (Water) Authority	W	INT	\$770,764,430	NA	\$300,551,525	\$298,953,507	NA	NA	NA	\$149,936,286	\$2,333,616,403
Exeter Township Wastewater System Assets	WW	INT	\$690,596,128	NA	\$370,057,357	\$431,374,460	\$806,368,700	\$455,531,217	\$455,531,217	\$176,024,933	\$2,139,285,016
Sadsbury Township Wastewater Utility	WW	C/D	\$561,588,502	NA	\$326,051,904	\$289,435,452	NA	NA	NA	\$152,680,611	\$1,478,186,039
East Bradford Township Wastewater System Assets	WW	C/D	\$850,998,540	\$1,370,267,902	\$158,942,015	\$175,170,169	\$287,419,084	\$2,220,387,218	\$2,220,387,218	\$65,997,596	\$309,417,119
Township of Mahoning Water System Assets	W	C/D	\$499,058,558	NA	\$235,817,965	\$258,904,507	\$408,112,286	\$689,319,313	\$1,144,865,251	\$65,764,216	\$690,626,369
Township of Mahoning Sewer System Assets	WW	C/D	\$72,487,979	NA	\$254,783,015	\$282,498,798	\$259,530,075	(\$607,219,308)	(\$431,335,946)	\$54,098,649	\$695,060,568
Cheltenham Township Wastewater System Assets	WW	C/D	\$433,816,049	NA	\$668,579,421	\$625,414,163	\$351,450,339	\$246,633,250	\$246,633,250	\$81,002,862	\$816,999,055
East Norriton Township Wastewater System Assets	WW	C/D	\$688,235,613	\$1,843,034,925	\$327,338,942	\$435,311,676	\$411,006,035	\$757,886,798	\$757,886,798	\$69,660,290	\$903,759,443

Definitions: Where "INT" is "Fully Integrated Assets" and "C/D" is "Mostly Collection/Distribution Assets".

Where "WW" is wastewater and "W" is water.

Selected Transactions Method

For DELCORA Wastewater System

Based on Recent SJW Group's Bid For Connecticut Water Service Inc., With and Without Discount for Cost Free Capital

Connecticut Water Service Inc.			DELCORA Wastewater System		
Purchase Price was: \$1,106,267			DELCORA Wastewater System's	Selected Transactions Multiples	
	<u>Subject Company Statistics</u>	<u>Transaction Multiple</u>			
Investor Provided Capital	\$573,223	1.93	\$355,893,379	\$686,841,105	
Gross PP&E	\$939,050	1.18	\$263,682,616	\$310,636,696	
Net PP&E	\$697,723	1.59	\$191,774,486	\$304,065,933	\$495,453,519
Revenues	\$107,054	10.33	\$64,978,097	\$671,466,061	
EBITDA	\$48,920	22.61	\$22,116,833	\$500,145,617	
EBIT	\$32,236	34.32	\$22,116,833	\$758,999,988	\$495,453,519
Customers	135,645	\$8,156	16,473	\$134,347,282	
Population	450,000	\$2,458	615,245	\$1,512,500,603	\$823,423,942
Average				<u>\$609,875,411</u>	
	<u>Subject Company Statistics</u>	<u>Transaction Multiple</u>			
Investor Provided Capital	\$573,223	1.93	\$355,893,379	\$686,841,105	
Gross PP&E (Less "Cost Free" Capital)	\$646,723	1.71	\$263,682,616	\$451,048,690	
Net PP&E (Less "Cost Free" Capital)	\$480,521	2.30	\$191,774,486	\$441,507,853	\$564,174,479
Revenues	\$107,054	10.33	\$64,978,097	\$671,466,061	
EBITDA	\$48,920	22.61	\$22,116,833	\$500,145,617	
EBIT	\$32,236	34.32	\$22,116,833	\$758,999,988	\$564,174,479
Customers	135,645	\$8,156	16,473	\$134,347,282	
Population	450,000	\$2,458	615,245	\$1,512,500,603	\$823,423,942
Average				<u>\$644,607,150</u>	

DELCORA Wastewater System
Summary of Approach Results and
Fair Market Value Conclusion at Appraisal Date

<u>Valuation Approach</u>	<u>Indicated Value</u>	<u>Conclusion</u>	<u>Consideration</u>
Cost Approach	\$399,664,113		33%
Income Approach	387,754,301		33%
Market Approach	438,337,696		34%
		Conclusion \$408,883,000	

WORKPAPERS

FED H.15

DATE	DAAA	DBAA	DGS10	DGS20	DGS30
2019-12-25	#N/A	#N/A	#N/A	#N/A	#N/A
2019-12-26	3.00	3.87	1.90	2.19	2.33
2019-12-27	2.98	3.84	1.88	2.18	2.32
2019-12-30	3.02	3.87	1.90	2.21	2.34
2019-12-31	3.04	3.90	1.92	2.25	2.39
2020-01-01	#N/A	#N/A	#N/A	#N/A	#N/A
2020-01-02	3.00	3.86	1.88	2.19	2.33
2020-01-03	2.94	3.79	1.80	2.11	2.26
2020-01-06	3.01	3.83	1.81	2.13	2.28

Index Name: S&P Municipal Bond Revenue Index

As of: Jan 31, 2020

12/24/2019	3.08%
12/26/2019	3.09%
12/27/2019	3.08%
12/30/2019	3.08%
12/31/2019	3.07%
1/2/2020	3.08%
1/3/2020	3.05%
1/6/2020	3.05%
1/7/2020	3.03%

Daily Bond Yields and Key Indicators

Updated by 11 am ET with data from the previous business day. Data as of 30-Jan-20

Moody's Daily Long-term Corporate Bond Yield Averages

	Utilities	Industrial	Corporate
Aaa	NA	2.82	2.82
Aa	2.96	2.77	2.87
A	3.13	3.09	3.11
Baa	3.45	3.84	3.65
Avg	3.18	3.13	3.16

Moody's Daily Treasury Yield Averages

Short-Term (3-5 yrs)	1.33
Medium-Term (5-10 yrs)	1.43
Long-Term (10+ yrs)	1.95

Moody's Daily Public Utility Common Stock Yield Averages

Price	535.83
Yield	3.57
New Dividend	19.13

Moody's Commodity and Scrap Price Indexes

Spot Commodity Index	5,821.89
Industrial Metals Index	1,744.21

* Moody's "Aaa" Utilities Index was suspended on 12/10/01. Since 2000, TVA was the only issuer left in the index as a decade of deregulation, debt growth, competition, and consolidation eliminated the rest of the Aaa universe.

Moody's Analytics, Inc.

FED H.15

		10-yr T- bond	20-yr T- bond	30-yr T- bond
Spot	12/31/19	1.92	2.25	2.39

FED H.15

	12/31/19	AAA Corp	BAA CORP		A Rated Utility	
		3.04	3.90	Spread	0.22	0.25
Moody's Spot ==>		2.82	3.65	Moody's Spot ==>	3.13	3.13
		0.22	0.25	Implied	3.35	3.38
						3.37

Moody's Daily Long-term Corporate Bond Yield Averages

	1/30/2020	Utilities	Industrial	Corporate
Spot	Aaa	NA	2.82	2.82
	Aa	2.96	2.77	2.87
	A	3.13	3.09	3.11
	Baa	3.45	3.84	3.65
	Avg	3.18	3.13	3.16

S&P Municipal Bond Revenue Index

12/31/19 3.07%

Utilities

Aa

A

Baa

3.37

		Decade Spread	Annual Spread
10-Year	1.92		
20-Year	2.25	0.330	0.033
30-Year	2.39	0.140	

REVENUE BOND INDEX

10-20 Yr	3.07
20-30 Yr	0.17
	0.14

3.38

30-Yr Rev Bond Est.

3.38

2016 Lt Debt	4.1	3.37
Prf Stk	5.4	132%
Pref Stock Est.	132%	4.44

12/31/19

A-Rated Rev Bonds	3.38
A-Rated PU Bonds	3.37
A-Rated PU Pref Stk	4.44
30-yr T-bond	2.39

	SBBI	SBBI
Equity Risk Premium	6.91	6.91
Beta (Value Line Med.)	0.65	0.65
Risk Adjusted Equity Premium	4.49	4.49
Yield (RF)	2.39	2.39
Size Premium	1.60	0.00
	8.48	6.88

High 8.48
Low 6.88

0.65

11.88 Total Return SBBI 1926-2018
4.97 Income Return SBBI 1926-2018

2.39 30-yr T-bond

	Recent Market Value (Mill \$)	Market Quartile Name	Market Quartile	Quartile Size Premium	Value Line Beta
American States Water Co	3,191.76	Mid-Cap	2	0.89	0.65
American Water Works Co Inc	22,208.35	Large-Cap	1	0	0.6
Aqua America Inc	10,131.57	Mid-Cap	2	0.89	0.65
Artesian Resources -Cl A	345.28	Mico-Cap	4	3.4	0.65
California Water Service Gp	2,482.36	Low-Cap	3	1.6	0.7
Middlesex Water Co	1,108.08	Low-Cap	3	1.6	0.7
SJW Corp	2,022.12	Low-Cap	3	1.6	0.6
York Water Co	598.90	Mico-Cap	4	3.4	0.75
Average	<u>5,261.050</u>	<u>Mid-Cap</u>	<u>2</u>	<u>0.89</u>	<u>0.66</u>
Median	<u>2,252.237</u>	<u>Low-Cap</u>	<u>3</u>	<u>1.60</u>	<u>0.65</u>

2/3/2020	9/30/19	Company Name	Ticker Symbol	December-19			Book Ratios			Market Ratios							
				L/T Debt-Totl Qlty	Preferred S Minority In Common Equity-Totl-Qlty	Invested Capital-Totl Qlty	Market Value-Monthly	LTD	Pref	Equity	LTD	Pref	Equity				
		AMERICAN ST	AWR	489,222	0.000	0.000	1,085,169	3,191,757	AMERICA	0.451	0.000	0.549	1,000	0.133	0.000	0.867	1,000
		AMERICAN W	AWK	8,780,000	0.000	0.000	14,970,000	22,208,352	AMERICA	0.587	0.000	0.413	1,000	0.283	0.000	0.717	1,000
		ESSENTIAL UT	WTRG	3,089,297	0.000	0.000	6,951,859	10,131,566	ESSENTIAL	0.444	0.000	0.556	1,000	0.234	0.000	0.766	1,000
		ARTESIAN RES	ARTN.A	116,707	0.000	0.000	156,903	273,610	ARTESIAN	0.427	0.000	0.573	1,000	0.253	0.000	0.747	1,000
		CALIFORNIA V	CWT	827,064	0.000	0.000	1,584,859	2,482,356	CALIFORNI	0.522	0.000	0.478	1,000	0.250	0.000	0.750	1,000
		MIDDLESEX W	MSEX	242,041	2.084	0.000	519,920	1,108,082	MIDDLES	0.466	0.004	0.530	1,000	0.179	0.002	0.819	1,000
		SIW GROUP	SJW	511,076	0.000	0.000	896,664	2,022,118	SIW GROU	0.363	0.000	0.637	1,000	0.202	0.000	0.798	1,000
		THE YORK WA	YORW	103,147	0.000	0.000	234,955	598,903	THE YOR	0.439	0.000	0.561	1,000	0.147	0.000	0.853	1,000
		</															

Assumptions: 12/31/2019

Debt Cost	3.37
Pref. Stock Cost	4.44
Equity Cost	8.48
Equity Cost	6.88

Ratio	Cost	Wt	Shield	Overall
21.80%	3.370	0.73	0.72	0.5289552
0.00%	4.440	0.00	1	0
78.20%	8.480	6.63	1	6.63136
		7.37		7.16
				<<<<ANSWER
21.80%	3.370	0.73	0.72	0.5289552
0.00%	4.440	0.00	1	0
78.20%	6.882	5.38	1	5.381333
		6.12		5.91
				<<<<ANSWER

DSIC Weighted Cost of Capital

<u>Assumptions:</u>	<u>12/31/2019</u>
Debt Cost	3.37
Pref. Stock Cost	4.44
DSIC Equity Cost	9.95

	Ratio	Cost	Wt	Shield	Overall
Debt	44.80%	3.370	1.51	0.72	1.087027
Pref	0.00%	4.440	0.00	1	0
Equity	55.20%	9.950	5.49	1	5.4924
			7.00		6.58 <<<<ANSWER

DELAWARE COUNTY REGIONAL WATER QUALITY
CONTROL AUTHORITY
STATEMENTS OF NET POSITION
DECEMBER 31,

	2018	2017
ASSETS		
Current:		
Cash and cash equivalents	\$ 58,889,000	\$ 54,584,781
Investments	53,914,488	85,020,856
Receivables:		
Western Region		
Residential, net of allowance for doubtful accounts of \$113,776 and \$113,620 in 2018 and 2017, respectively	810,662	786,313
Municipal	1,884,022	1,284,714
Major industries	511,785	717,045
Permit industries	95,505	144,470
Notes receivable, current portion	75,255	90,800
Other receivables	1,966,955	1,395,599
Prepaid expenses	530,461	82,009
Total current assets	118,678,133	144,106,587
Non Current:		
Capital assets, net of accumulated depreciation	240,841,951	209,481,334
Notes receivable, net of current portion	1,751,785	1,827,040
Restricted cash	1,741,419	360,245
Restricted investments	9,438,760	10,662,999
Total non current assets	253,773,915	222,331,618
DEFERRED OUTFLOWS OF RESOURCES		
Deferred expense on refunding	4,065,290	4,337,664
Pension plan related deferred outflows	4,172,616	4,160,273
Total assets and deferred outflows of resources	\$ 380,689,954	\$ 374,936,142
LIABILITIES		
Current liabilities:		
Accounts payable and accrued expenses	\$ 5,910,736	\$ 5,883,536
Payable to the City of Philadelphia	1,784,671	1,426,532
Current portion of long-term debt	6,142,895	5,917,778
Accrued bond interest payable	1,154,760	1,116,660
Advances on services		
Central Delaware County Authority	-	101,451
Muckinipates Authority	343,216	256,490
Darby Creek Joint Authority	559,963	1,034,508
Municipal	293,326	457,069
Major industries	482,172	181,295
Permit industries	109,323	186,169
Total current liabilities	16,781,062	16,561,488
Noncurrent		
Long term debt, net of current portion	164,715,148	170,877,168
Deferred revenue - Philadelphia rate stabilization	8,825,277	8,679,457
Net pension liability	3,407,987	3,578,631
Deferred revenue - long term control plan	1,440,301	1,431,071
Total non current liabilities	178,388,713	184,566,327
Total liabilities	195,169,775	201,127,815
DEFERRED INFLOWS OF RESOURCES		
Pension plan related deferred inflows	484,843	957,082
Total liabilities and deferred inflows of resources	195,654,618	202,084,897
NET POSITION		
Invested in capital assets, net of related debt	94,186,478	88,758,917
Restricted for debt service	11,114,826	10,892,505
Unrestricted	79,734,032	73,199,823
Total net position	185,035,336	172,851,245
TOTAL LIABILITIES AND NET POSITION	\$ 380,689,954	\$ 374,936,142

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

**DELAWARE COUNTY REGIONAL WATER QUALITY
CONTROL AUTHORITY
STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
FOR THE YEARS ENDED DECEMBER 31,**

	<u>2018</u>	<u>2017</u>
Operating revenues		
Western Region:		
Major Industries	\$ 6,817,336	\$ 6,463,246
Residential	8,044,641	7,636,856
Municipal	9,033,912	7,727,009
Contract operation fees	652,965	539,268
Permit Industries	1,498,561	1,695,963
Total Western Region	<u>26,047,415</u>	<u>24,062,342</u>
Eastern Region:		
Darby Creek Joint Authority	17,299,667	16,174,750
Central Delaware County Authority	9,152,096	8,678,216
Muckinipates Authority	3,936,807	3,764,569
Total Eastern Region	<u>30,388,570</u>	<u>28,617,535</u>
Sludge disposal and processing	<u>5,721,999</u>	<u>5,601,967</u>
Total operating revenues	<u>62,157,984</u>	<u>58,281,844</u>
Operating expenses, including depreciation of \$6,588,896 in 2018 and \$7,049,096 in 2017	<u>46,964,402</u>	<u>45,807,031</u>
Operating income	<u>15,193,582</u>	<u>12,474,813</u>
Nonoperating revenues (expense)		
Interest income	2,405,360	1,605,035
Interest expense	(6,888,255)	(7,326,608)
Bond premium amortization	1,341,976	894,583
Deferred cost on refunding amortization	(271,774)	(11,324)
Debt issuance costs	-	(1,142,573)
Gain on asset disposition	7,847	-
Other income	151,074	388,232
Total non operating revenues (expense)	<u>(3,253,772)</u>	<u>(5,592,655)</u>
Net income before capital contributions	11,939,810	6,882,158
Capital contributions:	<u>244,281</u>	<u>102,406</u>
Net income	<u>12,184,091</u>	<u>6,984,564</u>
Net position - beginning	<u>172,851,245</u>	<u>165,866,681</u>
Net position - ending	<u>\$ 185,035,336</u>	<u>\$ 172,851,245</u>

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

DELAWARE COUNTY REGIONAL WATER QUALITY
CONTROL AUTHORITY
STATEMENTS OF CASH FLOWS

FOR THE YEARS ENDED DECEMBER 31,

	2018	2017
Cash flows from operating activities:		
Receipts from customers	\$ 61,823,371	\$ 58,696,765
Payments to suppliers	(26,911,160)	(24,490,187)
Payments to employees	(18,999,133)	(18,591,391)
Net cash provided by operating activities	15,913,078	15,615,187
Cash flows from capital and related financing activities:		
Acquisition and construction of capital assets	(37,949,513)	(25,704,689)
Collection of notes receivable	90,800	2,681,472
Bond payable proceeds	-	38,816,354
Gain on asset disposition	7,847	-
Other income	151,074	388,232
Interest paid	(6,926,355)	(7,522,878)
Repayment of long-term debt	(4,594,927)	(39,595,876)
Refunding advanced interest costs	-	(4,348,388)
Debt issuance costs	-	(1,142,573)
Net cash used by capital and related financing activities	(49,221,074)	(36,428,346)
Cash flows from investing activities:		
Investments redeemed (purchased)	35,568,749	43,503,345
Investment interest received	2,043,466	1,709,214
Net cash provided by investing activities	37,612,215	45,212,559
Net increase in cash and cash equivalents	4,304,219	24,399,400
Cash and cash equivalents - beginning	54,584,781	30,185,381
Cash and cash equivalents - ending	\$ 58,889,000	\$ 54,584,781
Reconciliation of operating income to net cash provided by operating activities:		
Net Income	\$ 12,184,091	\$ 6,984,564
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation	6,588,896	7,049,096
Amortization	(1,070,202)	(894,583)
Provision for doubtful accounts	61,782	52,149
Decrease (increase) in:		
Receivables:		
Residential	(24,349)	(69,215)
Municipal	(599,308)	(3,326)
Major industries	205,260	546,153
Permit industries	48,965	(27,265)
Note receivables	90,800	2,681,472
Other receivables	(571,356)	(31,426)
Prepaid expenses	(448,452)	324,425
Deferred outflows/inflows- pension plan	(484,582)	(350,707)
Increase (decrease) in:		
Accounts payable and accrued expenses	27,200	557,349
Net pension liabilities	(170,644)	(648,125)
Payable to the City of Philadelphia	358,139	(118,214)
Deferred revenue - long term control plan	145,820	7,069
Advances on services	(428,982)	(446,229)
Net cash provided by operating activities	\$ 15,913,078	\$ 15,615,187

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

**DELAWARE COUNTY REGIONAL WATER
QUALITY CONTROL AUTHORITY
NOTES TO FINANCIAL STATEMENTS
DECEMBER 31, 2018 AND 2017**

NOTE 3 - Capital Assets (continued)

Capital assets activity for the year ended December 31, 2018, is as follows:

	Balance 01/01/18	Additions	Deletions	Balance 12/31/18
Capital assets not being depreciated:				
Land and right of way	\$ 5,829,304	\$ -	\$ -	\$ 5,829,304
Construction in progress	40,715,256	36,485,940	(19,659,665)	57,541,531
Total capital assets not being depreciated	46,544,560	36,485,940	(19,659,665)	63,370,835
Capital assets being depreciated:				
Western Region Treatment Plant	123,972,837	14,358,712	-	138,331,549
Service lines and force mains	101,435,478	5,479,863	-	106,915,341
Pumping stations	40,267,572	36,291	-	40,303,863
Building and improvements	6,511,556	-	-	6,511,556
Machinery and equipment	4,093,030	1,248,373	(44,429)	5,296,974
Total capital assets being depreciated	276,280,473	21,123,239	(44,429)	297,359,283
Total capital assets	322,825,033	57,609,179	(19,704,094)	360,730,118
Accumulated depreciation				
Western Region Treatment Plant	66,555,830	2,681,881	-	69,237,711
Service lines and force mains	25,014,151	2,313,772	-	27,327,923
Pumping stations	17,648,454	940,427	-	18,588,881
Building and improvements	2,976,670	170,725	-	3,147,395
Machinery and equipment	1,148,595	482,091	(44,429)	1,586,257
Total accumulated depreciation	113,343,700	6,588,896	(44,429)	119,888,167
Capital assets, net of depreciation	\$ 209,481,333	\$ 51,020,283	\$ (19,659,665)	\$ 240,841,951

NOTE 4 - Notes Receivable

DELCORA has a note receivable from Folcroft Borough for renovations to a pump station. The note is being repaid over 20 years with installments of \$2,619 per month including interest at 5.25%. The balance of the note receivable was repaid in 2018 in the amount of \$18,018 (the amount remaining at December 31, 2017).

DELCORA has an additional note receivable from Edgmont Township established in 2016 in the amount of \$1,775,838 for payment of debt on its behalf to the Central Delaware County Authority. In 2017, additional debt was incurred bringing the balance of the note receivable to \$1,970,208. The note is being repaid over 20 years at the rate of 3.40% per annum, with anticipated payments

DELAWARE COUNTY REGIONAL WATER QUALITY
CONTROL AUTHORITY
STATEMENTS OF NET POSITION
DECEMBER 31,

	2016 (AUDITED)	2015 (UNAUDITED)
ASSETS		
Current:		
Cash and cash equivalents	\$ 30,185,381	\$ 24,565,838
Investments	121,010,490	76,816,846
Receivables:		
Western Region		
Residential, net of allowance for doubtful accounts of \$113,943 and \$247,401 in 2016 and 2015, respectively	717,098	822,244
Municipal	1,281,388	1,325,712
Major industries	1,263,198	591,702
Permit industries	117,205	457,168
Eastern Region		
Muckinipates Authority	-	89,169
Notes receivable, current portion	2,857,281	28,124
Other receivables	1,364,173	1,231,298
Prepaid expenses	406,434	475,700
Total current assets	<u>159,202,648</u>	<u>106,403,801</u>
Non Current:		
Capital assets, net of accumulated depreciation	190,825,742	182,422,188
Notes receivable, net of current portion	1,742,031	47,655
Restricted investments	11,537,699	7,494,053
Total non current assets	<u>204,105,472</u>	<u>189,963,896</u>
DEFERRED OUTFLOWS OF RESOURCES		
Pension plan related deferred outflows	<u>3,809,566</u>	<u>4,668,185</u>
Total assets and deferred outflows of resources	<u><u>\$ 367,117,686</u></u>	<u><u>\$ 301,035,882</u></u>
LIABILITIES		
Current liabilities:		
Accounts payable and accrued expenses	\$ 5,326,187	\$ 4,314,291
Payable to the City of Philadelphia	1,544,746	1,313,145
Current portion of long-term debt	4,056,378	3,569,381
Accrued bond interest payable	1,312,930	823,158
Advances on services		
Central Delaware County Authority	173,306	9,098
Muckinipates Authority	244,460	-
Darby Creek Joint Authority	865,122	1,056,007
Municipal	374,063	379,282
Major industries	837,488	344,854
Permit industries	149,882	91,428
Residential	18,890	27,382
Total current liabilities	<u>14,903,452</u>	<u>11,928,026</u>
Noncurrent		
Long term debt, net of current portion	172,089,769	113,036,859
Deferred revenue - Philadelphia rate stabilization	8,809,026	8,556,436
Net pension liability	4,224,756	5,530,165
Deferred revenue - long term control plan	1,424,002	1,422,000
Total non current liabilities	<u>186,347,553</u>	<u>128,545,460</u>
Total liabilities	<u><u>201,251,005</u></u>	<u><u>140,473,486</u></u>
NET POSITION		
Invested in capital assets, net of related debt	92,201,416	101,699,396
Restricted for debt service	10,627,348	6,677,573
Unrestricted	63,037,917	52,185,427
Total net position	<u><u>165,866,681</u></u>	<u><u>160,562,396</u></u>
TOTAL LIABILITIES AND NET POSITION	<u><u>\$ 367,117,686</u></u>	<u><u>\$ 301,035,882</u></u>

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

**DELAWARE COUNTY REGIONAL WATER QUALITY
CONTROL AUTHORITY**
STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION
FOR THE YEARS ENDED DECEMBER 31,

	2016 (AUDITED)	2015 (UNAUDITED)
Operating revenues		
Western Region:		
Major Industries	\$ 6,685,024	\$ 6,609,628
Residential	6,869,903	5,622,353
Municipal	7,615,471	7,759,954
Contract operation fees	506,878	450,529
Permit Industries	1,760,954	1,579,289
Total Western Region	<u>23,438,230</u>	<u>22,021,753</u>
Eastern Region:		
Darby Creek Joint Authority	15,790,209	15,555,731
Central Delaware County Authority	8,294,187	8,096,008
Muckinipates Authority	3,566,903	3,705,057
Total Eastern Region	<u>27,651,299</u>	<u>27,356,796</u>
Sludge disposal and processing	<u>4,760,262</u>	<u>4,377,766</u>
Total operating revenues	<u>55,849,791</u>	<u>53,756,315</u>
Operating expenses, including depreciation of \$6,744,284 in 2016 and \$5,422,490 in 2015	<u>43,534,852</u>	<u>42,544,084</u>
Operating income	<u>12,314,939</u>	<u>11,212,231</u>
Nonoperating revenues (expense)		
Interest income	725,185	362,188
Interest expense	(4,731,444)	(2,810,276)
Bond premium amortization	590,080	480,745
EPA - DEP civil penalty	-	(1,376,638)
Debt issuance costs	(448,365)	(369,233)
Loss on asset disposition	(2,643)	-
Other income	388,975	201,186
Special item - construction related sludge removal	(3,532,442)	(1,667,902)
Total non operating revenues (expense)	<u>(7,010,654)</u>	<u>(5,179,930)</u>
Net income before capital contributions	5,304,285	6,032,301
Capital contributions:	-	2,392,191
Net income	<u>5,304,285</u>	<u>8,424,492</u>
Net position - beginning	160,562,396	152,137,904
Net position - ending	<u>\$ 165,866,681</u>	<u>\$ 160,562,396</u>

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

DELAWARE COUNTY REGIONAL WATER QUALITY
CONTROL AUTHORITY
STATEMENTS OF CASH FLOWS

FOR THE YEARS ENDED DECEMBER 31,

	2016 (AUDITED)	2015 (UNAUDITED)
Cash flows from operating activities:		
Receipts from customers	\$ 58,287,233	\$ 56,935,993
Payments to suppliers	(24,195,113)	(19,152,405)
Payments to employees	(17,234,216)	(18,569,717)
Net cash provided by operating activities	16,857,904	19,213,871
Cash flows from capital and related financing activities:		
Acquisition and construction of capital assets	(14,914,830)	(20,989,493)
Collection of notes receivable	28,124	26,689
Bond payable proceeds	62,709,811	39,052,601
Other income	388,975	651,715
Interest paid	(4,912,537)	(3,877,473)
Repayment of long-term debt	(3,036,590)	(4,794,563)
Special item - construction related sludge removal	(3,532,442)	(1,067,902)
EPA compliance penalty	-	(1,376,638)
Debt issuance costs	(456,767)	(369,233)
Net cash provided by capital and related financing activities	36,273,744	7,255,703
Cash flows from investing activities:		
Purchase of investments	(48,237,290)	(8,349,550)
Investment interest received	725,185	324,109
Net cash provided used by investing activities	(47,512,105)	(8,025,441)
Net increase in cash and cash equivalents	5,619,543	18,444,133
Cash and cash equivalents - beginning	24,565,838	6,121,705
Cash and cash equivalents - ending	\$ 30,185,381	\$ 24,565,838
Non-cash capital financing activities:		
Accounts payable incurred for the purchase of capital assets	\$ -	\$ 1,473,594
Reconciliation of operating income to net cash provided by operating activities:		
Operating income	\$ 12,314,939	\$ 12,280,133
Adjustments to reconcile operating income to net cash provided by operating activities:		
Depreciation	6,744,284	5,422,490
Provision for doubtful accounts	35,986	109,307
Decrease (increase) in:		
Receivables:		
Residential	105,146	(178,314)
Municipal	44,324	255,819
Major Industries	(671,496)	196,003
Permit Industries	339,963	(172,579)
Authorities	89,169	(89,169)
Note receivables	(3,551,657)	-
Other receivables	(132,875)	(158,993)
Prepaid expenses	89,266	159,019
Deferred outflows of resources - pension plan	858,819	(4,668,185)
Increase (decrease) in:		
Accounts payable and accrued expense	1,011,896	(384,926)
Net pension liabilities	(1,388,423)	1,618,047
Payable to the City of Philadelphia	231,601	3,166,210
Deferred revenue - long term control plan	2,002	1,422,000
Advances on services	755,160	237,009
Net cash provided by operating activities	\$ 16,857,904	\$ 19,213,871

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

**DELAWARE COUNTY REGIONAL WATER
QUALITY CONTROL AUTHORITY
NOTES TO FINANCIAL STATEMENTS
DECEMBER 31, 2016 AND 2015**

NOTE 3 - Capital Assets (continued)

Capital assets activity for the year ended December 31, 2016, is as follows:

	Balance 01/01/16	Additions	Deletions	Balance 12/31/16
Capital assets not being depreciated:				
Land and right of way	\$ 1,349,495	\$ -	\$ -	\$ 1,349,495
Construction in progress	44,706,702	17,585,259	(30,985,422)	31,306,539
Total capital assets not being depreciated	46,056,197	17,585,259	(30,985,422)	32,656,034
Capital assets being depreciated:				
Western Region Treatment Plant	108,909,444	9,880,076	-	118,789,520
Service lines and force mains	94,455,780	18,603,893	(16,406,556)	96,653,117
Pumping stations	39,005,013	344,595	-	39,349,608
Building and improvements	6,491,214	-	-	6,491,214
Machinery and equipment	3,385,976	830,706	(1,022,002)	3,194,680
Total capital assets being depreciated	252,247,427	29,659,270	(17,428,558)	264,478,139
Total capital assets	298,303,624	47,244,529	(48,413,980)	297,134,173
Accumulated depreciation				
Western Region Treatment Plant	60,048,841	3,209,590	-	63,258,431
Service lines and force mains	36,138,594	1,997,406	(15,295,287)	22,840,713
Pumping stations	15,507,511	1,061,886	-	16,569,397
Building and improvements	2,654,216	158,506	-	2,812,722
Machinery and equipment	1,532,274	316,896	(1,022,002)	827,168
Total accumulated depreciation	115,881,436	6,744,284	(16,317,289)	106,308,431
Capital assets, net of depreciation	\$ 182,422,188	\$ 40,500,245	\$ (32,096,691)	\$ 190,825,742

NOTE 4 - Notes Receivable

DELCORA has a note receivable from Folcroft Borough for renovations to a pump station. The note is being repaid over 20 years with installments of \$2,619 per month including interest at 5.25%. The balance of the note receivable at December 31, 2016 and 2015 was \$47,655 and \$75,779, respectively.

DELCORA has an additional note receivable from Edgmont Township established in 2016 in the amount of \$1,775,838 for payment of debt on its behalf to the Central Delaware County Authority. The note is being repaid over 20 years at the rate of 3.40% per annum, with anticipated payments of \$123,823 annually.

DELAWARE COUNTY REGIONAL
WATER QUALITY CONTROL AUTHORITY

2019 BUDGET

REVENUE AND EXPENSE ANALYSIS

Revenues:	2018	2019	\$ Change	% Change
Service Charges:				
Eastern Delaware County				
Central Delaware County Authority	\$9,103,100	\$9,619,575	\$516,475	5.67%
Darby Creek Joint Authority	\$17,782,800	\$18,781,075	\$998,275	5.61%
Muckinipates Authority	\$4,234,000	\$4,351,713	\$117,713	2.78%
	<u>\$31,119,900</u>	<u>\$32,752,363</u>	<u>\$1,632,463</u>	<u>5.25%</u>
Western Delaware County				
Residential	\$6,240,271	\$6,471,715	\$231,444	3.71%
EDU Wholesale	\$1,472,706	\$1,748,679	\$275,973	18.74%
Retail Industrial	\$391,813	\$368,636	-\$23,177	-5.92%
Western Wholesale	\$2,958,827	\$3,199,382	\$240,555	8.13%
Wholesale Industrial	\$7,845,976	\$8,209,215	\$363,239	4.63%
Chester Ridley Creek	\$4,489,500	\$4,848,660	\$359,160	8.00%
	<u>\$23,399,093</u>	<u>\$24,846,287</u>	<u>\$1,447,194</u>	<u>6.18%</u>
Other Residential	\$1,655,750	\$1,819,448	\$163,698	9.89%
Remote Locations	\$399,250	\$400,000	\$750	0.19%
Total Service Charges	<u>\$56,573,993</u>	<u>\$59,818,097</u>	<u>\$3,244,104</u>	<u>5.73%</u>
Other Revenues:				
Interest Income Investments	\$750,000	\$1,250,000	\$500,000	66.67%
Residual Waste	\$4,500,000	\$4,750,000	\$250,000	5.56%
Covanta Effluent Usage	\$85,000	\$85,000	\$0	0.00%
Load Surcharge	\$325,000	\$325,000	\$0	0.00%
Other Income	\$300,000	\$300,000	\$0	0.00%
	<u>\$5,960,000</u>	<u>\$6,710,000</u>	<u>\$750,000</u>	<u>12.58%</u>
Total Revenues	<u>\$62,533,993</u>	<u>\$66,528,097</u>	<u>\$3,994,104</u>	<u>6.39%</u>
Expense:				
Philadelphia Plant Treatment Costs	\$10,875,452	\$11,187,262	\$311,810	2.87%
Debt Service	\$12,050,000	\$12,750,000	\$700,000	5.81%
Salaries & Wages	\$10,765,295	\$11,299,320	\$534,025	4.96%
Overtime	\$1,321,420	\$1,497,850	\$176,430	13.35%
Utilities	\$3,097,600	\$2,690,100	-\$407,500	-13.16%
Chemicals	\$815,000	\$990,000	\$175,000	21.47%
Employee Benefits	\$4,807,075	\$4,669,721	-\$137,354	-2.86%
Pension	\$1,600,000	\$1,640,000	\$40,000	2.50%
Repairs & Maintenance	\$2,838,069	\$2,848,450	\$10,381	0.37%
Insurance	\$837,347	\$968,122	\$130,775	15.62%
Minor Equipment & Supplies	\$240,900	\$351,513	\$110,613	45.92%
Information Technology	\$690,700	\$773,000	\$82,300	11.92%
Solicitor	\$550,000	\$500,000	-\$50,000	-9.09%
Consulting	\$225,000	\$230,000	\$5,000	2.22%
Solids Disposal/Grit Screening	\$1,143,800	\$1,252,500	\$108,700	9.50%
Engineering	\$350,000	\$395,000	\$45,000	12.86%
Other Contracted Services	\$869,450	\$869,950	\$500	0.06%
Office & Advertising	\$209,850	\$226,850	\$17,000	8.10%
Strategic Plan	\$15,000	\$0	-\$15,000	-100.00%
Dues and Conferences	\$72,050	\$104,250	\$32,200	44.69%
Edgmont Treatment	\$135,000	\$140,000	\$5,000	3.70%
Education and Training	\$126,700	\$155,900	\$29,200	23.05%
Contingency	\$700,000	\$700,000	\$0	0.00%
Capital Reserve PWD and Chester LTCP	\$7,000,000	\$7,000,000	\$0	0.00%
Capital Reserve Replacing Capital Assets	\$1,198,285	\$3,288,309	\$2,090,024	174.42%
Total Expenses	<u>\$62,533,993</u>	<u>\$66,528,097</u>	<u>\$3,994,104</u>	<u>6.39%</u>

NC = Not Calculable

DELAWARE COUNTY REGIONAL
WATER QUALITY CONTROL AUTHORITY

2019 BUDGET SUMMARY

EXPENSE BY DEPARTMENT

	2018	2019	\$ Change	% Change
Expense:				
Administration, IT, Engineering				
Total	\$6,864,135	\$6,990,030	\$125,895	1.83%
Debt Service:				
Total	\$12,050,000	\$12,750,000	\$700,000	5.81%
Operations and Maintenance:				
Eastern Delaware County:				
Pump Stations	\$1,322,335	\$1,308,236	-\$14,099	-1.07%
Philadelphia Treatment	\$10,875,452	\$11,187,262	\$311,810	2.87%
Total East Expenses	\$12,197,787	\$12,495,498	\$297,711	2.44%
Western Delaware County:				
Western Regional Treatment Plant	\$12,577,580	\$12,935,558	\$357,978	2.85%
Industrial Pretreatment	\$468,145	\$494,338	\$26,193	5.60%
Central Lab	\$634,801	\$673,878	\$39,077	6.16%
Chester Pump Station	\$404,932	\$407,715	\$2,783	0.69%
Sewer Maintenance	\$2,342,355	\$2,491,450	\$149,095	6.37%
Chester Area Lift Stations	\$122,715	\$122,872	\$157	0.13%
Eddystone Pump Station	\$75,132	\$83,568	\$8,436	11.23%
Customer Revenue (Billing)	\$738,867	\$685,073	-\$53,794	-7.28%
Marcus Hook/Lower Chi	\$134,524	\$131,897	-\$2,627	-1.95%
Trainer Pump Stations	\$35,971	\$37,932	\$1,961	5.45%
Remote Locations	\$1,503,651	\$1,567,565	\$63,914	4.25%
Sludge Processing	\$2,749,500	\$2,902,250	\$152,750	5.56%
Southern Pump Stations	\$39,753	\$38,386	-\$1,367	-3.44%
Chester Ridley Creek	\$359,866	\$397,489	\$37,623	10.45%
Edgmont	\$335,994	\$334,289	-\$1,705	-0.51%
Contingency	\$700,000	\$700,000	\$0	0.00%
Total West Expenses	\$23,223,786	\$24,004,260	\$780,474	3.36%
Total Expenses	\$54,335,708	\$56,239,788	\$1,904,080	3.50%
Expenses Without Debt Service	\$42,285,708	\$43,489,788	\$1,204,080	2.85%

DELAWARE COUNTY REGIONAL
WATER QUALITY CONTROL AUTHORITY
2020 BUDGET

REVENUE AND EXPENSE ANALYSIS

Revenues:	2019	2020	\$ Change	% Change
Service Charges:				
Eastern Delaware County				
Central Delaware County Authority	\$9,619,575	\$10,386,075	\$766,500	7.97%
Darby Creek Joint Authority	\$18,781,075	\$20,277,575	\$1,496,500	7.97%
Muckinipates Authority	\$4,351,713	\$4,698,463	\$346,750	7.97%
	<u>\$32,752,363</u>	<u>\$35,362,113</u>	<u>\$2,609,750</u>	<u>7.97%</u>
Western Delaware County				
Residential	\$6,471,715	\$7,175,451	\$703,736	10.87%
EDU Wholesale	\$1,748,679	\$1,857,409	\$108,730	6.22%
Retail Industrial	\$368,636	\$428,364	\$59,728	16.20%
Western Wholesale	\$3,199,382	\$3,455,911	\$256,529	8.02%
Wholesale Industrial	\$8,209,215	\$9,161,739	\$952,524	11.60%
Chester Ridley Creek	\$4,848,660	\$5,493,250	\$644,590	13.29%
	<u>\$24,846,287</u>	<u>\$27,572,123</u>	<u>\$2,725,836</u>	<u>10.97%</u>
Other Residential	\$1,819,448	\$1,878,892	\$59,444	3.27%
Remote Locations	\$400,000	\$450,000	\$50,000	12.50%
Total Service Charges	<u>\$59,818,097</u>	<u>\$65,263,127</u>	<u>\$5,445,031</u>	<u>9.10%</u>
Other Revenues:				
Interest Income Investments	\$1,250,000	\$1,300,000	\$50,000	4.00%
Residual Waste	\$4,750,000	\$5,000,000	\$250,000	5.26%
Covanta Effluent Usage	\$85,000	\$90,000	\$5,000	5.88%
Load Surcharge	\$325,000	\$325,000	\$0	0.00%
Other Income	\$300,000	\$300,000	\$0	0.00%
	<u>\$6,710,000</u>	<u>\$7,015,000</u>	<u>\$305,000</u>	<u>4.55%</u>
Total Revenues	<u>\$66,528,097</u>	<u>\$72,278,127</u>	<u>\$5,750,031</u>	<u>8.64%</u>
Expense:				
Philadelphia Plant Treatment Costs	\$11,187,262	\$13,002,566	\$1,815,304	16.23%
Debt Service	\$12,750,000	\$12,800,000	\$50,000	0.39%
Salaries & Wages	\$11,299,320	\$11,980,831	\$681,511	6.03%
Overtime	\$1,497,850	\$1,428,950	-\$68,900	-4.60%
Utilities	\$2,690,100	\$2,608,650	-\$81,450	-3.03%
Chemicals	\$990,000	\$1,135,000	\$145,000	14.65%
Employee Benefits	\$4,669,721	\$4,801,213	\$131,492	2.82%
Pension	\$1,840,000	\$1,725,000	-\$85,000	-5.18%
Repairs & Maintenance	\$2,848,450	\$3,493,912	\$645,462	22.66%
Insurance	\$968,122	\$956,196	-\$11,926	-1.23%
Minor Equipment & Supplies	\$351,513	\$465,901	\$114,388	32.54%
Information Technology	\$773,000	\$1,160,000	\$387,000	50.06%
Solicitor	\$500,000	\$750,000	\$250,000	50.00%
Consulting	\$230,000	\$350,000	\$120,000	52.17%
Solids Disposal/Grit Screening	\$1,252,500	\$1,252,500	\$0	0.00%
Engineering	\$395,000	\$325,000	-\$70,000	-17.72%
Other Contracted Services	\$869,950	\$1,172,500	\$302,550	34.78%
Office & Advertising	\$226,850	\$245,400	\$18,550	8.18%
Dues and Conferences	\$104,250	\$94,000	-\$10,250	-9.83%
Edgmont Treatment	\$140,000	\$150,000	\$10,000	7.14%
Education and Training	\$155,900	\$131,000	-\$24,900	-15.97%
Contingency	\$700,000	\$700,000	\$0	0.00%
Capital Reserve PWD and Chester LTCP	\$7,000,000	\$7,000,000	\$0	0.00%
Capital Reserve Replacing Capital Assets	\$3,288,309	\$4,549,508	\$1,261,199	38.35%
Total Expenses	<u>\$66,528,097</u>	<u>\$72,278,127</u>	<u>\$5,750,030</u>	<u>8.64%</u>

NC = Not Calculable

DELAWARE COUNTY REGIONAL
WATER QUALITY CONTROL AUTHORITY

2020 BUDGET SUMMARY

EXPENSE BY DEPARTMENT

	2019	2020	\$ Change	% Change
Expense:				
Administration, IT, Engineering				
Total	\$6,990,030	\$7,720,296	\$730,266	10.45%
Debt Service:				
Total	\$12,750,000	\$12,800,000	\$50,000	0.39%
Operations and Maintenance:				
Eastern Delaware County:				
Pump Stations	\$1,308,236	\$1,340,667	\$32,431	2.48%
Philadelphia Treatment	\$11,187,262	\$13,002,566	\$1,815,304	16.23%
Total East Expenses	\$12,495,498	\$14,343,233	\$1,847,735	14.79%
Western Delaware County:				
Western Regional Treatment Plant	\$12,935,558	\$13,956,939	\$1,021,381	7.90%
Industrial Pretreatment	\$494,338	\$505,231	\$10,893	2.20%
Central Lab	\$673,878	\$765,259	\$91,381	13.56%
Chester Pump Station	\$407,715	\$338,656	-\$69,059	-16.94%
Sewer Maintenance	\$2,491,450	\$2,566,388	\$74,938	3.01%
Chester Area Lift Stations	\$122,872	\$132,419	\$9,547	7.77%
Eddystone Pump Station	\$83,568	\$68,225	-\$15,343	-18.36%
Customer Revenue (Billing)	\$685,073	\$729,458	\$44,385	6.48%
Marcus Hook/Lower Chi	\$131,897	\$109,181	-\$22,716	-17.22%
Trainer Pump Stations	\$37,932	\$44,891	\$6,959	18.35%
Remote Locations	\$1,567,565	\$2,130,559	\$562,994	35.92%
Sludge Processing	\$2,902,250	\$3,055,000	\$152,750	5.26%
Southern Pump Stations	\$38,386	\$93,584	\$55,198	143.80%
Chester Ridley Creek	\$397,489	\$327,308	-\$70,181	-17.66%
Edgmont	\$334,289	\$341,992	\$7,703	2.30%
Contingency	\$700,000	\$700,000	\$0	0.00%
Total West Expenses	\$24,004,260	\$25,865,090	\$1,860,830	7.75%
Total Expenses	\$56,239,788	\$60,728,619	\$4,488,831	7.98%
Expenses Without Debt Service	\$43,489,788	\$47,928,619	\$4,438,831	10.21%

ONSOLIDATED BALANCE SHEETS - USD (\$)		Dec. 31, 2018	Dec. 31, 2017
\$ in Thousands			
Regulated utility plant, at cost			
Water		\$1,649,535	\$1,559,209
Electric		106,064	99,726
Total		1,755,599	1,658,935
Non-regulated utility property, at cost		24,511	15,592
Total utility plant, at cost		1,780,110	1,674,527
Less — accumulated depreciation		-561,855	-533,370
Utility plant before construction work in progress		1,218,255	1,141,157
Construction work in progress		78,055	63,835
Net utility plant		1,296,310	1,204,992
Other Property and Investments			
Goodwill		1,116	1,116
Other property and investments		25,356	24,070
Total other property and investments		26,472	25,186
Current Assets			
Cash and cash equivalents		7,141	214
Accounts receivable — customers, less allowance for doubtful accounts		23,395	26,127
Unbilled revenue — receivable		23,588	26,411
Receivable from U.S. government, less allowance for doubtful accounts		21,543	3,725
Other accounts receivable, less allowance for doubtful accounts		3,103	8,251
Income taxes receivable		2,164	4,737
Materials and supplies		5,775	4,795
Regulatory assets — current		16,527	34,220
Prepayments and other current assets		6,063	5,596
Contract assets (Note 2)		22,169	0
Costs and estimated earnings in excess of billings on contracts (Note 2)		0	41,387
Total current assets		131,468	155,463
Regulatory and Other Assets			
Receivable from the U.S. government (Note 2)		39,583	0
Contract assets (Note 2)		2,278	0
Costs and estimated earnings in excess of billings on contracts (Note 2)		0	25,426
Other		5,322	5,667
Total other assets		47,183	31,093
Total Assets		1,501,433	1,416,734
Capitalization			
Common shareholder's equity		558,223	529,945
Long-term debt		281,087	321,039
Total capitalization		839,310	850,984
Current Liabilities			
Notes payable to banks		0	59,000
Long-term debt — current		40,320	324
Accounts payable		59,532	50,978
Income taxes payable		360	225
Accrued other taxes		10,094	7,344
Accrued employee expenses		13,842	12,969

Accrued interest	3,865	3,861
Unrealized loss on purchased power contracts	311	2,941
Contract liabilities (Note 2)	7,530	3,911
Other	10,731	15,109
Total current liabilities	146,585	156,662
Other Credits		
Notes payable to banks	95,500	0
Advances for construction	66,305	67,465
Contributions in aid of construction — net	124,385	123,602
Deferred income taxes	114,216	115,703
Regulatory liabilities	44,867	32,178
Unamortized investment tax credits	1,367	1,436
Accrued pension and other post-retirement benefits	57,636	57,695
Other	11,262	11,009
Total other credits	515,538	409,088
Commitments and Contingencies	0	0
Total Capitalization and Liabilities	1,501,433	1,416,734
GSWC		
Regulated utility plant, at cost		
Water	1,649,535	1,559,209
Electric	106,064	99,726
Total utility plant, at cost	1,755,599	1,658,935
Less — accumulated depreciation	-551,244	-524,481
Utility plant before construction work in progress	1,204,355	1,134,454
Construction work in progress	76,737	63,486
Net utility plant	1,281,092	1,197,940
Other Property and Investments		
Other property and investments	23,263	21,956
Total other property and investments	23,263	21,956
Current Assets		
Cash and cash equivalents	4,187	214
Accounts receivable — customers, less allowance for doubtful accounts	23,395	26,127
Unbilled revenue — receivable	17,892	18,852
Other accounts receivable, less allowance for doubtful accounts	1,959	6,105
Income taxes receivable	5,617	6,590
Materials and supplies	4,797	4,046
Regulatory assets — current	16,527	34,220
Prepayments and other current assets	5,275	5,090
Total current assets	79,649	101,244
Regulatory and Other Assets		
Other	5,218	5,683
Total other assets	5,218	5,683
Total Assets	1,389,222	1,326,823
Capitalization		
Common shareholder's equity	503,575	474,374
Long-term debt	281,087	321,039
Total capitalization	784,662	795,413

Current Liabilities		
Intercompany payable to Parent	0	34,836
Long-term debt — current	40,320	324
Accounts payable	47,865	42,497
Accrued other taxes	9,911	7,108
Accrued employee expenses	11,910	11,338
Accrued interest	3,550	3,585
Unrealized loss on purchased power contracts	311	2,941
Other	9,432	14,705
Total current liabilities	123,299	117,334
Other Credits		
Inter-company payable to Parent	57,289	0
Advances for construction	66,305	67,465
Contributions in aid of construction — net	124,385	123,602
Deferred income taxes	118,241	120,780
Regulatory liabilities	44,867	32,178
Unamortized investment tax credits	1,367	1,436
Accrued pension and other post-retirement benefits	57,636	57,695
Other	11,171	10,920
Total other credits	481,261	414,076
Total Capitalization and Liabilities	\$1,389,222	\$1,326,823

NetPlant	1,296,310
Advances	66,305
CIAC	124,385
DefTax	118,241
ITC	1,367

Solidated Balance Sheets - USD (\$)		Dec. 31, 2018	Dec. 31, 2017
\$ in Millions			
ASSETS			
Property, plant and equipment		\$23,204	\$21,716
Accumulated depreciation		-5,795	-5,470
Property, plant and equipment, net		17,409	16,246
Current assets:			
Cash and cash equivalents		130	55
Restricted funds		28	27
Accounts receivable, net		301	272
Unbilled revenues		186	212
Materials and supplies		41	41
Other		95	113
Total current assets		781	720
Regulatory and other long-term assets:			
Regulatory assets		1,156	1,061
Goodwill		1,575	1,379
Intangible assets		84	9
Postretirement benefit asset		155	0
Other		63	67
Total regulatory and other long-term assets		3,033	2,516
Total assets		21,223	19,482
Capitalization:			
Common stock (\$0.01 par value, 500,000,000 shares authorized, 185,367,158 and 182,508,564 shares issued and outstanding)		2	2
Paid-in-capital		6,657	6,432
Accumulated deficit		-464	-723
Accumulated other comprehensive loss		-34	-79
Treasury stock, at cost (4,683,156 and 4,064,010 shares, respectively)		-297	-247
Total common shareholders' equity		5,864	5,385
Long-term debt		7,569	6,490
Redeemable preferred stock at redemption value		7	8
Total long-term debt		7,576	6,498
Total capitalization		13,440	11,883
Current liabilities:			
Short-term debt		964	905
Current portion of long-term debt		71	322
Accounts payable		175	195
Accrued liabilities		556	630
Taxes accrued		45	33
Interest accrued		87	73
Other		196	167
Total current liabilities		2,094	2,325
Regulatory and other long-term liabilities:			
Advances for construction		252	271
Deferred income taxes, net		1,718	1,551
Deferred investment tax credits		22	22
Regulatory liabilities		1,907	1,664
Accrued pension expense		390	384
Accrued postretirement benefit expense		0	40
Other		78	66
Total regulatory and other long-term liabilities		4,367	3,998
Contributions in aid of construction		1,322	1,276
Commitments and contingencies (See Note 16)			
Total capitalization and liabilities		\$21,223	\$19,482
NetPlant		17,409	
Advances		252	
CIAC		1,322	
DefTax		1,718	
ITC		22	

onsolidated Balance Sheets - USD (\$)

\$ in Thousands

Assets

Property, plant and equipment, at cost

Less: accumulated depreciation

Net property, plant and equipment

Current assets:

Cash and cash equivalents

Accounts receivable and unbilled revenues, net

Inventory, materials and supplies

Prepayments and other current assets

Assets held for sale

Total current assets

Regulatory assets

Deferred charges and other assets, net

Investment in joint venture

Goodwill

Total assets

Aqua America stockholders' equity:

Common stock at \$.50 par value, authorized 300,000,000 shares, issued 181,151,827 and 180,700,251 in 2018 and 2017

Capital in excess of par value

Retained earnings

Treasury stock, at cost, 3,060,206 and 2,986,308 shares in 2018 and 2017

Accumulated other comprehensive income

Total stockholders' equity

Long-term debt, excluding current portion

Less: debt issuance costs

Long-term debt, excluding current portion, net of debt issuance costs

Commitments and contingencies (See Note 9)

Current liabilities:

Current portion of long-term debt

Loans payable

Accounts payable

Book overdraft

Accrued interest

Accrued taxes

Interest rate swap agreements

Other accrued liabilities

Total current liabilities

Deferred credits and other liabilities:

Deferred income taxes and investment tax credits

Customers' advances for construction

Regulatory liabilities

Other

Total deferred credits and other liabilities

Contributions in aid of construction

Total liabilities and equity

NetPlant

Advances

CIAC

DefTax

ITC

Dec. 31, 2018	Dec. 31, 2017
\$7,648,469	\$7,003,993
1,718,143	1,604,133
5,930,326	5,399,860
3,627	4,204
101,225	98,596
15,844	14,361
23,337	12,542
3,139	1,543
147,172	131,246
788,076	713,971
39,237	38,485
6,959	6,671
52,726	42,230
6,964,496	6,332,463
90,576	90,350
820,378	807,135
1,174,245	1,132,556
-75,835	-73,280
	860
2,009,364	1,957,621
2,419,115	2,029,358
20,651	21,605
2,398,464	2,007,753
144,545	113,769
15,449	3,650
77,331	59,165
8,950	21,629
23,300	21,359
22,234	23,764
59,779	
47,389	41,152
398,977	284,488
845,403	769,073
93,343	93,186
531,027	541,910
97,182	107,341
1,566,955	1,511,510
590,736	571,091
\$6,964,496	\$6,332,463

5,930,326
93,343
590,736
845,403
0

CONSOLIDATED BALANCE SHEETS - USD (\$) \$ in Thousands		Dec. 31, 2018	Dec. 31, 2017
ASSETS			
Utility plant, at original cost less accumulated depreciation		\$ 498,678	\$ 460,502
Current assets			
Cash and cash equivalents		293	952
Accounts receivable (less allowance for doubtful accounts 2018 - \$232; 2017-\$288)		8,159	8,897
Income tax receivable		772	2,353
Unbilled operating revenues		1,441	1,427
Materials and supplies		1,459	1,519
Prepaid property taxes		1,870	1,795
Prepaid expenses and other		2,124	2,042
Total current assets		16,118	18,985
Other assets			
Non utility property (less accumulated depreciation 2018-\$734; 2017-\$689)		3,849	3,882
Other deferred assets		3,931	3,721
Total other assets		7,780	7,603
Regulatory assets, net		7,254	7,549
Total assets		529,830	494,639
Stockholders' equity			
Common stock		9,250	9,215
Preferred stock		0	0
Additional paid-in capital		100,639	99,526
Retained earnings		43,362	37,903
Total stockholders' equity		153,251	146,644
Long-term debt, net of current portion		115,862	105,587
Total stockholders' equity and long-term debt		269,113	252,231
Current liabilities			
Lines of credit		15,942	9,610
Current portion of long-term debt		1,725	1,344
Accounts payable		8,187	8,853
Accrued expenses		3,902	2,888
Overdraft payable		117	304
Accrued interest		784	1,805
Customer deposits		1,044	969
Revenue reserved for refund		3,298	0
Other		2,732	2,688
Total current liabilities		37,731	28,461
Commitments and contingencies (Note 11)			
Deferred credits and other liabilities			
Net advances for construction		6,596	7,797
Regulatory liabilities		22,813	23,201
Deferred investment tax credits		508	526
Deferred income taxes		55,054	54,137
Total deferred credits and other liabilities		84,971	85,661
Net contributions in aid of construction		138,015	128,286
Liabilities and stockholders' equity		\$ 529,830	\$ 494,639
NetPlant		498,678	
Advances		6,596	
CIAC		138,015	
DefTax		55,054	
ITC		508	

Consolidated Balance Sheets - USD (\$) \$ in Thousands

Utility plant:

Land
Depreciable plant and equipment
Construction work in progress
Intangible assets
Total utility plant
Less accumulated depreciation and amortization
Net utility plant

Current assets:

Cash and cash equivalents

Receivables: net of allowance for doubtful accounts of \$757 and \$773 in 2018 and 2017, respectively

Customers
Regulatory balancing accounts
Other
Unbilled revenue
Materials and supplies at weighted average cost
Taxes, prepaid expenses, and other assets
Total current assets

Other assets:

Regulatory assets
Goodwill
Other
Total other assets
TOTAL ASSETS

Capitalization:

Common stock, \$0.01 par value; 68,000 shares authorized, 48,065 and 48,012 outstanding in 2018 and 2017, respectively
Additional paid-in capital
Retained earnings
Total common stockholders' equity
Long-term debt, net
Total capitalization

Current liabilities:

Current maturities of long-term debt, net
Short-term borrowings
Accounts payable
Regulatory balancing accounts
Accrued other taxes
Accrued interest
Other accrued liabilities
Total current liabilities
Unamortized investment tax credits
Deferred income taxes
Regulatory liabilities
Pension and postretirement benefits other than pensions
Advances for construction
Contributions in aid of construction
Other long-term liabilities
Commitments and contingencies
TOTAL CAPITALIZATION AND LIABILITIES

NetPlant
Advances
CIAC
DefTax
ITC

Dec. 31, 2018 Dec. 31, 2017

\$ 44,019	\$ 42,517
2,950,424	2,729,757
210,260	175,693
24,743	22,212
3,229,446	2,970,179
(996,723)	(922,214)
2,232,723	2,047,965

47,176	94,776
--------	--------

30,037	32,451
42,394	36,783
17,101	16,464
33,427	29,756
6,586	6,463
11,981	11,180
188,702	227,873

353,569	405,482
2,615	2,615
60,095	60,775
416,279	468,872
2,837,704	2,744,710

481	480
337,623	336,229
392,053	362,512
730,157	699,221
710,027	515,793
1,440,184	1,215,014

104,911	15,920
65,100	275,100
95,580	93,955
12,213	59,303
4,182	3,888
5,674	6,122
33,506	36,671
321,166	490,959
1,649	1,724
213,033	194,617
211,275	176,611
193,538	252,141
186,342	182,502
225,270	186,721
45,247	44,421

\$ 2,837,704	\$ 2,744,710
--------------	--------------

2,232,723
186,342
225,270
213,033
1,649

CONSOLIDATED BALANCE SHEETS - USD (\$) \$ in Thousands	Dec. 31, 2018	Dec. 31, 2017
UTILITY PLANT:		
Water Production	\$ 156,423	\$ 153,844
Transmission and Distribution	512,202	468,649
General	74,371	69,457
Construction Work in Progress	32,878	11,562
TOTAL	775,874	703,512
Less Accumulated Depreciation	157,387	146,272
UTILITY PLANT - NET	618,487	557,240
CURRENT ASSETS:		
Cash and Cash Equivalents	3,705	4,937
Accounts Receivable, net	11,762	10,785
Unbilled Revenues	7,293	6,999
Materials and Supplies (at average cost)	5,411	4,118
Prepayments	2,644	2,408
TOTAL CURRENT ASSETS	30,815	29,247
Preliminary Survey and Investigation Charges	5,254	4,676
Regulatory Assets	99,236	58,423
Restricted Cash	1,956	1,460
Non-utility Assets - Net	9,989	9,478
Other	2,093	616
TOTAL DEFERRED CHARGES AND OTHER ASSETS	118,528	74,653
TOTAL ASSETS	767,830	661,140
CAPITALIZATION:		
Common Stock, No Par Value	157,354	155,120
Retained Earnings	91,433	74,055
TOTAL COMMON EQUITY	248,787	229,175
Preferred Stock	2,433	2,433
Long-term Debt	152,851	139,045
TOTAL CAPITALIZATION	404,071	370,653
CURRENT LIABILITIES:		
Current Portion of Long-term Debt	7,343	6,865
Notes Payable	48,500	28,000
Accounts Payable	19,325	13,929
Accrued Taxes	14,230	11,418
Accrued Interest	1,289	1,093
Unearned Revenues and Advanced Service Fees	1,036	951
Other	2,640	2,281
TOTAL CURRENT LIABILITIES	94,363	64,537
COMMITMENTS AND CONTINGENT LIABILITIES		
DEFERRED CREDITS AND OTHER LIABILITIES:		
Customer Advances for Construction	22,572	21,423
Accumulated Deferred Income Taxes	47,270	43,160
Employee Benefit Plans	30,661	36,686
Regulatory Liabilities	79,112	43,745
Other	2,730	1,315
TOTAL DEFERRED CREDITS AND OTHER LIABILITIES	182,345	146,329
CONTRIBUTIONS IN AID OF CONSTRUCTION	87,051	79,621
TOTAL CAPITALIZATION AND LIABILITIES	\$ 767,830	\$ 661,140
 NetPlant	 618,487	
Advances	22,572	
CIAC	87,051	
DefTax	47,270	
ITC	0	

Consolidated Balance Sheets - USD (\$)	Dec. 31, 2018	Dec. 31, 2017
Utility plant:		
Land	\$ 18,296,000	\$ 17,831,000
Depreciable plant and equipment	1,833,051,000	1,714,228,000
Construction in progress	68,765,000	45,851,000
Intangible assets	15,799,000	14,413,000
Property, Plant and Equipment, Gross	1,935,911,000	1,792,323,000
Less accumulated depreciation and amortization	607,090,000	553,059,000
Public Utilities, Property, Plant and Equipment, Net	1,328,821,000	1,239,264,000
Real estate investments	56,336,000	56,213,000
Less accumulated depreciation and amortization	12,327,000	11,132,000
Property, Plant and Equipment, Net	44,009,000	45,081,000
Current assets:		
Cash	8,722,000	7,799,000
Money market fund	412,000,000	0
Accounts receivable:		
Customers, net of allowances for uncollectible accounts of \$272 and \$190 in 2018 and 2017, respectively	19,154,000	17,305,000
Income tax	1,888,000	7,981,000
Other	1,203,000	1,118,000
Accrued unbilled utility revenue	27,974,000	27,905,000
Current regulatory assets, net	26,910,000	0
Other current assets	4,871,000	4,750,000
Assets, Current	502,722,000	66,858,000
Other assets:		
Investment in California Water Service Group	0	4,535,000
Net regulatory assets, less current portion	76,715,000	99,554,000
Other	4,122,000	2,709,000
Assets, Noncurrent	80,837,000	106,798,000
Assets	1,956,389,000	1,458,001,000
Stockholders' equity:		
Common stock, \$0.001 par value; authorized 36,000,000 shares; issued and outstanding 28,404,316 shares in 2018 and 20,520,856 shares in 2017	28,000	21,000
Additional paid-in capital	495,366,000	84,866,000
Retained earnings	393,918,000	376,119,000
Accumulated other comprehensive income	0	2,203,000
Total stockholders' equity	889,312,000	463,209,000
Long-term debt, less current portion	431,424,000	431,092,000
Capitalization, Long-term Debt and Equity	1,320,736,000	894,301,000
Current liabilities:		
Lines of credit	100,000,000	25,000,000
Current portion of long-term debt	0	0
Accrued groundwater extraction charges, purchased water and power	13,694,000	14,382,000
Accounts payable	24,937,000	22,960,000
Accrued interest	7,132,000	6,869,000
Accrued property taxes and other non-income taxes	1,926,000	1,904,000
Accrued payroll	7,181,000	6,011,000
Other current liabilities	9,115,000	7,926,000
Liabilities, Current	163,985,000	85,052,000
Deferred income taxes	79,651,000	85,795,000
Advances for construction	80,610,000	83,695,000
Contributions in aid of construction	168,243,000	160,830,000
Postretirement benefit plans	70,490,000	72,841,000
Regulatory liability	59,149,000	62,476,000
Other noncurrent liabilities	13,525,000	13,011,000
Commitments and contingencies	0	0
Liabilities and Equity	\$ 1,956,389,000	\$ 1,458,001,000
 NetPlant	 1,372,830,000	
Advances	80,610,000	
CIAC	168,243,000	
DefTax	79,651,000	
ITC	0	

Balance Sheets - USD (\$) \$ in Thousands		Dec. 31, 2018	Dec. 31, 2017
ASSETS			
UTILITY PLANT, at original cost		\$ 380,784	\$ 365,767
Plant acquisition adjustments		(3,108)	(3,234)
Accumulated depreciation		(78,519)	(73,746)
Net utility plant		299,157	288,787
OTHER PHYSICAL PROPERTY, net of accumulated depreciation of \$410 in 2018 and \$387 in 2017		714	737
CURRENT ASSETS:			
Cash and cash equivalents		2	2
Accounts receivable, net of reserves of \$305 in 2018 and 2017		4,811	4,547
Unbilled revenues		2,427	2,459
Materials and supplies inventories, at cost		876	906
Prepaid expenses		895	697
Total current assets		9,011	8,611
OTHER LONG-TERM ASSETS:			
Note receivable		255	255
Deferred regulatory assets		32,353	30,331
Other assets		3,650	3,309
Total other long-term assets		36,258	33,895
Total Assets		345,140	332,030
COMMON STOCKHOLDERS' EQUITY:			
Common stock, no par value, authorized 46,500,000 shares, issued and outstanding 12,943,536 shares in 2018 and 12,872,742 shares in 2017		81,305	79,201
Retained earnings		44,890	40,204
Total common stockholders' equity		126,195	119,405
PREFERRED STOCK, authorized 500,000 shares, no shares issued		0	0
LONG-TERM DEBT, excluding current portion		93,328	90,098
COMMITMENTS			
CURRENT LIABILITIES:			
Short-term borrowings		1,000	1,000
Current portion of long-term debt		30	44
Accounts payable		3,030	3,136
Dividends payable		1,999	1,892
Accrued compensation and benefits		1,191	1,134
Accrued income taxes		150	531
Accrued interest		992	989
Deferred regulatory liabilities		2,104	123
Other accrued expenses		345	296
Total current liabilities		10,841	9,145
DEFERRED CREDITS:			
Customers' advances for construction		6,849	6,324
Deferred income taxes		36,962	34,754
Deferred employee benefits		4,715	7,075
Deferred regulatory liabilities		24,710	24,372
Other deferred credits		1,815	2,196
Total deferred credits		75,051	74,721
Contributions in aid of construction		39,725	38,661
Total Stockholders' Equity and Liabilities		\$ 345,140	\$ 332,030
NetPlant		299,871	
Advances		6,849	
CIAC		39,725	
DefTax		36,962	
ITC		0	

NetPlant1	1 NetPlant	1,296,310	1,296.310
Advances1	1 Advances	66,305	66.305
CIAC1	1 CIAC	124,385	124.385
DefTax1	1 DefTax	118,241	118.241
ITC1	1 ITC	1,367	1.367
NetPlant2	2 NetPlant	17,409	17,409.000
Advances2	2 Advances	252	252.000
CIAC2	2 CIAC	1,322	1,322.000
DefTax2	2 DefTax	1,718	1,718.000
ITC2	2 ITC	22	22.000
NetPlant3	3 NetPlant	5,930,326	5,930.326
Advances3	3 Advances	93,343	93.343
CIAC3	3 CIAC	590,736	590.736
DefTax3	3 DefTax	845,403	845.403
ITC3	3 ITC	0	0.000
NetPlant4	4 NetPlant	498,678	498.678
Advances4	4 Advances	6,596	6.596
CIAC4	4 CIAC	138,015	138.015
DefTax4	4 DefTax	55,054	55.054
ITC4	4 ITC	508	0.508
NetPlant5	5 NetPlant	2,232,723	2,232.723
Advances5	5 Advances	186,342	186.342
CIAC5	5 CIAC	225,270	225.270
DefTax5	5 DefTax	213,033	213.033
ITC5	5 ITC	1,649	1.649
NetPlant6	6 NetPlant	618,487	618.487
Advances6	6 Advances	22,572	22.572
CIAC6	6 CIAC	87,051	87.051
DefTax6	6 DefTax	47,270	47.270
ITC6	6 ITC	0	0.000
NetPlant7	7 NetPlant	1,372,830,000	1,372.830
Advances7	7 Advances	80,610,000	80.610
CIAC7	7 CIAC	168,243,000	168.243
DefTax7	7 DefTax	79,651,000	79.651
ITC7	7 ITC	0	0.000
NetPlant8	8 NetPlant	299,871	299.871
Advances8	8 Advances	6,849	6.849
CIAC8	8 CIAC	39,725	39.725
DefTax8	8 DefTax	36,962	36.962
ITC8	8 ITC	0	0.000

NetPlant Advances CIAC DefTax ITC

	2018 Net Property, Plant & Equipment	Advances for construction	Contributions in aid of construction	Deferred income taxes, net	Deferred investment tax credits	2018 Known "Cost Free" Capital	2018 Percentage of Known "Cost Free" Capital
	(Millions of \$)						
Comparable Group							
American States Water Co	\$1,296.310	\$66.305	\$124.385	\$118.241	\$1.367	\$310.298	24%
American Water Works Co Inc	\$17,409.000	\$252.000	\$1,322.000	\$1,718.000	\$22.000	\$3,314.000	19%
Aqua America Inc	\$5,930.326	\$93.343	\$590.736	\$845.403	\$0.000	\$1,529.482	26%
Artesian Resources -CL A	\$498.678	\$6.596	\$138.015	\$55.054	\$0.508	\$200.173	40%
California Water Service Gp	\$2,232.723	\$186.342	\$225.270	\$213.033	\$1.649	\$626.294	28%
Middlesex Water Co	\$618.487	\$22.572	\$87.051	\$47.270	\$0.000	\$156.893	25%
SJW Corp	\$1,372.830	\$80.610	\$168.243	\$79.651	\$0.000	\$328.504	24%
York Water Co	\$299.871	\$6.849	\$39.725	\$36.962	\$0.000	\$83.536	28%
Median							26%

CPI for All Urban Consumers (CPI-U)

Series Id: CUUR0000SA0,CUUS0000SA0

Not Seasonally Adjusted

Series Title: All items in U.S. city average, all urban consumers, not seasonally adjusted

Area: U.S. city average

Item: All items

Base Period: 1982-84=100

Download:

[XLS](#)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	HALF1	HALF2
1913	9.8	9.8	9.8	9.8	9.7	9.8	9.9	9.9	10	10	10.1	10		
1914	10	9.9	9.9	9.8	9.9	9.9	10	10.2	10.2	10.1	10.2	10.1		
1915	10.1	10	9.9	10	10.1	10.1	10.1	10.1	10.1	10.2	10.3	10.3		
1916	10.4	10.4	10.5	10.6	10.7	10.8	10.8	10.9	11.1	11.3	11.5	11.6		
1917	11.7	12	12	12.6	12.8	13	12.8	13	13.3	13.5	13.5	13.7		
1918	14	14.1	14	14.2	14.5	14.7	15.1	15.4	15.7	16	16.3	16.5		
1919	16.5	16.2	16.4	16.7	16.9	16.9	17.4	17.7	17.8	18.1	18.5	18.9		
1920	19.3	19.5	19.7	20.3	20.6	20.9	20.8	20.3	20	19.9	19.8	19.4		
1921	19	18.4	18.3	18.1	17.7	17.6	17.7	17.7	17.5	17.5	17.4	17.3		
1922	16.9	16.9	16.7	16.7	16.7	16.7	16.8	16.6	16.6	16.7	16.8	16.9		
1923	16.8	16.8	16.8	16.9	16.9	17	17.2	17.1	17.2	17.3	17.3	17.3		
1924	17.3	17.2	17.1	17	17	17	17.1	17	17.1	17.2	17.2	17.3		
1925	17.3	17.2	17.3	17.2	17.3	17.5	17.7	17.7	17.7	17.7	18	17.9		
1926	17.9	17.9	17.8	17.9	17.8	17.7	17.5	17.4	17.5	17.6	17.7	17.7		
1927	17.5	17.4	17.3	17.3	17.4	17.6	17.3	17.2	17.3	17.4	17.3	17.3		
1928	17.3	17.1	17.1	17.1	17.2	17.1	17.1	17.1	17.3	17.2	17.2	17.1		
1929	17.1	17.1	17	16.9	17	17.1	17.3	17.3	17.3	17.3	17.3	17.2		
1930	17.1	17	16.9	17	16.9	16.8	16.6	16.5	16.6	16.5	16.4	16.1		
1931	15.9	15.7	15.6	15.5	15.3	15.1	15.1	15.1	15	14.9	14.7	14.6		
1932	14.3	14.1	14	13.9	13.7	13.6	13.6	13.5	13.4	13.3	13.2	13.1		
1933	12.9	12.7	12.6	12.6	12.7	13.1	13.2	13.2	13.2	13.2	13.2	13.2		
1934	13.2	13.3	13.3	13.3	13.3	13.4	13.4	13.4	13.6	13.5	13.5	13.4		
1935	13.6	13.7	13.7	13.8	13.8	13.7	13.7	13.7	13.7	13.7	13.8	13.8		
1936	13.8	13.8	13.7	13.7	13.7	13.8	13.9	14	14	14	14	14		
1937	14.1	14.1	14.2	14.3	14.4	14.4	14.5	14.5	14.6	14.6	14.5	14.4		
1938	14.2	14.1	14.1	14.2	14.1	14.1	14.1	14.1	14.1	14	14	14		
1939	14	13.9	13.9	13.8	13.8	13.8	13.8	13.8	14.1	14	14	14		
1940	13.9	14	14	14	14	14.1	14	14	14	14	14	14.1		
1941	14.1	14.1	14.2	14.3	14.4	14.7	14.7	14.9	15.1	15.3	15.4	15.5		
1942	15.7	15.8	16	16.1	16.3	16.3	16.4	16.5	16.5	16.7	16.8	16.9		
1943	16.9	16.9	17.2	17.4	17.5	17.5	17.4	17.3	17.4	17.4	17.4	17.4		
1944	17.4	17.4	17.4	17.5	17.5	17.6	17.7	17.7	17.7	17.7	17.7	17.8		
1945	17.8	17.8	17.8	17.8	17.9	18.1	18.1	18.1	18.1	18.1	18.1	18.2		
1946	18.2	18.1	18.3	18.4	18.5	18.7	19.8	20.2	20.4	20.8	21.3	21.5		
1947	21.5	21.5	21.9	21.9	21.9	22	22.2	22.5	23	23	23.1	23.4		
1948	23.7	23.5	23.4	23.8	23.9	24.1	24.4	24.5	24.5	24.4	24.2	24.1		
1949	24	23.8	23.8	23.9	23.8	23.9	23.7	23.8	23.9	23.7	23.8	23.6		
1950	23.5	23.5	23.6	23.6	23.7	23.8	24.1	24.3	24.4	24.6	24.7	25		
1951	25.4	25.7	25.8	25.8	25.9	25.9	25.9	25.9	26.1	26.2	26.4	26.5		
1952	26.5	26.3	26.3	26.4	26.4	26.5	26.7	26.7	26.7	26.7	26.7	26.7		
1953	26.6	26.5	26.6	26.6	26.7	26.8	26.8	26.9	26.9	27	26.9	26.9		
1954	26.9	26.9	26.9	26.8	26.9	26.9	26.9	26.9	26.8	26.8	26.8	26.7		
1955	26.7	26.7	26.7	26.7	26.7	26.7	26.8	26.8	26.9	26.9	26.9	26.8		
1956	26.8	26.8	26.8	26.9	27	27.2	27.4	27.3	27.4	27.5	27.5	27.6		
1957	27.6	27.7	27.8	27.9	28	28.1	28.3	28.3	28.3	28.3	28.4	28.4		
1958	28.6	28.6	28.8	28.9	28.9	28.9	29	28.9	28.9	28.9	29	28.9		
1959	29	28.9	28.9	29	29	29.1	29.2	29.2	29.3	29.4	29.4	29.4		
1960	29.3	29.4	29.4	29.5	29.5	29.6	29.6	29.6	29.6	29.8	29.8	29.8		
1961	29.8	29.8	29.8	29.8	29.8	29.8	30	29.9	30	30	30	30		
1962	30	30.1	30.1	30.2	30.2	30.2	30.3	30.3	30.4	30.4	30.4	30.4		
1963	30.4	30.4	30.5	30.5	30.5	30.6	30.7	30.7	30.7	30.8	30.8	30.9		
1964	30.9	30.9	30.9	30.9	30.9	31	31.1	31	31.1	31.1	31.2	31.2		
1965	31.2	31.2	31.3	31.4	31.4	31.6	31.6	31.6	31.6	31.7	31.7	31.8		
1966	31.8	32	32.1	32.3	32.3	32.4	32.5	32.7	32.7	32.9	32.9	32.9		
1967	32.9	32.9	33	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9		
1968	34.1	34.2	34.3	34.4	34.5	34.7	34.9	35	35.1	35.3	35.4	35.5		
1969	35.6	35.8	36.1	36.3	36.4	36.6	36.8	37	37.1	37.3	37.5	37.7		
1970	37.8	38	38.2	38.5	38.6	38.8	39	39	39.2	39.4	39.6	39.8		
1971	39.8	39.9	40	40.1	40.3	40.6	40.7	40.8	40.8	40.9	40.9	41.1		
1972	41.1	41.3	41.4	41.5	41.6	41.7	41.9	42	42.1	42.3	42.4	42.5		

CPI for All Urban Consumers (CPI-U)

Series Id: CUUR0000SA0, CUUS0000SA0

Not Seasonally Adjusted

Series Title: All items in U.S. city average, all urban consumers, not seasonally adjusted

Area: U.S. city average

Item: All items

Base Period: 1982-84=100

Download:

[XLS](#)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	HALF1	HALF2
1973	42.6	42.9	43.3	43.6	43.9	44.2	44.3	45.1	45.2	45.6	45.9	46.2		
1974	46.6	47.2	47.8	48	48.6	49	49.4	50	50.6	51.1	51.5	51.9		
1975	52.1	52.5	52.7	52.9	53.2	53.6	54.2	54.3	54.6	54.9	55.3	55.5		
1976	55.6	55.8	55.9	56.1	56.5	56.8	57.1	57.4	57.6	57.9	58	58.2		
1977	58.5	59.1	59.5	60	60.3	60.7	61	61.2	61.4	61.6	61.9	62.1		
1978	62.5	62.9	63.4	63.9	64.5	65.2	65.7	66	66.5	67.1	67.4	67.7		
1979	68.3	69.1	69.8	70.6	71.5	72.3	73.1	73.8	74.6	75.2	75.9	76.7		
1980	77.8	78.9	80.1	81	81.8	82.7	82.7	83.3	84	84.8	85.5	86.3		
1981	87	87.9	88.5	89.1	89.8	90.6	91.6	92.3	93.2	93.4	93.7	94		
1982	94.3	94.6	94.5	94.9	95.8	97	97.5	97.7	97.9	98.2	98	97.6		
1983	97.8	97.9	97.9	98.6	99.2	99.5	99.9	100.2	100.7	101	101.2	101.3		
1984	101.9	102.4	102.6	103.1	103.4	103.7	104.1	104.5	105	105.3	105.3	105.3	102.9	104.9
1985	105.5	106	106.4	106.9	107.3	107.6	107.8	108	108.3	108.7	109	109.3	106.6	108.5
1986	109.6	109.3	108.8	108.6	108.9	109.5	109.5	109.7	110.2	110.3	110.4	110.5	109.1	110.1
1987	111.2	111.6	112.1	112.7	113.1	113.5	113.8	114.4	115	115.3	115.4	115.4	112.4	114.9
1988	115.7	116	116.5	117.1	117.5	118	118.5	119	119.8	120.2	120.3	120.5	116.8	119.7
1989	121.1	121.6	122.3	123.1	123.8	124.1	124.4	124.6	125	125.6	125.9	126.1	122.7	125.3
1990	127.4	128	128.7	128.9	129.2	129.9	130.4	131.6	132.7	133.5	133.8	133.8	128.7	132.6
1991	134.6	134.8	135	135.2	135.6	136	136.2	136.6	137.2	137.4	137.8	137.9	135.2	137.2
1992	138.1	138.6	139.3	139.5	139.7	140.2	140.5	140.9	141.3	141.8	142	141.9	139.2	141.4
1993	142.6	143.1	143.6	144	144.2	144.4	144.4	144.8	145.1	145.7	145.8	145.8	143.7	145.3
1994	146.2	146.7	147.2	147.4	147.5	148	148.4	149	149.4	149.5	149.7	149.7	147.2	149.3
1995	150.3	150.9	151.4	151.9	152.2	152.5	152.5	152.9	153.2	153.7	153.6	153.5	151.5	153.2
1996	154.4	154.9	155.7	156.3	156.6	156.7	157	157.3	157.8	158.3	158.6	158.6	155.8	157.9
1997	159.1	159.6	160	160.2	160.1	160.3	160.5	160.8	161.2	161.6	161.5	161.3	159.9	161.2
1998	161.6	161.9	162.2	162.5	162.8	163	163.2	163.4	163.6	164	164	163.9	162.3	163.7
1999	164.3	164.5	165	166.2	166.2	166.2	166.7	167.1	167.9	168.2	168.3	168.3	165.4	167.8
2000	168.8	169.8	171.2	171.3	171.5	172.4	172.8	172.8	173.7	174	174.1	174	170.8	173.6
2001	175.1	175.8	176.2	176.9	177.7	178	177.5	177.5	178.3	177.7	177.4	176.7	176.6	177.5
2002	177.1	177.8	178.8	179.8	179.8	179.9	180.1	180.7	181	181.3	181.3	180.9	178.9	180.9
2003	181.7	183.1	184.2	183.8	183.5	183.7	183.9	184.6	185.2	185	184.5	184.3	183.3	184.6
2004	185.2	186.2	187.4	188	189.1	189.7	189.4	189.5	189.9	190.9	191	190.3	187.6	190.2
2005	190.7	191.8	193.3	194.6	194.4	194.5	195.4	196.4	198.8	199.2	197.6	196.8	193.2	197.4
2006	198.3	198.7	199.8	201.5	202.5	202.9	203.5	203.9	202.9	201.8	201.5	201.8	200.6	202.6
2007	202.416	203.499	205.352	206.686	207.949	208.352	208.299	207.917	208.49	208.936	210.177	210.036	205.709	208.976
2008	211.08	211.693	213.528	214.823	216.632	218.815	219.964	219.086	218.783	216.573	212.425	210.228	214.429	216.177
2009	211.143	212.193	212.709	213.24	213.856	215.693	215.351	215.834	215.969	216.177	216.33	215.949	213.139	215.935
2010	216.687	216.741	217.631	218.009	218.178	217.965	218.011	218.312	218.439	218.711	218.803	219.179	217.535	218.576
2011	220.223	221.309	223.467	224.906	225.964	225.722	225.922	226.545	226.889	226.421	226.23	225.672	223.598	226.28
2012	226.665	227.663	229.392	230.085	229.815	229.478	229.104	230.379	231.407	231.317	230.221	229.601	228.85	230.338
2013	230.28	232.166	232.773	232.531	232.945	233.504	233.596	233.877	234.149	233.546	233.069	233.049	232.366	233.548
2014	233.916	234.781	236.293	237.072	237.9	238.343	238.25	237.852	238.031	237.433	236.151	234.812	236.384	237.088
2015	233.707	234.722	236.119	236.599	237.805	238.638	238.654	238.316	237.945	237.838	237.336	236.525	236.265	237.769
2016	236.916	237.111	238.132	239.261	240.229	241.018	240.628	240.849	241.428	241.729	241.353	241.432	238.778	241.237
2017	242.839	243.603	243.801	244.524	244.733	244.955	244.786	245.519	246.819	246.663	246.669	246.524	244.076	246.163
2018	247.867	248.991	249.554	250.546	251.588	251.989	252.006	252.146	252.439	252.885	252.038	251.233	250.089	252.125
2019	251.712	252.776	254.202	255.548	256.092	256.143	256.571	256.558	256.759	257.346	257.208	256.974	254.412	256.903



DEALS AUGUST 6, 2018 / 5:11 PM / 6 MONTHS AGO

SJW Group makes \$1.1 billion all-cash offer for Connecticut Water

3 MIN READ



NEW YORK (Reuters) - SJW Group (SJW.N) and Connecticut Water Service Inc (CTWS.O) said on Monday they were changing from a merger to an acquisition agreement, with SJW offering to buy the New England utility for \$1.1 billion in cash instead of combining stock.

The switch to an all-cash offer is worth \$70 per Connecticut Water share, a 33 percent premium to Connecticut Water's share price prior to the original deal announced in March, according to a joint statement.

It was also higher than the implied \$61.86 per share value of the Clinton, Connecticut-based firm under the merger-of-equals transaction, which would have created a combined company in which existing SJW shareholders would hold 60 percent of the stock.

SJW closed 2.3 percent lower, while Connecticut Water was 9 percent higher at \$68.50.

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To pay for the acquisition, SJW will initially utilize a \$975 million bridge loan from financial adviser JP Morgan Chase (JPM.N). Ultimately, the purchase would be covered by debt and between \$450 million and \$500 million of equity finance.

The new deal aims to conclude in the first quarter of 2019, subject to approvals from Connecticut Water's shareholders, as well as regulators in Connecticut and Maine.

The duo's original all-stock merger announcement in March triggered competing offers from Eversource Energy (ES.N) and California Water Service Group (CWT.N).

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"We have converted from a stock-for-stock deal to a cash offer, which will resolve any further market distractions from the inferior proposals," SJW Chief Executive Eric Thornburg told Reuters, in reference to the actions by Eversource and CalWater.

Switching to an acquisition, versus a merger structure, means that SJW shareholders will no longer be required to vote on approving the deal, the statement said.

CalWater has an open tender offer to acquire SJW that runs until Sept. 28.

However, asked if the change was aimed at heading off any shareholder challenge to the deal, Thornburg told Reuters it "wasn't a consideration" and it had received nothing but support from its shareholders.

RBS sounds alarm over Brexit

CalWater declined to comment. A spokesman for Eversource said the company was evaluating developments but, as it has made clear, it will be disciplined in pursuing this or any other transaction.

Reporting by David French in New York; Additional Reporting by Liana B. Baker; Editing by Lisa Shumaker

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CONNECTICUT WATER SERVICE INC / CT

BALANCE_SHEET2

Form Type: 10-K

Period End: Dec 31, 2017

Date Filed: Mar 15, 2018

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CONNECTICUT WATER SERVICE, INC.

CONSOLIDATED BALANCE SHEETS

December 31, (in thousands, except share amounts) 2017 2016

ASSETS

Utility Plant	\$ 927,289	\$ 777,860
Construction Work in Progress	11,761	33,748
	939,050	811,608
Accumulated Provision for Depreciation	(241,327)	(210,212)
Net Utility Plant	697,723	601,396
Other Property and Investments	10,662	9,071
Cash and Cash Equivalents	3,618	1,564
Accounts Receivable (Less Allowance, 2017 - \$1,265; 2016 - \$1,100)	14,965	13,024
Accrued Unbilled Revenues	8,481	8,171
Materials and Supplies, at Average Cost	1,593	1,536
Prepayments and Other Current Assets	7,021	5,069
Total Current Assets	35,678	29,364
Unrecovered Income Taxes - Regulatory Asset	66,631	93,264
Pension Benefits - Regulatory Asset	11,339	12,266
Post-Retirement Benefits Other Than Pension - Regulatory Asset	116	265
Goodwill	67,016	30,427
Deferred Charges and Other Costs	9,618	8,449
Total Regulatory and Other Long-Term Assets	154,720	144,671
Total Assets	\$ 898,783	\$ 784,502

CAPITALIZATION AND LIABILITIES

Common Stockholders' Equity:

Common Stock Without Par Value: Authorized - 25,000,000

Shares

Issued and Outstanding:

2017 - 12,065,016; 2016 - 11,248,458	\$ 191,641	\$ 145,739
Retained Earnings	102,417	91,213
Accumulated Other Comprehensive Loss	(428)	(924)
Common Stockholders' Equity	293,630	236,028
Preferred Stock	772	772
Long-Term Debt	253,367	197,047
Total Capitalization	547,769	433,847
Current Portion of Long-Term Debt	6,173	4,859
Interim Bank Loans Payable	19,281	32,953
Accounts Payable and Accrued Expenses	11,319	13,116
Accrued Interest	1,439	1,012
Current Portion of Refund to Customers - Regulatory Liability	64	855
Other Current Liabilities	3,262	2,330
Total Current Liabilities	41,538	55,125
Advances for Construction	20,024	19,127
Deferred Federal and State Income Taxes	33,579	50,558
Unfunded Future Income Taxes	58,384	90,977
Long-Term Compensation Arrangements	32,649	33,540
Unamortized Investment Tax Credits - Regulatory Liability	1,133	1,189
Excess Accumulated Deferred Income Tax - Regulatory Liability	30,937	4,373
Refund to Customers - Regulatory Liability	-	108
Other Long-Term Liabilities	1,241	701
Total Long-Term Liabilities	177,947	200,573
Contributions in Aid of Construction	131,529	94,957
Commitments and Contingencies	-	-
Total Capitalization and Liabilities	\$ 898,783	\$ 784,502

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CONNECTICUT WATER SERVICE INC / CT

INCOME_STATEMENT2

Form Type: 10-K

Period End: Dec 31, 2017

Date Filed: Mar 15, 2018

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CONNECTICUT WATER SERVICE, INC.

CONSOLIDATED STATEMENTS OF INCOME

For the Years Ended December 31, (in thousands, except per share data)

	2017	2016	2015
Operating Revenues	\$ 107,054	\$ 98,667	\$ 96,041
Operating Expenses			
Operation and Maintenance	48,017	44,191	48,052
Depreciation	16,684	13,905	12,871
Income Taxes	(1,993)	2,570	(818)
Taxes Other Than Income Taxes	10,941	9,796	9,294
Total Operating Expenses	73,649	70,462	69,399
Net Operating Revenues	33,405	28,205	26,642
Other Utility Income, Net of Taxes	824	744	797
Total Utility Operating Income	34,229	28,949	27,439
Other Income (Deductions), Net of Taxes			
(Loss) Gain on Real Estate Transactions	33	(54)	349
Non-Water Sales Earnings	1,167	1,219	1,394
Allowance for Funds Used During Construction	774	1,198	530
Other	(2,308)	(1,009)	(214)
Total Other Income (Loss), Net of Taxes	(334)	1,354	2,059
Interest and Debt Expenses			
Interest on Long-Term Debt	9,054	7,714	7,087
Other Interest Income, Net	(359)	(922)	(458)
Amortization of Debt Expense and Premium, Net	146	124	108
Total Interest and Debt Expenses	8,841	6,916	6,737
Net Income	25,054	23,387	22,761
Preferred Stock Dividend Requirement	38	38	38
Total Net Income Applicable to Common Stock	\$ 25,016	\$ 23,349	\$ 22,723
Weighted Average Common Shares Outstanding:			
Basic	11,540	11,009	10,958
Diluted	11,762	11,228	11,164
Earnings Per Common Share:			
Basic	\$ 2.17	\$ 2.12	\$ 2.07
Diluted	\$ 2.13	\$ 2.08	\$ 2.04

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

For the Years Ended December 31, (in thousands)

	2017	2016	2015
Net Income	\$ 25,054	\$ 23,387	\$ 22,761
Other Comprehensive Income (Loss), net of tax			
Adjustment to post-retirement benefit plans, net of tax benefit			
(expense) of \$(419), \$15, and \$(505) in 2017, 2016, and 2015, respectively	289	(24)	765
Unrealized Investment gain (loss), net of tax (expense) benefit of \$(13), \$(22) and \$62, in 2017, 2016, and 2015, respectively	207	35	(97)
Other Comprehensive Income, net of tax	\$ 496	\$ 11	\$ 668
Comprehensive Income	\$ 25,550	\$ 23,398	\$ 23,429

**PA Data & Demographics (As
of July 1, 2019)**

POPULATION	Chester County		Delaware County		Easttown Township		Tredyffrin Twp.		Aldan Borough		Aston Township		Bethel Township	
Total Population	529,578		569,759		10,537		30,078		4,123		16,947		9,216	
Population in Households	516,060		547,126		10,509		30,038		4,116		15,983		9,162	
Population in Families	428,959		447,556		9,241		24,309		3,285		13,458		8,407	
Population in Group Qrtts	13,518		22,633		28		40		7		964		54	
Population Density ²	706		3,099		1,281		1,522		6,910		2,900		1,703	
Diversity Index ³	41		53		26		37		51		20		30	
INCOME														
Median Household Income	\$100,408		\$75,897		\$146,553		\$125,310		\$74,123		\$85,878		\$144,485	
Average Household Income	\$131,828		\$108,388		\$212,980		\$175,692		\$90,582		\$102,405		\$170,157	
Per Capita Income	\$48,310		\$40,448		\$77,863		\$72,281		\$37,703		\$36,584		\$57,869	
HOUSING														
Total Housing Units	203,890 (100%)		226,329 (100%)		4,150 (100%)		12,967 (100%)		1,826 (100%)		6,167 (100%)		3,150 (100%)	
Owner Occupied HU	145,911 (71.6%)		147,001 (65.0%)		3,251 (78.3%)		9,686 (74.7%)		1,291 (70.7%)		5,408 (87.7%)		3,027 (96.1%)	
Renter Occupied HU	47,754 (23.4%)		64,637 (28.6%)		601 (14.5%)		2,688 (20.7%)		4,257 (23.3%)		636 (10.3%)		107 (3.4%)	
Vacant Housing Units	10,225 (5.0%)		14,691 (6.5%)		298 (7.2%)		593 (4.6%)		110 (6.0%)		123 (2.0%)		16 (0.5%)	
Median Home Value	\$370,562		\$274,625		\$665,264		\$515,861		\$183,678		\$281,532		\$449,000	
HOUSEHOLDS														
Total Households	193,665		211,638		3,852		12,374		1,716		6,044		3,134	
Average Household Size	2.66		2.59		2.73		2.43		2.4		2.64		2.92	
Family Households	134,937		139,739		2,869		7,909		1,093		4,238		2,579	
Average Family Size	3		3		3		3		3		3		3	

**PA Data & Demographics (As
of July 1, 2019)**

	Brookhaven Borough	Chadds Ford Township	Chester City	Chester Heights Borough	Chester Township
POPULATION					
Total Population	8,134	3,760	34,377	2,898	3,912
Population in Households	8,119	3,756	31,287	2,826	3,912
Population in Families	6,253	3,164	24,070	2,090	3,273
Population in Group Qtrrs	15	4	3,090	72	0
Population Density ²	4,761	434	711	1,309	2,739
Diversity Index ³	25	34	50	26	36
INCOME					
Median Household Income	\$75,679	\$149,692	\$30,951	\$88,249	\$45,221
Average Household Income	\$90,328	\$212,146	\$46,054	\$119,892	\$58,045
Per Capita Income	\$39,625	\$82,377	\$16,183	\$55,268	\$20,832
HOUSING					
Total Housing Units	3,710 (100%)	1,516 (100%)	13,912 (100%)	1,394 (100%)	1,588 (100%)
Owner Occupied HU	3,006 (81.0%)	1,281 (84.5%)	4,339 (31.2%)	912 (65.4%)	812 (51.1%)
Renter Occupied HU	562 (15.1%)	179 (11.8%)	7,361 (52.9%)	423 (30.3%)	592 (37.3%)
Vacant Housing Units	142 (3.8%)	56 (3.7%)	2,212 (15.9%)	59 (4.2%)	184 (11.6%)
Median Home Value	\$222,493	\$583,560	\$85,066	\$326,829	\$100,654
HOUSEHOLDS					
Total Households	3,568	1,460	11,700	1,335	1,404
Average Household Size	2.28	2.57	2.67	2.12	2.79
Family Households	2,120	1,025	7,118	738	960
Average Family Size	3	3	3	3	3

**PA Data & Demographics (As
of July 1, 2019)**

POPULATION	Clifton Heights Borough	Collingdale Borough	Cottwain Borough	Darby Borough	Darby Township	Eddystone Borough
Total Population	6,794	9,001	2,733	11,434	9,119	2,404
Population in Households	6,793	9,001	2,733	10,961	9,119	2,404
Population in Families	5,219	7,357	2,338	9,137	7,368	1,911
Population in Group Qrttrs	1	0	0	473	0	0
Population Density ²	10,779	10,352	10,573	13,576	6,442	2,417
Diversity Index ³	44	63	30	33	56	48
INCOME						
Median Household Income	\$46,863	\$51,989	\$45,960	\$35,656	\$53,198	\$49,172
Average Household Income	\$57,690	\$64,739	\$52,356	\$49,155	\$71,175	\$61,933
Per Capita Income	\$23,190	\$23,361	\$16,590	\$15,412	\$28,575	\$23,598
HOUSING						
Total Housing Units	2,896 (100%)	3,466 (100%)	941 (100%)	3,997 (100%)	3,928 (100%)	1,022 (100%)
Owner Occupied HU	1,643 (56.7%)	2,044 (59.0%)	539 (57.3%)	1,804 (45.1%)	2,669 (67.9%)	512 (50.1%)
Renter Occupied HU	1,088 (37.6%)	1,204 (34.7%)	327 (34.8%)	1,758 (44.0%)	992 (25.3%)	404 (39.5%)
Vacant Housing Units	165 (5.7%)	218 (6.3%)	75 (8.0%)	435 (10.9%)	267 (6.8%)	106 (10.4%)
Median Home Value	\$150,058	\$135,610	\$112,226	\$91,247	\$129,632	\$115,313
HOUSEHOLDS						
Total Households	2,731	3,248	866	3,562	3,661	916
Average Household Size	2.49	2.77	3.16	3.08	2.49	2.62
Family Households	1,664	2,189	619	2,495	2,381	594
Average Family Size	3	3	4	4	3	3

**PA Data & Demographics (As
of July 1, 2019)**

POPULATION	Edgmont Township		Folcroft Borough		Glenolden Borough		Haverford Township		Lansdowne Borough	
Total Population	4,124		6,436		7,064		48,747		10,618	
Population in Households	4,042		6,436		7,062		47,044		10,602	
Population in Families	3,310		5,284		5,424		40,241		7,991	
Population in Group Qrtts	82		0		2		1,703		16	
Population Density ²	425		5,168		7,247		4,902		8,988	
Diversity Index ³	19		62		36		28		62	
INCOME										
Median Household Income	\$130,644		\$59,071		\$61,007		\$110,755		\$66,867	
Average Household Income	\$196,863		\$67,964		\$71,563		\$142,751		\$84,131	
Per Capita Income	\$81,380		\$25,228		\$29,491		\$52,298		\$36,221	
HOUSING										
Total Housing Units	1,822 (100%)		2,661 (100%)		3,113 (100%)		18,541 (100%)		5,004 (100%)	
Owner Occupied HU	1,250 (68.6%)		1,757 (66.0%)		1,874 (60.2%)		15,121 (81.6%)		2,882 (57.6%)	
Renter Occupied HU	446 (24.5%)		632 (23.8%)		1,037 (33.3%)		2,717 (14.7%)		1,689 (33.8%)	
Vacant Housing Units	126 (6.9%)		272 (10.2%)		202 (6.5%)		703 (3.8%)		433 (8.7%)	
Median Home Value	\$560,254		\$128,494		\$173,145		\$347,121		\$191,783	
HOUSEHOLDS										
Total Households	1,696		2,389		2,911		17,838		4,571	
Average Household Size	2.38		2.69		2.43		2.64		2.32	
Family Households	1,078		1,648		1,725		12,598		2,607	
Average Family Size	3		3		3		3		3	

**PA Data & Demographics (As
of July 1, 2019)**

POPULATION	Lower Chichester Township	Marcus Hook Borough	Marple Township	Middletown Township	Morton Borough
Total Population	3,401	2,336	23,849	16,420	2,582
Population in Households	3,398	2,336	22,973	14,467	2,572
Population in Families	2,731	1,801	19,829	11,769	1,960
Population in Group Qtrrs	3	0	876	1,953	10
Population Density ²	3,171	2,108	2,338	1,219	7,208
Diversity Index ³	39	45	30	25	61
INCOME					
Median Household Income	\$57,089	\$39,908	\$97,818	\$100,103	\$64,851
Average Household Income	\$69,372	\$54,553	\$127,112	\$139,560	\$88,727
Per Capita Income	\$24,865	\$20,411	\$46,961	\$52,998	\$37,084
HOUSING					
Total Housing Units	1,346 (100%)	1,018 (100%)	9,099 (100%)	6,216 (100%)	1,215 (100%)
Owner Occupied HU	810 (60.2%)	412 (40.5%)	7,407 (81.4%)	4,455 (71.7%)	569 (46.8%)
Renter Occupied HU	409 (30.4%)	462 (45.4%)	1,392 (15.3%)	1,518 (24.4%)	510 (42.0%)
Vacant Housing Units	127 (9.4%)	144 (14.1%)	300 (3.3%)	243 (3.9%)	136 (11.2%)
Median Home Value	\$107,851	\$81,818	\$379,303	\$404,973	\$243,947
HOUSEHOLDS					
Total Households	1,219	874	8,799	5,973	1,079
Average Household Size	2.79	2.67	2.61	2.42	2.38
Family Households	854	544	6,389	3,807	629
Average Family Size	3	3	3	3	3

**PA Data & Demographics (As
of July 1, 2019)**

POPULATION	Nether Providence Township	Newtown Township	Norwood Borough	Parkside Borough	Township Of Pocopson
Total Population	13,754	14,581	5,875	2,276	4,871
Population in Households	13,538	14,349	5,873	2,276	3,665
Population in Families	11,706	11,979	4,795	1,839	3,393
Population in Group Qrtts	216	232	2	0	1,206
Population Density ²	2,918	1,456	7,561	11,059	595
Diversity Index ³	38	18	18	49	41
INCOME					
Median Household Income	\$113,514	\$103,414	\$78,206	\$63,912	\$156,204
Average Household Income	\$154,335	\$165,948	\$87,456	\$71,608	\$218,648
Per Capita Income	\$57,461	\$66,788	\$32,899	\$26,806	\$55,460
HOUSING					
Total Housing Units	5,317 (100%)	6,215 (100%)	2,343 (100%)	912 (100%)	1,266 (100%)
Owner Occupied HU	4,432 (83.4%)	4,362 (70.2%)	1,635 (69.8%)	658 (72.1%)	1,151 (90.9%)
Renter Occupied HU	687 (12.9%)	1,504 (24.2%)	575 (24.5%)	194 (21.3%)	78 (6.2%)
Vacant Housing Units	198 (3.7%)	349 (5.6%)	133 (5.7%)	60 (6.6%)	37 (2.9%)
Median Home Value	\$368,948	\$488,000	\$189,303	\$149,123	\$556,090
HOUSEHOLDS					
Total Households	5,119	5,866	2,210	852	1,229
Average Household Size	2.64	2.45	2.66	2.67	2.98
Family Households	3,747	3,884	1,464	561	1,050
Average Family Size	3	3	3	3	3

**PA Data & Demographics (As
of July 1, 2019)**

POPULATION	Prospect Park Borough		Radnor Township		Ridley Park Borough		Ridley Township		Rose Valley Borough		Rutledge Borough	
Total Population	6,383	31,665	7,050	31,177	1,008	846						
Population in Households	6,214	24,725	7,000	31,137	1,001	838						
Population in Families	4,809	19,585	5,495	25,541	900	735						
Population in Group Qtrs	169	6,940	50	40	7	8						
Population Density ²	8,740	2,299	6,535	6,091	1,377	5,916						
Diversity Index ³	26	40	17	30	24	28						
INCOME												
Median Household Income	\$75,914	\$129,312	\$74,656	\$71,987	\$195,152	\$87,603						
Average Household Income	\$81,996	\$193,803	\$93,945	\$85,641	\$265,114	\$111,372						
Per Capita Income	\$31,912	\$61,526	\$39,814	\$33,317	\$102,321	\$39,642						
HOUSING												
Total Housing Units	2,703 (100%)	10,898 (100%)	3,214 (100%)	12,789 (100%)	390 (100%)	302 (100%)						
Owner-Occupied HU	1,530 (56.6%)	6,387 (58.6%)	1,943 (60.5%)	9,031 (70.6%)	376 (96.4%)	258 (85.4%)						
Renter-Occupied HU	951 (35.2%)	3,623 (33.2%)	1,044 (32.5%)	3,097 (24.2%)	13 (3.3%)	43 (14.2%)						
Vacant Housing Units	222 (8.2%)	888 (8.1%)	227 (7.1%)	661 (5.2%)	1 (0.3%)	1 (0.3%)						
Median Home Value	\$216,667	\$687,070	\$249,744	\$222,264	\$572,973	\$295,714						
HOUSEHOLDS												
Total Households	2,481	10,010	2,987	12,128	389	301						
Average Household Size	2.5	2.47	2.34	2.57	2.57	2.78						
Family Households	1,527	6,151	1,816	8,109	309	225						
Average Family Size	3	3	3	3	3	3						

**PA Data & Demographics (As
of July 1, 2019)**

	Sharon Hill Borough	Springfield Township	Swarthmore Borough	Trainer Borough	Upland Borough
POPULATION					
Total Population	5,683	24,514	6,201	1,866	3,265
Population in Households	5,678	24,352	4,920	1,866	3,184
Population in Families	4,704	21,782	3,996	157	2,536
Population in Group Qtrs	5	162	1,281	0	81
Population Density ²	7,364	3,879	4,430	1,766	5,031
Diversity Index ³	52	21	48	56	65
INCOME					
Median Household Income	\$52,075	\$108,723	\$124,372	\$49,476	\$43,329
Average Household Income	\$65,144	\$126,610	\$183,652	\$57,562	\$54,876
Per Capita Income	\$23,822	\$44,904	\$60,133	\$19,218	\$20,471
HOUSING					
Total Housing Units	2,268 (100%)	8,966 (100%)	2,095 (100%)	667 (100%)	1,314 (100%)
Owner Occupied HU	1,428 (63.0%)	7,940 (88.6%)	1,386 (66.2%)	443 (66.4%)	536 (40.8%)
Renter Occupied HU	650 (28.7%)	821 (9.2%)	579 (27.6%)	180 (27.0%)	679 (51.7%)
Vacant Housing Units	190 (8.4%)	205 (2.3%)	130 (6.2%)	44 (6.6%)	99 (7.5%)
Median Home Value	\$139,810	\$320,496	\$466,774	\$118,015	\$131,000
HOUSEHOLDS					
Total Households	2,078	8,761	1,965	623	1,215
Average Household Size	2.73	2.78	2.5	3	2.62
Family Households	1,387	6,755	1,272	459	772
Average Family Size	3	3	3	3	3

**PA Data & Demographics (As
of July 1, 2019)**

	Upper Chichester Township	Upper Darby Township	Upper Providence Township	Yeadon Borough
POPULATION				
Total Population	16,970	84,405	10,508	11,546
Population in Households	16,937	84,206	10,492	11,247
Population in Families	13,612	67,795	8,601	8,901
Population in Group Qrtts	33	199	16	299
Population Density ²	2,538	10,786	1,876	7,239
Diversity Index ³	42	68	30	21
INCOME				
Median Household Income	\$73,917	\$57,409	\$129,238	\$54,248
Average Household Income	\$89,436	\$78,065	\$171,410	\$75,273
Per Capita Income	\$35,614	\$29,480	\$69,835	\$29,632
HOUSING				
Total Housing Units	7,187 (100%)	34,480 (100%)	4,453 (100%)	4,889 (100%)
Owner Occupied HU	4,726 (65.8%)	18,860 (54.7%)	3,117 (70.0%)	2,821 (57.7%)
Renter Occupied HU	2,031 (28.3%)	13,009 (37.7%)	1,164 (26.1%)	1,713 (35.0%)
Vacant Housing Units	430 (6.0%)	2,611 (7.6%)	172 (3.9%)	355 (7.3%)
Median Home Value	\$248,471	\$173,638	\$480,172	\$155,169
HOUSEHOLDS				
Total Households	6,757	31,869	4,281	4,534
Average Household Size	2.51	2.64	2.45	2.48
Family Households	4,386	20,408	2,842	2,826
Average Family Size	3	3	3	3

U.S. States :

State	1790	1800	1810	1820	1830	1840	1850
Alabama	-	1,250	9,046	127,901	309,527	590,756	771,623
Alaska	-	-	-	-	-	-	-
Arizona	-	-	-	-	-	-	-
Arkansas	-	-	1,062	14,273	30,388	97,574	209,897
California	-	-	-	-	-	-	92,597
Colorado	-	-	-	-	-	-	-
Connecticut	237,946	251,002	261,942	275,248	297,675	309,978	370,792
Delaware	59,096	64,273	72,674	72,749	76,748	78,085	91,532
District of Columbia	-	8,144	15,471	23,336	30,261	33,745	51,687
Florida	-	-	-	-	34,730	54,477	87,445
Georgia	82,548	162,686	252,433	340,989	516,823	691,392	906,185
Hawaii	-	-	-	-	-	-	-
Idaho	-	-	-	-	-	-	-
Illinois	-	-	12,282	55,211	157,445	476,183	851,470
Indiana	-	5,641	24,520	147,718	343,031	685,866	988,416
Iowa	-	-	-	-	-	43,112	192,914
Kansas	-	-	-	-	-	-	-
Kentucky	73,677	220,955	406,511	564,317	687,917	779,828	982,405
Louisiana	-	-	76,556	153,407	215,739	352,411	517,762
Maine	96,540	151,719	228,705	298,335	399,455	501,793	583,169
Maryland	319,728	341,548	380,546	407,350	447,040	470,019	583,034
Massachusetts	378,787	422,845	472,040	523,287	610,408	737,699	994,514
Michigan	-	-	4,762	8,896	31,639	212,267	397,654
Minnesota	-	-	-	-	-	-	6,077
Mississippi	-	7,600	31,306	75,448	136,621	375,651	606,526
Missouri	-	-	19,783	66,586	140,455	383,702	682,044
Montana	-	-	-	-	-	-	-
Nebraska	-	-	-	-	-	-	-
Nevada	-	-	-	-	-	-	-
New Hampshire	141,885	183,858	214,460	244,161	269,328	284,574	317,976
New Jersey	184,139	211,149	245,562	277,575	320,823	373,306	489,555
New Mexico	-	-	-	-	-	-	61,547
New York	340,120	589,051	959,049	1,372,812	1,918,608	2,428,921	3,097,394
North Carolina	393,751	478,103	555,500	638,829	737,987	753,419	869,039
North Dakota	-	-	-	-	-	-	-
Ohio	-	45,365	230,760	581,434	937,903	1,519,467	1,980,329
Oklahoma	-	-	-	-	-	-	-
Oregon	-	-	-	-	-	-	12,093
Pennsylvania	434,373	602,365	810,091	1,049,458	1,348,233	1,724,033	2,311,786
Rhode Island	68,825	69,122	76,931	83,059	97,199	108,830	147,545
South Carolina	249,073	345,591	415,115	502,741	581,185	594,398	668,507
South Dakota	-	-	-	-	-	-	-
Tennessee	35,691	105,602	261,727	422,823	681,904	829,210	1,002,717
Texas	-	-	-	-	-	-	212,592
Utah	-	-	-	-	-	-	11,380
Vermont	85,425	154,465	217,895	235,981	280,652	291,948	314,120
Virginia	691,737	807,557	877,683	938,261	1,044,054	1,025,227	1,119,348
Washington	-	-	-	-	-	-	1,201
West Virginia	55,873	78,592	105,469	136,808	176,924	224,537	302,313
Wisconsin	-	-	-	-	-	30,945	305,391
Wyoming	-	-	-	-	-	-	-
Total - States & D.C.	3,929,214	5,308,483	7,239,881	9,638,993	12,860,702	17,063,353	23,192,576

and District of Columbia Population Census

State	1860	1870	1880	1890	1900	1910
Alabama	964,201	996,992	1,262,505	1,513,401	1,828,697	2,138,093
Alaska	-	-	33,426	32,052	63,592	64,356
Arizona	-	9,658	40,440	88,243	122,931	204,354
Arkansas	435,450	484,471	802,525	1,128,211	1,311,564	1,574,449
California	379,994	560,247	864,694	1,213,398	1,485,053	2,377,549
Colorado	34,277	39,864	194,327	413,249	539,700	799,024
Connecticut	460,147	537,454	622,700	746,258	908,420	1,114,756
Delaware	112,216	125,015	146,608	168,493	184,735	202,322
District of Columbia	75,080	131,700	177,624	230,392	278,718	331,069
Florida	140,424	187,748	269,493	391,422	528,542	752,619
Georgia	1,057,286	1,184,109	1,542,180	1,837,353	2,216,331	2,609,121
Hawaii	-	-	-	-	154,001	191,874
Idaho	-	14,999	32,610	88,548	161,772	325,594
Illinois	1,711,951	2,539,891	3,077,871	3,826,352	4,821,550	5,638,591
Indiana	1,350,428	1,680,637	1,978,301	2,192,404	2,516,462	2,700,876
Iowa	674,913	1,194,020	1,624,615	1,912,297	2,231,853	2,224,771
Kansas	107,206	364,399	996,096	1,428,108	1,470,495	1,690,949
Kentucky	1,155,684	1,321,011	1,648,690	1,858,635	2,147,174	2,289,905
Louisiana	708,002	726,915	939,946	1,118,588	1,381,625	1,656,388
Maine	628,279	626,915	648,936	661,086	694,466	742,371
Maryland	687,049	780,894	934,943	1,042,390	1,188,044	1,295,346
Massachusetts	1,231,066	1,457,351	1,783,085	2,238,947	2,805,346	3,366,416
Michigan	749,113	1,184,059	1,636,937	2,093,890	2,420,982	2,810,173
Minnesota	172,023	439,706	780,773	1,310,283	1,751,394	2,075,708
Mississippi	791,305	827,922	1,131,597	1,289,600	1,551,270	1,797,114
Missouri	1,182,012	1,721,295	2,168,380	2,679,185	3,106,665	3,293,335
Montana	-	20,595	39,159	142,924	243,329	376,053
Nebraska	28,841	122,993	452,402	1,062,656	1,066,300	1,192,214
Nevada	6,857	42,491	62,266	47,355	42,335	81,875
New Hampshire	326,073	318,300	346,991	376,530	411,588	430,572
New Jersey	672,035	906,096	1,131,116	1,444,933	1,883,669	2,537,167
New Mexico	93,516	91,874	119,565	160,282	195,310	327,301
New York	3,880,735	4,382,759	5,082,871	6,003,174	7,268,894	9,113,614
North Carolina	992,622	1,071,361	1,399,750	1,617,949	1,893,810	2,206,287
North Dakota	-	2,405	36,909	190,983	319,146	577,056
Ohio	2,339,511	2,665,260	3,198,062	3,672,329	4,157,545	4,767,121
Oklahoma	-	-	-	258,657	790,391	1,657,155
Oregon	52,465	90,923	174,768	317,704	413,536	672,765
Pennsylvania	2,906,215	3,521,951	4,282,891	5,258,113	6,302,115	7,665,111
Rhode Island	174,620	217,353	276,531	345,506	428,556	542,610
South Carolina	703,708	705,606	995,577	1,151,149	1,340,316	1,515,400
South Dakota	4,837	11,776	98,268	348,600	401,570	583,888
Tennessee	1,109,801	1,258,520	1,542,359	1,767,518	2,020,616	2,184,789
Texas	604,215	818,579	1,591,749	2,235,527	3,048,710	3,896,542
Utah	40,273	86,786	143,963	210,779	276,749	373,351
Vermont	315,098	330,551	332,286	332,422	343,641	355,956
Virginia	1,219,630	1,225,163	1,512,565	1,655,980	1,854,184	2,061,612
Washington	11,594	23,955	75,116	357,232	518,103	1,141,990
West Virginia	376,688	442,014	618,457	762,794	958,800	1,221,119
Wisconsin	775,881	1,054,670	1,315,497	1,693,330	2,069,042	2,333,860
Wyoming	-	9,118	20,789	62,555	92,531	145,965
Total - States & D.C.	31,443,321	38,558,371	50,189,209	62,979,766	76,212,168	92,228,496

is Counts: 1790 to 2010

State	1920	1930	1940	1950	1960	1970
Alabama	2,348,174	2,646,248	2,832,961	3,061,743	3,266,740	3,444,165
Alaska	55,036	59,278	72,524	128,643	226,167	300,382
Arizona	334,162	435,573	499,261	749,587	1,302,161	1,770,900
Arkansas	1,752,204	1,854,482	1,949,387	1,909,511	1,786,272	1,923,295
California	3,426,861	5,677,251	6,907,387	10,586,223	15,717,204	19,953,134
Colorado	939,629	1,035,791	1,123,296	1,325,089	1,753,947	2,207,259
Connecticut	1,380,631	1,606,903	1,709,242	2,007,280	2,535,234	3,031,709
Delaware	223,003	238,380	266,505	318,085	446,292	548,104
District of Columbia	437,571	486,869	663,091	802,178	763,956	756,510
Florida	968,470	1,468,211	1,897,414	2,771,305	4,951,560	6,789,443
Georgia	2,895,832	2,908,506	3,123,723	3,444,578	3,943,116	4,589,575
Hawaii	255,881	368,300	422,770	499,794	632,772	768,561
Idaho	431,866	445,032	524,873	588,637	667,191	712,567
Illinois	6,485,280	7,630,654	7,897,241	8,712,176	10,081,158	11,113,976
Indiana	2,930,390	3,238,503	3,427,796	3,934,224	4,662,498	5,193,669
Iowa	2,404,021	2,470,939	2,538,268	2,621,073	2,757,537	2,824,376
Kansas	1,769,257	1,880,999	1,801,028	1,905,299	2,178,611	2,246,578
Kentucky	2,416,630	2,614,589	2,845,627	2,944,806	3,038,156	3,218,706
Louisiana	1,798,509	2,101,593	2,363,880	2,683,516	3,257,022	3,641,306
Maine	768,014	797,423	847,226	913,774	969,265	992,048
Maryland	1,449,661	1,631,526	1,821,244	2,343,001	3,100,689	3,922,399
Massachusetts	3,852,356	4,249,614	4,316,721	4,690,514	5,148,578	5,689,170
Michigan	3,668,412	4,842,325	5,256,106	6,371,766	7,823,194	8,875,083
Minnesota	2,387,125	2,563,953	2,792,300	2,982,483	3,413,864	3,804,971
Mississippi	1,790,618	2,009,821	2,183,796	2,178,914	2,178,141	2,216,912
Missouri	3,404,055	3,629,367	3,784,664	3,954,653	4,319,813	4,676,501
Montana	548,889	537,606	559,456	591,024	674,767	694,409
Nebraska	1,296,372	1,377,963	1,315,834	1,325,510	1,411,330	1,483,493
Nevada	77,407	91,058	110,247	160,083	285,278	488,738
New Hampshire	443,083	465,293	491,524	533,242	606,921	737,681
New Jersey	3,155,900	4,041,334	4,160,165	4,835,329	6,066,782	7,168,164
New Mexico	360,350	423,317	531,818	681,187	951,023	1,016,000
New York	10,385,227	12,588,066	13,479,142	14,830,192	16,782,304	18,236,967
North Carolina	2,559,123	3,170,276	3,571,623	4,061,929	4,556,155	5,082,059
North Dakota	646,872	680,845	641,935	619,636	632,446	617,761
Ohio	5,759,394	6,646,697	6,907,612	7,946,627	9,706,397	10,652,017
Oklahoma	2,028,283	2,396,040	2,336,434	2,233,351	2,328,284	2,559,229
Oregon	783,389	953,786	1,089,684	1,521,341	1,768,687	2,091,385
Pennsylvania	8,720,017	9,631,350	9,900,180	10,498,012	11,319,366	11,793,909
Rhode Island	604,397	687,497	713,346	791,896	859,488	946,725
South Carolina	1,683,724	1,738,765	1,899,804	2,117,027	2,382,594	2,590,516
South Dakota	636,547	692,849	642,961	652,740	680,514	665,507
Tennessee	2,337,885	2,616,556	2,915,841	3,291,718	3,567,089	3,923,687
Texas	4,663,228	5,824,715	6,414,824	7,711,194	9,579,677	11,196,730
Utah	449,396	507,847	550,310	688,862	890,627	1,059,273
Vermont	352,428	359,611	359,231	377,747	389,881	444,330
Virginia	2,309,187	2,421,851	2,677,773	3,318,680	3,966,949	4,648,494
Washington	1,356,621	1,563,396	1,736,191	2,378,963	2,853,214	3,409,169
West Virginia	1,463,701	1,729,205	1,901,974	2,005,552	1,860,421	1,744,237
Wisconsin	2,632,067	2,939,006	3,137,587	3,434,575	3,951,777	4,417,731
Wyoming	194,402	225,565	250,742	290,529	330,066	332,416
Total - States & D.C.	106,021,537	123,202,624	132,164,569	151,325,798	179,323,175	203,211,926

State	1980	1990	2000	2010
Alabama	3,893,888	4,040,587	4,447,351	4,779,736
Alaska	401,851	550,043	626,931	710,231
Arizona	2,718,215	3,665,228	5,130,632	6,392,017
Arkansas	2,286,435	2,350,725	2,673,400	2,915,918
California	23,667,902	29,760,021	33,871,653	37,253,956
Colorado	2,889,964	3,294,394	4,302,015	5,029,196
Connecticut	3,107,576	3,287,116	3,405,602	3,574,097
Delaware	594,338	666,168	783,600	897,934
District of Columbia	638,333	606,900	572,059	601,723
Florida	9,746,324	12,937,926	15,982,824	18,801,310
Georgia	5,463,105	6,478,216	8,186,816	9,687,653
Hawaii	964,691	1,108,229	1,211,537	1,360,301
Idaho	943,935	1,006,749	1,293,956	1,567,582
Illinois	11,426,518	11,430,602	12,419,647	12,830,632
Indiana	5,490,224	5,544,159	6,080,517	6,483,802
Iowa	2,913,808	2,776,755	2,926,382	3,046,355
Kansas	2,363,679	2,477,574	2,688,824	2,853,118
Kentucky	3,660,777	3,685,296	4,042,285	4,339,367
Louisiana	4,205,900	4,219,973	4,468,958	4,533,372
Maine	1,124,660	1,227,928	1,274,923	1,328,361
Maryland	4,216,975	4,781,468	5,296,507	5,773,552
Massachusetts	5,737,037	6,016,425	6,349,105	6,547,629
Michigan	9,262,078	9,295,297	9,938,480	9,883,640
Minnesota	4,075,970	4,375,099	4,919,492	5,303,925
Mississippi	2,520,638	2,573,216	2,844,656	2,967,297
Missouri	4,916,686	5,117,073	5,596,683	5,988,927
Montana	786,690	799,065	902,195	989,415
Nebraska	1,569,825	1,578,385	1,711,265	1,826,341
Nevada	800,493	1,201,833	1,998,257	2,700,551
New Hampshire	920,610	1,109,252	1,235,786	1,316,470
New Jersey	7,364,823	7,730,188	8,414,347	8,791,894
New Mexico	1,302,894	1,515,069	1,819,046	2,059,179
New York	17,558,072	17,990,455	18,976,821	19,378,102
North Carolina	5,881,766	6,628,637	8,046,485	9,535,483
North Dakota	652,717	638,800	642,200	672,591
Ohio	10,797,630	10,847,115	11,353,145	11,536,504
Oklahoma	3,025,290	3,145,585	3,450,652	3,751,351
Oregon	2,633,105	2,842,321	3,421,436	3,831,074
Pennsylvania	11,863,895	11,881,643	12,281,054	12,702,379
Rhode Island	947,154	1,003,464	1,048,319	1,052,567
South Carolina	3,121,820	3,486,703	4,011,816	4,625,364
South Dakota	690,768	696,004	754,844	814,180
Tennessee	4,591,120	4,877,185	5,689,267	6,346,105
Texas	14,229,191	16,986,510	20,851,790	25,145,561
Utah	1,461,037	1,722,850	2,233,198	2,763,885
Vermont	511,456	562,758	608,827	625,741
Virginia	5,346,818	6,187,358	7,079,030	8,001,024
Washington	4,132,156	4,866,692	5,894,141	6,724,540
West Virginia	1,949,644	1,793,477	1,808,350	1,852,994
Wisconsin	4,705,767	4,891,769	5,363,715	5,686,986
Wyoming	469,557	453,588	493,782	563,626
Total - States & D.C.	226,545,805	248,709,873	281,424,603	308,745,538



ADR 022 | July 2016

Analytical Data Report

County- and Municipal-Level
Population Forecasts, 2015–2045





The Delaware Valley Regional Planning Commission is dedicated to uniting the region's elected officials, planning professionals, and the public with a common vision of making a great region even greater. Shaping the way we live, work, and play, DVRPC builds consensus on improving transportation, promoting smart growth, protecting the environment, and enhancing the economy. We serve a diverse region of nine counties: Bucks, Chester, Delaware, Montgomery, and Philadelphia in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer in New Jersey. DVRPC is the federally designated Metropolitan Planning Organization for the Greater Philadelphia Region — leading the way to a better future.



The symbol in our logo is adapted from the official DVRPC seal and is designed as a stylized image of the Delaware Valley. The outer ring symbolizes the region as a whole while the diagonal bar signifies the Delaware River. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey.

DVRPC is funded by a variety of funding sources, including federal grants from the U.S. Department of Transportation's Federal Highway Administration (FHWA) and Federal Transit Administration (FTA); the Pennsylvania and New Jersey departments of transportation; and DVRPC's state and local member governments. The authors, however, are solely responsible for the findings and conclusions herein, which may not represent the official views or policies of the funding agencies.

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As the region's metropolitan planning organization, DVRPC provides technical assistance and services to its member state and local governments. *Delaware Valley Data* is our periodic series of free data bulletins, analytical data reports, data reference guides, and data snapshots.

Background

Population and employment forecasts are a critical component of long-range land use and transportation planning. As a part of the Delaware Valley Regional Planning Commission's (DVRPC's) long-range planning activities, the Commission is required to maintain forecasts with at least a 20-year horizon, or to the horizon year of the long-range plan. DVRPC last adopted forecasts through the year 2040 in January 2012. Since that time, the Census Bureau has released 2015 population estimates, and both the nation and the region have continued to recover from the significant economic recession that officially began in December 2007 and ended in June 2009.

In order to incorporate the 2015 Census estimates and maintain a 30-year planning horizon, DVRPC has prepared 2045 population forecasts for its member counties and municipalities. These forecasts were formally adopted by the DVRPC Board on July 28, 2016, and serve as the basis for DVRPC planning and modeling activities. Employment forecasts in five-year increments through 2045 are scheduled to be adopted in October 2016.

Three alternative sets of county- and municipal-level 2045 population forecasts were developed based on the method described below, and sent to the county planning staffs for review and comment. Agreement was first reached on the county- and municipal-level 2045 population forecasts; forecasts for 2020, 2025, 2030, 2035, and 2040 were then calculated by DVRPC, based on the population growth rate predicted over each five-year increment by the Commission's age-cohort survival model. These mid-cycle forecasts were again sent to the counties for review, and their suggested revisions were incorporated to produce the final set of 2045 forecasts.

Method for Calculating County-Level 2045 Population Forecasts

Three alternative 2045 population forecasts were calculated for each county based on three separate methods, the results of which define a reasonable range of values within which each county's 2045 population total is expected to fall. This process replicates the process employed in 2007 and again in 2011, to develop the Commission's adopted 2035 and 2040 population forecasts. The three alternative methods are as follows:

- An initial set of draft county-level 2045 forecasts was obtained by running the traditional age-cohort survival model used in the previously forecasted round, but updating the model to incorporate 2000, 2005, 2010, and 2015 population data in five-year age/sex cohorts. When the analysis for this report was conducted, the Census Bureau had released 2015 estimates of the total population in each county, but had not yet released 2015 estimates by age/sex cohorts. The percentage of the population in each age/sex cohort in 2014 was therefore applied to the 2015 county estimates, to approximate 2015 age/sex breakdowns. The model incorporates birth, death, survival, and migration rates as follows:

- **Birth rate:** The model uses the number of live births per 1,000 women by five-year age cohort in New Jersey in 2013, assuming that New Jersey state-wide data is a better proxy for the Greater Philadelphia region's fertility rate than state-wide data from Pennsylvania (which has many non-metropolitan counties).
- **Survival rate:** Survival rate data (and, conversely, mortality rate data) was obtained from the National Vital Statistics System of the Center for Disease Control and Prevention (CDC). Future survival rates were adjusted to account for expected improvements in mortality related to medical advances and lifestyle changes, based on average increases in life expectancy over the past 20 years.
- **Migration:** The model assumes that migration (the change in the population that cannot be accounted for through births and deaths) in future years will be the same as the average migration rate experienced by each five-year age/sex cohort in each county between 2000 and 2015. Using the average migration rates between 2000 and 2015 accounts for changes in migration experienced prior to the economic recession, during the recession, and post-recession.

This age-cohort model replicates the model used in 2007 and again in 2011, but incorporates recent data to more accurately portray recent demographic trends. These trends include higher in-migration of seniors to certain areas of the region, declining overall fertility rates but higher fertility rates among women over age 35, and in-migration to Philadelphia and some of the region's older suburbs.

- A second set of county-level forecasts was developed utilizing the region-wide 2045 population forecast from the age-cohort model described above, but redistributing the total 2045 regional population to each of the nine counties based on the county percentages from the adopted 2040 forecasts. This alternative acknowledges that the longer-term development trends agreed upon during the process of developing the 2040 forecasts may be more important in some counties than the age-cohort births/deaths and shorter-term migration trends reflected in the county-level age-cohort method described above. It therefore continues those longer-term growth trends by reassigning the 2045 regional population among the nine counties, essentially adjusting migration rates to compensate for birth-death effects.
- A third alternative set of county-level forecasts was developed by applying the growth rates between each five-year time period from DVRPC's adopted 2040 forecasts to the previous five-year total, but using 2015 American Community Survey data as the base. The expected growth rate between 2040 and 2045 was based on the average change in the forecasted growth rate for each five-year increment between 2015 and 2040.

This alternative ignores the results of the most recent age-cohort model and simply extends to 2045 the growth rates agreed upon during the process of developing the 2040 forecasts, as applied to the new 2015 base. This method assumes future population growth will follow previously adopted trends but adjusts for the differences in growth that actually occurred between 2010 and 2015.

The two alternatives to the age-cohort model incorporate the value of local planning knowledge and recognize that the adopted 2040 forecasts did not simply reflect the age-cohort results, but included significant input from the county planning staffs. Based on the above steps, three alternative sets of 2045 forecasts were developed for each of the nine counties, creating expected minimum and maximum 2045 county-level forecasts.

Method for Calculating Municipal-Level 2045 Population Forecasts

Each set of alternative county-level 2045 forecasts was disaggregated to the municipal level using the following method:

- The difference between the municipal-level 2015 Census population estimate and DVRPC's 2015 population forecast was calculated for each municipality.
- These differences were added or subtracted as appropriate from the adopted municipal-level 2040 forecasts. These adjusted 2040 forecasts were then used as a base for the calculation of the 2045 municipal forecasts.
- The adjusted 2040 population forecasts were summed and, for each set of alternatives, the percentage of the population forecasted to live in each municipality in 2040 (based on the adjusted 2040 forecasts) was applied to each of the 2045 county-level alternatives to create preliminary 2045 municipal forecasts, with the sum of all municipalities within each county matching the county-level 2045 forecast for each of the three alternatives.

This method assumes that the proportion of the county's population living in each municipality in 2040 will remain the same in 2045 and, when applied to the three alternative county-level forecasts, produced three alternative sets of municipal-level 2045 forecasts. These alternatives were sent to DVRPC's member counties' planning staff for review and comment, and consensus was reached on a full set of 2045 county and municipal forecasts.

Method for Developing Mid-Year Population Forecasts

Once agreement was reached on the county- and municipal-level 2045 population forecasts, forecasts for 2020, 2025, 2030, 2035, and 2040 were developed by DVRPC, based on the population growth predicted for each mid-year increment by the regional age-cohort survival model. The age-cohort model predicted a slight curve (rather than a straight line), with slightly more growth in the early years and a slight slowing near the end.

Obviously, the population of every municipality is not going to increase at exactly the same rate during each five-year interval. These mid-year numbers were simply intended to provide a logical starting point for discussion, and were sent to the county planning staffs for final review, based on their local knowledge of pending and approved development proposals and population growth trends. Their suggested revisions were incorporated to produce the final set of 2045 forecasts. Table 1 summarizes DVRPC's adopted regional and county forecasts in five-year increments through 2045, and municipal-level forecasts are provided in Appendix A.

Table 1: Forecasted Population by County, 2015-2045

County	2010 Census	2015 Census Estimate	2020 Forecast	2025 Forecast	2030 Forecast	2035 Forecast	2040 Forecast	2045 Forecast	2015-2045	
									Absolute Change	Percentage Change
Bucks County	625,249	627,367	640,495	654,792	669,299	681,273	691,111	699,498	72,131	11.5%
Chester County	498,886	515,939	543,702	571,641	599,932	624,832	645,562	662,283	146,344	28.4%
Delaware County	558,979	563,894	568,337	572,758	577,248	581,136	584,329	587,037	23,143	4.1%
Montgomery County	799,874	819,264	840,934	863,327	884,387	903,114	918,918	932,820	113,556	13.9%
Philadelphia County	1,526,006	1,567,443	1,594,787	1,616,816	1,643,971	1,667,290	1,683,402	1,696,133	128,690	8.2%
Five Pennsylvania Counties	4,008,994	4,093,907	4,188,255	4,279,333	4,374,837	4,457,645	4,523,322	4,577,771	483,864	11.8%
Burlington County	448,734	450,226	459,344	468,428	475,978	482,560	488,026	492,709	42,483	9.4%
Camden County	513,657	510,923	514,006	517,073	520,189	522,886	525,101	526,997	16,074	3.1%
Gloucester County	288,288	291,479	307,766	323,969	340,425	354,677	366,383	376,308	84,829	29.1%
Mercer County	367,511	371,398	377,328	383,227	389,219	394,407	398,669	402,283	30,885	8.3%
Four New Jersey Counties	1,618,190	1,624,026	1,658,444	1,692,697	1,725,811	1,754,530	1,778,179	1,798,296	174,270	10.7%
Nine-County DVRPC Region	5,627,184	5,717,933	5,846,699	5,972,030	6,100,648	6,212,175	6,301,501	6,376,067	658,134	11.5%

Source: Delaware Valley Regional Planning Commission, July 2016.

Table 2 identifies the 20 municipalities expected to gain the most residents between 2015 and 2045, and Table 3 identifies municipalities with the highest forecasted percentage change in population. Figure 1 illustrates the 2040 population forecasts by municipality, with concentrations of population seen in Philadelphia and the region's mature suburbs and along major highway corridors, including Route 422, Route 30, Mercer County's Route 1 corridor, and the Route 55 in Gloucester County and southern Camden County. Figures 2 and 3 illustrate absolute and percent change in population by municipality between 2015 and 2045, respectively.

Figure 4 illustrates the absolute increase in population per square mile in each of the region's 352 municipalities. This map illustrates not just where the population is increasing, but also the impact of relatively small population increases on the population density in specific municipalities. Significant increases in density are forecast not just in the City of Philadelphia, but also in many of the region's smaller boroughs, including Phoenixville, Atglen, Parkesburg, Oxford, Avondale, West Grove, and Kennett Square in Chester County; Bridgeport and Conshohocken in Montgomery County; and Riverside and Beverly in Burlington County.

Highlights

- The DVRPC region is forecast to gain over 658,000 residents between 2015 and 2045 (an 11.5 percent increase).
- As it has since the mid-2000s, the population of the City of Philadelphia increased between 2010 and 2015, with the city adding more than 41,000 residents. This trend is forecast to continue, with the city's population expected to increase by over 8 percent by 2045, adding over 128,000 residents. The share of the region's population living in the city is expected to increase slightly by 2045, from 26 percent, in 2015, to 27 percent.
- The population of the region's five southeastern Pennsylvania counties is forecast to increase by 11.8 percent between 2015 and 2045, while the population of the four New Jersey counties is expected to increase by 10.7 percent.
- The largest percentage increases in population are expected in municipalities in Gloucester County, New Jersey (where the county's population is forecast to increase by over 29 percent) and Chester County, Pennsylvania (where the population is forecast to increase by more than 28 percent).

- The largest absolute increase in population is forecast for Chester County, which is expected to gain over 146,000 residents and surpass Delaware County to become the region's fourth most populous county by 2045. Other counties forecast to see a significant number of additional residents include Philadelphia (as mentioned above), Montgomery County (with a forecasted increase of over 113,000 people), and Gloucester County, New Jersey (forecast to add almost 85,000 residents).

Table 2: Municipalities with the Greatest Forecasted Absolute Change in Population, 2015–2045

Rank	Municipality or City Planning Area	County	Absolute Change	Rank	Municipality or City Planning Area	County	Absolute Change
1	Central	Philadelphia	30,406	11	Harrison Township	Gloucester	7,666
2	Lower North	Philadelphia	16,360	12	Washington Township	Gloucester	7,504
3	University/Southwest	Philadelphia	14,586	13	Bristol Township	Bucks	6,766
4	Monroe Township	Gloucester	13,519	14	Mantua Township	Gloucester	6,667
5	Woolwich Township	Gloucester	12,362	15	River Wards	Philadelphia	6,566
6	Phoenixville Borough	Chester	9,052	16	East Whiteland Township	Chester	6,250
7	North	Philadelphia	8,607	17	Glassboro Borough	Gloucester	6,063
8	West	Philadelphia	8,278	18	Lower Merion Township	Montgomery	6,054
9	Bensalem Township	Bucks	7,838	19	Upper Providence Township	Montgomery	6,050
10	South	Philadelphia	7,767	20	Horsham Township	Montgomery	5,954

Source: Delaware Valley Regional Planning Commission, July 2016.

Table 3: Municipalities with the Greatest Forecasted Percentage Change in Population, 2015–2045

Rank	Municipality or City Planning Area	County	Absolute Change	Rank	Municipality or City Planning Area	County	Absolute Change
1	Woolwich Township	Gloucester	100.5%	11	London Grove Township	Chester	52.4%
2	Elk Township	Gloucester	70.3%	12	South Coatesville Borough	Chester	50.5%
3	Atglen Borough	Chester	63.9%	13	West Brandywine Township	Chester	48.2%
4	Elverson Borough	Chester	62.6%	14	East Vincent Township	Chester	47.6%
5	Modena Borough	Chester	62.5%	15	East Brandywine Township	Chester	47.0%
6	Sadsbury Township	Chester	62.3%	16	Penn Township	Chester	46.5%
7	Harrison Township	Gloucester	59.0%	17	Charlestown Township	Chester	46.5%
8	East Whiteland Township	Chester	58.4%	18	New Hanover Township	Montgomery	46.3%
9	West Sadsbury Township	Chester	54.5%	19	Hainesport Township	Burlington	45.5%
10	Phoenixville Borough	Chester	54.3%	20	Mantua Township	Gloucester	44.3%

Source: Delaware Valley Regional Planning Commission, July 2016.

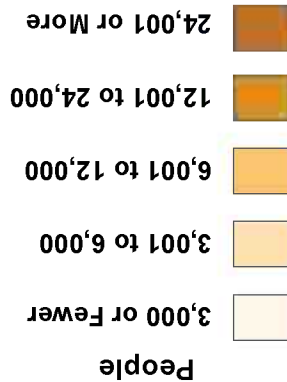
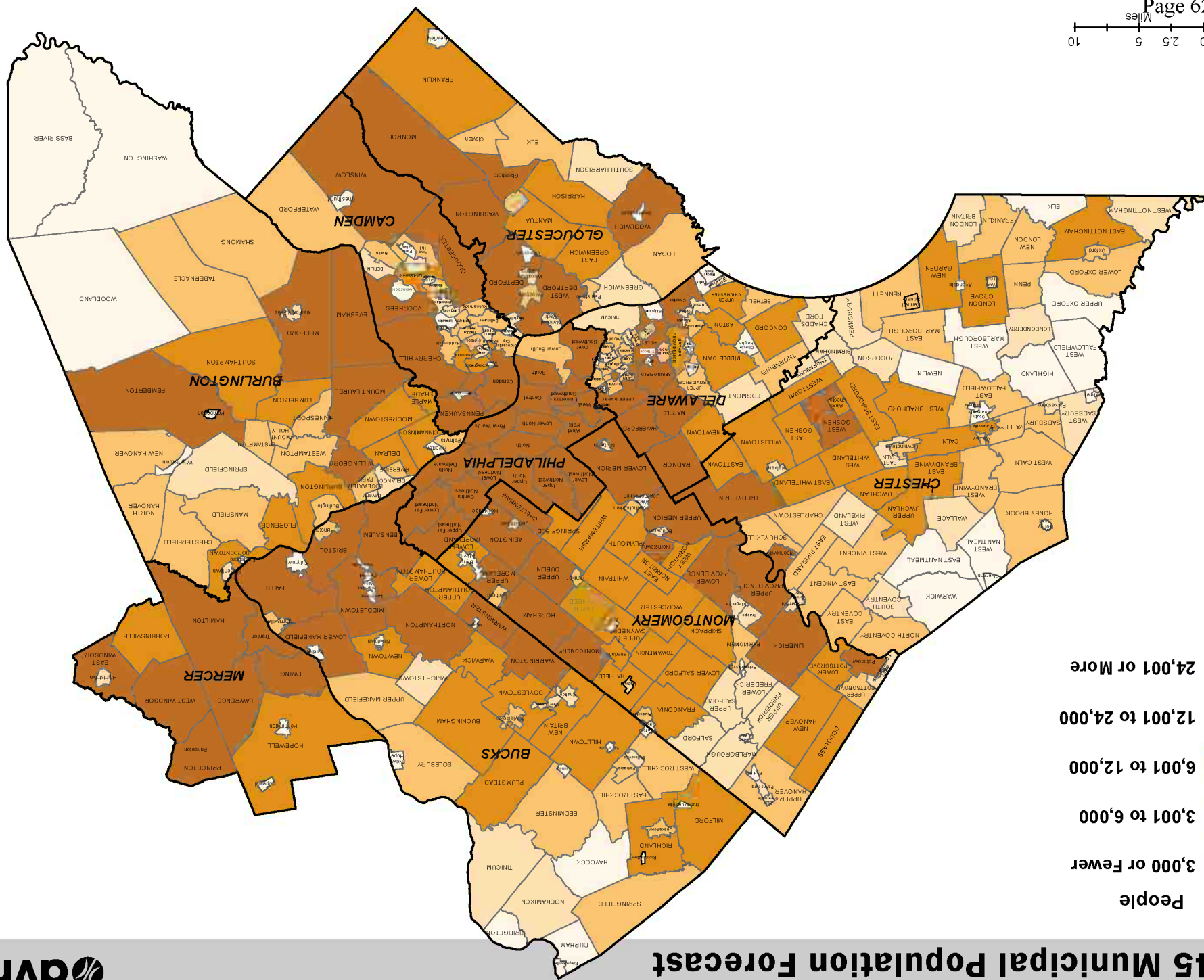
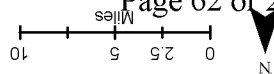


Figure 1: 2045 Municipal Population Forecast

Figure 2:
2045 Municipal Population Forecast
Absolute Change: 2015–2045

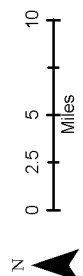
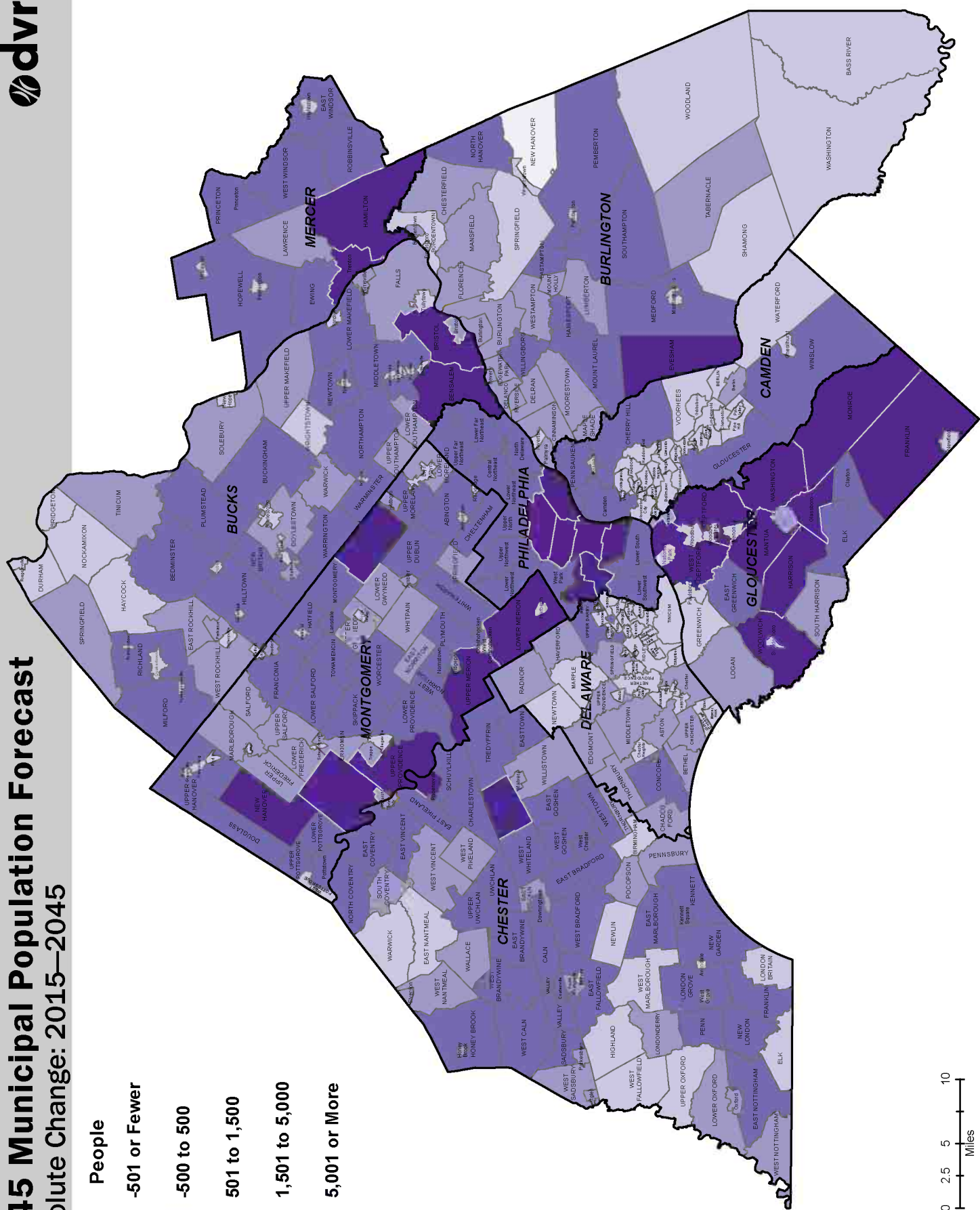
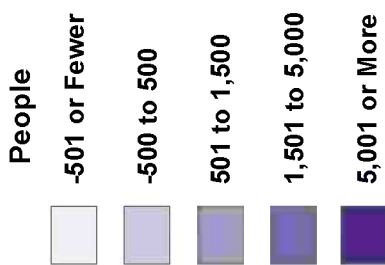


Figure 3:
2045 Municipal Population Forecast
Percentage Change: 2015–2045



- Decline (Below -5%)
- Stable (-5% to +5%)
- Moderate Growth (+6% to +25%)
- Significant Growth (+26% to +50%)
- Exceptional Growth (Above +50%)

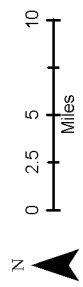
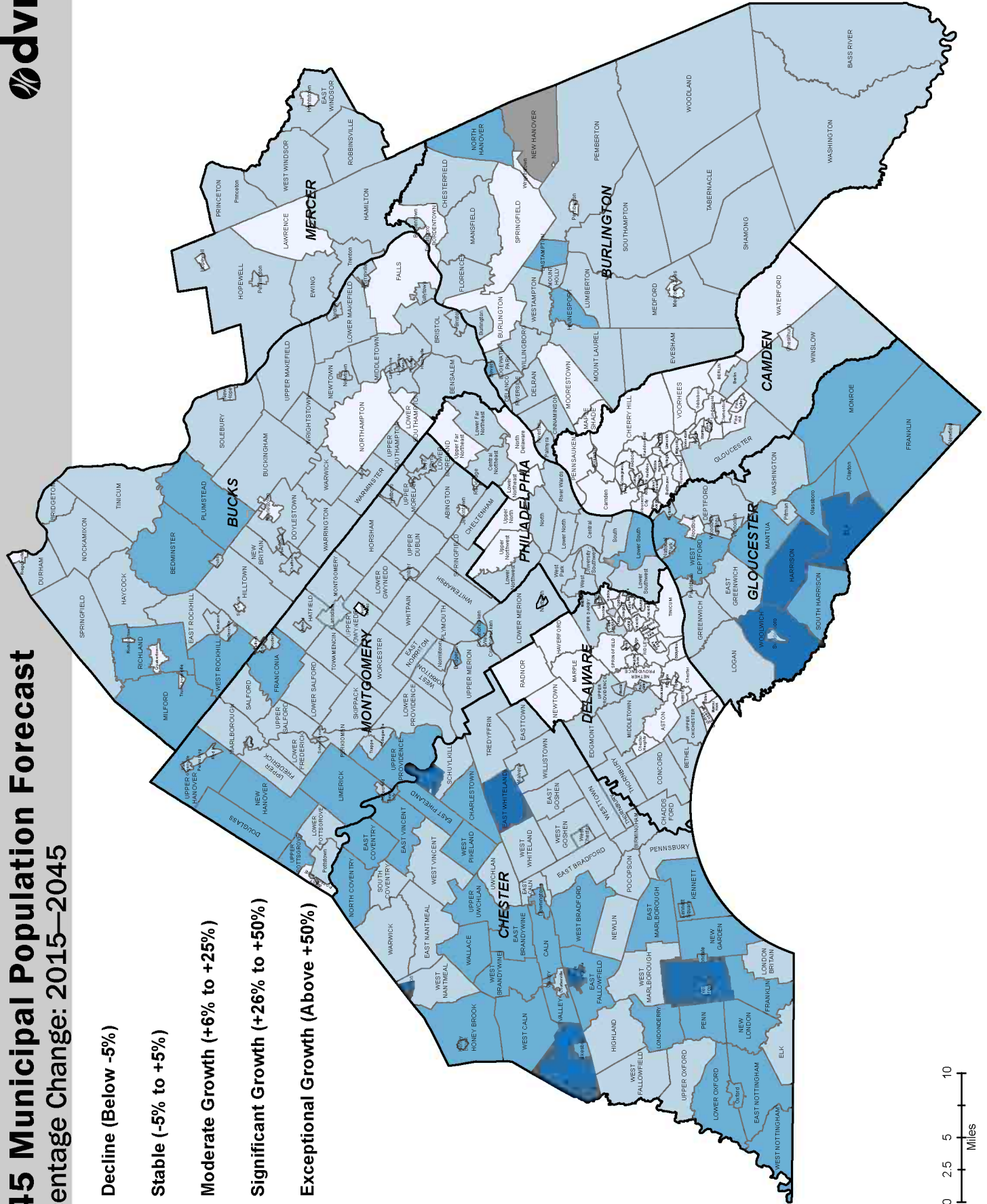
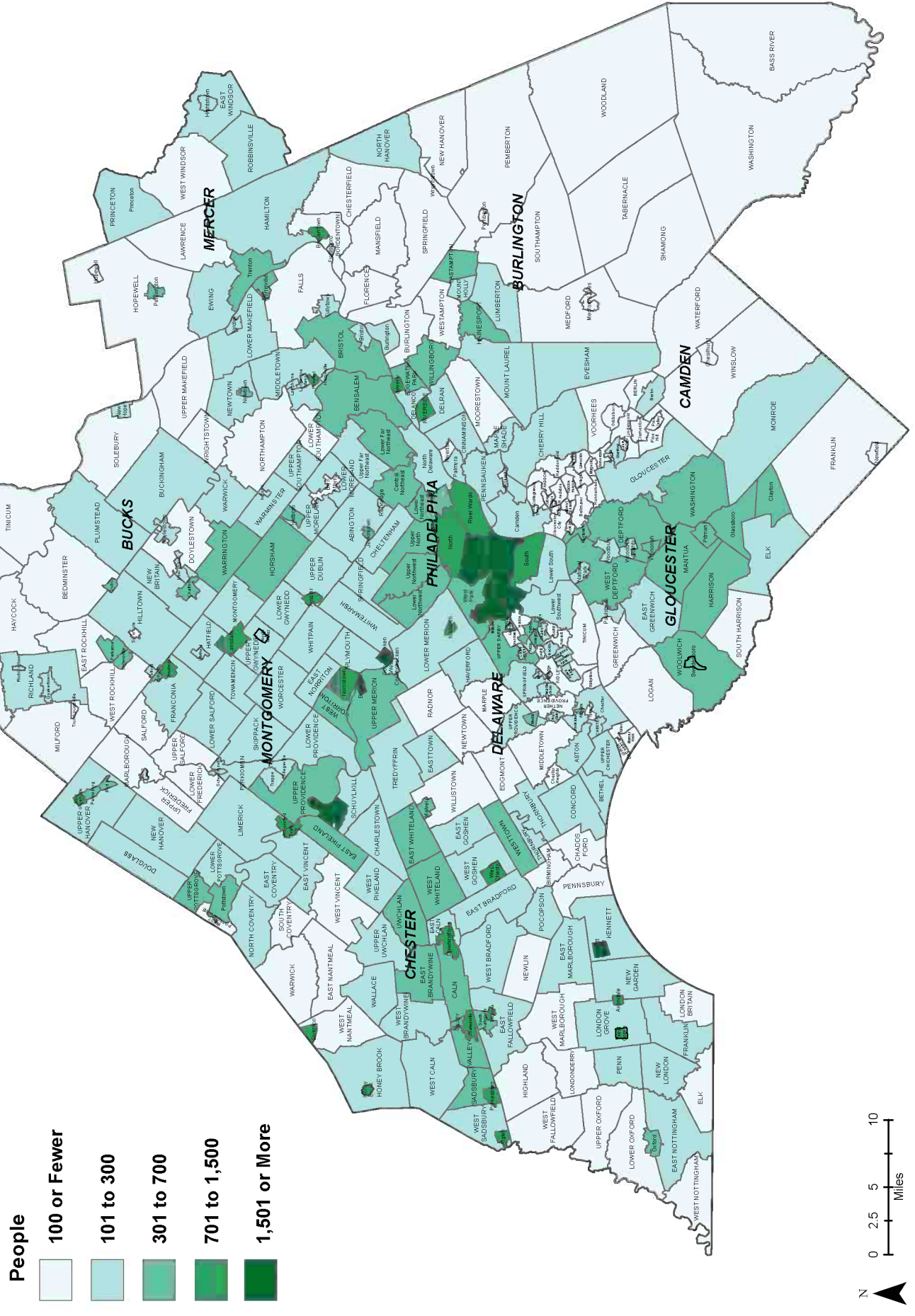




Figure 4:
2045 Municipal Population Forecast
Absolute Change per Square Mile by Municipality:
2015–2045



Summary

This report summarizes the method used to develop 2045 and interim-year population forecasts, which were adopted by the DVRPC Board on July 28, 2016. The population of the nine-county DVRPC region is forecast to increase by 11.5 percent between 2015 and 2045, with much of this growth concentrated in the suburbs, particularly in Chester County, Pennsylvania, and Gloucester County, New Jersey. The population of the City of Philadelphia is expected to increase by over 8 percent by 2045, and the share of the region's population living in the city is expected to increase slightly, from 26 percent in 2015 to 27 percent in 2045.

Population and employment forecasts are a critical component of long-range land use and transportation planning. The adopted population forecasts provided in this report will serve as the basis for DVRPC's planning and modeling activities. Employment forecasts in five-year increments through 2045 will be prepared and adopted in October 2016. The population and employment forecasts will be included in and support *Connections 2045*, the region's long-range plan update, scheduled for adoption in July 2017.

Appendix A: Forecasted Population by County and Municipality, 2015-2045

County / Municipality	2015 Census			2015-2045							
	2000 Census	2010 Census	2015 Census Estimate	2020 Forecast	2025 Forecast	2030 Forecast	2035 Forecast	2040 Forecast	2045 Forecast	Absolute Change	Percentage Change
Bucks County	597,636	625,249	627,367	640,495	654,792	669,299	681,273	691,111	699,498	72,131	11.5%
Bedminster Township	4,800	6,574	7,037	7,407	7,775	8,149	8,473	8,739	8,965	1,928	27.4%
Bensalem Township	58,435	60,427	60,374	61,878	63,377	64,898	66,212	67,296	68,212	7,838	13.0%
Bridgeton Township	1,410	1,277	1,283	1,309	1,335	1,361	1,384	1,402	1,418	135	10.5%
Bristol Borough	9,923	9,726	9,569	9,674	9,778	9,884	9,976	10,051	10,115	546	5.7%
Bristol Township	55,521	54,582	54,086	54,360	56,166	57,990	59,127	60,060	60,852	6,766	12.5%
Buckingham Township	16,440	20,075	20,385	21,079	21,770	22,471	23,078	23,577	24,000	3,615	17.7%
Chalfont Borough	3,900	4,009	4,069	4,496	4,559	4,625	4,672	4,699	4,726	657	16.1%
Doylestown Borough	8,230	8,380	8,301	8,368	8,435	8,502	8,561	8,609	8,650	349	4.2%
Doylestown Township	18,387	17,565	17,563	17,806	18,048	18,293	18,506	18,681	18,829	1,266	7.2%
Dublin Borough	2,085	2,158	2,169	2,221	2,273	2,325	2,371	2,408	2,440	271	12.5%
Durham Township	1,313	1,144	1,144	1,175	1,206	1,238	1,265	1,288	1,307	163	14.2%
East Rockhill Township	5,200	5,706	5,742	5,924	6,106	6,290	6,450	6,581	6,692	950	16.5%
Falls Township	34,865	34,300	33,901	34,074	34,245	34,420	34,571	34,695	34,800	899	2.7%
Haycock Township	2,190	2,225	2,218	2,266	2,315	2,363	2,406	2,441	2,470	252	11.4%
Hilltown Township	12,100	15,029	15,262	15,807	16,349	16,900	17,376	17,768	18,100	2,838	18.6%
Hulmeville Borough	895	1,003	996	1,007	1,017	1,028	1,037	1,045	1,051	55	5.5%
Ivyland Borough	492	1,041	1,053	1,071	1,089	1,108	1,124	1,137	1,148	95	9.0%
Langhorne Borough	1,980	1,622	1,599	1,618	1,638	1,657	1,674	1,688	1,700	101	6.3%
Langhorne Manor Borough	925	1,442	1,431	1,449	1,467	1,485	1,501	1,514	1,525	94	6.6%
Lower Makefield Township	32,691	32,559	32,755	33,683	34,074	34,474	34,855	35,181	35,500	2,745	8.4%
Lower Southampton Township	19,275	18,909	19,142	19,266	19,389	19,515	19,623	19,712	19,788	646	3.4%
Middletown Township	44,140	45,436	45,407	46,097	46,784	47,480	48,084	48,580	49,000	3,593	7.9%
Milford Township	8,810	9,902	10,053	10,555	11,055	11,562	12,002	12,363	12,669	2,616	26.0%
Morrisville Borough	10,020	8,728	8,605	8,623	8,796	8,968	9,074	9,160	9,234	629	7.3%
New Britain Borough	2,358	3,152	3,017	3,080	3,143	3,207	3,263	3,308	3,347	330	10.9%
New Britain Township	10,695	11,070	11,236	11,653	12,068	12,489	12,854	13,154	13,408	2,172	19.3%
New Hope Borough	2,250	2,528	2,510	2,550	2,590	2,631	2,666	2,695	2,719	209	8.3%
Newtown Borough	2,310	2,248	2,222	2,284	2,345	2,407	2,461	2,505	2,543	321	14.4%
Newtown Township	18,206	19,299	19,704	20,059	20,412	20,770	21,081	21,336	21,552	1,848	9.4%
Nockamixon Township	3,520	3,441	3,413	3,491	3,568	3,647	3,715	3,771	3,818	405	11.9%
Northampton Township	39,384	39,726	39,587	39,841	40,262	40,691	41,012	41,276	41,500	1,913	4.8%
Pennel Borough	2,420	2,328	2,221	2,283	2,345	2,408	2,462	2,507	2,545	324	14.6%
Perkasie Borough	8,830	8,511	8,471	8,671	8,869	9,071	9,246	9,389	9,511	1,040	12.3%
Plumstead Township	11,410	12,442	13,511	14,417	15,318	16,233	17,025	17,676	18,228	4,717	34.9%
Quakertown Borough	8,935	8,979	8,855	8,912	8,968	9,025	9,075	9,115	9,150	295	3.3%
Richland Township	9,920	13,052	13,155	13,855	14,551	15,258	15,871	16,374	16,800	3,645	27.7%

County / Municipality	2015 Census										2015-2045	
	2000 Census	2010 Census	Estimate	2020 Forecast	2025 Forecast	2030 Forecast	2035 Forecast	2040 Forecast	2045 Forecast	Absolute Change	Percentage Change	
Richlandtown Borough	1,285	1,327	1,312	1,319	1,327	1,334	1,340	1,346	1,350	38	2.9%	
Riegelsville Borough	863	868	858	865	873	880	886	892	896	38	4.4%	
Sellersville Borough	4,564	4,249	4,212	4,297	4,382	4,469	4,544	4,605	4,657	445	10.6%	
Silverdale Borough	1,000	871	856	863	869	876	881	886	890	34	4.0%	
Solebury Township	7,740	8,692	8,639	8,766	8,892	9,020	9,131	9,223	9,300	661	7.7%	
Springfield Township	4,965	5,035	5,036	5,239	5,440	5,645	5,823	5,968	6,092	1,056	21.0%	
Telford Borough (part)	2,201	2,207	2,193	2,214	2,234	2,255	2,273	2,287	2,300	107	4.9%	
Tinicum Township	4,205	3,995	3,963	4,136	4,307	4,482	4,633	4,757	4,862	899	22.7%	
Trumbauersville Borough	1,060	974	959	967	975	983	990	995	1,000	41	4.3%	
Tullytown Borough	2,035	1,872	1,859	1,906	1,953	2,000	2,042	2,075	2,104	245	13.2%	
Upper Makefield Township	7,180	8,190	8,255	8,477	8,697	8,921	9,115	9,275	9,410	1,155	14.0%	
Upper Southampton Township	15,765	15,152	15,121	15,271	15,419	15,570	15,701	15,809	15,900	779	5.2%	
Warminster Township	31,383	32,682	32,594	33,035	33,473	33,918	34,304	34,620	34,889	2,295	7.0%	
Warrington Township	17,580	23,418	23,942	24,796	25,646	26,510	27,257	27,871	28,392	4,450	18.6%	
Warwick Township	11,975	14,437	14,694	14,972	15,249	15,531	15,774	15,974	16,144	1,450	9.9%	
West Rockhill Township	4,230	5,256	5,277	5,369	5,733	6,098	6,337	6,534	6,700	1,423	27.0%	
Wrightstown Township	2,840	2,995	3,110	3,197	3,284	3,373	3,449	3,512	3,565	455	14.6%	
Yardley Borough	2,500	2,434	2,441	2,497	2,554	2,611	2,660	2,701	2,735	294	12.0%	
Chester County	433,512	498,886	515,939	543,702	571,641	599,932	624,832	645,562	662,283	146,344	28.4%	
Atglen Borough	1,215	1,406	1,408	1,532	1,683	1,858	2,030	2,203	2,308	900	63.9%	
Avondale Borough	1,110	1,265	1,399	1,490	1,581	1,672	1,752	1,818	1,873	474	33.9%	
Birmingham Township	4,220	4,208	4,262	4,320	4,377	4,435	4,486	4,527	4,562	300	7.0%	
Cain Township	11,916	13,817	14,115	15,025	15,929	16,848	17,644	18,299	18,852	4,737	33.6%	
Charlestown Township	4,050	5,671	5,690	6,198	6,703	7,217	7,661	8,026	8,336	2,646	46.5%	
Coatesville City	10,838	13,100	13,148	13,666	14,182	14,706	15,160	15,532	15,848	2,700	20.5%	
Downingtown Borough	7,590	7,891	7,946	8,508	9,068	9,636	10,128	10,532	10,875	2,929	36.9%	
East Bradford Township	9,405	9,942	10,038	10,470	10,900	11,336	11,714	12,025	12,288	2,250	22.4%	
East Brandywine Township	5,825	6,742	8,295	9,044	9,789	10,545	11,201	11,739	12,195	3,900	47.0%	
East Caln Township	2,855	4,838	4,873	5,073	5,273	5,475	5,651	5,795	5,917	1,044	21.4%	
East Coventry Township	4,565	6,636	6,753	7,173	7,592	8,017	8,385	8,687	8,943	2,190	32.4%	
East Fallowfield Township	5,160	7,449	7,570	7,992	8,412	8,839	9,208	9,512	9,769	2,199	29.0%	
East Goshen Township	16,825	18,026	18,339	18,685	19,028	19,378	19,680	19,928	20,139	1,800	9.8%	
East Marlborough Township	6,315	7,026	7,283	7,850	8,414	8,986	9,482	9,890	10,235	2,952	40.5%	
East Nantmeal Township	1,785	1,803	1,842	1,871	1,899	1,929	1,954	1,974	1,992	150	8.1%	
East Nottingham Township	5,515	8,650	8,930	9,571	10,208	10,855	11,415	11,876	12,266	3,336	37.4%	
East Pikeland Township	6,550	7,079	7,359	7,932	8,502	9,081	9,583	9,995	10,344	2,985	40.6%	
East Vincent Township	5,493	6,821	6,920	7,552	8,182	8,821	9,374	9,829	10,214	3,294	47.6%	
East Whiteland Township	9,335	10,650	10,702	12,002	13,196	14,309	15,358	16,221	16,952	6,250	58.4%	

County / Municipality	2015 Census					2015-2045							
	2000 Census	2010 Census	2015 Census Estimate	2020 Forecast	2025 Forecast	2030 Forecast	2035 Forecast	2040 Forecast	2045 Forecast	Absolute Change	Percentage Change		
Easttown Township	10,265	10,477	10,620	10,966	11,309	11,659	11,961	12,209	12,420	1,800	16.9%		
Elk Township	1,490	1,681	1,695	1,753	1,810	1,868	1,919	1,960	1,995	300	17.7%		
Elverson Borough	960	1,225	1,314	1,472	1,629	1,788	1,926	2,040	2,136	822	62.6%		
Franklin Township	3,850	4,352	4,518	4,861	5,202	5,548	5,848	6,094	6,303	1,785	39.5%		
Highland Township	1,125	1,272	1,289	1,332	1,375	1,419	1,457	1,488	1,514	225	17.5%		
Honey Brook Borough	1,285	1,713	1,758	1,873	1,988	2,104	2,205	2,288	2,358	600	34.1%		
Honey Brook Township	6,280	7,647	8,124	8,510	8,980	9,523	10,058	10,596	10,924	2,800	34.5%		
Kennett Square Borough	5,275	6,072	6,167	6,666	7,163	7,667	8,104	8,463	8,767	2,600	42.2%		
Kennett Township	6,450	7,565	8,172	8,690	9,206	9,730	10,184	10,556	10,872	2,700	33.0%		
London Britain Township	2,795	3,139	3,268	3,314	3,360	3,406	3,447	3,480	3,508	240	7.3%		
London Grove Township	5,265	7,475	8,592	9,213	9,969	10,842	11,702	12,566	13,092	4,500	52.4%		
Londonderry Township	1,630	2,149	2,400	2,553	2,706	2,860	2,995	3,105	3,198	798	33.3%		
Lower Oxford Township	4,320	5,200	5,001	5,289	5,576	5,867	6,119	6,326	6,501	1,500	30.0%		
Malvern Borough	3,060	2,998	3,430	3,557	3,684	3,813	3,924	4,015	4,093	663	19.3%		
Modena Borough	610	535	528	591	654	718	774	819	858	330	62.5%		
New Garden Township	9,080	11,984	12,096	12,730	13,360	14,000	14,555	15,010	15,396	3,300	27.3%		
New London Township	4,585	5,631	5,944	6,438	6,930	7,429	7,862	8,217	8,518	2,574	43.3%		
Newlin Township	1,150	1,285	1,356	1,415	1,474	1,534	1,586	1,629	1,665	309	22.8%		
North Coventry Township	7,380	7,866	8,024	8,397	8,851	9,375	9,891	10,409	10,724	2,700	33.6%		
Oxford Borough	4,315	5,077	5,385	5,571	5,798	6,060	6,318	6,577	6,735	1,350	25.1%		
Parkesburg Borough	3,375	3,593	3,687	3,974	4,260	4,551	4,802	5,009	5,184	1,497	40.6%		
Penn Township	2,810	5,364	5,475	5,964	6,451	6,945	7,373	7,724	8,022	2,547	46.5%		
Pennsbury Township	3,505	3,604	3,659	3,763	3,867	3,972	4,064	4,138	4,202	543	14.8%		
Phoenixville Borough	14,795	16,440	16,658	18,696	20,725	22,481	24,002	25,051	25,710	9,052	54.3%		
Pocopson Township	3,350	4,582	4,856	5,060	5,264	5,471	5,649	5,796	5,921	1,065	21.9%		
Sadsbury Township	2,580	3,570	3,850	4,311	4,769	5,235	5,638	5,969	6,250	2,400	62.3%		
Schuylkill Township	6,965	8,516	8,576	8,922	9,265	9,615	9,917	10,165	10,376	1,800	21.0%		
South Coatesville Borough	995	1,303	1,435	1,574	1,713	1,853	1,975	2,075	2,160	725	50.5%		
South Coventry Township	1,895	2,604	2,616	2,721	2,825	2,931	3,023	3,098	3,162	546	20.9%		
Spring City Borough	3,305	3,323	3,322	3,514	3,705	3,898	4,066	4,204	4,321	999	30.1%		
Thornbury Township	2,678	3,017	3,343	3,503	3,662	3,824	3,964	4,079	4,177	834	24.9%		
Tredyffrin Township	29,065	29,332	29,559	30,232	30,900	31,578	32,165	32,648	33,059	3,500	11.8%		
Upper Oxford Township	2,095	2,484	2,504	2,594	2,684	2,776	2,855	2,920	2,975	471	18.8%		
Upper Uwchlan Township	6,850	11,227	11,545	12,179	12,809	13,449	14,004	14,459	14,845	3,300	28.6%		
Uwchlan Township	16,575	18,088	19,072	19,763	20,451	21,149	21,754	22,251	22,672	3,600	18.9%		
Valley Township	5,115	6,794	7,632	8,187	8,740	9,301	9,787	10,186	10,524	2,892	37.9%		
Wallace Township	3,240	3,458	3,698	3,985	4,270	4,560	4,811	5,017	5,192	1,494	40.4%		
Warwick Township	2,555	2,507	2,550	2,610	2,671	2,732	2,785	2,828	2,865	315	12.4%		
West Bradford Township	10,775	12,223	12,779	13,519	14,255	15,003	15,651	16,183	16,634	3,855	30.2%		

County / Municipality	2015 Census							2015-2045			
	2000 Census	2010 Census	2015 Census Estimate	2020 Forecast	2025 Forecast	2030 Forecast	2035 Forecast	2040 Forecast	2045 Forecast	Absolute Change	Percentage Change
West Brandywine Township	7,160	7,394	7,468	8,159	8,847	9,545	10,150	10,647	11,068	3,600	48.2%
West Cain Township	7,055	9,014	9,085	9,539	9,990	10,449	10,846	11,172	11,449	2,364	26.0%
West Chester Borough	17,861	18,461	19,842	20,361	20,876	21,400	21,853	22,225	22,542	2,700	13.6%
West Fallowfield Township	2,485	2,566	2,596	2,625	2,653	2,683	2,708	2,728	2,746	150	5.8%
West Goshen Township	20,495	21,866	23,137	23,713	24,284	24,868	25,369	25,786	26,137	3,000	13.0%
West Grove Borough	2,650	2,854	2,859	3,002	3,144	3,288	3,413	3,516	3,603	744	26.0%
West Marlborough Township	855	814	821	830	838	847	855	861	866	45	5.5%
West Nantmeal Township	2,030	2,170	2,190	2,294	2,397	2,502	2,592	2,667	2,730	540	24.7%
West Nottingham Township	2,634	2,722	2,706	2,879	3,051	3,225	3,377	3,501	3,606	900	33.3%
West Pikeland Township	3,550	4,024	4,085	4,324	4,562	4,803	5,013	5,184	5,330	1,245	30.5%
West Sadsbury Township	2,440	2,444	2,475	2,661	2,888	3,150	3,408	3,667	3,825	1,350	54.5%
West Vincent Township	3,170	4,567	5,038	5,230	5,422	5,616	5,784	5,923	6,040	1,002	19.9%
West Whiteland Township	16,500	18,274	18,450	19,266	20,077	20,901	21,614	22,201	22,698	4,248	23.0%
Westtown Township	10,352	10,827	10,913	11,426	11,936	12,454	12,902	13,271	13,583	2,670	24.5%
Willistown Township	10,015	10,497	10,905	11,177	11,448	11,724	11,962	12,158	12,324	1,419	13.0%
Delaware County	551,989	558,979	563,894	568,337	572,758	577,248	581,136	584,329	587,037	23,143	4.1%
Aldan Borough	4,315	4,152	4,165	4,186	4,208	4,230	4,248	4,264	4,277	112	2.7%
Aston Township	16,205	16,592	16,799	16,942	17,083	17,227	17,352	17,455	17,541	742	4.4%
Bethel Township	6,420	8,791	9,166	9,359	9,550	9,745	9,914	10,052	10,170	1,004	11.0%
Brookhaven Borough	7,985	8,006	8,078	8,138	8,198	8,259	8,311	8,355	8,391	313	3.9%
Chadds Ford Township	3,170	3,640	3,740	3,848	3,955	4,064	4,159	4,237	4,302	562	15.0%
Chester City	36,855	33,972	34,092	34,281	34,468	34,659	34,824	34,960	35,075	983	2.9%
Chester Heights Borough	2,481	2,531	2,626	2,647	2,667	2,688	2,706	2,721	2,733	107	4.1%
Chester Township	4,605	3,940	4,103	4,140	4,178	4,216	4,248	4,275	4,298	195	4.8%
Clifton Heights Borough	6,780	6,652	6,684	6,709	6,733	6,758	6,780	6,798	6,813	129	1.9%
Collingdale Borough	8,665	8,786	8,792	8,866	8,939	9,014	9,079	9,132	9,177	385	4.4%
Colwyn Borough	2,455	2,546	2,553	2,584	2,615	2,646	2,673	2,695	2,714	161	6.3%
Concord Township	11,235	17,231	17,663	18,150	18,635	19,127	19,554	19,904	20,201	2,538	14.4%
Darby Borough	10,300	10,687	10,687	10,756	10,825	10,896	10,956	11,006	11,049	362	3.4%
Darby Township	9,625	9,264	9,318	9,322	9,326	9,330	9,333	9,336	9,338	20	0.2%
East Lansdowne Borough	2,585	2,668	2,665	2,673	2,682	2,690	2,697	2,703	2,709	44	1.7%
Eddystone Borough	2,440	2,410	2,407	2,414	2,420	2,427	2,433	2,438	2,442	35	1.5%
Edgmont Township	3,915	3,987	4,069	4,214	4,358	4,504	4,631	4,735	4,823	754	18.5%
Folcroft Borough	6,980	6,606	6,637	6,631	6,625	6,619	6,614	6,610	6,606	-31	-0.5%
Glenolden Borough	7,475	7,153	7,173	7,194	7,215	7,236	7,255	7,270	7,283	110	1.5%
Haverford Township	49,608	48,491	49,057	49,279	49,500	49,724	49,918	50,078	50,213	1,156	2.4%
Lansdowne Borough	11,044	10,620	10,639	10,655	10,671	10,688	10,702	10,714	10,724	85	0.8%
Lower Chester Township	3,590	3,469	3,477	3,488	3,499	3,510	3,519	3,527	3,534	57	1.6%

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	2000 Census	2010 Census	2015 Census Estimate	2020 Forecast	2025 Forecast	2030 Forecast	2035 Forecast	2040 Forecast	2045 Forecast	2045 Forecast	Absolute Change	Percentage Change
Marcus Hook Borough	2,315	2,397	2,397	2,415	2,433	2,451	2,466	2,479	2,490	2,490	93	3.9%
Marple Township	23,735	23,428	23,743	23,794	23,846	23,898	23,942	23,979	24,011	24,011	268	1.1%
Media Borough	5,530	5,327	5,363	5,445	5,526	5,608	5,679	5,738	5,788	5,788	425	7.9%
Middletown Township	16,065	15,807	15,998	16,185	16,371	16,560	16,724	16,858	16,972	16,972	974	6.1%
Millbourne Borough	945	1,159	1,162	1,178	1,194	1,210	1,223	1,235	1,244	1,244	82	7.1%
Morton Borough	2,715	2,669	2,695	2,707	2,720	2,732	2,743	2,752	2,760	2,760	65	2.4%
Nether Providence Township	13,456	13,706	13,808	13,893	13,977	14,063	14,138	14,199	14,251	14,251	443	3.2%
Newtown Township	11,705	12,216	12,754	12,849	12,943	13,038	13,121	13,189	13,246	13,246	492	3.9%
Norwood Borough	5,985	5,890	5,898	5,917	5,935	5,954	5,970	5,984	5,995	5,995	97	1.6%
Parkside Borough	2,265	2,328	2,334	2,349	2,365	2,380	2,394	2,405	2,414	2,414	80	3.4%
Prospect Park Borough	6,595	6,454	6,481	6,515	6,548	6,582	6,612	6,636	6,656	6,656	175	2.7%
Radnor Township	30,880	31,531	31,612	31,808	32,003	32,201	32,373	32,513	32,633	32,633	1,021	3.2%
Ridley Park Borough	7,195	7,002	7,035	7,071	7,106	7,143	7,174	7,200	7,221	7,221	186	2.6%
Ridley Township	30,790	30,768	31,053	31,129	31,205	31,281	31,348	31,402	31,449	31,449	396	1.3%
Rose Valley Borough	945	913	949	970	991	1,012	1,031	1,046	1,058	1,058	109	11.5%
Rutledge Borough	860	784	795	798	801	804	807	809	811	811	16	2.0%
Sharon Hill Borough	5,465	5,697	5,702	5,733	5,764	5,795	5,822	5,845	5,863	5,863	161	2.8%
Springfield Township	23,675	24,211	24,401	24,612	24,822	25,035	25,220	25,372	25,500	25,500	1,099	4.5%
Swarthmore Borough	6,170	6,194	6,211	6,249	6,287	6,325	6,359	6,386	6,409	6,409	198	3.2%
Thornbury Township	5,787	8,028	7,857	8,039	8,219	8,403	8,562	8,692	8,803	8,803	946	12.0%
Tinicum Township	4,355	4,091	4,109	4,113	4,117	4,120	4,124	4,126	4,129	4,129	20	0.5%
Trainer Borough	1,905	1,828	1,844	1,833	1,822	1,810	1,801	1,793	1,786	1,786	-58	-3.1%
Upland Borough	2,980	3,239	3,251	3,263	3,274	3,286	3,296	3,304	3,311	3,311	60	1.8%
Upper Chichester Township	16,845	16,738	17,003	17,177	17,350	17,526	17,678	17,803	17,909	17,909	906	5.3%
Upper Darby Township	81,821	82,795	82,878	83,699	84,521	85,354	86,073	86,662	87,167	87,167	4,289	5.2%
Upper Providence Township	10,510	10,142	10,448	10,592	10,735	10,881	11,007	11,110	11,198	11,198	750	7.2%
Yeadon Borough	11,762	11,443	11,523	11,528	11,533	11,539	11,543	11,547	11,550	11,550	27	0.2%
Montgomery County	748,978	799,874	819,264	840,934	863,327	884,387	903,114	918,918	932,820	932,820	113,556	13.9%
Abington Township	56,105	55,310	55,590	56,172	56,754	57,336	57,918	58,500	59,083	59,083	3,493	6.3%
Ambler Borough	6,425	6,417	6,505	6,657	6,810	6,963	7,116	7,269	7,422	7,422	917	14.1%
Bridgeport Borough	4,370	4,554	4,564	4,964	5,464	5,533	5,602	5,671	5,740	5,740	1,176	25.8%
Bryn Athyn Borough	1,350	1,375	1,392	1,408	1,423	1,439	1,453	1,464	1,474	1,474	82	5.9%
Cheltenham Township	36,880	36,793	37,014	37,364	37,714	38,146	38,578	39,092	39,607	39,607	2,593	7.0%
Collegeville Borough	4,930	5,089	5,287	5,360	5,432	5,506	5,569	5,622	5,666	5,666	379	7.2%
Conshohocken Borough	7,590	7,833	7,956	8,706	9,456	9,877	10,297	10,567	10,837	10,837	2,881	36.2%
Douglas Township	9,104	10,195	10,432	10,950	11,464	11,987	12,440	12,812	13,128	13,128	2,696	25.8%
East Greenville Borough	3,105	2,951	2,985	3,047	3,109	3,171	3,233	3,295	3,358	3,358	373	12.5%
East Norriton Township	13,211	13,590	14,082	14,256	14,430	14,606	14,759	14,884	14,990	14,990	908	6.4%

County / Municipality	2015 Census					2015-2045						
	2000 Census	2010 Census	Estimate	2020 Forecast	2025 Forecast	2030 Forecast	2035 Forecast	2040 Forecast	2045 Forecast	Absolute Change	Percentage Change	
Franconia Township	11,525	13,064	13,241	13,798	14,355	14,912	15,469	16,026	16,584	3,343	25.2%	
Green Lane Borough	580	508	500	508	515	523	530	535	540	40	8.0%	
Hatboro Borough	7,390	7,360	7,411	7,591	7,770	7,952	8,110	8,240	8,349	938	12.7%	
Hatfield Borough	2,605	3,290	3,306	3,342	3,378	3,415	3,447	3,473	3,495	189	5.7%	
Hatfield Township	16,712	17,249	17,558	18,057	18,553	19,057	19,493	19,851	20,155	2,597	14.8%	
Horsham Township	24,234	26,147	26,587	26,987	28,319	29,668	31,023	31,845	32,541	5,954	22.4%	
Jenkintown Borough	4,475	4,422	4,431	4,467	4,504	4,541	4,572	4,599	4,621	190	4.3%	
Lansdale Borough	16,070	16,269	16,512	17,019	17,523	18,035	18,479	18,843	19,152	2,640	16.0%	
Limerick Township	13,535	18,074	18,798	19,854	20,904	21,970	22,894	23,653	24,296	5,498	29.2%	
Lower Frederick Township	4,795	4,840	4,892	4,985	5,078	5,171	5,263	5,355	5,447	555	11.3%	
Lower Gwynedd Township	10,420	11,405	11,548	11,732	11,916	12,100	12,284	12,468	12,651	1,103	9.6%	
Lower Merion Township	58,740	57,825	58,177	59,676	61,027	62,135	62,983	63,732	64,231	6,054	10.4%	
Lower Moreland Township	11,280	12,982	13,220	13,426	13,631	13,839	14,020	14,168	14,294	1,074	8.1%	
Lower Pottsgrove Township	11,213	12,059	12,174	12,565	12,954	13,350	13,692	13,973	14,212	2,038	16.7%	
Lower Providence Township	22,390	25,436	26,187	26,679	27,168	27,664	28,094	28,448	28,747	2,560	9.8%	
Lower Salford Township	12,895	14,959	15,344	15,922	16,497	17,081	17,587	18,002	18,355	3,011	19.6%	
Marlborough Township	3,110	3,178	3,308	3,405	3,501	3,599	3,683	3,753	3,812	504	15.2%	
Montgomery Township	22,025	24,790	26,025	26,545	27,063	27,588	28,044	28,418	28,735	2,710	10.4%	
Narberth Borough	4,235	4,282	4,309	4,378	4,447	4,517	4,578	4,627	4,669	360	8.4%	
New Hanover Township	7,365	10,939	12,495	13,605	14,708	15,829	16,800	17,598	18,274	5,779	46.3%	
Norristown Borough	31,280	34,324	34,412	34,777	35,212	35,737	36,344	36,942	37,543	3,131	9.1%	
North Wales Borough	3,340	3,229	3,250	3,277	3,304	3,332	3,356	3,375	3,392	142	4.4%	
Pennsburg Borough	2,730	3,843	3,873	3,942	4,010	4,080	4,140	4,190	4,232	359	9.3%	
Perkiomen Township	7,095	9,139	9,245	9,486	9,726	9,969	10,180	10,354	10,501	1,256	13.6%	
Plymouth Township	16,045	16,525	17,653	18,091	18,527	18,969	19,353	19,668	19,934	2,281	12.9%	
Pottstown Borough	21,859	22,377	22,664	22,959	23,253	23,551	23,809	24,021	24,201	1,537	6.8%	
Red Hill Borough	2,195	2,383	2,383	2,441	2,498	2,557	2,607	2,649	2,684	301	12.6%	
Rockledge Borough	2,575	2,543	2,541	2,553	2,565	2,577	2,588	2,596	2,604	63	2.5%	
Royersford Borough	4,245	4,752	4,771	4,893	5,014	5,136	5,243	5,330	5,404	633	13.3%	
Salford Township	2,365	2,504	2,954	3,088	3,222	3,358	3,475	3,572	3,654	700	23.7%	
Schwenksville Borough	1,395	1,385	1,398	1,422	1,445	1,469	1,489	1,506	1,521	123	8.8%	
Skippack Township	9,915	13,715	14,992	15,475	15,958	16,441	16,924	17,407	17,891	2,899	19.3%	
Souderton Borough	6,725	6,618	6,747	6,917	7,086	7,258	7,406	7,528	7,632	885	13.1%	
Springfield Township	19,530	19,418	19,574	19,766	19,957	20,151	20,319	20,457	20,574	1,000	5.1%	
Telford Borough (pt.)	2,474	2,665	2,668	2,720	2,771	2,823	2,868	2,905	2,937	269	10.1%	
Towamencin Township	17,600	17,578	18,272	18,755	19,235	19,723	20,146	20,493	20,787	2,515	13.8%	
Trappe Borough	3,210	3,509	3,553	3,656	3,758	3,862	3,952	4,026	4,089	536	15.1%	
Upper Dublin Township	25,875	25,569	26,211	26,890	27,715	28,501	28,995	29,383	29,745	3,534	13.5%	
Upper Frederick Township	3,140	3,523	3,564	3,662	3,760	3,860	3,946	4,016	4,076	512	14.4%	

County / Municipality	2015 Census						2015-2045				
	2000 Census	2010 Census	2015 Census Estimate	2020 Forecast	2025 Forecast	2030 Forecast	2035 Forecast	2040 Forecast	2045 Forecast	Absolute Change	Percentage Change
Upper Gwynedd Township	14,245	15,552	15,928	16,116	16,304	16,492	16,679	16,866	17,053	1,125	7.1%
Upper Hanover Township	4,885	6,464	7,287	7,696	8,103	8,516	8,874	9,168	9,417	2,130	29.2%
Upper Merion Township	26,863	28,395	28,620	30,147	31,668	32,607	33,393	34,003	34,491	5,871	20.5%
Upper Moreland Township	24,990	24,015	24,231	24,522	24,812	25,107	25,362	25,572	25,749	1,518	6.3%
Upper Pottsgrove Township	4,105	5,315	5,483	5,774	6,065	6,357	6,649	6,941	7,233	1,750	31.9%
Upper Providence Township	15,395	21,219	23,460	24,622	25,777	26,951	27,967	28,802	29,510	6,050	25.8%
Upper Salford Township	3,025	3,299	3,378	3,507	3,636	3,765	3,894	4,024	4,154	776	23.0%
West Conshohocken Borough	1,445	1,320	1,381	1,411	1,442	1,472	1,499	1,521	1,539	158	11.4%
West Norriton Township	14,900	15,663	15,779	16,145	16,509	16,878	17,198	17,461	17,684	1,905	12.1%
West Pottsgrove Township	3,815	3,874	3,884	3,915	3,945	3,976	4,003	4,025	4,044	160	4.1%
Whitemarsh Township	16,702	17,349	17,663	18,503	19,040	19,486	19,859	20,197	20,476	2,813	15.9%
Whitpain Township	18,562	18,875	19,180	19,464	19,747	20,034	20,283	20,487	20,661	1,481	7.7%
Worcester Township	7,789	9,750	10,435	10,917	11,396	11,882	12,304	12,650	12,943	2,508	24.0%
Philadelphia County	1,517,550	1,526,006	1,567,443	1,594,787	1,616,816	1,643,971	1,667,290	1,683,402	1,696,133	128,690	8.2%
Central	100,188	117,132	126,629	132,848	137,233	143,015	148,841	153,321	157,035	30,406	24.0%
Central Northeast	72,179	78,266	79,870	81,333	82,568	83,813	84,123	84,490	84,713	4,843	6.1%
Lower Far Northeast	71,657	70,340	70,596	71,526	72,319	73,060	73,588	74,087	74,502	3,906	5.5%
Lower North	95,139	95,176	101,692	105,069	108,227	111,507	114,601	116,878	118,052	16,360	16.1%
Lower Northeast	93,471	100,232	102,654	103,621	104,301	104,837	105,110	105,080	105,424	2,770	2.7%
Lower Northwest	51,869	50,799	52,319	53,241	54,072	54,730	55,162	55,406	55,811	3,492	6.7%
Lower South	4,318	5,150	5,499	5,747	5,998	6,501	6,749	7,001	7,335	1,836	33.4%
Lower Southwest	41,642	42,117	42,462	43,288	43,711	44,054	44,854	45,183	45,439	2,977	7.0%
North	141,061	137,849	138,049	138,663	140,022	142,561	144,724	145,520	146,656	8,607	6.2%
North Delaware	96,005	100,631	101,251	102,210	102,553	102,944	102,909	103,041	103,280	2,029	2.0%
River Wards	66,321	68,489	70,385	72,380	73,004	74,203	75,613	76,270	76,951	6,566	9.3%
South	131,616	132,904	137,110	138,842	140,432	141,898	143,712	144,223	144,877	7,767	5.7%
University/Southwest	83,639	81,746	87,719	92,546	94,735	97,599	99,607	101,667	102,305	14,586	16.6%
Upper Far Northeast	64,469	66,605	67,986	68,387	69,071	69,893	69,943	70,370	70,660	2,674	3.9%
Upper North	154,560	144,381	145,913	146,533	147,898	149,046	149,501	150,207	150,422	4,509	3.1%
Upper Northwest	89,851	85,093	85,633	86,048	87,079	88,209	89,309	89,432	89,915	4,282	5.0%
West	111,973	105,642	106,922	107,403	108,060	109,844	112,163	114,009	115,200	8,278	7.7%
West Park	47,592	43,454	44,754	45,102	45,533	46,257	46,781	47,217	47,556	2,802	6.3%
Burlington County	423,397	448,734	450,226	459,344	468,428	475,978	482,560	488,026	492,709	42,483	9.4%
Bass River Township	1,510	1,443	1,449	1,483	1,516	1,550	1,580	1,604	1,624	175	12.1%
Beverly City	2,660	2,577	2,559	2,710	2,859	3,011	3,143	3,251	3,343	784	30.6%
Bordentown City	3,970	3,924	3,882	4,012	4,141	4,273	4,387	4,480	4,559	677	17.4%
Bordentown Township	8,375	11,367	11,935	11,965	11,996	12,027	12,053	12,075	12,094	159	1.3%

County / Municipality	2015 Census						2015-2045				
	2000 Census	2010 Census	2015 Census Estimate	2020 Forecast	2025 Forecast	2030 Forecast	2035 Forecast	2040 Forecast	2045 Forecast	Absolute Change	Percentage Change
Burlington City	9,740	9,920	9,808	10,010	10,210	10,414	10,590	10,735	10,858	1,050	10.7%
Burlington Township	20,190	22,594	22,826	22,936	23,045	23,156	23,252	23,331	23,398	572	2.5%
Chesterfield Township	5,955	7,699	7,572	7,715	7,857	8,002	8,127	8,230	8,317	745	9.8%
Cinnaminson Township	14,595	15,569	16,651	16,880	17,108	17,339	17,540	17,704	17,844	1,193	7.2%
Delanco Township	3,335	4,283	4,541	4,644	4,746	4,849	4,939	5,013	5,075	534	11.8%
Delran Township	15,535	16,896	16,767	16,959	17,150	17,343	17,511	17,649	17,766	999	6.0%
Eastampton Township	6,205	6,069	6,011	6,450	6,887	7,331	7,715	8,031	8,298	2,287	38.0%
Edgewater Park Township	7,865	8,881	8,788	8,995	9,200	9,409	9,590	9,738	9,864	1,076	12.2%
Evesham Township	42,275	45,538	45,577	47,546	49,519	49,847	50,175	50,504	50,831	5,254	11.5%
Fieldsboro Borough	522	540	532	539	547	554	560	565	570	38	7.1%
Florence Township	10,745	12,109	12,688	12,864	13,038	13,216	13,369	13,495	13,602	914	7.2%
Hainesport Township	4,125	6,110	6,053	6,582	7,108	7,643	8,105	8,486	8,808	2,755	45.5%
Lumberton Township	10,455	12,559	12,428	12,712	12,995	13,281	13,530	13,734	13,907	1,479	11.9%
Mansfield Township	5,090	8,544	8,574	8,735	8,896	9,058	9,200	9,315	9,414	840	9.8%
Maple Shade Township	19,080	19,131	18,963	19,071	19,178	19,287	19,381	19,459	19,524	561	3.0%
Medford Lakes Borough	4,175	4,146	4,085	4,097	4,109	4,122	4,132	4,141	4,149	64	1.6%
Medford Township	22,250	23,033	23,414	23,916	24,415	24,922	25,361	25,721	26,027	2,613	11.2%
Moorestown Township	19,020	20,726	20,564	20,745	20,925	21,107	21,265	21,395	21,505	941	4.6%
Mount Holly Township	10,728	9,536	9,493	9,620	9,747	9,875	9,987	10,078	10,156	663	7.0%
Mount Laurel Township	40,225	41,864	41,842	42,342	42,839	43,346	43,784	44,146	44,449	2,607	6.2%
New Hanover Township	9,744	7,385	8,078	7,927	7,777	7,625	7,493	7,384	7,292	-786	-9.7%
North Hanover Township	7,347	7,678	7,609	8,049	8,486	8,930	9,315	9,630	9,898	2,289	30.1%
Palmyra Borough	7,090	7,398	7,314	7,420	7,525	7,632	7,725	7,801	7,865	551	7.5%
Pemberton Borough	1,210	1,409	1,383	1,390	1,397	1,404	1,410	1,415	1,419	36	2.6%
Pemberton Township	28,575	27,912	27,771	28,279	28,784	29,297	29,741	30,106	30,416	2,645	9.5%
Riverside Township	7,910	8,079	7,997	8,254	8,511	8,771	8,996	9,181	9,338	1,341	16.8%
Riverton Borough	2,760	2,779	2,748	2,753	2,758	2,763	2,768	2,771	2,774	26	0.9%
Shamong Township	6,465	6,490	6,419	6,494	6,568	6,644	6,709	6,763	6,809	390	6.1%
Southampton Township	10,388	10,464	10,337	10,735	11,131	11,533	11,881	12,167	12,409	2,072	20.0%
Springfield Township	3,225	3,414	3,355	3,386	3,417	3,448	3,475	3,498	3,517	162	4.8%
Tabernacle Township	7,170	6,949	6,954	7,051	7,147	7,244	7,329	7,398	7,457	503	7.2%
Washington Township	621	687	674	681	689	697	703	708	713	39	5.8%
Westampton Township	7,217	8,813	8,726	8,932	9,137	9,345	9,525	9,673	9,799	1,073	12.3%
Willingboro Township	33,010	31,629	31,270	31,831	32,391	32,959	33,451	33,855	34,198	2,928	9.4%
Woodland Township	1,290	1,788	1,793	1,833	1,873	1,913	1,948	1,977	2,001	208	11.6%
Wrightstown Borough	750	802	796	801	806	811	815	819	822	26	3.3%
Camden County	508,929	513,657	510,923	514,006	517,073	520,189	522,886	525,101	526,997	16,074	3.1%

County / Municipality	2015 Census						2015-2045				
	2000 Census	2010 Census	Estimate	2020 Forecast	2025 Forecast	2030 Forecast	2035 Forecast	2040 Forecast	2045 Forecast	Absolute Change	Percentage Change
Audubon Park Borough	1,100	1,023	1,011	1,008	1,006	1,003	1,001	999	997	-14	-1.4%
Barrington Borough	7,084	6,983	6,817	6,816	6,815	6,814	6,813	6,812	6,811	-6	-0.1%
Bellmawr Borough	11,265	11,583	11,462	11,464	11,467	11,469	11,470	11,471	11,472	10	0.1%
Berlin Borough	6,150	7,588	7,590	7,688	7,785	7,884	7,970	8,040	8,100	510	6.7%
Berlin Township	5,290	5,357	5,434	5,439	5,444	5,448	5,453	5,456	5,459	25	0.5%
Brooklawn Borough	2,355	1,955	1,933	1,939	1,945	1,951	1,956	1,960	1,964	31	1.6%
Camden City	79,905	77,344	76,119	76,512	76,904	77,302	77,643	77,929	78,169	2,050	2.7%
Cherry Hill Township	69,960	71,045	71,340	71,903	72,462	73,031	73,523	73,927	74,270	2,930	4.1%
Cheshilhurst Borough	1,520	1,634	1,634	1,632	1,631	1,629	1,628	1,627	1,626	-8	-0.5%
Clementon Borough	4,985	5,000	4,947	4,981	5,014	5,048	5,077	5,102	5,122	175	3.5%
Collingswood Borough	14,326	13,926	14,000	13,997	13,994	13,991	13,988	13,986	13,984	-16	-0.1%
Gibbsboro Borough	2,435	2,274	2,244	2,242	2,239	2,236	2,234	2,233	2,231	-13	-0.6%
Gloucester City	11,484	11,456	11,329	11,326	11,323	11,320	11,318	11,316	11,314	-15	-0.1%
Gloucester Township	64,350	64,634	63,939	64,859	65,777	66,707	67,514	68,176	68,737	4,798	7.5%
Haddon Heights Borough	7,545	7,473	7,514	7,474	7,434	7,393	7,358	7,329	7,305	-209	-2.8%
Haddon Township	14,651	14,707	14,543	14,580	14,617	14,655	14,688	14,714	14,737	194	1.3%
Haddonfield Borough	11,661	11,593	11,414	11,412	11,410	11,408	11,407	11,405	11,404	-10	-0.1%
Hi-Nella Borough	1,035	870	860	860	859	859	859	858	858	-2	-0.2%
Laurel Springs Borough	1,970	1,908	1,884	1,883	1,882	1,882	1,881	1,880	1,880	-4	-0.2%
Lawnside Borough	2,692	2,945	2,919	2,917	2,915	2,913	2,911	2,909	2,908	-11	-0.4%
Lindenwold Borough	17,410	17,613	17,458	17,449	17,441	17,432	17,424	17,418	17,413	-45	-0.3%
Magnolia Borough	4,405	4,341	4,298	4,290	4,282	4,274	4,267	4,260	4,256	-42	-1.0%
Merchantville Borough	3,800	3,821	3,778	3,778	3,777	3,777	3,777	3,776	3,776	-2	-0.1%
Mount Ephraim Borough	4,495	4,676	4,639	4,637	4,636	4,634	4,633	4,632	4,631	-8	-0.2%
Oaklyn Borough	4,188	4,038	3,992	4,001	4,010	4,019	4,026	4,033	4,038	46	1.2%
Pennsauken Township	35,737	35,885	35,628	35,924	36,219	36,518	36,778	36,990	37,171	1,543	4.3%
Pine Hill Borough	10,880	10,233	10,510	10,501	10,492	10,482	10,474	10,468	10,462	-48	-0.5%
Pine Valley Borough	20	12	12	12	12	12	12	12	12	0	0.0%
Runnemede Borough	8,535	8,468	8,381	8,380	8,378	8,377	8,376	8,375	8,374	-7	-0.1%
Somerdale Borough	5,192	5,151	5,460	5,444	5,427	5,411	5,397	5,385	5,375	-85	-1.6%
Stratford Borough	7,270	7,040	7,013	7,047	7,081	7,116	7,146	7,170	7,191	178	2.5%
Tavistock Borough	24	5	5	5	5	5	5	5	5	0	0.0%
Voorhees Township	28,130	29,131	29,370	29,305	29,240	29,174	29,117	29,071	29,031	-339	-1.2%
Waterford Township	10,494	10,649	10,753	10,749	10,744	10,740	10,736	10,733	10,747	-6	-0.1%
Winslow Township	34,611	39,499	39,019	39,910	40,797	41,698	42,478	43,119	43,662	4,643	11.9%
Woodlynne Borough	2,795	2,978	2,944	2,943	2,941	2,940	2,939	2,938	2,937	-7	-0.2%
Gloucester County	255,719	288,288	291,479	307,766	323,969	340,425	354,677	366,383	376,308	84,829	29.1%

County / Municipality	2015 Census				2015-2045							
	2000 Census	2010 Census	Estimate	2020 Forecast	2025 Forecast	2030 Forecast	2035 Forecast	2040 Forecast	2045 Forecast	Absolute Change	Percentage Change	
Deptford Township	26,770	30,561	30,569	31,601	32,628	33,671	34,574	35,316	35,945	5,376	17.6%	
East Greenwich Township	5,430	9,555	10,380	10,798	11,214	11,637	12,003	12,303	12,558	2,178	21.0%	
Elk Township	3,615	4,216	4,156	4,717	5,274	5,841	6,331	6,734	7,076	2,920	70.3%	
Franklin Township	15,470	16,820	16,669	17,714	18,753	19,808	20,722	21,473	22,110	5,441	32.6%	
Glassboro Borough	18,970	18,579	19,216	20,380	21,538	22,715	23,733	24,570	25,279	6,063	31.6%	
Greenwich Township	4,880	4,899	4,857	4,942	5,027	5,113	5,188	5,249	5,301	444	9.1%	
Harrison Township	8,785	12,417	12,984	14,456	15,920	17,407	18,695	19,753	20,650	7,666	59.0%	
Logan Township	6,035	6,042	5,983	6,217	6,450	6,687	6,892	7,061	7,203	1,220	20.4%	
Mantua Township	14,217	15,217	15,054	16,334	17,608	18,901	20,021	20,941	21,721	6,667	44.3%	
Monroe Township	28,967	36,129	36,862	39,459	42,040	44,662	46,934	48,799	50,381	13,519	36.7%	
National Park Borough	3,205	3,036	2,999	3,053	3,107	3,162	3,210	3,249	3,282	283	9.4%	
Newfield Borough	1,615	1,553	1,534	1,561	1,588	1,615	1,639	1,659	1,675	141	9.2%	
Paulsboro Borough	6,160	6,097	5,989	6,054	6,118	6,184	6,241	6,287	6,327	338	5.6%	
Pitman Borough	9,330	9,011	8,898	9,092	9,285	9,482	9,652	9,791	9,910	1,012	11.4%	
South Harrison Township	2,415	3,162	3,138	3,397	3,655	3,917	4,144	4,331	4,489	1,351	43.1%	
Swedesboro Borough	2,055	2,584	2,613	2,686	2,758	2,831	2,895	2,947	2,991	378	14.5%	
Washington Township	48,155	48,559	47,862	49,302	50,738	52,192	53,452	54,488	55,366	7,504	15.7%	
Wenonah Borough	2,315	2,278	2,254	2,318	2,382	2,447	2,503	2,549	2,588	334	14.8%	
West Deptford Township	19,370	21,677	21,420	22,506	23,586	24,683	25,634	26,414	27,076	5,656	26.4%	
Westville Borough	4,500	4,288	4,224	4,338	4,451	4,566	4,665	4,747	4,816	592	14.0%	
Woodbury City	10,305	10,174	10,020	10,105	10,190	10,276	10,351	10,412	10,464	444	4.4%	
Woodbury Heights Borough	2,990	3,055	3,010	3,054	3,098	3,143	3,181	3,213	3,240	230	7.6%	
Woolwich Township	3,030	10,200	12,295	14,669	17,030	19,428	21,505	23,211	24,657	12,362	100.5%	
Mercer County	320,527	367,511	371,398	377,328	383,227	389,219	394,407	398,669	402,283	30,885	8.3%	
East Windsor Township	24,915	27,190	27,603	28,068	28,531	29,002	29,409	29,743	30,027	2,424	8.8%	
Ewing Township	35,710	35,790	36,486	37,076	37,660	38,254	38,769	39,192	39,550	3,064	8.4%	
Hamilton Township	87,109	88,464	89,030	90,099	91,163	92,243	93,178	93,947	94,598	5,568	6.3%	
Hightstown Borough	5,215	5,494	5,517	5,562	5,607	5,653	5,693	5,725	5,753	236	4.3%	
Hopewell Borough	2,035	1,922	1,929	1,932	1,936	1,939	1,942	1,944	1,946	17	0.9%	
Hopewell Township	16,105	18,302	18,606	19,460	20,310	21,174	21,921	22,535	23,056	4,450	23.9%	
Lawrence Township	29,160	33,472	33,242	33,511	33,779	34,052	34,287	34,481	34,645	1,403	4.2%	
Pennington Borough	2,695	2,585	2,598	2,654	2,710	2,766	2,816	2,856	2,890	292	11.2%	
Princeton**		28,572	29,603	30,084	30,559	31,044	31,463	31,808	32,100	2,497	8.4%	
Robbinsville	10,275	13,642	14,176	14,784	15,390	16,006	16,538	16,978	17,347	3,171	22.4%	
Trenton City	85,403	84,913	84,225	85,213	86,197	87,194	88,059	88,767	89,372	5,147	6.1%	
West Windsor Township	21,905	27,165	28,383	28,885	29,385	29,892	30,332	30,693	30,999	2,616	9.2%	
Source: Delaware Valley Regional Planning Commission, June 2016. ** In January 2013, Princeton Township and Princeton Borough, in Mercer County, merged to form one single municipality, known simply as Princeton.												

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Geographic Area Covered: DVRPC's 9-county region, including Burlington, Camden, Gloucester, and Mercer counties in New Jersey, and Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania.

Key Words: population, population forecasts, age-cohort survival model, birth rates, survival rates, migration, Connections 2045, long-range plan

ABSTRACT: This report presents the Delaware Valley Regional Planning Commission's (DVRPC's) adopted 2045 county- and municipal-level population forecasts and describes the method used to develop them. Population and employment forecasts are a critical component of long-range land use and transportation planning. As a part of DVRPC's long-range planning activities, the Commission is required to maintain forecasts with at least a 20-year horizon, or to the horizon year of the long-range plan. DVRPC last adopted forecasts through the year 2040 in January 2012. Since that time, the Census Bureau has released 2015 population estimates, and both the nation and the region have continued to recover from the significant economic recession that officially began in December 2007 and ended in June 2009.

In order to incorporate the 2015 Census estimates and maintain a 30-year planning horizon, DVRPC has prepared 2045 population forecasts for its member counties and municipalities. These forecasts were formally adopted by the DVRPC Board on July 28, 2016, and serve as the basis for DVRPC planning and modeling activities. Employment forecasts in five-year increments through 2045 are scheduled to be adopted in October 2016.

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Analytical Data Report

Regional, County, and
Municipal Employment
Forecasts, 2015–2045





The Delaware Valley Regional Planning Commission is dedicated to uniting the region's elected officials, planning professionals, and the public with a common vision of making a great region even greater. Shaping the way we live, work, and play, DVRPC builds consensus on improving transportation, promoting smart growth, protecting the environment, and enhancing the economy. We serve a diverse region of nine counties: Bucks, Chester, Delaware, Montgomery, and Philadelphia in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer in New Jersey. DVRPC is the federally designated Metropolitan Planning Organization for the Greater Philadelphia Region — leading the way to a better future.



The symbol in our logo is adapted from the official DVRPC seal and is designed as a stylized image of the Delaware Valley. The outer ring symbolizes the region as a whole while the diagonal bar signifies the Delaware River. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey.

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As the region's metropolitan planning organization, DVRPC provides technical assistance and services to its member state and local governments. *Delaware Valley Data* is our periodic series of free data bulletins, analytical data reports, data reference guides, and data snapshots.

Introduction

As a part of our long-range planning activities, DVRPC is required to maintain forecasts with at least a 20-year horizon, or to the horizon year of the long-range plan. Population forecasts in five-year increments between 2015 and 2045 were adopted by the DVRPC Board on July 28, 2016. This document presents employment forecasts in five-year increments between 2015 and 2045, developed by DVRPC in coordination with its member county planning staffs. These population and employment forecasts will support the region's 2045 long-range plan, scheduled for adoption in July 2017, and serve as the basis for DVRPC's planning and modeling activities.

2010 and 2013 Employment Base

DVRPC has traditionally based its long-range employment forecasts on employment data from the American Association of State Highway and Transportation Officials' (AASHTO) Census Transportation Planning Products (CTPP). However, 2010 CTPP data was not released until mid-2013, too late to be used for forecasting purposes prior to the 2013 adoption of the current Connections 2040 Long Range Plan. Additionally, changes in the method for calculating CTPP data has increased the margins of error and made it a less reliable source of employment data for small geographies. Subsequently, DVRPC staff researched and compared several sources of employment data, including government sources (such as ES-202 data, the BLS' Quarterly Census of Employment and Wages, and the Current Employment Statistics survey) and private proprietary sources (including Dun and Bradstreet). The National Establishment Time-Series (NETS), produced by Walls and Associates, was determined to be superior to other sources in terms of coverage, accuracy, and the provision of locational data.

The NETS database is essentially a "cleaned-up" version of the Dun and Bradstreet database. Using each company's unique DUNS number (or numbers, in cases where separate divisions within a company have unique DUNS numbers), Walls and Associates creates a time series for each business and then screens the data to eliminate duplicates and identify anomalies. If a file contains suspicious information, the data is cross-checked with previous annual records and adjusted or eliminated as appropriate, based on information collected from other sources (including government and non-profits). One advantage of the establishment-based NETS Database is that all employment, sales, and other activity is reported at the actual facility—not the headquarters.

Unlike government sources of employment data, the NETS database includes sole proprietors, part-time jobs, and farm operations, and has been found to be more accurate in reporting data for small privately-owned firms and public sector employers such as post offices and public schools. Employment from the NETS database is therefore generally higher than many of these other sources. As a base for the 2040 forecasts, DVRPC and county planning staffs reviewed 2000 and 2010 employment data from a NETS database that was acquired in 2013.

In March 2016, DVRPC acquired an updated NETS dataset that included both revised 2010 and 2013 employment data. All corrections made to the previous NETS database by DVRPC and county planning staffs, either during the previous forecasting round or as a result of ongoing DVRPC land

use and transportation studies, were incorporated in to the new database. DVRPC staff reviewed the revised 2010 data and the 2013 data to eliminate any remaining duplicates and correct obvious errors, using resources that included CoStar, company web sites, and on-line business directories. The data was then reviewed by the region's county planning staffs, and further corrections were made based on local knowledge (including errors in location and missing large employers).

The NETS database used by DVRPC includes the street address and the most current latitude-longitude for each establishment as well as the origin and destination latitude-longitudes for all significant moves, at the four-decimal-place-level. In order to assign each employer to a specific municipality, every employer in the NETS database was geocoded. Based on an internal review by DVRPC staff, several spatially inaccurate results were identified, and numerous adjustments were made to improve the accuracy of the dataset before the results were sent to the counties for review. While the counties were reviewing the employment data, DVRPC staff continued to refine the NETS GIS dataset, by comparing TomTom results with other geocoding services, and by manually checking the location of hundreds of significant employers.

2015 Employment Estimates

Estimates of the 2015 employment were then calculated, based on both the changes in NETS employment by sector in each county between 2010 and 2013, and the employment change in each county between 2010 and 2015 released by the BLS in September 2016. The estimated 2015 county employment was allocated to municipalities based on the proportion of the county's employment that was present in each municipality in 2013.

2045 Employment Forecasts

Employment forecasts in five-year increments through 2045 were developed using a similar method as was used in previous forecasting rounds. Various studies and past experience have shown that there is a direct relationship between the number of workers living in a region (which is a function of population) and the number of jobs. To forecast future employment, DVRPC determined an expected future ratio of employment to population for each county, based on the known ratio in 2015. These ratios were applied to the Commission's adopted 2045 population forecasts, to create employment forecasts for each county, in five-year increments through 2045.

County-level employment forecasts between 2020 and 2040 were disaggregated to the municipal level based on the proportion of each county's employment that was expected to be in each municipality by DVRPC's adopted 2040 forecasts, as adjusted by the differences between the Commission's adopted 2015 forecast and the 2015 NETS employment estimates. The proportion of each county's employment expected to be in each municipality in 2045 was forecast based on the linear trend in the proportion from 2015 to 2040. The draft employment forecasts in five-year increments were then reviewed by county planning staffs, and final revisions were made based on their recommendations.

Military employment, which DVRPC staff believes was not accurately reflected in the NETS database, was accounted for by adding the military employment in each municipality reported in the 2006-2010 five-

year CTPP estimates to the 2015 employment estimate and the future employment forecasts. Given the difficulty of forecasting future military employment, the number of military employees was kept stable in future years.

Table 1 summarizes regional and county employment forecasts in five-year increments through 2045, and municipal-level forecasts are provided in Appendix A. Table 2 identifies the 20 municipalities expected to gain the most employees between 2015 and 2045 in absolute numbers, while Table 3 identifies municipalities with the highest forecast percentage change in employment. Figure 1 illustrates the DVRPC region's 2045 municipal employment forecasts, and Figures 2 and 3 illustrate absolute and percent change in employment by municipality between 2015 and 2045.

Figure 4 illustrates the absolute increase in employment per square mile in each of the region's 352 municipalities and 18 City of Philadelphia planning districts. This map highlights not only where employment is increasing, but also the impact of relatively small increases on employment density in many of the region's centers. Employment density is forecast to increase not only in the City of Philadelphia, but also in many of the region's smaller boroughs, including Conshohocken and West Conshohocken boroughs in Montgomery County; Dublin, Pennadel, and Ivyland boroughs in Bucks County; and Kennett Square, Phoenixville, and Downingtown boroughs in Chester County.

Highlights include the following:

- The DVRPC region is forecast to gain almost 373,000 jobs between 2015 and 2045 (an increase of almost 12 percent), with much of this growth concentrated in the suburbs.
- The region's five southeastern Pennsylvania counties are forecast to experience a 12.6 percent increase in employment, while employment in the four New Jersey counties is expected to increase by 9.8 percent.
- The largest percent increases are forecast in Gloucester County in New Jersey and Chester County in Pennsylvania, where employment is forecast to increase by 29 and 28 percent, respectively.
- The largest absolute increase in employment is forecast for Chester County, expected to gain 87,800 employees. Other counties forecast to see a significant number of additional employees include Montgomery County (expected to gain almost 82,000 employees) and Philadelphia (with a forecasted increase of almost 64,000 jobs).
- Both Philadelphia and Camden City, New Jersey, are forecast to gain employment, with forecasted percentage increases of 8.3 percent and 10.1 percent, respectively. The region's other two core cities are expected to see their employment stabilize and increase slightly, with a 2.8 percent increase in employment in Trenton, New Jersey, and a 2.6 percent increase in Chester City, Pennsylvania.

Summary

Population and employment forecasts are a critical component of long-range land use and transportation planning. This report presents the method used to develop 2045 and interim year employment forecasts, adopted by the DVRPC Board on October 27, 2016.

Data from the National Establishments Time Series (NETS) database served as the base for the 2045 employment forecasts. In March 2016, DVRPC acquired an updated NETS database that included 2013 employment data and revised 2010 data. The 2010 and 2013 employment data was reviewed and revised by DVRPC staff, utilizing resources that included CoStar, on-line business directories, company websites and, when appropriate, direct telephone calls. The revised data was then sent to the county planning staffs for additional revision. Additionally, during the summer of 2016, DVRPC acquired improved geocoding resources that allowed staff to further correct the spatial locations of employers.

Based on changes in the NETS employment between 2010 and 2013, and changes in employment in each county between 2010 and 2015 as reported by the U.S. Bureau of Labor Statistics (BLS), 2015 employment was estimated by county and municipality. Given that studies have shown that there is a direct relationship between the number of workers living in an area and the number of jobs, employment forecasts were calculated in five-year increments through 2045, by estimating a future ratio of population to employment in each county and applying it to DVRPC's adopted population forecasts.

Employment in the nine-county region is forecast to increase by almost 12 percent between 2015 and 2045, with the greatest absolute increases in employment expected in Chester, Montgomery, and Philadelphia counties and the greatest percentage increases forecast in Gloucester County, New Jersey, and Chester County, Pennsylvania. Together with the 2045 population forecasts adopted by the DVRPC Board in July 2016, these employment forecasts will serve as the basis for DVRPC's planning and modeling activities, and support the region's 2045 long-range plan, scheduled for adoption in July 2017.

Table 1: 2045 Employment Forecasts by County

County	2015 Employment	2020 Employment Forecast	2025 Employment Forecast	2030 Employment Forecast	2035 Employment Forecast	2040 Employment Forecast	2045 Employment Forecast	Forecasted Absolute Change, 2015-2045	Forecasted Percent Change, 2015-2045
Bucks County	322,731	329,645	337,203	344,859	351,310	356,671	361,124	38,393	11.9%
Chester County	309,605	326,320	343,050	359,774	374,967	387,391	397,405	87,800	28.4%
Delaware County	268,054	270,167	272,269	274,401	276,248	277,763	279,050	10,996	4.1%
Montgomery County	582,443	598,434	614,469	629,563	642,996	654,966	664,385	81,942	14.1%
Philadelphia County	772,847	786,308	797,156	810,574	822,002	829,937	836,825	63,978	8.3%
Five Pennsylvania Counties	2,255,680	2,310,874	2,364,147	2,419,171	2,467,523	2,506,728	2,538,789	283,109	12.6%
Burlington County	241,298	246,351	251,368	255,562	258,363	261,195	263,622	22,324	9.3%
Camden County	263,582	265,169	266,753	268,359	269,750	270,892	271,869	8,287	3.1%
Gloucester County	121,382	128,161	134,902	141,752	147,682	152,554	156,686	35,304	29.1%
Mercer County	286,295	290,864	295,408	300,025	304,021	307,302	310,084	23,789	8.3%
Four New Jersey Counties	912,557	930,545	948,431	965,698	979,816	991,943	1,002,261	89,704	9.8%
Nine DVRPC Counties	3,168,237	3,241,419	3,312,578	3,384,869	3,447,339	3,498,671	3,541,050	372,813	11.8%

Source: Delaware Valley Regional Planning Commission, October 2016.

Table 2: Municipalities with the Greatest Forecasted Absolute Change in Employment, 2015–2045

Rank	Municipality/County	Absolute Change	Rank	Municipality/County	Absolute Change
1	Upper Merion Township/ Montgomery	9,470	11	Plymouth Township/ Montgomery	4,500
2	Horsham Township/ Montgomery	8,660	12	Woolwich Township/ Gloucester	4,338
3	East Whiteland Township/ Chester	7,224	13	Camden City/ Camden	4,206
4	Uwchlan Township/ Chester	6,737	14	West Deptford Township/ Gloucester	3,844
5	Tredyffrin Township/ Chester	6,625	15	West Windsor Township/ Mercer	3,713
6	West Whiteland Township/ Chester	6,259	16	Hopewell Township/ Mercer	3,712
7	West Goshen Township/ Chester	5,459	17	Phoenixville Borough/ Chester	3,621
8	Conshohocken Borough/ Montgomery	5,000	18	Lower Merion Township/ Montgomery	3,500
9	Monroe Township/ Camden	4,999	19	Mt. Laurel Township/ Burlington	3,444
10	Upper Providence Township/ Montgomery	4,520	20	Upper Dublin Township/Bucks	3,400

Source: Delaware Valley Regional Planning Commission, October 2016. Does not include Philadelphia, which is both a county and a municipality.

Table 3: Municipalities with the Greatest Forecasted Percentage Change in Employment, 2015–2045

Rank	Municipality/County	Absolute Change	Rank	Municipality/County	Absolute Change
1	Woolwich Township/ Gloucester	164%	11	Parkessburg Borough/ Chester	59%
2	Modena Borough/ Chester	125%	12	West Sadsbury Township/ Chester	58%
3	Elk Township/ Gloucester	92%	13	Mantua Township/ Gloucester	57%
4	Dublin Borough/ Bucks	84%	14	Honey Brook Borough/ Chester	55%
5	Lower Oxford Township/ Chester	82%	15	Conshohocken Borough/ Montgomery	53%
6	West Brandywine Township/ Chester	77%	16	Wallace Township/ Chester	53%
7	Elverson Borough/ Chester	72%	17	Phoenixville Borough/ Chester	53%
8	East Vincent Township/ Chester	68%	18	West Nottingham Township/ Chester	53%
9	Harrison Township/ Gloucester	64%	19	Sellersville Borough/ Bucks	52%
10	South Coventry Township/ Chester	61%	20	Upper Oxford Township/ Chester	52%

Source: Delaware Valley Regional Planning Commission, October, 2016. Does not include Philadelphia, which is both a county and a municipality.

Figure 1:
2045 Municipal Employment Forecast

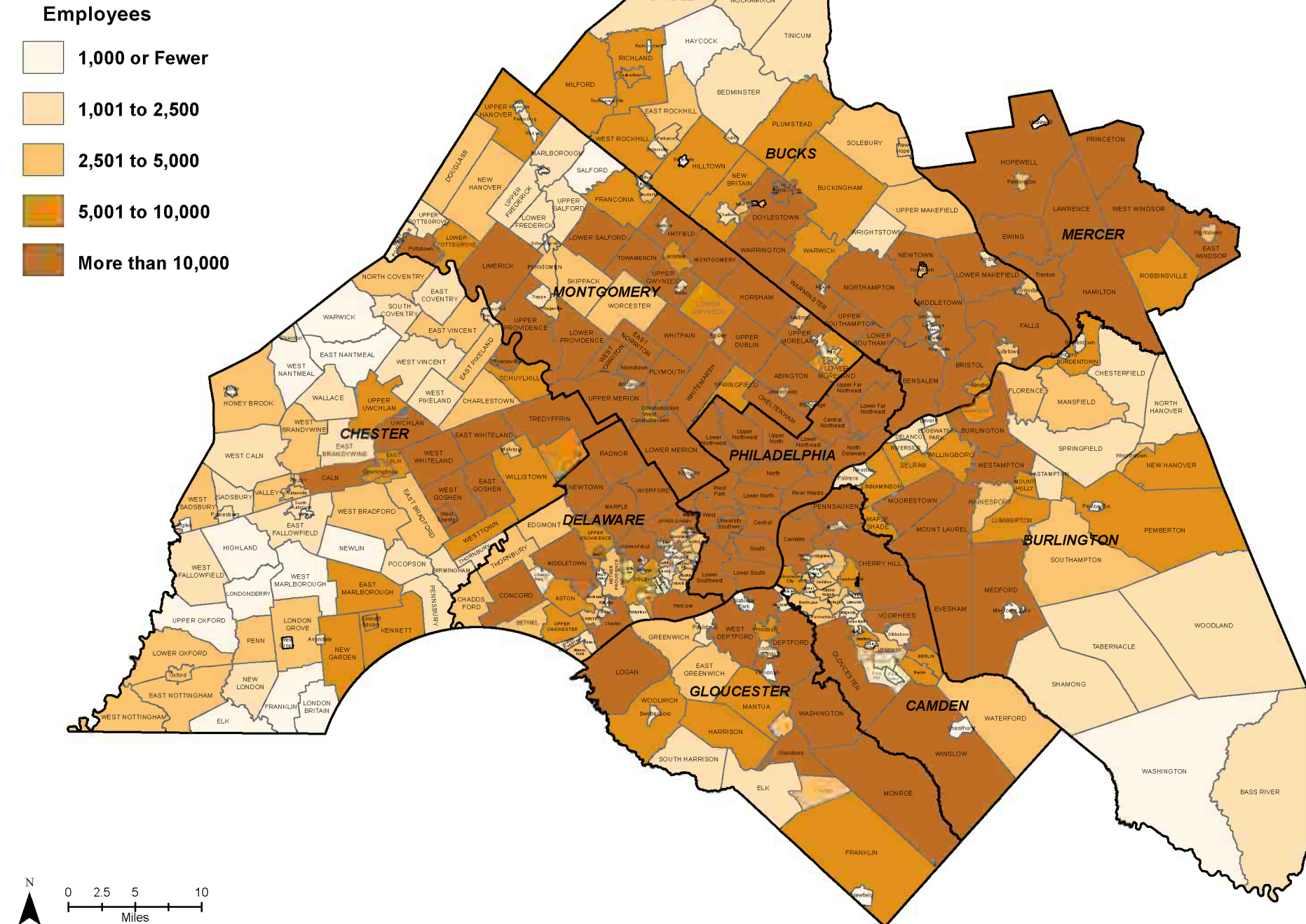


Figure 2:
2045 Municipal Employment Forecast
Absolute Change: 2015–2045

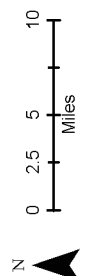
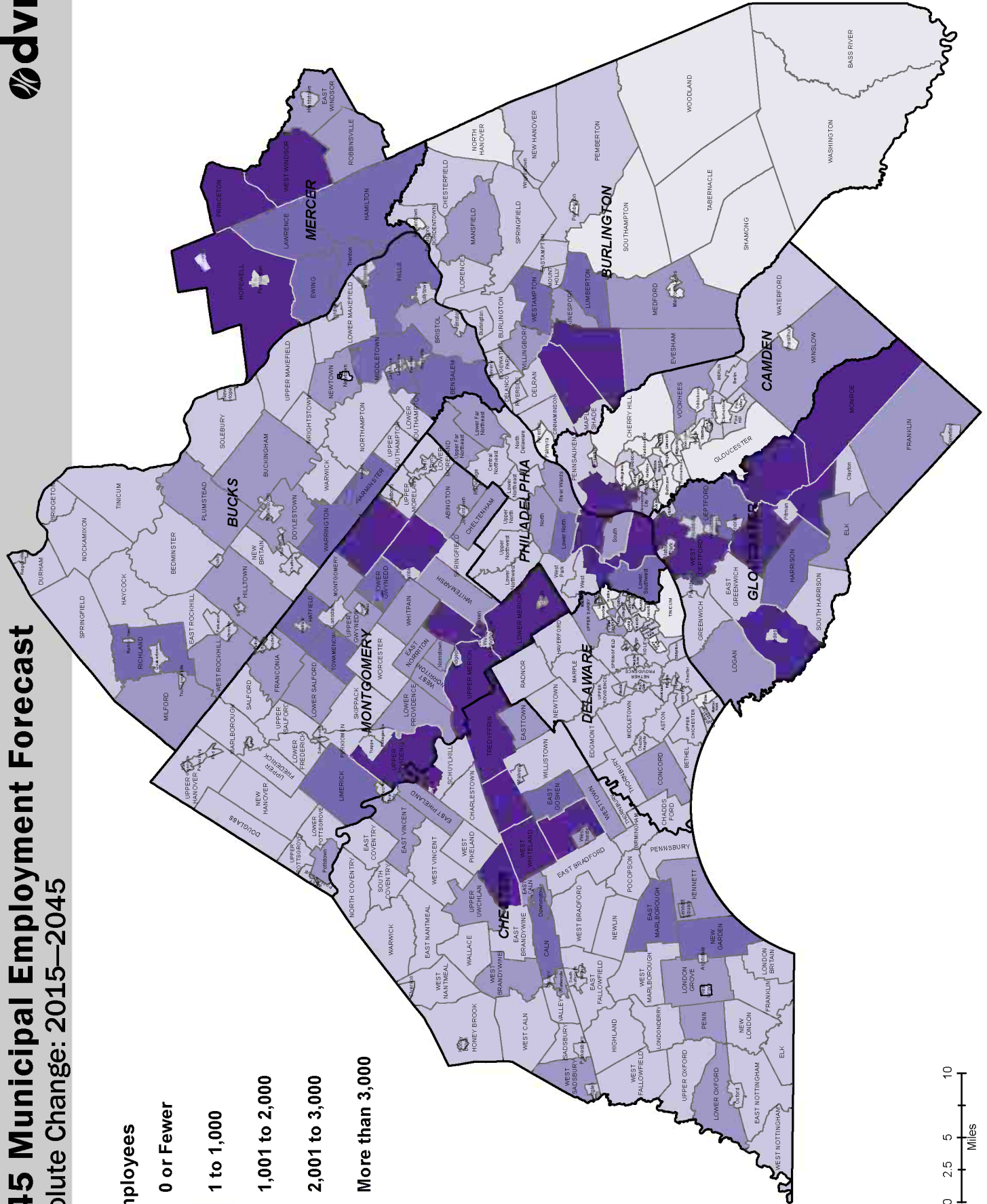
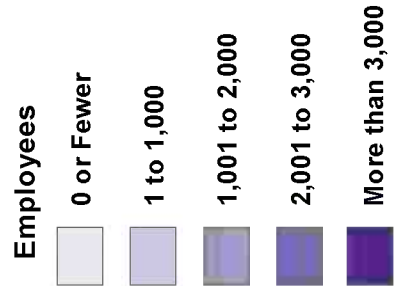
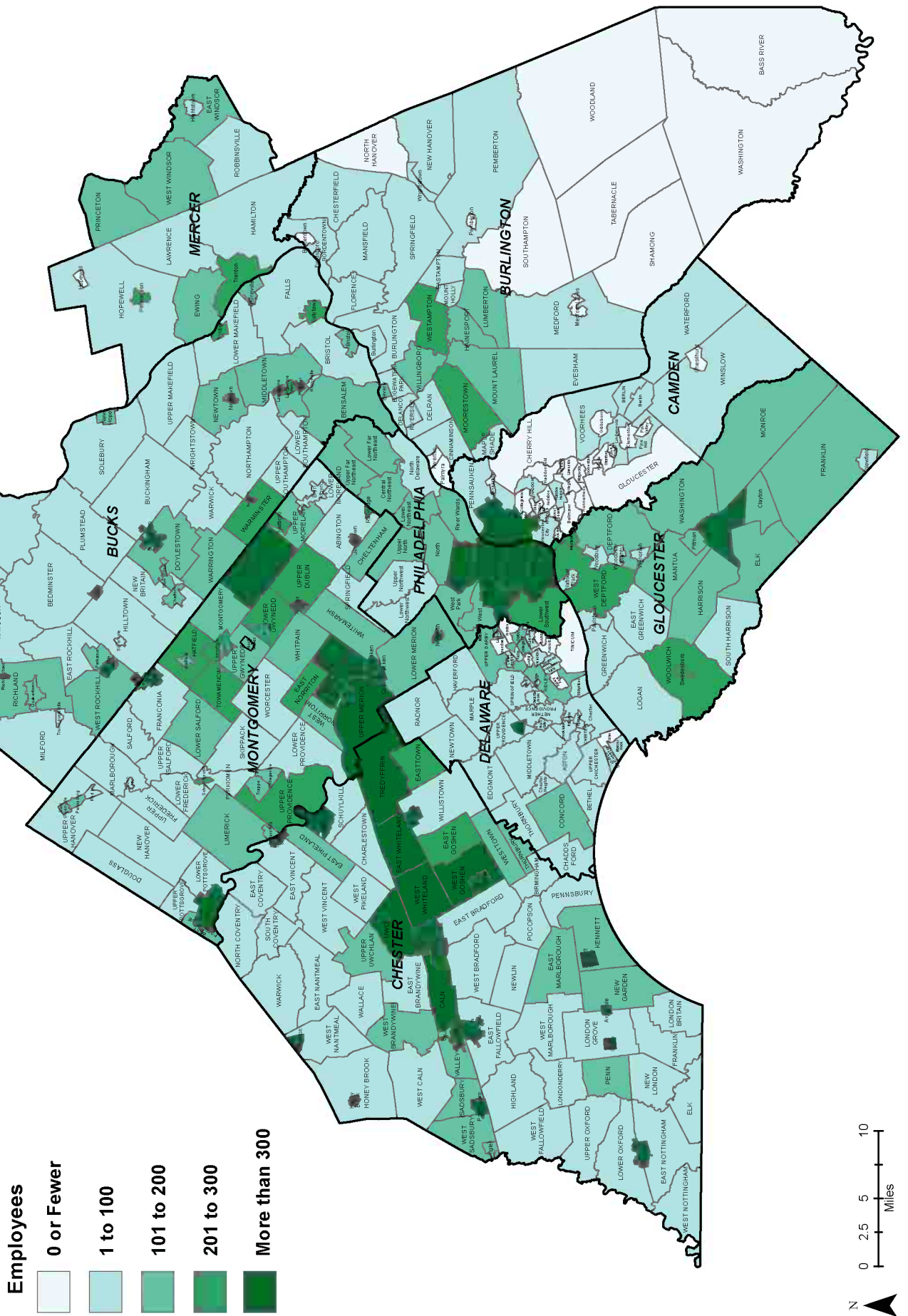




Figure 4:
2045 Municipal Employment Forecast
Absolute Change per Square Mile by Municipality:
2015–2045



Appendix A: Forecasted Employment by County and Municipality, 2015-2045

County / Municipality	2015-2045 Employment Projections												Absolute Change, 2015-2045	Percentage Change, 2015-2045
	2015 Employment Estimate	2020 Employment Forecast	2025 Employment Forecast	2030 Employment Forecast	2035 Employment Forecast	2040 Employment Forecast	2045 Employment Forecast							
Bucks County	322,731	329,645	337,203	344,859	351,310	356,671	361,124	38,393	11.9%					
Bedminster Township	1,864	2,018	2,116	2,215	2,260	2,311	2,424	560	30.0%					
Bensalem Township	43,829	44,472	44,697	44,952	45,567	46,304	46,023	2,194	5.0%					
Bridgeton Township	334	351	368	395	402	419	434	100	29.9%					
Bristol Borough	5,111	5,166	5,239	5,315	5,366	5,396	5,415	304	5.9%					
Bristol Township	23,168	23,575	23,799	24,037	24,370	24,768	24,740	1,572	6.8%					
Buckingham Township	7,609	7,755	8,012	8,271	8,409	8,476	8,667	1,058	13.9%					
Chalfont Borough	1,300	1,332	1,393	1,454	1,485	1,499	1,550	250	19.2%					
Doylestown Borough	10,480	10,628	10,861	11,097	11,236	11,309	11,438	958	9.1%					
Doylestown Township	11,453	11,838	12,071	12,308	12,652	13,030	13,163	1,710	14.9%					
Dublin Borough	820	879	926	962	1,225	1,530	1,520	700	85.4%					
Durham Township	254	256	257	259	267	276	273	19	7.5%					
East Rockhill Township	2,140	2,259	2,335	2,411	2,520	2,636	2,700	560	26.2%					
Falls Township	16,290	16,575	17,065	17,558	17,827	17,961	18,302	2,012	12.4%					
Haycock Township	486	507	519	532	556	582	590	104	21.4%					
Hilltown Township	6,113	6,252	6,509	6,766	6,897	6,959	7,167	1,054	17.2%					
Hulmeville Borough	254	262	268	274	282	290	294	40	15.7%					
Ivyland Borough	1,671	1,749	1,789	1,830	1,869	1,913	1,948	277	16.6%					
Langhorne Borough	1,150	1,176	1,225	1,274	1,299	1,311	1,351	201	17.5%					
Langhorne Manor Borough	313	329	364	398	413	420	454	141	45.0%					
Lower Makefield Township	11,612	11,717	11,768	11,827	12,007	12,219	12,111	499	4.3%					
Lower Southampton Township	13,210	13,289	13,334	13,387	13,457	13,512	13,401	191	1.4%					
Middletown Township	24,781	25,116	25,630	26,154	26,465	26,634	26,900	2,119	8.6%					
Milford Township	3,753	3,912	4,241	4,567	4,720	4,784	5,100	1,347	35.9%					
Morrisville Borough	2,903	2,951	3,033	3,115	3,161	3,184	3,238	335	11.5%					
New Britain Borough	3,004	3,046	3,088	3,132	3,176	3,214	3,204	200	6.7%					
New Britain Township	5,330	5,453	5,528	5,605	5,791	5,992	5,999	669	12.6%					
New Hope Borough	2,854	2,893	2,953	3,015	3,051	3,071	3,102	248	8.7%					
Newtown Borough	2,375	2,404	2,426	2,447	2,522	2,604	2,588	213	9.0%					
Newtown Township	13,519	13,712	14,016	14,325	14,505	14,601	14,771	1,252	9.3%					
Nockamixon Township	1,519	1,580	1,617	1,655	1,733	1,816	1,838	319	21.0%					

County / Municipality	2015		2020		2025		2030		2035		2040		2045		Absolute Change, 2015-2045	Percentage Change, 2015-2045
	Employment Estimate		Employment Forecast		Employment Forecast		Employment Forecast		Employment Forecast		Employment Forecast		Employment Forecast			
Northampton Township	14,669		14,801		14,953		15,113		15,233		15,310		15,299		630	4.3%
Pennel Borough	1,403		1,453		1,555		1,656		1,704		1,725		1,819		416	29.7%
Perkasie Borough	2,991		3,058		3,182		3,305		3,369		3,399		3,499		508	17.0%
Plumstead Township	6,583		6,785		7,183		7,578		7,771		7,856		8,214		1,631	24.8%
Quakertown Borough	5,546		5,598		5,660		5,724		5,772		5,801		5,802		256	4.6%
Richland Township	6,678		7,236		7,597		7,956		8,221		8,510		8,904		2,226	33.3%
Richlandtown Borough	288		300		326		351		363		368		393		105	36.5%
Riegelsville Borough	142		145		148		149		154		159		159		17	12.0%
Sellersville Borough	1,150		1,230		1,377		1,520		1,597		1,632		1,750		600	52.2%
Silverdale Borough	299		301		303		305		315		327		323		24	8.0%
Solebury Township	3,399		3,472		3,605		3,739		3,808		3,841		3,946		547	16.1%
Springfield Township	1,474		1,524		1,555		1,586		1,638		1,693		1,710		236	16.0%
Telford Borough (part)	778		815		894		971		1,007		1,022		1,099		321	41.3%
Tinicum Township	1,532		1,584		1,690		1,794		1,844		1,866		1,963		431	28.1%
Trumbauersville Borough	307		309		314		317		333		348		346		39	12.7%
Tullytown Borough	3,097		3,158		3,267		3,377		3,435		3,463		3,546		449	14.5%
Upper Makefield Township	2,741		2,790		2,876		2,962		3,008		3,031		3,092		351	12.8%
Upper Southampton Township	9,981		10,006		10,026		10,053		10,322		10,618		10,459		478	4.8%
Warminster Township	16,109		16,891		17,210		17,536		17,956		18,424		18,702		2,593	16.1%
Warrington Township	9,581		9,863		10,414		10,963		11,232		11,352		11,842		2,261	23.6%
Warwick Township	5,967		6,074		6,258		6,444		6,544		6,594		6,724		757	12.7%
West Rockhill Township	5,227		5,442		5,885		6,323		6,530		6,617		7,040		1,813	34.7%
Wrightstown Township	1,294		1,324		1,378		1,433		1,461		1,474		1,519		225	17.4%
Yardley Borough	1,996		2,034		2,100		2,167		2,203		2,220		2,269		273	13.7%
Chester County	309,605		326,320		343,050		359,774		374,967		387,391		397,405		87,800	28.4%
Atglen Borough	498		521		549		577		599		617		643		145	29.1%
Avondale Borough	780		840		906		971		1,026		1,071		1,122		342	43.8%
Birmingham Township	1,573		1,664		1,754		1,846		1,927		1,994		2,046		473	30.1%
Cain Township	8,191		8,719		9,294		9,872		10,358		10,761		11,181		2,990	36.5%
Charlestown Township	3,134		3,309		3,483		3,661		3,818		3,947		4,050		916	29.2%
Coatesville City	2,579		2,759		2,958		3,160		3,327		3,465		3,619		1,040	40.3%
Downingtown Borough	6,455		6,798		7,192		7,588		7,910		8,175		8,499		2,044	31.7%

County / Municipality	2015		2020		2025		2030		2035		2040		2045		Absolute Change, 2015-2045	Percentage Change 2015-2045
	Employment Estimate	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast			
East Bradford Township	1,844	1,966	2,097	2,229	2,341	2,433	2,527	683	37.0%							
East Brandywine Township	1,649	1,777	1,921	2,068	2,187	2,285	2,404	755	45.8%							
East Caln Township	4,254	4,474	4,685	4,900	5,096	5,258	5,367	1,113	26.2%							
East Coventry Township	1,515	1,618	1,730	1,842	1,937	2,015	2,096	581	38.3%							
East Fallowfield Township	911	969	1,029	1,089	1,140	1,186	1,221	310	34.0%							
East Goshen Township	8,156	8,597	9,036	9,482	9,877	10,205	10,461	2,305	28.3%							
East Marlborough Township	5,264	5,608	6,002	6,399	6,721	6,987	7,308	2,044	38.8%							
East Nantmeal Township	821	862	896	931	966	996	999	178	21.7%							
East Nottingham Township	1,713	1,854	2,020	2,187	2,320	2,430	2,571	858	50.1%							
East Pikeland Township	2,836	3,040	3,268	3,499	3,687	3,845	4,025	1,189	41.9%							
Easttown Township	7,006	7,347	7,667	7,992	8,291	8,545	8,694	1,688	24.1%							
East Vincent Township	1,867	2,063	2,298	2,306	2,716	2,858	3,129	1,262	67.6%							
East Whiteland Township	23,399	24,735	26,117	27,514	28,722	29,730	30,623	7,224	30.9%							
Elk Township	266	287	305	324	342	357	363	97	36.5%							
Elverson Borough	596	663	746	829	894	947	1,026	430	72.1%							
Franklin Township	608	659	715	773	820	859	905	297	48.8%							
Highland Township	535	567	594	623	649	674	681	146	27.3%							
Honey Brook Borough	389	425	466	507	541	569	602	213	54.8%							
Honey Brook Township	2,990	3,164	3,342	3,522	3,678	3,809	3,920	930	31.1%							
Kennett Township	5,782	6,112	6,450	6,793	7,092	7,341	7,555	1,773	30.7%							
Kennett Square Borough	4,177	4,405	4,632	4,862	5,066	5,239	5,370	1,193	28.6%							
London Britain Township	630	665	691	719	747	772	773	143	22.7%							
Londonderry Township	488	530	575	621	660	694	729	241	49.4%							
London Grove Township	2,535	2,738	2,972	3,208	3,400	3,559	3,755	1,220	48.1%							
Lower Oxford Township	1,874	2,096	2,397	2,698	2,918	3,098	3,418	1,544	82.4%							
Malvern Borough	2,359	2,500	2,646	2,794	2,921	3,027	3,121	762	32.3%							
Modena Borough	124	147	178	207	230	248	279	155	125.0%							
New Garden Township	6,534	6,884	7,277	7,673	7,999	8,268	8,578	2,044	31.3%							
Newlin Township	271	293	315	336	357	375	387	116	42.8%							
New London Township	1,041	1,098	1,155	1,213	1,263	1,306	1,385	344	33.0%							
North Coventry Township	3,730	3,896	4,037	4,182	4,323	4,444	4,483	753	20.2%							
Oxford Borough	2,156	2,319	2,504	2,691	2,843	2,968	3,118	962	44.6%							
Parkesburg Borough	671	734	811	888	948	997	1,065	394	58.7%							

County / Municipality	2015	2020		2025		2030		2035		2040		2045		Absolute Change, 2015-2045	Percentage Change 2015-2045
	Employment Estimate	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast			
Penn Township	2,916	3,084	3,286	3,490	3,649	3,781	3,961	1,045	35.8%						
Pennsbury Township	1,395	1,460	1,514	1,568	1,624	1,671	1,680	285	20.4%						
Phoenixville Borough	6,835	7,419	8,119	8,823	9,378	9,835	10,456	3,621	53.0%						
Pocopson Township	1,030	1,081	1,123	1,165	1,208	1,244	1,252	222	21.6%						
Sadsbury Township	1,571	1,692	1,830	1,969	2,083	2,176	2,288	717	45.6%						
Schuylkill Township	4,530	4,706	4,840	4,977	5,124	5,197	5,247	717	15.8%						
South Coatesville Borough	1,390	1,502	1,629	1,759	1,862	1,949	2,055	665	47.8%						
South Coventry Township	1,146	1,257	1,392	1,528	1,633	1,721	1,844	698	60.9%						
Spring City Borough	959	1,027	1,100	1,173	1,235	1,287	1,339	380	39.6%						
Thornbury Township	1,302	1,384	1,470	1,557	1,631	1,693	1,749	447	34.3%						
Tredyffrin Township	55,495	57,323	58,540	59,802	61,270	62,518	62,120	6,625	11.9%						
Upper Oxford Township	361	393	428	465	494	519	547	186	51.5%						
Upper Uwchlan Township	4,216	4,447	4,677	4,910	5,116	5,288	5,421	1,205	28.6%						
Uwchlan Township	14,889	16,014	17,312	18,619	19,674	20,545	21,626	6,737	45.2%						
Valley Township	2,085	2,249	2,440	2,633	2,787	2,915	3,074	989	47.4%						
Wallace Township	903	981	1,074	1,168	1,242	1,304	1,383	480	53.2%						
Warwick Township	614	648	674	701	729	753	754	140	22.8%						
West Bradford Township	2,095	2,190	2,269	2,349	2,429	2,497	2,514	419	20.0%						
West Brandywine Township	2,088	2,331	2,643	2,955	3,192	3,386	3,694	1,606	76.9%						
West Caln Township	1,450	1,523	1,590	1,657	1,721	1,775	1,799	349	24.1%						
West Chester Borough	11,440	11,787	11,979	12,181	12,448	12,678	12,510	1,070	9.4%						
West Fallowfield Township	958	1,006	1,043	1,082	1,122	1,155	1,159	201	21.0%						
West Goshen Township	24,174	25,299	26,334	27,385	28,369	29,189	29,633	5,459	22.6%						
West Grove Borough	674	719	763	808	848	881	907	233	34.6%						
West Marlborough Township	330	353	371	388	409	424	426	96	29.1%						
West Nantmeal Township	647	690	732	775	814	845	870	223	34.5%						
West Nottingham Township	1,736	1,884	2,060	2,238	2,378	2,493	2,647	911	52.5%						
West Pikeland Township	964	1,029	1,097	1,165	1,225	1,274	1,320	356	36.9%						
West Sadsbury Township	2,106	2,300	2,537	2,774	2,959	3,112	3,327	1,221	58.0%						
West Vincent Township	1,476	1,552	1,623	1,695	1,759	1,816	1,846	370	25.1%						
West Whiteland Township	23,476	24,691	25,883	27,093	28,175	29,076	29,735	6,259	26.7%						
Westtown Township	4,257	4,479	4,693	4,910	5,107	5,271	5,383	1,126	26.5%						
Willistown Township	7,896	8,118	8,275	8,436	8,616	8,769	8,741	845	10.7%						

County / Municipality	2015	2020	2025	2030	2035	2040	2045	Absolute Change, 2015-2045	Percentage Change 2015-2045
	Employment Estimate	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast		
Delaware County	268,054	270,167	272,269	274,401	276,248	277,763	279,050	10,996	4.1%
Aldan Borough	957	963	966	969	973	978	978	21	2.2%
Aston Township	6,558	6,615	6,678	6,742	6,793	6,832	6,876	318	4.8%
Bethel Township	2,297	2,331	2,388	2,445	2,478	2,497	2,548	251	10.9%
Brookhaven Borough	2,702	2,722	2,739	2,756	2,773	2,787	2,796	94	3.5%
Chadds Ford Twp.	4,153	4,232	4,374	4,516	4,593	4,634	4,768	615	14.8%
Chester City	11,939	12,014	12,062	12,112	12,174	12,234	12,244	305	2.6%
Chester Township	942	956	980	1,004	1,017	1,025	1,047	105	11.1%
Chester Heights Borough	2,926	2,945	2,958	2,971	2,987	3,002	3,005	79	2.7%
Clifton Heights Borough	2,142	2,153	2,155	2,157	2,165	2,175	2,169	27	1.3%
Collingdale Borough	2,108	2,125	2,143	2,161	2,176	2,188	2,199	91	4.3%
Colwyn Borough	417	421	425	430	433	435	439	22	5.3%
Concord Township	11,491	11,733	12,179	12,629	12,864	12,988	13,416	1,925	16.8%
Darby Borough	3,955	3,982	4,003	4,025	4,047	4,068	4,077	122	3.1%
Darby Township	2,593	2,602	2,595	2,588	2,594	2,604	2,588	-5	-0.2%
East Lansdowne Borough	658	661	661	661	664	667	665	7	1.1%
Eddystone Borough	2,429	2,439	2,436	2,433	2,440	2,450	2,439	10	0.4%
Edgmont Township	2,247	2,307	2,424	2,542	2,601	2,630	2,745	498	22.2%
Folcroft Borough	3,501	3,507	3,484	3,460	3,462	3,474	3,437	-64	-1.8%
Glenolden Borough	2,366	2,376	2,376	2,375	2,383	2,394	2,385	19	0.8%
Haverford Township	16,973	17,066	17,103	17,142	17,217	17,298	17,279	306	1.8%
Lansdowne Borough	2,650	2,659	2,652	2,646	2,652	2,662	2,646	-4	-0.2%
Lower Chichester Township	1,374	1,380	1,381	1,381	1,386	1,392	1,387	13	0.9%
Marcus Hook Borough	3,014	3,037	3,058	3,079	3,099	3,115	3,127	113	3.7%
Marple Township	14,026	14,082	14,063	14,045	14,085	14,143	14,075	49	0.3%
Media Borough	11,882	11,974	12,064	12,156	12,236	12,303	12,357	475	4.0%
Middletown Township	14,076	14,220	14,407	14,597	14,727	14,820	14,968	892	6.3%
Millbourne Borough	370	375	382	389	393	396	402	32	8.6%
Morton Borough	1,290	1,297	1,300	1,303	1,309	1,315	1,314	24	1.9%
Nether Providence Township	4,626	4,656	4,677	4,698	4,723	4,747	4,753	127	2.7%
Newtown Township	12,615	12,710	12,798	12,888	12,971	13,040	13,090	475	3.8%

County / Municipality	2015	2020	2025	2030	2035	2040	2045	Absolute Change, 2015-2045	Percentage Change 2015-2045
	Employment Estimate	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast		
Norwood Borough	1,140	1,145	1,146	1,146	1,151	1,156	1,152	12	1.1%
	328	330	332	334	336	337	338	10	3.0%
	1,726	1,736	1,742	1,747	1,756	1,764	1,764	38	2.2%
	25,694	25,861	25,978	26,099	26,239	26,371	26,407	713	2.8%
	2,809	2,814	2,795	2,776	2,777	2,786	2,757	-52	-1.9%
Ridley Township									
Ridley Park Borough	9,411	9,463	9,483	9,505	9,546	9,591	9,580	169	1.8%
Rose Valley Borough	297	302	310	318	323	326	333	36	12.1%
Rutledge Borough	131	132	132	132	133	133	133	2	1.5%
Sharon Hill Borough	2,985	3,003	3,014	3,026	3,041	3,056	3,058	73	2.4%
Springfield Township	14,177	14,292	14,411	14,532	14,633	14,715	14,791	614	4.3%
Swarthmore Borough	2,660	2,677	2,688	2,700	2,714	2,727	2,730	70	2.6%
Thornbury Township	2,366	2,418	2,514	2,610	2,661	2,687	2,780	414	17.5%
Tinicum Township	12,489	12,531	12,495	12,461	12,488	12,537	12,457	-32	-0.3%
Trainer Borough	1,799	1,799	1,779	1,760	1,757	1,762	1,735	-64	-3.6%
Upland Borough	1,222	1,227	1,228	1,228	1,232	1,237	1,233	11	0.9%
Upper Chichester Township	6,648	6,710	6,786	6,862	6,918	6,959	7,016	368	5.5%
Upper Darby Township	25,058	25,282	25,543	25,806	26,007	26,159	26,346	1,288	5.1%
Upper Providence Township	5,055	5,114	5,198	5,283	5,338	5,373	5,445	390	7.7%
Yeadon Borough	2,782	2,791	2,784	2,776	2,783	2,794	2,776	-6	-0.2%
Montgomery County	582,443	598,434	614,469	629,563	642,996	654,966	664,385	81,942	14.1%
Abington Township	30,656	31,098	31,327	31,512	31,899	32,371	32,156	1,500	4.9%
Ambler Borough	3,185	3,248	3,322	3,392	3,450	3,501	3,537	352	11.1%
Bridgeport Borough	2,180	2,248	2,298	2,345	2,399	2,455	2,480	300	13.8%
Bryn Athyn Borough	1,427	1,440	1,452	1,463	1,474	1,484	1,477	50	3.5%
Cheltenham Township	18,189	18,517	18,725	18,906	19,201	19,546	19,489	1,300	7.1%
Collegeville Borough	2,626	2,668	2,705	2,738	2,775	2,814	2,815	189	7.2%
Conshohocken Borough	9,368	10,531	11,292	12,036	12,854	13,522	14,368	5,000	53.4%
Douglas Township	3,661	3,820	4,038	4,249	4,380	4,431	4,661	1,000	27.3%
East Greenville Borough	651	663	675	687	697	707	711	60	9.2%
East Norriton Township	10,682	10,999	11,317	11,617	11,813	11,880	12,182	1,500	14.0%
Franconia Township	7,630	7,696	8,004	8,297	8,439	8,497	8,745	1,115	14.6%
Green Lane Borough	183	186	187	189	191	193	193	10	5.5%

County / Municipality	2015		2020		2025		2030		2035		2040		2045		Absolute Change, 2015-2045	Percentage Change 2015-2045
	Employment Estimate	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast			
Hatboro Borough	3,893	3,978	4,018	4,055	4,125	4,204	4,193	300	7.7%							
Hatfield Borough	1,150	1,172	1,190	1,208	1,227	1,248	1,250	100	8.7%							
Hatfield Township	17,580	18,120	18,629	19,110	19,533	19,857	20,218	2,638	15.0%							
Horsham Township	30,408	31,549	33,538	35,468	36,584	37,907	39,068	8,660	28.5%							
Jenkintown Borough	4,597	4,677	4,722	4,761	4,833	4,918	4,897	300	6.5%							
Lansdale Borough	7,772	7,952	8,045	8,126	8,254	8,372	8,384	612	7.9%							
Limerick Township	11,533	11,874	12,362	12,826	13,324	13,799	14,151	2,618	22.7%							
Lower Frederick Township	1,110	1,146	1,178	1,208	1,260	1,320	1,334	224	20.2%							
Lower Gwynedd Township	7,006	7,282	7,770	8,244	8,514	8,687	9,125	2,119	30.2%							
Lower Merion Township	55,354	56,522	57,038	57,471	58,209	58,915	58,854	3,500	6.3%							
Lower Moreland Township	8,085	8,225	8,331	8,424	8,551	8,692	8,685	600	7.4%							
Lower Pottsgrove Township	4,670	4,768	4,943	5,109	5,239	5,346	5,470	800	17.1%							
Lower Providence Township	12,994	13,230	13,581	13,910	14,129	14,290	14,494	1,500	11.5%							
Lower Salford Township	9,663	9,864	10,234	10,586	10,776	10,886	11,163	1,500	15.5%							
Marlborough Township	978	991	1,010	1,027	1,051	1,071	1,078	100	10.2%							
Montgomery Township	16,097	16,473	16,923	17,343	17,580	17,640	18,012	1,915	11.9%							
Narberth Borough	2,039	2,076	2,101	2,122	2,155	2,193	2,189	150	7.4%							
New Hanover Township	2,020	2,102	2,198	2,290	2,370	2,435	2,515	495	24.5%							
Norristown Borough	14,095	14,558	14,873	15,166	15,560	15,972	16,095	2,000	14.2%							
North Wales Borough	1,419	1,443	1,460	1,476	1,498	1,522	1,519	100	7.0%							
Pennsburg Borough	1,519	1,552	1,573	1,592	1,617	1,641	1,645	126	8.3%							
Perkiomen Township	2,416	2,469	2,537	2,602	2,651	2,693	2,733	317	13.1%							
Plymouth Township	23,839	24,550	25,500	26,410	27,090	27,652	28,339	4,500	18.9%							
Pottstown Borough	10,757	11,090	11,342	11,578	11,857	12,128	12,257	1,500	13.9%							
Red Hill Borough	631	642	654	666	676	685	689	58	9.2%							
Rockledge Borough	957	979	996	1,011	1,031	1,054	1,057	100	10.4%							
Royersford Borough	1,393	1,419	1,443	1,466	1,489	1,511	1,518	125	9.0%							
Salford Township	526	544	564	583	605	627	641	115	21.9%							
Schwenksville Borough	418	434	454	474	490	504	518	100	23.9%							
Skippack Township	4,197	4,300	4,402	4,496	4,565	4,631	4,697	500	11.9%							
Souderton Borough	2,788	2,876	2,972	3,064	3,147	3,227	3,288	500	17.9%							
Springfield Township	7,874	8,000	8,084	8,158	8,271	8,399	8,374	500	6.4%							
Telford Borough (part)	643	659	684	707	722	734	751	108	16.8%							

County / Municipality	2015	2020	2025	2030	2035	2040	2045	Absolute Change, 2015-2045	Percentage Change 2015-2045
	Employment Estimate	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast		
Towamencin Township	7,548	8,086	8,612	9,125	9,567	9,909	10,421	2,873	38.1%
Trappe Borough	2,144	2,190	2,248	2,303	2,345	2,381	2,414	270	12.6%
Upper Dublin Township	21,566	22,207	22,864	23,485	24,048	24,546	24,966	3,400	15.8%
Upper Frederick Township	871	899	930	960	998	1,037	1,056	185	21.2%
Upper Gwynedd Township	25,099	25,428	25,751	26,036	26,324	26,607	26,599	1,500	6.0%
Upper Hanover Township	4,221	4,395	4,541	4,680	4,831	4,957	5,078	857	20.3%
Upper Merion Township	57,038	59,232	60,940	62,559	64,072	65,430	66,508	9,470	16.6%
Upper Moreland Township	18,160	18,395	18,536	18,650	18,853	19,092	18,977	817	4.5%
Upper Pottsgrove Township	1,161	1,186	1,227	1,264	1,301	1,335	1,361	200	17.2%
Upper Providence Township	22,276	23,028	24,014	24,960	25,575	25,947	26,796	4,520	20.3%
Upper Salford Township	1,273	1,303	1,338	1,371	1,407	1,442	1,462	189	14.8%
West Conshohocken Borough	5,836	5,978	6,180	6,371	6,506	6,612	6,748	912	15.6%
West Norriton Township	9,363	9,557	9,802	10,031	10,212	10,367	10,499	1,136	12.1%
West Pottsgrove Township	1,476	1,530	1,622	1,711	1,764	1,798	1,879	403	27.3%
Whitemarsh Township	20,727	21,090	21,343	21,565	21,894	22,235	22,227	1,500	7.2%
Whitpain Township	19,871	20,231	20,641	21,020	21,350	21,653	21,819	1,948	9.8%
Worcester Township	2,954	3,069	3,189	3,304	3,394	3,457	3,560	606	20.5%
Philadelphia County	772,847	786,308	797,156	810,574	822,002	829,937	836,825	63,978	8.3%
Central	277,884	280,877	283,540	287,458	289,839	291,941	294,586	16,702	6.0%
South	32,348	32,823	33,052	33,584	33,897	34,118	34,233	1,885	5.8%
Lower South	19,366	22,053	25,327	28,043	30,830	33,279	35,111	15,745	81.3%
Lower Southwest	21,287	21,570	22,013	22,546	22,943	23,231	23,518	2,231	10.5%
University/Southwest	81,863	84,881	86,678	89,222	91,692	92,487	94,866	13,003	15.9%
West	14,073	14,203	14,299	14,439	14,598	14,699	14,774	701	5.0%
West Park	17,141	17,404	17,509	17,692	17,785	17,928	17,987	846	4.9%
Lower North	27,134	27,582	28,096	28,441	28,963	29,335	29,204	2,070	7.6%
River Wards	23,154	23,578	23,698	23,934	24,224	24,485	24,249	1,095	4.7%
North	41,243	41,508	41,777	42,342	42,647	42,878	42,941	1,698	4.1%
Lower Northwest	18,212	18,475	18,586	18,710	18,889	19,048	19,008	796	4.4%
Upper Northwest	25,673	25,928	26,010	26,217	26,435	26,540	26,478	805	3.1%
Upper North	33,741	34,068	34,214	34,353	34,589	34,656	34,655	914	2.7%
Lower Northeast	27,338	27,591	27,740	27,958	28,086	28,125	28,124	786	2.9%

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	Employment Estimate	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast		
Central Northeast	22,546	22,843	23,015	23,244	23,395	23,498	23,473	927	4.1%
North Delaware	23,938	24,269	24,330	24,557	24,692	24,819	24,807	869	3.6%
Lower Far Northeast	31,433	31,835	32,080	32,378	32,667	32,893	32,853	1,420	4.5%
Upper Far Northeast	34,473	34,820	35,192	35,456	35,831	35,977	35,958	1,485	4.3%
Burlington County	241,298	246,351	251,368	255,562	258,363	261,195	263,622	22,324	9.3%
Bass River Township	1,556	1,572	1,566	1,556	1,558	1,571	1,544	-12	-0.8%
Beverly City	400	417	446	472	485	493	519	119	29.8%
Bordentown City	1,437	1,452	1,447	1,439	1,441	1,451	1,428	-9	-0.6%
Bordentown Township	5,424	5,530	5,624	5,703	5,760	5,824	5,858	434	8.0%
Burlington City	5,162	5,229	5,237	5,231	5,251	5,298	5,242	80	1.5%
Burlington Township	17,266	17,584	17,772	17,879	17,949	18,054	18,013	747	4.3%
Chesterfield Township	1,770	1,800	1,819	1,833	1,846	1,865	1,863	93	5.3%
Cinnaminson Township	9,862	9,981	9,978	9,949	9,979	10,064	9,938	76	0.8%
Delanco Township	1,193	1,234	1,296	1,353	1,383	1,403	1,455	262	22.0%
Delran Township	7,181	7,263	7,249	7,217	7,234	7,295	7,190	9	0.1%
Eastampton Township	949	980	1,027	1,070	1,092	1,109	1,147	198	20.9%
Edgewater Park Township	2,738	2,795	2,849	2,896	2,928	2,961	2,985	247	9.0%
Evesham Township	27,494	27,914	28,117	28,240	28,412	28,688	28,559	1,065	3.9%
Fieldsboro Borough	87	88	89	91	91	92	92	5	5.7%
Florence Township	3,424	3,650	3,889	4,017	4,112	4,190	4,297	873	25.5%
Hainesport Township	3,128	3,287	3,567	3,834	3,962	4,037	4,299	1,171	37.4%
Lumberton Township	6,605	6,926	7,488	8,022	8,279	8,433	8,954	2,349	35.6%
Mansfield Township	2,794	2,935	3,186	3,422	3,537	3,604	3,838	1,044	37.4%
Maple Shade Township	6,792	6,875	6,877	6,860	6,881	6,942	6,858	66	1.0%
Medford Lakes Borough	800	808	805	800	800	807	793	-7	-0.9%
Medford Township	11,762	11,938	12,189	12,416	12,559	12,653	12,855	1,093	9.3%
Moorestown Township	30,721	31,403	32,129	32,756	33,157	33,552	33,945	3,224	10.5%
Mount Holly Township	7,793	7,890	7,894	7,877	7,904	7,972	7,879	86	1.1%
Mount Laurel Township	37,270	38,050	38,815	39,464	39,903	40,362	40,714	3,444	9.2%
New Hanover Township	4,627	4,707	4,791	4,874	4,957	5,040	5,127	500	10.8%
North Hanover Township	1,451	1,455	1,437	1,429	1,422	1,416	1,401	-50	-3.4%
Palmyra Borough	2,008	2,021	1,994	1,963	1,957	1,971	1,916	-92	-4.6%

County / Municipality	2015		2020		2025		2030		2035		2040		2045		Absolute Change, 2015-2045	Percentage Change, 2015-2045
	Employment Estimate	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast			
Pemberton Borough	541	547	544	541	541	541	546	537	-4	-0.7%						
Pemberton Township	7,035	7,204	7,420	7,616	7,725	7,816	7,970	935	13.3%							
Riverside Township	1,726	1,759	1,787	1,811	1,827	1,847	1,856	130	7.5%							
Riverton Borough	836	844	839	832	832	840	823	-13	-1.6%							
Shamong Township	1,695	1,713	1,705	1,693	1,696	1,709	1,680	-15	-0.9%							
Southampton Township	3,705	3,744	3,729	3,704	3,709	3,739	3,677	-28	-0.8%							
Springfield Township	1,513	1,543	1,593	1,640	1,666	1,681	1,726	213	14.1%							
Tabernacle Township	2,042	2,063	2,054	2,041	2,044	2,061	2,026	-16	-0.8%							
Washington Township	245	247	247	245	246	247	243	-2	-0.8%							
Westampton Township	7,379	7,776	8,490	9,169	9,495	9,682	10,357	2,978	40.4%							
Willingboro Township	8,184	8,388	8,632	8,850	8,979	9,093	9,253	1,069	13.1%							
Woodland Township	1,893	1,911	1,899	1,882	1,883	1,897	1,860	-33	-1.7%							
Wrightstown Borough	2,810	2,828	2,852	2,875	2,881	2,890	2,905	95	3.4%							
Camden County	263,582	265,169	266,753	268,359	269,750	270,892	271,869	8,287	3.1%							
Audubon Borough	2,882	2,878	2,858	2,840	2,834	2,839	2,809	-73	-2.5%							
Audubon Park Borough	122	122	121	120	120	120	119	-3	-2.5%							
Barrington Borough	2,919	2,916	2,900	2,885	2,881	2,886	2,860	-59	-2.0%							
Bellmawr Borough	4,855	4,861	4,856	4,853	4,855	4,867	4,848	-7	-0.1%							
Berlin Borough	4,889	4,908	4,936	4,965	4,981	4,998	5,012	123	2.5%							
Berlin Township	6,474	6,492	6,514	6,537	6,551	6,572	6,574	100	1.5%							
Brooklawn Borough	979	980	979	978	978	981	976	-3	-0.3%							
Camden City	41,786	42,644	43,370	44,057	44,850	45,205	45,992	4,206	10.1%							
Cherry Hill Township	66,799	66,845	66,734	66,641	66,648	66,808	66,479	-320	-0.5%							
Chesilhurst Borough	268	267	264	262	261	261	257	-11	-4.1%							
Clementon Borough	1,391	1,391	1,388	1,385	1,384	1,388	1,379	-12	-0.9%							
Collingswood Borough	4,307	4,308	4,296	4,285	4,283	4,292	4,266	-41	-1.0%							
Gibbsboro Borough	1,885	1,884	1,875	1,866	1,864	1,867	1,852	-33	-1.8%							
Gloucester City	4,709	4,888	5,290	5,692	5,866	5,942	6,345	1,636	34.7%							
Gloucester Township	19,959	19,964	19,911	19,863	19,857	19,901	19,782	-177	-0.9%							
Haddon Township	4,577	4,590	4,606	4,624	4,634	4,649	4,651	74	1.6%							
Haddonfield Borough	6,525	6,526	6,508	6,491	6,488	6,503	6,463	-62	-1.0%							
Haddon Heights Borough	3,220	3,227	3,234	3,242	3,248	3,257	3,254	34	1.1%							

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Hi-Nella Borough	201	201	201	201	201	201	201	201	201	201	202	202	201	0	0.0%	
Laurel Springs Borough	468	468	468	465	465	463	463	463	463	463	464	464	460	-8	-1.7%	
Lawnside Borough	1,916	1,911	1,894	1,894	1,877	1,872	1,872	1,872	1,872	1,872	1,874	1,874	1,850	-66	-3.4%	
Lindenwold Borough	3,140	3,147	3,152	3,152	3,158	3,163	3,163	3,163	3,163	3,163	3,172	3,172	3,168	28	0.9%	
Magnolia Borough	1,064	1,063	1,058	1,058	1,052	1,051	1,051	1,051	1,051	1,051	1,053	1,053	1,043	-21	-2.0%	
Merchantville Borough	1,408	1,409	1,406	1,406	1,404	1,404	1,404	1,404	1,404	1,404	1,407	1,407	1,400	-8	-0.6%	
Mount Ephraim Borough	1,137	1,137	1,133	1,133	1,129	1,128	1,128	1,128	1,128	1,128	1,131	1,131	1,123	-14	-1.2%	
Oaklyn Borough	991	990	986	986	981	980	980	980	980	980	982	982	974	-17	-1.7%	
Pennsauken Township	25,712	25,798	25,799	25,799	25,816	25,889	25,889	25,889	25,889	25,889	26,018	26,018	25,945	233	0.9%	
Pine Hill Borough	1,618	1,625	1,627	1,627	1,629	1,634	1,634	1,634	1,634	1,634	1,643	1,643	1,640	22	1.4%	
Pine Valley Borough	185	185	185	185	184	184	184	184	184	184	184	184	183	-2	-1.1%	
Runnemede Borough	3,101	3,099	3,084	3,084	3,070	3,066	3,066	3,066	3,066	3,066	3,072	3,072	3,047	-54	-1.7%	
Somerdale Borough	2,376	2,377	2,375	2,375	2,372	2,373	2,373	2,373	2,373	2,373	2,378	2,378	2,367	-9	-0.4%	
Stratford Borough	6,353	6,354	6,335	6,335	6,318	6,315	6,315	6,315	6,315	6,315	6,329	6,329	6,289	-64	-1.0%	
Tavistock Borough	50	50	50	50	50	50	50	50	50	50	50	50	50	0	0.0%	
Voorhees Township	20,328	20,474	20,749	20,749	21,028	21,161	21,161	21,161	21,161	21,161	21,258	21,258	21,479	1,151	5.7%	
Waterford Township	3,606	3,637	3,698	3,698	3,760	3,789	3,789	3,789	3,789	3,789	3,808	3,808	3,860	254	7.0%	
Winslow Township	10,976	11,147	11,510	11,510	11,875	12,038	12,038	12,038	12,038	12,038	12,124	12,124	12,466	1,490	13.6%	
Woodlynne Borough	406	406	406	406	406	406	406	406	406	406	407	407	406	0	0.0%	
Gloucester County	121,382	128,161	134,902	134,902	141,752	147,682	147,682	147,682	147,682	147,682	152,554	152,554	156,686	35,304	29.1%	
Clayton Borough	2,236	2,380	2,549	2,549	2,718	2,847	2,847	2,847	2,847	2,847	2,947	2,947	3,076	840	37.6%	
Deptford Township	14,845	15,536	16,047	16,047	16,583	17,165	17,165	17,165	17,165	17,165	17,692	17,692	17,824	2,979	20.1%	
East Greenwich Township	2,593	2,718	2,817	2,817	2,920	3,027	3,027	3,027	3,027	3,027	3,121	3,121	3,155	562	21.7%	
Elk Township	1,106	1,240	1,465	1,465	1,684	1,813	1,813	1,813	1,813	1,813	1,894	1,894	2,126	1,020	92.2%	
Franklin Township	4,372	4,642	4,944	4,944	5,247	5,488	5,488	5,488	5,488	5,488	5,676	5,676	5,895	1,523	34.8%	
Glassboro Borough	7,359	7,860	8,475	8,475	9,089	9,543	9,543	9,543	9,543	9,543	9,883	9,883	10,380	3,021	41.1%	
Greenwich Township	2,436	2,516	2,524	2,524	2,539	2,600	2,600	2,600	2,600	2,600	2,670	2,670	2,601	165	6.8%	
Harrison Township	3,492	3,812	4,291	4,291	4,762	5,063	5,063	5,063	5,063	5,063	5,266	5,266	5,724	2,232	63.9%	
Logan Township	9,726	10,183	10,529	10,529	10,892	11,277	11,277	11,277	11,277	11,277	11,624	11,624	11,726	2,000	20.6%	
Mantua Township	5,333	5,786	6,436	6,436	7,078	7,501	7,501	7,501	7,501	7,501	7,792	7,792	8,396	3,063	57.4%	

County / Municipality	2015 Employment Estimate	2020		2025		2030		2035		2040		2045		Absolute Change, 2015-2045	Percentage Change 2015-2045
		Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast	Employment Forecast				
Monroe Township	11,219	12,024	13,054	14,078	14,812	15,352	16,218	4,999	44.6%						
National Park Borough	430	445	448	453	464	477	467	37	8.6%						
Newfield Borough	441	456	457	460	471	484	472	31	7.0%						
Paulsboro Borough	1,707	1,760	1,760	1,765	1,804	1,852	1,796	89	5.2%						
Pitman Borough	2,481	2,590	2,659	2,733	2,823	2,908	2,911	430	17.3%						
South Harrison Township	1,000	1,066	1,143	1,221	1,280	1,324	1,385	385	38.5%						
Swedesboro Borough	1,618	1,681	1,708	1,740	1,790	1,841	1,822	204	12.6%						
Washington Township	19,175	19,988	20,465	20,982	21,650	22,291	22,242	3,067	16.0%						
Wenonah Borough	520	541	553	565	582	599	596	76	14.6%						
West Deptford Township	13,690	14,441	15,169	15,910	16,564	17,107	17,534	3,844	28.1%						
Westville Borough	1,784	1,860	1,904	1,953	2,015	2,075	2,070	286	16.0%						
Woodbury City	9,289	9,538	9,440	9,372	9,545	9,783	9,366	77	0.8%						
Woodbury Heights Borough	1,887	1,940	1,925	1,915	1,953	2,002	1,923	36	1.9%						
Woolwich Township	2,643	3,158	4,140	5,093	5,605	5,894	6,981	4,338	164.1%						
Mercer County	286,295	290,864	295,408	300,025	304,021	307,302	310,084	23,789	8.3%						
East Windsor Township	17,414	17,737	18,170	18,607	18,858	19,015	19,359	1,945	11.2%						
Ewing Township	22,150	22,877	23,322	23,772	24,047	24,230	24,680	2,530	11.4%						
Hamilton Township	49,812	50,303	50,848	51,406	51,824	52,157	52,345	2,533	5.1%						
Hightstown Borough	2,775	2,796	2,812	2,828	2,846	2,862	2,857	82	3.0%						
Hopewell Borough	982	990	987	984	986	990	980	-2	-0.2%						
Hopewell Township	14,696	14,797	15,282	15,771	17,012	18,290	18,408	3,712	25.3%						
Lawrence Township	28,005	28,973	29,178	29,392	29,586	29,760	30,015	2,010	7.2%						
Pennington Borough	2,412	2,449	2,502	2,555	2,587	2,608	2,646	234	9.7%						
Princeton	26,211	27,014	27,617	28,227	28,585	28,815	29,399	3,188	12.2%						
Robbinsville	6,542	6,815	7,186	7,558	7,743	7,836	8,212	1,670	25.5%						
Trenton City	78,922	79,280	79,783	80,307	80,812	81,280	81,096	2,174	2.8%						
West Windsor Township	36,374	36,833	37,721	38,618	39,135	39,459	40,087	3,713	10.2%						

Source: Delaware Valley Regional Planning Commission, September 2016. Base employment data from the National Establishments Time Series (NETS) database, 2010 and 2013.

Report Title: Analytical Data Report # 023: County- and Municipal-Level Employment Forecasts, 2015–2045

Publication No.: ADR023

Date Published: October 2016

Geographic Area Covered: DVRPC's nine-county region, including Burlington, Camden, Gloucester, and Mercer counties in New Jersey, and Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania.

Key Words: employment, employment forecasts, National Establishments Time Series database, NETS, Connections 2045, long-range plan

ABSTRACT: This report presents the Delaware Valley Regional Planning Commission's (DVRPC's) adopted 2045 county- and municipal-level employment forecasts and describes the method used to develop them. Population and employment forecasts are a critical component of long-range land use and transportation planning. As a part of DVRPC's long-range planning activities, the Commission is required to maintain forecasts with at least a 20-year horizon, or to the horizon year of the long-range plan.

DVRPC last adopted employment forecasts through the year 2040 in September 2012. In March 2016, DVRPC acquired a National Establishments Time Series (NETS) database that included 2013 employment data and revised 2010 data. The 2010 and 2013 employment data was reviewed and revised by DVRPC staff, utilizing resources that included CoStar, on-line business directories, company web sites, and, when appropriate, direct telephone calls. The revised data was then sent to the county planning staffs for additional revision. Additionally, during the summer of 2016, DVRPC acquired improved geocoding resources that allowed staff to further correct the spatial locations of employers.

Based on changes in the NETS employment between 2010 and 2013, and changes in employment in each county between 2010 and 2015, as reported by the U.S. Bureau of Labor Statistics, 2015 employment was estimated by county and municipality. Studies have shown that there is a direct relationship between the number of workers living in an area and the number of jobs. County-level employment was forecasted in five-year increments through 2045, by estimating a future ratio of population to employment in each county and applying it to DVRPC's adopted population forecasts. Together with the 2045 population forecasts adopted by the DVRPC Board in July 2016, these employment forecasts, adopted by the Board in October 2016, will serve as the basis for DVRPC's planning and modeling activities, and support the region's 2045 long-range plan, scheduled for adoption in July 2017.

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	WORKING NOTES					WORKING NOTES									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
GROSS Property, plant and equipment	-	-	-	-	263,682,616	268,461,520	281,207,348	295,801,679	313,585,439	321,299,691	332,926,341	356,230,740	373,000,296	389,617,605	
Accumulated Depreciation	-	-	-	-	71,908,130	76,498,014	79,860,801	83,173,274	86,249,013	91,381,293	96,014,318	98,923,484	103,408,436	108,262,745	
NET PPE	-	-	-	-	191,774,486	191,963,506	201,346,547	212,628,404	227,336,425	229,918,397	236,912,023	257,307,256	269,591,860	281,354,859	
Total Debt	-	-	-	-	170,838,043	-	-	-	-	-	-	-	-	-	
Net Equity	-	-	-	-	185,035,336	185,035,336	-	-	-	-	-	-	-	-	
Investor Provided Capital	-	-	-	-	355,893,379	356,081,399	-	-	-	-	-	-	-	-	
Depreciation / GROSS PPE	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	0.00%	2.05%				9075591	13,678,412	27,416,940	19,728,889	19,549,775	
IOU savings															
Mini CAPX															
0%															
CAPX/Prior Yr. GROSS PPE															
CAPX															
Dep rate															
Half yr. Dep															
Dep on CAPX															
Rate of retirement															
Retired property															
Dep on Retired property															
Dep on Prior yr. GROSS															
Total Dep															
DELCORA															
Depreciation Expense															
NET PPE															
Rev															
Reg Assessment Fee															
PURTA															
0.001527765															
0.005652534															
CIP	\$	-	\$	-	\$	14,962,200	\$	14,995,092	\$	17,169,801	\$	20,922,071	\$	9,075,591	
part of OCN															
= to DepX															
0															
5,622,240															
DELCORA															
Sewer Rental Charges	0	0	0	58,281,844	62,157,984	64,978,097	70,678,127	70,729,539	91,178,670	91,315,290	91,451,910	199,255	198,654	200,153	
EDUs	0	0	0	0	0	197,769	197,769	198,666	198,663	198,660	198,657	298	299	300	
#DIV/0!	0	0	0	0	0	98884.5	197,769	197,769	198,663	198,660	198,657	297	299	300	
#DIV/0!	0	0	0	0	0	328,555,218	197,769	197,769	198,663	198,660	198,657	297	299	300	
#DIV/0!	0	0	0	0	0	657,111,043	197,769	197,769	198,663	198,660	198,657	297	299	300	
#DIV/0!	0	0	0	0	0	337,377,174	197,769	197,769	198,663	198,660	198,657	297	299	300	
Customer Growth															
Delivered to Customer															
Customers															
Total Revenue (Less TAP)															
avg CUST rev															
avg CUST flow															
avg EDU rev															
avg EDU flow															
Rev Calculated															

	2029	WORKING NOTES					WORKING NOTES					2043	2044	2045
		2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042

GROSS Property, plant and equipment	394,229,815	397,968,021	400,846,445	412,756,721	432,548,519	453,373,058	472,820,670	488,657,020	505,955,684	519,716,886	532,970,485	545,376,107	554,784,254	564,354,698	574,090,240	583,993,727	594,068,057
	111,474,920	122,928,501	130,603,186	136,819,261	141,955,170	147,323,279	153,349,655	160,381,506	167,492,291	175,552,096	183,979,297	192,820,682	202,420,047	212,185,007	222,118,421	232,223,194	242,502,282
	278,754,895	275,039,519	270,243,259	275,937,460	290,593,349	306,049,779	319,471,015	328,275,514	338,463,392	344,164,790	348,991,188	352,555,425	352,364,207	352,169,690	351,971,819	351,770,533	351,565,775

A
Total Debt
Net Equity
Investor Provided Capital

Depreciation / GROSS PPE

5,426,129	100%	2.03%	3,386,381	14,012,090	23,284,468	24,499,458	22,879,544	18,631,000	20,351,369	16,189,650	15,592,470	14,594,850	0	0	0	0	0
			100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
			2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%
			5,426,129	14,012,090	23,284,468	24,499,458	22,879,544	18,631,000	20,351,369	16,189,650	15,592,470	14,594,850	11,068,408	11,259,346	11,453,579	11,651,161	11,852,153
2.03%	1.03%	1.03%	3,386,381	14,012,090	23,284,468	24,499,458	22,879,544	18,631,000	20,351,369	16,189,650	15,592,470	14,594,850	11,068,408	11,259,346	11,453,579	11,651,161	11,852,153
			2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%
			1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%
			1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%
55,618	15.0%	15.0%	34,710	143,624	238,666	251,119	234,515	190,968	208,602	165,944	159,823	149,597	113,451	115,408	117,399	119,424	121,485
			15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
			813,919	3,492,670	3,674,919	3,431,932	2,794,650	2,428,448	2,338,871	2,189,228	2,060,261	1,988,902	1,718,037	1,718,037	1,718,037	1,747,674	1,777,823
			16,685	13,524	71,600	75,336	70,355	57,290	62,580	49,783	47,947	44,879	34,035	34,622	35,220	35,827	36,445
7,987,161	8.01%	8.01%	8,081,711	8,217,352	8,461,513	8,867,245	9,294,148	9,692,824	10,017,469	10,372,092	10,654,196	10,925,895	11,180,210	11,373,077	11,569,271	11,768,850	11,971,871
			8.01%	8.01%	8.01%	8.01%	8.01%	8.01%	8.01%	8.01%	8.01%	8.01%	8.01%	8.01%	8.01%	8.01%	8.01%
			8,081,711	8,217,352	8,461,513	8,867,245	9,294,148	9,692,824	10,017,469	10,372,092	10,654,196	10,925,895	11,180,210	11,373,077	11,569,271	11,768,850	11,971,871
			8,081,711	8,217,352	8,461,513	8,867,245	9,294,148	9,692,824	10,017,469	10,372,092	10,654,196	10,925,895	11,180,210	11,373,077	11,569,271	11,768,850	11,971,871
8,026,094	8.13%	8.13%	8,182,641	8,317,889	8,628,579	9,043,028	9,458,308	9,826,301	10,163,490	10,488,232	10,766,072	11,030,613	11,259,626	11,433,863	11,651,451	11,852,447	12,056,911
			8.13%	8.13%	8.13%	8.13%	8.13%	8.13%	8.13%	8.13%	8.13%	8.13%	8.13%	8.13%	8.13%	8.13%	8.13%
			8,182,641	8,317,889	8,628,579	9,043,028	9,458,308	9,826,301	10,163,490	10,488,232	10,766,072	11,030,613	11,259,626	11,433,863	11,651,451	11,852,447	12,056,911
			8,182,641	8,317,889	8,628,579	9,043,028	9,458,308	9,826,301	10,163,490	10,488,232	10,766,072	11,030,613	11,259,626	11,433,863	11,651,451	11,852,447	12,056,911

DELCORA
Depreciation Expense

9	2029	10	2030	11	2031	12	2032	13	2033	14	2034	15	2035	16	2036	17	2037	18	2038	19	2039	20	2040	21	2041	22	2042	23	2043	24	2044
\$	5,426,129	\$	4,397,890	\$	3,386,381	\$	14,012,090	\$	23,284,468	\$	24,499,458	\$	22,879,544	\$	18,631,000	\$	20,351,369	\$	16,189,650	\$	15,592,470	\$	14,594,850	\$.	\$.	\$.	\$.

1,425,000.00	1,429,750.00	1,429,750.00	1,434,500.00	1,434,500.00	1,434,500.00	1,439,250.00	1,439,250.00	1,439,250.00	1,444,000.00	1,444,000.00	1,448,750.00	1,448,750.00	1,453,500.00	1,453,500.00	1,458,250.00	1,458,250.00	1,458,250.00
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Sewer Rental Charges

DELCORA

IDELCORA	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4	0.15%	4
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[illegible]

			WORKING NOTES										WORKING NOTES									
2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045						
	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045						
2029	7.18%		15.70%		3.60%		11.60%		2.20%		5.40%		5.30%		4.00%							
\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$						
5,390,555	5,777,591	5,777,591	6,684,671	6,684,671	6,925,332	6,925,332	7,728,661	7,728,661	7,898,691	7,898,691	8,325,221	8,325,221	8,766,461	8,766,461	9,117,111	9,117,111						
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
67,437	67,538	67,639	72,605	72,714	84,256	84,382	87,551	87,682	98,000	98,147	100,457	100,608	106,200	106,359	112,164	112,164						
90,050,769	90,185,846	96,806,181	96,951,390	112,341,018	112,509,529	116,734,712	116,909,814	130,667,060	130,863,060	133,942,661	134,143,575	141,599,409	141,811,808	149,551,825	149,776,133	149,776,133						
-	6,475,344	-	15,221,368	-	4,050,343	-	13,561,538	-	2,878,987	-	7,243,753	-	7,516,026	-	5,991,046	5,991,046						
402,900	399,177	393,857	386,988	395,142	416,130	438,263	457,482	470,091	484,680	492,844	499,755	504,859	504,586	504,307	504,024	504,024						
511,621	512,389	550,002	550,827	638,263	639,220	663,226	664,221	742,382	743,496	760,992	762,134	804,494	805,701	849,675	850,950	850,950						
914,521	911,566	943,859	937,815	1,033,405	1,055,350	1,101,489	1,121,703	1,212,473	1,228,176	1,253,836	1,261,889	1,309,353	1,310,287	1,353,982	1,354,974	1,354,974						

DELCORA		
LESS: EOS - Wages & Benefits	19%	0.15
LESS: EOS - Professional Services	50%	0.5
LESS: EOS - Eliminated Expenses	100%	1
DELCORA		
Wages		
Professional Services		
Eliminated Exp		
DELCORA		
Reported CAPX - from the financials		

	WORKING NOTES					WORKING NOTES									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
GROSS Property, plant and equipment	-	-	-	-	-	263,682,616	-	263,682,616	-	-	-	-	-	-	
Accumulated Depreciation	-	-	-	-	-	71,908,130	-	71,908,130	-	-	-	-	-	-	
NET PPE	-	-	-	-	-	191,774,486	-	191,774,486	-	191,774,486	-	-	-	-	
Total Debt	-	-	-	-	170,858,043	170,858,043	-	5,393,880	-	-	-	-	-	-	
Net Equity	-	-	-	-	185,035,336	-	-	-	-	-	-	-	-	-	
Investor Provided Capital	-	-	-	-	355,893,379	170,858,043	-	-	-	-	-	-	-	-	
Depreciation Rate	0.00%	0.00%	0.00%	#DIV/0!	2.05%	-	-	-	-	-	-	-	-	-	
Depreciation Expense	-	-	7,049,095	6,588,896	5,393,880.00	-	-	-	-	-	-	-	-	-	
Estimated 2018-2022 CSO contribution to PWD															
ROR+Dep	6,282,612	31,393,679	72,571,974	119,516,377	140,983,204	370,749,846	-	-	-	-	-	-	-	-	
O&M	2,426,000	11,677,446	26,848,396	44,143,702	54,367,917	139,463,461	-	-	-	-	-	-	-	-	
GRANT	1,029,624	3,522,710	6,787,912	9,315,971	10,045,709	30,701,926	-	-	-	-	-	-	-	-	
Mgmt fee	1,168,588	5,591,260	12,744,994	20,757,126	24,647,860	64,909,828	-	-	-	-	-	-	-	-	
5-Year Total	10,906,824	52,185,095	118,953,276	193,733,176	230,046,690	605,825,061	-	-	-	-	-	-	-	-	
Average CSO contribution per year															
ROR+Dep	2,181,365	10,437,019	23,790,655	38,746,635	46,009,338	-	-	-	-	-	-	-	-	-	
O&M	1,256,522	485,200	8,848,396	14,724,235	18,125,306	46,463,461	-	-	-	-	-	-	-	-	
GRANT	205,925	233,718	2,224,994	3,088,584	3,344,514	9,999,826	-	-	-	-	-	-	-	-	
Mgmt fee	233,718	233,718	2,224,994	3,088,584	3,344,514	9,999,826	-	-	-	-	-	-	-	-	
5-Year Total	2,181,365	10,437,019	23,790,655	38,746,635	46,009,338	-	-	-	-	-	-	-	-	-	
ROR+Dep	49.51%	23.31%	23.31%	13.28%	4.22%	-	-	-	-	-	-	-	-	-	
O&M	48.12%	23.14%	23.14%	13.24%	5.35%	-	-	-	-	-	-	-	-	-	
GRANT	36.00%	17.82%	17.82%	8.24%	1.90%	-	-	-	-	-	-	-	-	-	
Mgmt fee	47.90%	22.87%	22.87%	12.97%	4.39%	-	-	-	-	-	-	-	-	-	
5-Year Total	47.90%	22.87%	22.87%	12.97%	4.39%	-	-	-	-	-	-	-	-	-	
ROR+Dep	58%	22%	22%	13%	4%	-	-	-	-	-	-	-	-	-	
O&M	58%	22%	22%	13%	4%	-	-	-	-	-	-	-	-	-	
GRANT	9%	9%	9%	5%	1%	-	-	-	-	-	-	-	-	-	
Mgmt fee	11%	11%	11%	6%	2%	-	-	-	-	-	-	-	-	-	
5-Year Total	100%	100%	100%	100%	100%	-	-	-	-	-	-	-	-	-	
PDW LTCP fee	431,697	888,027	2,054,514	3,038,584	4,494,002	4,113,573	6,083,889	8,997,944	13,307,772	19,681,917	15,108,845	-	-	-	
Actual & Budget	9,625,120	9,890,358	13,002,566	-	-	-	-	-	-	-	-	-	-	-	
Net amount	9,193,423	9,002,331	10,948,052	11,221,753	11,502,297	11,789,855	12,084,601	12,386,716	12,696,384	13,013,793	13,339,138	-	-	-	
PDW LTCP fee	431,697	888,027	2,054,514	3,038,584	4,494,002	4,113,573	6,083,889	8,997,944	13,307,772	19,681,917	15,108,845	-	-	-	
PWD Cost	9,625,120	9,890,358	13,002,566	14,260,337	15,996,299	15,903,428	18,168,490	21,384,660	26,004,156	32,695,710	28,447,983	-	-	-	

Depreciation Expense

	WORKING NOTES				WORKING NOTES									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
					Chester LTCP	6960000	6960000	6960000	6960000	6960000	10440000	10440000	10440000	10440000
16,225,908					State of Good Repair	14962200	14955092	17169801	20922071	9075591	13678412	27416940	19728889	19549775
					DELCOBA Base CAPX	14962200	14955092	17169801	20922071	9075591	13678412	27416940	19728889	19549775
					Base & LTCP	21922200	21955092	24129801	27882071	16035591	24118412	37856940	30168889	29989775
					Base & LTCP & Expand WWTP	22818200	24195092	29057801	59242071	38435591	46518412	149856940	169048889	141989775
					PWD LTCP		3,038,584	4,494,002	4,113,573	6,083,889	8,997,944	13,307,772	19,681,917	15,108,845
					Chester LTCP		104,400	211,410	321,095	433,523	600,961	772,585	948,499	1,128,812
					Expand WWTP		0	0	0	0	0	0	0	0
					PWD Base charge		11,221,753	11,502,297	11,789,855	12,084,601	12,386,716	12,696,384	13,013,793	13,339,138
					CAPX	14962200	14955092	17169801	20922071	9075591	13678412	27416940	19728889	19549775
					Expand WWTP work area		(11,117,353)	(11,290,887)	(11,468,759)	(11,651,078)	(11,785,755)	(11,923,799)	(12,065,294)	(12,210,326)
					State of Good Repair		3,038,584	4,494,002	4,113,573	6,083,889	8,997,944	13,307,772	19,681,917	15,108,845
					DELCOBA Base CAPX		3,038,584	4,494,002	4,113,573	6,083,889	8,997,944	13,307,772	19,681,917	15,108,845
					Base & LTCP		3,142,984	4,705,412	4,434,668	6,517,412	9,598,905	14,080,357	20,630,416	16,237,657
					Base & LTCP & Expand WWTP		3,142,984	4,705,412	4,434,668	6,517,412	9,598,905	14,080,357	20,630,416	16,237,657
					OpEx	0	3038584	4494002	4113573	6083889	8997944	13307772	19681917	15108845
					State of Good Repair									
					DELCOBA Base CAPX									
					Base & LTCP									
					Base & LTCP & Expand WWTP									
					CAPX note									
					State of Good Repair									
					DELCOBA Base CAPX									
					Base & LTCP									
					Base & LTCP & Expand WWTP									
					Additional OpEx note									
														</

Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCOA's 20-year capital improvement plan for existing ;
Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCOA's 20-year capital improvement plan for existing ;
Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCOA's capital improvement plan for existing assets on
Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCOA's CIP for existing assets, LTCP and WWTP exp
Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCOA's 20-year capital improvement plan for existing ;

Additional O&M - Includes PDW's LTCP charges;
Additional O&M - Includes PDW's LTCP charges;
Additional O&M - Includes PDW's LTCP charges and estimated Chester's LTCP O&M.
Additional O&M - Includes PDW's LTCP charges Pre-2025 estimated Chester's LTCP O&M and Post-2028 expanded plant's O&M.
Additional O&M - Includes PDW's LTCP charges;

	WORKING NOTES					WORKING NOTES					WORKING NOTES					WORKING NOTES				
	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045			
10440000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5426129	4397890	3386381	3386381	14012090	23284468	24499458	22879544	18631000	20351369	16189650	15592470	14594850	0	0	0	0	0			
5426129	4397890	3386381	3386381	14012090	23284468	24499458	22879544	18631000	20351369	16189650	15592470	14594850	0	0	0	0	0			
15866129	4397890	3386381	3386381	14012090	23284468	24499458	22879544	18631000	20351369	16189650	15592470	14594850	0	0	0	0	0			
15866129	4397890	3386381	3386381	14012090	23284468	24499458	22879544	18631000	20351369	16189650	15592470	14594850	0	0	0	0	0			
18564735	22811100	28028749	34439847	34439847	29914616	33794057	38176598	43127484	48720421	42144331	43993869	45924576	47940014	50043900	51294998	52577372	52577372			
1313632	1,346,473	1,380,135	1,414,638	1,450,004	1,486,254	1,523,411	1,561,496	1,600,533	1,640,560	1,681,560	1,723,599	1,766,689	1,810,856	1,856,128	1,902,531	1,950,531	1,992,531			
9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000			
13,672,617	14,014,432	14,364,793	14,723,913	15,092,011	15,469,311	15,856,044	16,252,445	16,658,756	17,075,225	17,502,105	17,939,658	18,388,149	18,847,853	19,319,030	19,802,026	19,802,026	19,802,026			
5426129	4397890	3386381	14012090	23284468	24499458	24499458	22879544	18631000	20351369	16189650	15592470	14594850	0	0	0	0	0			
(12,358,985)	(12,667,959)	(12,984,658)	(13,309,275)	(13,642,007)	(13,983,057)	(14,332,633)	(14,690,949)	(15,058,223)	(15,434,678)	(15,820,545)	(16,216,059)	(16,621,460)	(17,036,997)	(17,462,922)	(17,899,495)	(17,899,495)	(17,899,495)			
18564735	22811100	28028749	34439847	29914616	33794057	38176598	43127484	48720421	42144331	43993869	45924576	47940014	50043900	51294998	52577372	52577372	52577372			
18564735	22811100	28028749	34439847	29914616	33794057	38176598	43127484	48720421	42144331	43993869	45924576	47940014	50043900	51294998	52577372	52577372	52577372			
(12,358,985)	(12,667,959)	(12,984,658)	(13,309,275)	(13,642,007)	(13,983,057)	(14,332,633)	(14,690,949)	(15,058,223)	(15,434,678)	(15,820,545)	(16,216,059)	(16,621,460)	(17,036,997)	(17,462,922)	(17,899,495)	(17,899,495)	(17,899,495)			
18564735	22811100	28028749	34439847	29914616	33794057	38176598	43127484	48720421	42144331	43993869	45924576	47940014	50043900	51294997.5	52577372.44	52577372.44	52577372.44			
Issued, d LTCP, mission, Issued, Issued, Issued,																				

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	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
WORKING NOTES															
GROSS Property, plant and equipment	-	-	-	-	263,682,616	268,461,520	281,207,348	295,801,679	313,585,439	321,299,691	332,926,341	356,220,740	373,000,296	389,617,605	
Accumulated Depreciation	-	-	-	-	71,968,130	76,939,014	79,860,801	83,173,274	88,249,013	91,381,235	96,014,318	98,253,484	103,408,436	108,262,745	
NET PPE	-	-	-	-	191,714,486	191,522,506	201,346,547	212,628,404	227,336,423	229,918,397	236,912,023	237,307,256	269,591,860	281,354,859	
Total Debt	-	-	-	-	170,858,043	-	-	-	-	-	-	-	-	-	
Net Equity	-	-	-	-	185,035,336	185,035,336	-	-	-	-	-	-	-	-	
Investor Provided Capital	-	-	-	-	355,893,379	356,081,399	-	-	-	-	-	-	-	-	
Depreciation / GROSS PPE	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	0.00%	2.05%	2.05%	100%	100%	100%	100%	100%	100%	100%	
Muni CAPX					0	5,622,240	14,995,092	17,169,801	20,922,071	9,075,591	13,678,412	27,416,940	19,728,889	19,549,775	
IOW savings															
CAPX/Prior Yr. GROSS PPE					0	5,622,240	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	
Capex					0	5,622,240	14,995,092	17,169,801	20,922,071	9,075,591	13,678,412	27,416,940	19,728,889	19,549,775	
Dep rate					0.00%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	
Half yr. Dep					0.00%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	
Dep on CAPX					-	57,628	153,700	175,990	214,451	93,025	140,204	281,024	202,221	200,385	
Rate of retirement					15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	
Retired property					-	843,336	2,249,264	2,575,470	3,138,311	1,361,339	2,051,762	4,112,541	2,959,333	2,932,466	
Dep on Retired property					-	17,288	46,110	52,797	64,335	27,907	42,061	84,307	60,666	60,116	
Dep on Prior yr. GROSS					-	5,393,880	5,503,461	5,764,751	6,063,934	6,428,501	6,586,644	6,824,990	7,302,730	7,646,506	
Total Dep					-	5,434,220	5,611,051	5,887,943	6,214,050	6,493,619	6,684,787	7,021,707	7,441,285	7,786,776	
DELCORA															
Depreciation Expense	-	-	-	-	part of OCI	5,393,880									
NET PPE															
Rev															
CIP	\$	-	\$	-	\$	14,995,200	\$	14,995,092	\$	17,169,801	\$	20,922,071	\$	9,075,591	
part of OCI															
= 16 Day															
	0					5,622,240									
DELCORA															
CIP	\$	-	\$	-	\$	14,995,200	\$	14,995,092	\$	17,169,801	\$	20,922,071	\$	9,075,591	
part of OCI															
= 16 Day															
	0					5,622,240									
DELCORA															
Sever Rental Charges	0	0	0	0	64,978,097	70,678,127	70,729,539	91,178,670	91,315,290	91,451,910	198,557	198,557	198,557	198,557	
EDUs	0	0	0	0	197,769	197,769	198,666	198,666	198,666	198,666	297	297	299	300	
#DIV/0!	0	0	0	0	98884.5	197,769	197,917.5	198,214.5	198,214.5	198,214.5	297	298	299	300	
#DIV/0!	0	0	0	0	328,555,218	\$	460.00	\$	460.00	\$	460.00	\$	460.00	\$	460.00
#DIV/0!	0	0	0	0	657,111,0437	357,371,774									
#DIV/0!	0	0	0	0	C	16,473									
#DIV/0!	0	0	0	0	E	197,769									
#DIV/0!	0	0	0	0	0.08										
DELCORA															
Customer Growth	1742000														
Delivered to Customer															
Customers															
Total Revenue (Less TAP)	16,473	16,473	16,473	16,473	16,473	16,473	16,521	16,545	16,569	16,593	16,618	16,643	16,668	16,693	
avg CUST rev	58,281,844	58,281,844	58,281,844	58,281,844	64,978,097	70,678,127	70,729,539	70,780,913	74,073,427	74,180,799	79,341,892	79,460,905	92,397,491	92,531,080	
avg CUST flow	3,538.02	3,773.33	3,944.52	4,284.30	4,281.19	4,281.19	4,278.08	4,470.60	4,470.61	4,470.61	4,774.49	4,774.49	5,543.18	5,543.18	
avg EDU rev	-	0	0	0	0	0	0	0	0	0	0	0	0	0	
avg EDU flow	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	328.56	357.38	357.10	356.83	372.87	372.85	398.19	398.19	462.30	462.30	
Rev Calculated	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0	0	0	0	0	0	0	0	0	0	

	2029	WORKING NOTES					WORKING NOTES					2043	2044	2045
		2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042

GROSS Property, plant and equipment	394,229,815	397,968,021	400,846,445	412,756,721	432,548,519	453,373,058	472,820,670	488,657,020	505,955,684	519,716,886	532,970,485	545,376,107	554,784,254	564,354,698	574,090,340	583,993,727	594,068,057
	111,474,920	122,928,501	130,603,186	136,819,261	141,955,170	147,333,279	153,349,653	160,381,506	167,492,291	175,552,096	183,979,297	192,820,682	202,420,047	212,185,007	222,118,421	232,223,194	242,502,282
	278,754,895	275,039,519	270,243,259	275,937,460	290,593,349	306,049,779	319,471,015	328,275,514	338,463,392	344,164,790	348,991,188	352,555,425	352,364,207	352,169,690	351,971,819	351,770,533	351,565,775

A
Total Debt
Net Equity
Investor Provided Capital

Depreciation / GROSS PPE

5,426,129	100%	2.03%	3,386,381	14,012,090	23,284,468	24,499,458	22,879,544	18,631,000	20,351,369	16,189,650	15,592,470	14,594,850	0	100%	0	100%	0

DELCORA
Depreciation Expense

9	2029	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	2044

\$ 5,426,129	4,397,890	\$ 4,397,890	\$ 3,386,381	\$ 14,012,090	\$ 23,284,468	\$ 24,499,458	\$ 22,879,544	\$ 18,631,000	\$ 20,351,369	\$ 16,189,650	\$ 15,592,470	\$ 14,594,850	\$	\$	\$	\$	\$

1,425,000.00	1,429,750.00	1,429,750.00	1,434,500.00	1,434,500.00	1,434,500.00	1,439,250.00	1,439,250.00	1,439,250.00	1,444,000.00	1,444,000.00	1,448,750.00	1,448,750.00	1,453,500.00	1,453,500.00	1,458,250.00	1,458,250.00	1,458,250.00

200453	300	200754	301	201055	201357	201659	201961	202264	202567	202871	203175	203480	203785	204091	204397	204704	205011

Sewer Rental Charges	EDUs	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315

DELCORA

16,718	98,230,669	98,377,415	108,081,904	108,244,027	124,450,359	124,637,215	16,894	16,894	16,894	16,945	16,970	16,996	17,021	17,047	17,072	17,098	164,563,560

DELCORA

5,875,77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

490.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

92,600,478	98,303,742	98,451,198	108,162,965	108,325,210	124,543,877	124,730,693	130,039,417	130,234,477	144,907,539	145,124,901	148,685,468	148,908,496	156,588,451	156,823,334	164,440,322	164,440,322	164,440,322

[illegible]

		WORKING NOTES										WORKING NOTES									
2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045					
			</																		

DELCORA		
LESS: EOS - Wages & Benefits	1.9%	0.15
LESS: EOS - Professional Services	50%	0.5
LESS: EOS - Eliminated Expenses	100%	1
DELCORA		
Wages		
Professional Services		
Eliminated Exp		

DELCORA
Reported CAPX - from the financials

	WORKING NOTES					WORKING NOTES									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
GROSS Property, plant and equipment	-	-	-	-	-	263,682,616	-	263,682,616	-	-	-	-	-	-	
Accumulated Depreciation	-	-	-	-	-	71,908,130	-	71,908,130	-	-	-	-	-	-	
NET PPE	-	-	-	-	-	191,774,486	-	191,774,486	-	191,774,486	-	-	-	-	
Total Debt	-	-	-	170,858,043	170,858,043			5,393,880							
Net Equity	-	-	-	185,035,336	-										
Investor Provided Capital	-	-	-	355,893,379	170,858,043										
Depreciation Rate	0.00%	0.00%	0.00%	#DIV/0!	2.05%										
Depreciation Expense	-	-	7,049,095	6,588,896	5,393,880.00										

Total Debt
Net Equity
Investor Provided Capital
Depreciation Rate
Depreciation Expense

	WORKING NOTES					WORKING NOTES									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
					Chester LTCP	6960000	6960000	6960000	6960000	6960000	10440000	10440000	10440000	10440000	
16,225,908					State of Good Repair	14962200	1495092	17169801	20922071	9075591	13678412	27416940	19728889	19549775	
					DELCOA Base CAPX	14962200	1495092	17169801	20922071	9075591	13678412	27416940	19728889	19549775	
					Base & LTCP	21922200	2195092	24129801	27882071	16035591	24118412	37856940	30168889	29989775	
					Base & LTCP & Expand WWTP	22818200	24195092	29057801	59242071	38435591	46518412	149856940	169048889	141989775	
					PWD LTCP		3,038,584	4,494,002	4,113,573	6,083,889	8,997,944	13,307,772	19,681,917	15,108,845	
					Chester LTCP		104,400	211,410	321,095	433,523	600,961	772,585	948,499	1,128,812	
					Expand WWTP		0	0	0	0	0	0	0	0	
					PWD Base charge		11,221,753	11,502,297	11,789,855	12,084,601	12,386,716	12,696,384	13,013,793	13,339,138	
					CAPX	14962200	1495092	17169801	20922071	9075591	13678412	27416940	19728889	19549775	
					Expand WWTP work area		(11,117,353)	(11,290,887)	(11,468,759)	(11,651,078)	(11,785,755)	(11,923,799)	(12,065,294)	(12,210,326)	
					State of Good Repair		3,038,584	4,494,002	4,113,573	6,083,889	8,997,944	13,307,772	19,681,917	15,108,845	
					DELCOA Base CAPX		3,038,584	4,494,002	4,113,573	6,083,889	8,997,944	13,307,772	19,681,917	15,108,845	
					Base & LTCP		3,142,984	4,705,412	4,434,668	6,517,412	9,598,905	14,080,357	20,630,416	16,237,657	
					Base & LTCP & Expand WWTP		3,142,984	4,705,412	4,434,668	6,517,412	9,598,905	14,080,357	20,630,416	16,237,657	
					OpEx	0	3038584	4494002	4113573	6083889	8997944	13307772	19681917	15108845	
					State of Good Repair										
					DELCOA Base CAPX										
					Base & LTCP										
					Base & LTCP & Expand WWTP										
					CAPX note										
					State of Good Repair										
					DELCOA Base CAPX										
					Base & LTCP										
					Base & LTCP & Expand WWTP										
					Additional OpEx note										
														</	

Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCOA's 20-year capital improvement plan for existing ;
Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCOA's 20-year capital improvement plan for existing ;
Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCOA's capital improvement plan for existing assets on
Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCOA's CIP for existing assets, LTCP and WWTP exp
Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCOA's 20-year capital improvement plan for existing ;

Additional O&M - Includes PDW's LTCP charges.
Additional O&M - Includes PDW's LTCP charges.
Additional O&M - Includes PDW's LTCP charges and estimated Chester's LTCP O&M.
Additional O&M - Includes PDW's LTCP charges Pre-2025 estimated Chester's LTCP O&M and Post-2028 expanded plant's O&M.
Additional O&M - Includes PDW's LTCP charges.

	WORKING NOTES					WORKING NOTES					WORKING NOTES					WORKING NOTES				
	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045			
10440000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5426129	4397890	3386381	3386381	14012090	23284468	24499458	22879544	18631000	20351369	16189650	15592470	14594850	0	0	0	0	0			
5426129	4397890	3386381	3386381	14012090	23284468	24499458	22879544	18631000	20351369	16189650	15592470	14594850	0	0	0	0	0			
15866129	4397890	3386381	3386381	14012090	23284468	24499458	22879544	18631000	20351369	16189650	15592470	14594850	0	0	0	0	0			
15866129	4397890	3386381	3386381	14012090	23284468	24499458	22879544	18631000	20351369	16189650	15592470	14594850	0	0	0	0	0			
18564735	22811100	28028749	34439847	34439847	29914616	33794057	38176598	43127484	48720421	42144331	43993869	45924576	47940014	50043900	51294998	52577372	52577372			
1313632	1,346,473	1,380,135	1,414,638	1,450,004	1,486,254	1,523,411	1,561,496	1,600,533	1,640,560	1,681,560	1,723,599	1,766,689	1,810,856	1,856,128	1,902,531	1,950,531	1,998,531			
9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000			
13,672,617	14,014,432	14,364,793	14,723,913	15,092,011	15,469,311	15,856,044	16,252,445	16,658,756	17,075,225	17,502,105	17,939,658	18,388,149	18,847,853	19,319,050	19,802,026	20,293,000	20,793,000			
5426129	4397890	3386381	14012090	23284468	24499458	24499458	22879544	18631000	20351369	16189650	15592470	14594850	0	0	0	0	0			
(12,358,985)	(12,667,959)	(12,984,658)	(13,309,275)	(13,642,007)	(13,983,057)	(14,332,633)	(14,690,949)	(15,058,223)	(15,434,678)	(15,820,545)	(16,216,059)	(16,621,460)	(17,036,997)	(17,462,922)	(17,899,495)	(18,346,969)	(18,794,443)			
18,564,735	22,811,100	28,028,749	34,439,847	29,914,616	33,794,057	38,176,598	43,127,484	48,720,421	42,144,331	43,993,869	45,924,576	47,940,014	50,043,900	51,294,998	52,577,372	53,859,746	55,142,120			
18,564,735	22,811,100	28,028,749	34,439,847	29,914,616	33,794,057	38,176,598	43,127,484	48,720,421	42,144,331	43,993,869	45,924,576	47,940,014	50,043,900	51,294,998	52,577,372	53,859,746	55,142,120			
19,878,367	24,157,573	29,408,884	35,854,485	31,364,620	35,280,311	39,700,009	44,688,980	50,320,954	43,784,877	45,675,429	47,648,175	49,706,703	51,854,756	54,099,903	56,445,050	58,890,197	61,335,344			
(12,358,985)	(12,667,959)	(12,984,658)	(13,309,275)	(13,642,007)	(13,983,057)	(14,332,633)	(14,690,949)	(15,058,223)	(15,434,678)	(15,820,545)	(16,216,059)	(16,621,460)	(17,036,997)	(17,462,922)	(17,899,495)	(18,346,969)	(18,794,443)			
18564735	22811100	28028749	34439847	29914616	33794057	38176598	43127484	48720421	42144331	43993869	45924576	47940014	50043900	51294997.5	52577372.44	52577372.44	52577372.44			
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	WORKING NOTES					WORKING NOTES									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
GROSS Property, plant and equipment	-	-	-	-	586,303,933	591,082,837	603,828,665	618,422,996	636,206,756	643,921,008	655,547,658	678,852,057	695,021,613	712,238,922	
Accumulated Depreciation	-	-	-	-	290,584,633	310,838,781	310,838,303	320,764,515	330,453,991	342,200,008	353,446,770	362,969,673	374,068,362	385,536,408	
NET PPE	-	-	-	-	295,719,300	290,220,056	292,990,360	297,658,480	305,752,764	301,720,999	302,100,888	315,882,384	321,553,251	326,702,513	
Total Debt	-	-	-	-	170,838,043	-	-	-	-	-	-	-	-	-	
Net Equity	-	-	-	-	185,035,336	-	-	-	-	-	-	-	-	-	
Investor Provided Capital	-	-	-	-	355,893,379	350,394,135	-	-	-	-	-	-	-	-	
Depreciation / GROSS PPE	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	0.00%	2.05%					9075591	13678412			
					Min CAPX	0	5,622,240	14,995,092	17,169,801	20,922,071	9,075,591	13,678,412	27,416,940	19,728,889	
					IOU savings						100%	100%	100%	100%	
					CAPX/Prior Yr. GROSS PPE		2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	
					CAPX	0	5,622,240	14,995,092	17,169,801	20,922,071	9,075,591	13,678,412	27,416,940	19,728,889	
					Dep rate	0.00%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	2.05%	
					Half yr. Dep	0.00%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	
					Dep on CAPX	-	57,628	153,700	175,990	214,451	93,025	140,204	281,024	202,221	
					Rate of retirement	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	
					Retired property	-	843,336	2,249,264	2,575,470	3,138,311	1,361,339	2,051,762	4,112,541	2,959,333	
					Dep on Retired property	-	17,288	46,110	52,797	64,335	27,907	42,061	84,307	60,116	
					Dep on Prior yr. GROSS	-	11,081,144	12,117,198	12,378,488	12,677,671	13,042,238	13,200,381	13,438,727	13,916,467	
					Total Dep	-	11,121,484	12,224,788	12,501,680	12,827,787	13,107,356	13,298,524	13,635,444	14,058,022	
DELCORA	-	-	-	-	11,081,144	-	-	-	-	-	-	-	-	-	
part of OCN															
Depreciation Expense															
NET PPE															
Rev															

	2029	WORKING NOTES					WORKING NOTES					WORKING NOTES					WORKING NOTES				
		2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049
GROSS Property, plant and equipment	716,851,132	720,589,338	723,467,762	735,378,038	755,169,836	775,994,375	795,441,987	811,278,337	828,577,001	842,338,203	855,591,802	867,997,424	882,971,031	898,202,943	913,697,018	929,459,587	945,493,462				
Accumulated Depreciation	399,362,320	413,429,638	427,718,060	440,547,872	452,297,518	464,279,363	475,919,477	490,565,065	504,289,587	518,963,129	534,004,067	549,459,189	564,737,130	580,278,626	596,088,226	612,170,553	628,530,313				
NET PPE	317,488,812	307,159,699	295,749,702	294,830,166	302,872,318	311,715,011	318,522,510	320,713,272	324,287,413	323,375,074	321,587,735	318,538,235	318,233,901	317,924,316	317,609,391	317,289,033	316,963,149				
Total Debt																					
Net Equity																					
Investor Provided Capital																					
Depreciation / GROSS PPE																					
	5,426,129	4,397,890	3,386,381	14,012,090	23,284,468	24,499,458	22,879,544	18,631,000	20,351,369	16,189,650	15,592,470	14,594,850	100%	0	100%	0	0				
	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%				
	5,426,129	4,397,890	3,386,381	14,012,090	23,284,468	24,499,458	22,879,544	18,631,000	20,351,369	16,189,650	15,592,470	14,594,850	100%	0	100%	0	0				
	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%				
	55,618	45,078	34,710	143,624	238,666	251,119	234,515	190,968	208,602	165,944	159,823	149,597	100%	0	100%	0	0				
	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%				
	813,919	659,684	507,957	2,101,814	3,492,670	3,674,919	3,431,932	2,794,650	3,052,705	2,428,448	2,338,871	2,189,228	2,642,401	2,687,985	2,734,354	2,781,524	2,829,507				
	16,685	13,524	10,413	43,087	71,600	75,336	70,355	57,290	62,580	49,783	47,947	44,879	54,169	55,104	56,054	57,021	58,005				
	14,600,898	14,695,448	14,772,081	14,831,089	15,075,250	15,480,982	15,907,885	16,306,561	16,631,206	16,985,829	17,267,933	17,539,632	17,793,947	18,100,906	18,413,160	18,730,801	19,053,922				
	14,639,831	14,727,003	14,796,378	14,931,626	15,242,316	15,656,765	16,072,043	16,440,238	16,777,227	17,101,989	17,379,809	17,644,350	17,920,342	18,229,481	18,543,954	18,863,851	19,189,267				
DELCORA																					
Depreciation Expense																					
	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24					
	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044					
\$	5,426,129	4,397,890	3,386,381	14,012,090	23,284,468	24,499,458	22,879,544	18,631,000	20,351,369	16,189,650	15,592,470	14,594,850	\$	\$	\$	\$					
1,425,000.00	1,429,750.00	1,429,750.00	1,434,500.00	1,434,500.00	1,434,500.00	1,434,500.00	1,439,250.00	1,439,250.00	1,444,000.00	1,444,000.00	1,448,750.00	1,448,750.00	1,453,500.00	1,453,500.00	1,458,250.00	1,458,250.00					
200453	200754	201055	201357	201659	201961	202264	202567	202870	203175	203480	203785	204091	204397	204704	205011	205318					
300	301	301	302	302	302	303	303	303	304	304	305	305	306	306	307	307					
DELCORA																					
DELCORA																					
	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4					
16,718	16,743	16,768	16,793	16,818	16,844	16,869	16,894	16,919	16,945	16,970	16,996	17,021	17,047	17,072	17,098						
94,714,633	94,856,725	94,999,010	95,141,295	95,283,580	95,425,865	95,568,150	95,710,435	95,852,720	95,995,005	96,137,290	96,279,575	96,421,860	96,564,145	96,706,430	96,848,715	96,991,000					
5,665,49	5,665,49	5,665,49	5,665,49	5,665,49	5,665,49	5,665,49	5,665,49	5,665,49	5,665,49	5,665,49	5,665,49	5,665,49	5,665,49	5,665,49	5,665,49	5,665,49					
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
472.50	472.50	472.50	472.50	472.50	472.50	472.50	472.50	472.50	472.50	472.50	472.50	472.50	472.50	472.50	472.50	472.50					
84,127,754	94,785,689	94,927,868	95,070,259	110,922,887	111,089,372	111,256,005	123,195,386	123,010,870	123,195,386	136,458,478	136,663,167	139,038,051	139,266,639	146,449,316	146,668,989	154,380,331					

[illegible]

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DEL CORA	
LESS: EOS - Wages & Benefits	
LESS: EOS - Professional Services	
	LESS: EOS - Eliminated Expenses
DEL CORA	
Wages	
Professional Services	
Eliminated Exp	

DELORA
Reported CAPX - from the financials

	WORKING NOTES					WORKING NOTES									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
GROSS Property, plant and equipment	-	-	-	-	-	-	-	586,303,933	-	-	-	-	-	-	
Accumulated Depreciation	-	-	-	-	-	-	-	290,584,633	-	-	-	-	-	-	
NET PPE	-	-	-	-	-	-	-	295,719,300	-	-	295,719,300	-	-	-	
Total Debt	-	-	-	170,858,043	170,858,043	-	-	11,081,144	-	-	-	-	-	-	
Net Equity	-	-	-	185,035,336	-	-	-	-	-	-	-	-	-	-	
Investor Provided Capital	-	-	-	355,893,379	170,858,043	-	-	-	-	-	-	-	-	-	
Depreciation Rate	0.00%	0.00%	0.00%	#DIV/0!	1.89%	-	-	-	-	-	-	-	-	-	
Depreciation Expense	-	-	7,049,095	6,588,896	11,081,144.00	-	-	-	-	-	-	-	-	-	
Estimated 2018-2022 CSO contribution to PWD															
ROR+Dep	6,282,612	31,393,679	72,571,974	119,516,377	140,983,204	370,749,846	-	-	-	-	-	-	-	-	
O&M	2,426,000	11,677,446	26,848,396	44,143,702	54,367,917	139,463,461	-	-	-	-	-	-	-	-	
GRANT	1,029,624	3,522,710	6,787,912	9,315,971	10,045,709	30,701,926	-	-	-	-	-	-	-	-	
Mgmt fee	1,168,588	5,591,260	12,744,994	20,757,126	24,647,860	64,909,828	-	-	-	-	-	-	-	-	
5-Year Total	10,906,824	52,185,095	118,953,276	193,733,176	230,046,690	605,825,061	-	-	-	-	-	-	-	-	
Average CSO contribution per year															
ROR+Dep	2,181,365	10,437,019	23,790,655	38,746,635	46,009,338	-	-	-	-	-	-	-	-	-	
O&M	1,256,522	-	-	-	-	-	-	-	-	-	-	-	-	-	
GRANT	485,200	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mgmt fee	205,925	-	-	-	-	-	-	-	-	-	-	-	-	-	
5-Year Total	233,718	-	-	-	-	-	-	-	-	-	-	-	-	-	
ROR+Dep															
O&M	49.51%	-	-	-	-	-	-	-	-	-	-	-	-	-	
GRANT	48.12%	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mgmt fee	36.00%	-	-	-	-	-	-	-	-	-	-	-	-	-	
5-Year Total	47.90%	-	-	-	-	-	-	-	-	-	-	-	-	-	
ROR+Dep															
O&M	58%	-	-	-	-	-	-	-	-	-	-	-	-	-	
GRANT	22%	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mgmt fee	9%	-	-	-	-	-	-	-	-	-	-	-	-	-	
5-Year Total	11%	-	-	-	-	-	-	-	-	-	-	-	-	-	
100%															
PDW LTCP fee	431,697	888,027	2,054,514	3,038,584	4,494,002	4,113,573	6,083,889	8,997,944	13,307,772	19,681,917	15,108,845	-	-	-	
Actual & Budget	9,625,120	9,890,358	13,002,566	-	-	-	-	-	-	-	-	-	-	-	
Net amount	9,193,423	9,002,331	10,948,052	11,221,753	11,502,297	11,789,855	12,084,601	12,386,716	12,696,384	13,013,793	13,339,138	-	-	-	
PDW LTCP fee	431,697	888,027	2,054,514	3,038,584	4,494,002	4,113,573	6,083,889	8,997,944	13,307,772	19,681,917	15,108,845	-	-	-	
PWD Cost	9,625,120	9,890,358	13,002,566	14,260,337	15,996,299	15,903,428	18,168,490	21,384,660	26,004,156	32,695,710	28,447,983	-	-	-	

Total Debt
Net Equity
Investor Provided Capital
Depreciation Rate
Depreciation Expense

	WORKING NOTES					WORKING NOTES									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
					Chester LTCP	6960000	6960000	6960000	6960000	6960000	10440000	10440000	10440000	10440000	
16,225,908					State of Good Repair	14962200	14955092	17169801	20922071	9075591	13678412	27416940	19728889	19549775	
					DELCOA Base CAPX	14962200	14955092	17169801	20922071	9075591	13678412	27416940	19728889	19549775	
					Base & LTCP	21922200	21955092	24129801	27882071	16035591	24118412	37856940	30168889	29989775	
					Base & LTCP & Expand WWTP	22818200	24195092	29057801	59242071	38435591	46518412	149856940	169048889	141989775	
					PWD LTCP		3,038,584	4,494,002	4,113,573	6,083,889	8,997,944	13,307,772	19,681,917	15,108,845	
					Chester LTCP		104,400	211,410	321,095	433,523	600,961	772,585	948,499	1,128,812	
					Expand WWTP		0	0	0	0	0	0	0	0	
					PWD Base charge		11,221,753	11,502,297	11,789,855	12,084,601	12,386,716	12,696,384	13,013,793	13,339,138	
					CAPX	14962200	14955092	17169801	20922071	9075591	13678412	27416940	19728889	19549775	
					Expand WWTP work area		(11,117,353)	(11,290,887)	(11,468,759)	(11,651,078)	(11,785,755)	(11,923,799)	(12,065,294)	(12,210,326)	
					State of Good Repair		3,038,584	4,494,002	4,113,573	6,083,889	8,997,944	13,307,772	19,681,917	15,108,845	
					DELCOA Base CAPX		3,038,584	4,494,002	4,113,573	6,083,889	8,997,944	13,307,772	19,681,917	15,108,845	
					Base & LTCP		3,142,984	4,705,412	4,434,668	6,517,412	9,598,905	14,080,357	20,630,416	16,237,657	
					Base & LTCP & Expand WWTP		3,142,984	4,705,412	4,434,668	6,517,412	9,598,905	14,080,357	20,630,416	16,237,657	
					OpEx	0	3038584	4494002	4113573	6083889	8997944	13307772	19681917	15108845	
					State of Good Repair										
					DELCOA Base CAPX										
					Base & LTCP										
					Base & LTCP & Expand WWTP										
					CAPX note										
					State of Good Repair										
					DELCOA Base CAPX										
					Base & LTCP										
					Base & LTCP & Expand WWTP										
					Additional OpEx note										

Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCOA's 20-year capital improvement plan for existing ;
Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCOA's 20-year capital improvement plan for existing ;
Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCOA's capital improvement plan for existing assets on
Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCOA's CIP for existing assets, LTCP and WWTP exp
Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCOA's 20-year capital improvement plan for existing ;

	WORKING NOTES																	ISSUES, d LITCP, mission, ISSUES.
	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	
10440000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5426129	4397890	3386381	3386381	14012090	23284468	24499458	22879544	18631000	20351369	16189650	15592470	14594850	0	0	0	0	0	
5426129	4397890	3386381	3386381	14012090	23284468	24499458	22879544	18631000	20351369	16189650	15592470	14594850	0	0	0	0	0	
15866129	4397890	3386381	3386381	14012090	23284468	24499458	22879544	18631000	20351369	16189650	15592470	14594850	0	0	0	0	0	
15866129	4397890	3386381	3386381	14012090	23284468	24499458	22879544	18631000	20351369	16189650	15592470	14594850	0	0	0	0	0	
18564735	22811100	28028749	34439847	34439847	29914616	33794057	38176598	43127484	48720421	42144331	43993869	45924576	47940014	50043900	51294998	52577372	52577372	
1313632	1,346,473	1,380,135	1,414,638	1,450,004	1,486,254	1,523,411	1,561,496	1,600,533	1,640,560	1,681,560	1,723,599	1,766,689	1,810,856	1,856,128	1,902,531	1,950,531	1,992,531	
9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	9,300,000	
13,672,617	14,014,432	14,364,793	14,723,913	15,092,011	15,469,311	15,856,044	16,252,445	16,658,756	17,075,225	17,502,105	17,939,658	18,388,149	18,847,853	19,319,030	19,802,026	19,802,026	19,802,026	
5426129	4397890	3386381	14012090	23284468	24499458	24499458	22879544	18631000	20351369	16189650	15592470	14594850	0	0	0	0	0	
(12,358,985)	(12,667,959)	(12,984,658)	(13,309,275)	(13,642,007)	(13,983,057)	(14,332,633)	(14,690,949)	(15,058,223)	(15,434,678)	(15,820,545)	(16,216,059)	(16,621,460)	(17,036,997)	(17,462,922)	(17,899,495)	(17,899,495)	(17,899,495)	
18564735	22811100	28028749	34439847	29914616	33794057	38176598	43127484	48720421	42144331	42144331	43993869	45924576	47940014	50043900	51294998	52577372	52577372	
18564735	22811100	28028749	34439847	29914616	33794057	38176598	43127484	48720421	42144331	42144331	43993869	45924576	47940014	50043900	51294998	52577372	52577372	
(12,358,985)	(12,667,959)	(12,984,658)	(13,309,275)	(13,642,007)	(13,983,057)	(14,332,633)	(14,690,949)	(15,058,223)	(15,434,678)	(15,820,545)	(16,216,059)	(16,621,460)	(17,036,997)	(17,462,922)	(17,899,495)	(17,899,495)	(17,899,495)	
18564735	22811100	28028749	34439847	29914616	33794057	38176598	43127484	48720421	42144331	42144331	43993869	45924576	47940014	50043900	51294997.5	52577372.44	52577372.44	

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	WORKING NOTES					WORKING NOTES									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	
GROSS Property, plant and equipment	-	-	-	-	586,303,933	591,082,837	603,828,665	618,422,996	636,206,756	643,921,008	655,547,658	678,852,057	695,021,613	712,238,922	
Accumulated Depreciation	-	-	-	-	290,584,633	310,838,781	310,838,303	320,764,515	330,453,991	342,200,008	353,446,770	362,969,673	374,068,362	385,536,408	
NET PPE	-	-	-	-	295,719,300	290,220,056	292,990,360	297,658,480	305,752,764	301,720,999	302,100,888	315,882,384	321,553,251	326,702,513	
Total Debt	-	-	-	-	170,838,043	-	-	-	-	-	-	-	-	-	
Net Equity	-	-	-	-	185,035,336	-	-	-	-	-	-	-	-	-	
Investor Provided Capital	-	-	-	-	355,893,379	350,394,135	-	-	-	-	-	-	-	-	
Depreciation / GROSS PPE	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	0.00%	2.05%									
</															

	2029	WORKING NOTES					WORKING NOTES					2043	2044	2045
		2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042

GROSS Property, plant and equipment	716,851,132	720,389,338	723,467,762	735,378,038	755,169,836	775,994,375	795,441,987	811,278,337	828,577,001	842,338,203	855,591,802	867,997,424	882,971,031	898,202,943	913,697,018
Accumulated Depreciation	399,362,320	413,429,638	427,718,060	440,547,872	452,297,518	464,279,363	475,919,477	490,565,065	504,289,587	518,963,129	534,004,067	549,459,189	564,737,130	580,278,626	596,088,226
NET PPE	317,488,812	307,159,699	295,749,702	294,830,166	302,872,318	311,715,011	318,522,510	320,713,272	324,287,413	323,375,074	321,587,735	318,538,235	318,233,901	317,924,316	317,609,391

Total Debt	5,426,129	4,397,890	3,386,381	14,012,090	23,284,468	24,499,458	22,879,544	18,631,000	20,351,369	16,189,650	15,592,470	14,594,850	0	0	0
Investor Provided Capital	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%
	5,426,129	4,397,890	3,386,381	14,012,090	23,284,468	24,499,458	22,879,544	18,631,000	20,351,369	16,189,650	15,592,470	14,594,850	0	0	0
	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%
	108,189,889	108,352,173	108,514,702	123,566,288	123,751,637	123,937,264	136,783,734	136,988,909	150,639,443	150,865,402	153,558,076	153,588,113	160,740,328	160,981,438	168,639,164
	6,471,53	6,471,53	6,471,53	7,358,13	7,358,13	7,358,13	8,108,66	8,108,66	8,903,31	8,903,31	9,036,86	9,036,86	9,443,52	9,443,52	9,877,92
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	539,73	539,73	539,73	613,67	613,67	613,67	676,26	676,26	742,54	742,54	753,68	753,68	787,59	787,59	823,82
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	97,395,376	108,271,031	108,433,437	108,596,088	123,658,963	123,844,451	124,030,217	136,886,322	137,091,651	150,752,423	150,978,551	153,473,095	153,703,304	160,860,883	161,102,174
	1,425,000.00	1,429,750.00	1,429,750.00	1,434,500.00	1,434,500.00	1,434,500.00	1,439,250.00	1,439,250.00	1,444,000.00	1,444,000.00	1,448,750.00	1,448,750.00	1,453,500.00	1,458,250.00	1,458,250.00
	200453	200754	201055	201357	201659	201961	202264	202567	202871	203175	203480	203785	204091	204397	205011
	300	301	301	302	302	302	303	303	304	304	305	305	306	306	307

	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%
	16,718	16,743	16,768	16,793	16,818	16,844	16,869	16,894	16,919	16,945	16,970	16,996	17,021	17,047	17,072
	108,189,889	108,352,173	108,514,702	123,566,288	123,751,637	123,937,264	136,783,734	136,988,909	150,639,443	150,865,402	153,558,076	153,588,113	160,740,328	160,981,438	168,639,164
	6,471,53	6,471,53	6,471,53	7,358,13	7,358,13	7,358,13	8,108,66	8,108,66	8,903,31	8,903,31	9,036,86	9,036,86	9,443,52	9,443,52	9,877,92
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	539,73	539,73	539,73	613,67	613,67	613,67	676,26	676,26	742,54	742,54	753,68	753,68	787,59	787,59	823,82
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	97,395,376	108,271,031	108,433,437	108,596,088	123,658,963	123,844,451	124,030,217	136,886,322	137,091,651	150,752,423	150,978,551	153,473,095	153,703,304	160,860,883	161,102,174
	1,425,000.00	1,429,750.00	1,429,750.00	1,434,500.00	1,434,500.00	1,434,500.00	1,439,250.00	1,439,250.00	1,444,000.00	1,444,000.00	1,448,750.00	1,448,750.00	1,453,500.00	1,458,250.00	1,458,250.00
	200453	200754	201055	201357	201659	201961	202264	202567	202871	203175	203480	203785	204091	204397	205011
	300	301	301	302	302	302	303	303	304	304	305	305	306	306	307

	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$

	1,425,000.00	1,429,750.00	1,429,750.00	1,434,500.00	1,434,500.00	1,434,500.00	1,439,250.00	1,439,250.00	1,444,000.00	1,444,000.00	1,448,750.00	1,448,750.00	1,453,500.00	1,458,250.00	1,458,250.00	1,458,250.00
	200453	200754	201055	201357	201659	201961	202264	202567	202871	203175	203480	203785	204091	204397	204704	205011
	300	301	301	302	302	302	303	303	304	304	305	305	306	306	307	307

	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%
	16,718	16,743	16,768	16,793	16,818	16,844	16,869	16,894	16,919	16,945	16,970	16,996	17,021	17,047	17,072	17,098
	108,189,889	108,352,173	108,514,702	123,566,288	123,751,637	123,937,264	136,783,734	136,988,909	150,639,443	150,865,402	153,558,076	153,588,113	160,740,328	160,981,438	168,639,164	168,892,123
	6,471,53	6,471,53	6,471,53	7,358,13	7,358,13	7,358,13	8,108,66	8,108,66	8,903,31	8,903,31	9,036,86	9,036,86	9,443,52	9,443,52	9,877,92	9,877,92
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	539,73	539,73	539,73	613,67	613,67	613,67	676,26	676,26	742,54	742,54	753,68	753,68	787,59	787,59	823,82	823,82
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	97,395,376	108,271,031	108,433,437	108,596,088	123,658,963	123,844,451	124,030,217	136,886,322	137,091,651	150,752,423	150,978,551	153,473,095	153,703,304	160,860,883	161,102,174	168,765,643
	1,425,000.00	1,429,750.00	1,429,750.00	1,434,500.00	1,434,500.00	1,434,500.00	1,439,250.00	1,439,250.00	1,444,000.00	1,444,000.00	1,448,750.00	1,448,750.00	1,453,500.00	1,458,250.00	1,458,250.00	1,458,250.00
	200453	200754	201055	201357	201659	201961	202264	202567	202871	203175	203480	203785	204091	204397	204704	205011
	300	301	301	302	302	302	303	303	304	304	305	305	306	306	307	307

	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%	0.15%
	16,718	16,743	16,768	16,793	16,818	16,844	16,869	16,894	16,919	16,945	16,970	16,996	17,021	17,047	17,072	17,098
	108,189,889	108,352,173	108,514,702	123,566,288	123,751,637	123,937,264	136,783,734	136,988,909	150,639,443	150,865,402	153,558,076	153,588,113	160,740,328	160,981,438	168,639,164	168,892,123
	6,471,53	6,471,53	6,471,53	7,358,13	7,358,13	7,358,13	8,108,66	8,108,66	8,903,31	8,903,31	9,036,86	9,036,86	9,443,52	9,443,52	9,877,92	9,877,92
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	539,73	539,73	539,73	613,67	613,67	613,67	676,26	676,26	742,54	742,54	753,68	753,68	787,59	787,59	823,82	823,82
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	97,395,376	108,271,031	108,433,437	108,596,088	123,658,963	123,844,451	124,030,217	136,886,322	137,091,651	150,752,423	150,978,551	153,473,095	153,703,304	160,860,883	161,102,174	168,765,643
	1,425,000.00	1,429,750.00	1,429,750.00	1,434,500.00	1,434,500.00	1,434,500.00	1,439,250.00	1,439,250.00	1,444,000.00	1,444,000.00	1,448,750.00	1,448,750.00	1,453,500.00	1,458,250.00	1,458,250.00	1,458,250.00
	200453	200754	201055	201357	201659	201961	202264	202567	202871	203175	203480	203785	204091	204397	204704	205011
	300	301	301	302	302	302	303	303	304	304	305	305	306	306	307	307

[illegible]

	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
	WORKING NOTES						WORKING NOTES										
2022		2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
		13.70%				10.20%		9.80%		1.50%		4.50%		4.60%		3.60%	
\$	6,476.38	\$	7,363.64	\$	7,363.64	\$	8,114.74	\$	8,909.98	\$	9,043.63	\$	9,450.59	\$	9,885.32	\$	10,241.19
	-	-	887.26	-	-	-	721.09	-	792.34	-	133.65	-	406.96	-	454.73	-	355.87
72,992	81,142	81,264	81,386	92,675	92,814	92,953	102,588	102,742	112,980	113,149	115,019	115,191	120,555	120,736	126,479		
108,189,889	108,352,173	108,514,702	123,566,288	123,751,637	123,937,264	136,783,734	136,985,909	150,639,443	150,865,402	153,358,076	153,588,113	160,740,328	160,981,438	168,639,164	168,892,123	6,080,116	
-	-	14,866,514	-	-	12,641,601	-	13,424,913	-	2,362,981	-	6,911,465	-	7,405,146	-	-	-	-
467,838	454,644	439,853	423,514	422,197	433,713	446,376	456,124	459,261	464,380	463,073	460,514	456,147	455,711	455,268	454,817		
614,678	615,600	616,524	702,039	703,092	704,147	777,134	778,299	855,855	857,138	871,300	872,607	913,243	914,612	958,120	959,557		
1,082,516	1,070,244	1,056,377	1,125,553	1,125,289	1,137,860	1,223,510	1,234,423	1,315,116	1,321,518	1,334,373	1,333,121	1,369,390	1,370,323	1,413,388	1,414,374		

DELCORA	
LESS: EOS - Wages & Benefits	1.9%
LESS: EOS - Professional Services	50%
LESS: EOS - Eliminated Expenses	100%
DELCORA	
Wages	0.15
Professional Services	0.5
Eliminated Exp	1
DELCORA	
Reported CAPX - from the financials	

[illegible]

Total Debt
Net Equity
Investor Provided Capital
Depreciation Rate
Depreciation Expense

	WORKING NOTES				WORKING NOTES									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
					Chester LTCP	6960000	6960000	6960000	6960000	6960000	10440000	10440000	10440000	10440000
16,225,908					State of Good Repair	14962200	14955092	17169801	20922071	9075591	13678412	27416940	19728889	19549775
					DELCOA Base CAPX	14962200	14955092	17169801	20922071	9075591	13678412	27416940	19728889	19549775
					Base & LTCP	21922200	21955092	24129801	27882071	16035591	24118412	37856940	30168889	29989775
					Base & LTCP & Expand WWTP	22818200	24195092	29057801	59242071	38435591	46518412	149856940	169048889	141989775
					PWD LTCP		3,038,584	4,494,002	4,113,573	6,083,889	8,997,944	13,307,772	19,681,917	15,108,845
					Chester LTCP		104,400	211,410	321,095	433,523	600,961	772,585	948,499	1,128,812
					Expand WWTP		0	0	0	0	0	0	0	0
					PWD Base charge		11,221,753	11,502,297	11,789,855	12,084,601	12,386,716	12,696,384	13,013,793	13,339,138
					CAPX	14962200	14955092	17169801	20922071	9075591	13678412	27416940	19728889	19549775
					Expand WWTP work area		(11,117,353)	(11,290,887)	(11,468,759)	(11,651,078)	(11,785,755)	(11,923,799)	(12,065,294)	(12,210,326)
					State of Good Repair		3,038,584	4,494,002	4,113,573	6,083,889	8,997,944	13,307,772	19,681,917	15,108,845
					DELCOA Base CAPX		3,038,584	4,494,002	4,113,573	6,083,889	8,997,944	13,307,772	19,681,917	15,108,845
					Base & LTCP		3,142,984	4,705,412	4,434,668	6,517,412	9,598,905	14,080,357	20,630,416	16,237,657
					Base & LTCP & Expand WWTP		3,142,984	4,705,412	4,434,668	6,517,412	9,598,905	14,080,357	20,630,416	16,237,657
					OpEx	0	3038584	4494002	4113573	6083889	8997944	13307772	19681917	15108845
					State of Good Repair									
					DELCOA Base CAPX									
					Base & LTCP									
					Base & LTCP & Expand WWTP									
					CAPX note									
					State of Good Repair									
					DELCOA Base CAPX									
					Base & LTCP									
					Base & LTCP & Expand WWTP									
					Additional OpEx note									

Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCOA's 20-year capital improvement plan for existing ;
Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCOA's 20-year capital improvement plan for existing ;
Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCOA's capital improvement plan for existing assets on
Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCOA's CIP for existing assets, LTCP and WWTP exp
Capital Expenditures - Pre-2021 based on financials/budget. Post-2020 years are based on DELCOA's 20-year capital improvement plan for existing ;

	2029	WORKING NOTES					WORKING NOTES					2045					
		2030	2031	2032	2033	2034	2035	2036	2037	2038	2039		2040	2041	2042	2043	2044
10440000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5426129	4397890	3386381	14012090	23284468	24499458	22879544	18631000	20351369	16189650	15592470	14594850	0	0	0	0	0	0
5426129	4397890	3386381	14012090	23284468	24499458	22879544	18631000	20351369	16189650	15592470	14594850	0	0	0	0	0	0
15866129	4397890	3386381	14012090	23284468	24499458	22879544	18631000	20351369	16189650	15592470	14594850	0	0	0	0	0	0
15866129	4397890	3386381	14012090	23284468	24499458	22879544	18631000	20351369	16189650	15592470	14594850	0	0	0	0	0	0
18564735	22811100	28028749	34439847	29914616	33794057	38176598	43127484	48720421	42144331	43993869	45924576	47940014	50043900	51294998	52577372	52577372	52577372
1313632	1,346,473	1,380,135	1,414,638	1,450,004	1,486,254	1,523,411	1,561,496	1,600,533	1,640,560	1,681,560	1,723,599	1,766,689	1,810,856	1,856,128	1,902,531	1,949,026	1,996,521
9,300,000	9532500	9770812.5	10015082.81	10265459.88	10522096.38	10785148.79	11054777.51	11331146.95	11614425.62	11904786.26	12202405.92	12507466.07	12820152.72	13140656.54	13469172.95	13809000.00	14138500.00
13,672,617	14,014,432	14,364,793	14,723,913	15,092,011	15,469,311	15,856,044	16,252,445	16,658,756	17,075,225	17,502,105	17,939,658	18,388,149	18,847,853	19,319,050	19,802,026	20,293,002	20,792,978
5426129	4397890	3386381	14012090	23284468	24499458	22879544	18631000	20351369	16189650	15592470	14594850	0	0	0	0	0	0
(12,358,985)	(12,667,959)	(12,984,658)	(13,309,275)	(13,642,007)	(13,983,057)	(14,332,633)	(14,690,949)	(15,058,223)	(15,434,678)	(15,820,545)	(16,216,059)	(16,621,460)	(17,036,997)	(17,462,922)	(17,899,495)	(18,349,998)	(18,807,999)
18,564,735	22811100	28028749	34439847	29914616	33794057	38176598	43127484	48720421	42144331	43993869	45924576	47940014	50043900	51294998	52577372	52577372	52577372
18,564,735	22811100	28028749	34439847	29914616	33794057	38176598	43127484	48720421	42144331	43993869	45924576	47940014	50043900	51294998	52577372	52577372	52577372
19,878,367	24,157,573	29,408,884	35,854,485	31,364,620	35,280,311	39,700,009	44,688,980	50,320,954	43,784,877	45,675,429	47,648,175	49,706,703	51,854,756	54,151,125	56,547,903	59,049,903	61,659,903
(12,358,985)	(12,667,959)	(12,984,658)	(13,309,275)	(13,642,007)	(13,983,057)	(14,332,633)	(14,690,949)	(15,058,223)	(15,434,678)	(15,820,545)	(16,216,059)	(16,621,460)	(17,036,997)	(17,462,922)	(17,899,495)	(18,349,998)	(18,807,999)
18564735	22811100	28028749	34439847	29914616	33794057	38176598	43127484	48720421	42144331	43993869	45924576	47940014	50043900	51294997.5	52577372.44	52577372.44	52577372.44
assets, liabilities, and equity																	
assets, liabilities, and equity																	

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Delaware County Regional Water Quality Control Authority

Total Debt	170858043	176794946	176146147
Purchase of Capital Assets	37949513	25704689	14914830

	2018	2017	2016
Income (Loss) Before Transfers	8267227	4951934	7402402
Interest paid	6926355	7522879	4912537
Depreciation	6588896	7049095	6744284
Total Source	\$21,782,478	\$19,523,908	\$19,059,223

Income tax	0	0	0
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Principal	4594927	39595876	3036590
Interest paid	6926355	7522879	4912537
Total Use	\$11,521,282	\$47,118,755	\$7,949,127

W/Out Trans

Debt Service Coverage	1.89	0.41	2.40
Pre-Tax Interest Coverage - Including AFC(3)(x)	2.19	1.66	2.51
Post-Tax Interest Coverage - Including AFC(3)(x)	2.19	1.66	2.51
GCF / Interest Coverage(4)(x)	3.14	2.60	3.88
GCF / Tot. Debt(7)(%)	8.70	6.79	8.03
GCF / Construction(6)(%)	39.15	46.69	94.85

Comparable Group

Debt Service Coverage - As Reported						
	2018	2017	2016			
Comparable Group						
AMERICAN STATES WATER CO	5.3	5.7	5.4			
AMERICAN WATER WORKS CO INC	1.7	1.0	2.7			
AQUA AMERICA INC	0.4	1.0	1.0			
ARTESIAN RESOURCES -CL A	4.1	4.0	3.6			
CALIFORNIA WATER SERVICE GP	3.4	2.9	3.6			
MIDDLESEX WATER CO	3.9	3.6	3.6			
SIW GROUP	4.4	4.7	3.0			
YORK WATER CO	0.8	1.1	4.4			
Median	3.7	3.3	3.6			
	2018	2017	2016	2018	2017	2016
Company Name	DEPRECIATIO N	DEPRECIATIO N	DEPRECIATION	TOTAL INTERST EXPENSE	TOTAL INTERST EXPENSE	TOTAL INTERST EXPENSE
AMERICAN STATES WATER CO	40.425	39.031	38.850	23.589	22.582	22.093
AMERICAN WATER WORKS CO INC	545.000	492.000	470.000	363.000	350.000	331.000
AQUA AMERICA INC	146.032	136.302	130.987	99.054	88.543	80.811
ARTESIAN RESOURCES -CL A	10.288	9.555	9.188	6.252	6.177	6.644
CALIFORNIA WATER SERVICE GP	83.781	76.783	63.599	39.917	36.288	33.466
MIDDLESEX WATER CO	15.037	13.922	12.796	6.758	5.506	5.293
SIW GROUP	54.601	48.292	44.625	27.188	25.736	24.026
YORK WATER CO	7.010	6.769	6.422	5.509	5.348	5.265
	2018	2017	2016	2018	2017	2016
Company Name	INCOME TO PREF+COMM	INCOME TO PREF+COMM	INCOME TO PREF+COMM	REPAY LT DEBT	REPAY LT DEBT	REPAY LT DEBT
AMERICAN STATES WATER CO	63.871	69.367	59.743	0.326	0.329	0.313
AMERICAN WATER WORKS CO INC	567.000	426.000	468.000	526.000	896.000	144.000
AQUA AMERICA INC	191.988	239.738	234.182	914.125	359.068	373.087
ARTESIAN RESOURCES -CL A	14.278	13.983	12.954	1.344	1.218	1.289
CALIFORNIA WATER SERVICE GP	65.584	67.181	48.675	16.532	26.829	6.996
MIDDLESEX WATER CO	32.452	22.809	22.742	7.024	6.159	5.898
SIW GROUP	38.767	59.204	52.839	0.000	2.717	16.599
YORK WATER CO	13.376	12.974	11.846	25.691	17.533	0.053

Company Name	Pretax Operating Income			Interest expense			Net Income		
	2018	2017	2016	2018	2017	2016	2018	2017	2016
AMERICAN STATES WATER CO	105.477	130.923	116.571	23.589	22.582	22.093	63.871	69.367	59.743
AMERICAN WATER WORKS CO INC	1,150.000	1,262.000	1,101.000	363.000	350.000	331.000	567.000	426.000	468.000
AQUA AMERICA INC	277.373	345.195	335.971	99.054	88.543	80.811	191.988	239.738	234.182
ARTESIAN RESOURCES -CL A	25.521	27.455	27.929	6.252	6.177	6.644	14.278	13.983	12.954
CALIFORNIA WATER SERVICE GP	121.373	136.832	108.957	39.917	36.288	33.466	65.584	67.181	48.675
MIDDLESEX WATER CO	40.134	39.415	39.770	6.758	5.506	5.293	32.452	22.809	22.742
SIW CORP	76.020	122.229	110.407	27.188	25.736	24.026	38.767	59.204	52.839
YORK WATER CO	21.376	22.865	22.520	5.509	5.348	5.265	13.376	12.974	11.846

Company Name	Gross Cash Flow			Total debt			CAPX		
	2018	2017	2016	2018	2017	2016	2018	2017	2016
AMERICAN STATES WATER CO	98.367	120.551	126.132	416.907	380.363	411.311	126.561	113.126	129.867
AMERICAN WATER WORKS CO INC	1,270.000	1,353.000	1,199.000	8,611.000	7,725.000	7,182.000	1,586.000	1,434.000	1,311.000
AQUA AMERICA INC	310.047	374.609	373.604	2,567.408	2,146.801	1,894.811	495.737	478.089	382.996
ARTESIAN RESOURCES -CL A	24.843	31.410	27.384	133.646	116.845	110.809	49.053	41.094	28.251
CALIFORNIA WATER SERVICE GP	168.211	162.691	136.127	880.038	806.813	655.053	271.707	259.194	228.938
MIDDLESEX WATER CO	37.403	43.973	38.472	208.694	173.910	152.697	72.094	50.301	47.375
SIW CORP	81.026	104.253	100.079	531.424	456.092	447.660	144.427	149.055	142.220
YORK WATER CO	20.215	21.363	19.686	94.358	91.142	84.653	16.882	24.602	13.158

Company Name	Pretax Interest Coverage			Posttax Interest Coverage			GCF Interest Coverage		
	2018	2017	2016	2018	2017	2016	2018	2017	2016
AMERICAN STATES WATER CO	4.5	5.8	5.3	3.7	4.1	3.7	5.2	6.3	6.7
AMERICAN WATER WORKS CO INC	3.2	3.6	3.3	2.6	2.2	2.4	4.5	4.9	4.6
AQUA AMERICA INC	2.8	3.9	4.2	2.9	3.7	3.9	4.1	5.2	5.6
ARTESIAN RESOURCES -CL A	4.1	4.4	4.2	3.3	3.3	2.9	5.0	6.1	5.1
CALIFORNIA WATER SERVICE GP	3.0	3.8	3.3	2.6	2.9	2.5	5.2	5.5	5.1
MIDDLESEX WATER CO	5.9	7.2	7.5	5.8	5.1	5.3	6.5	9.0	8.3
SIW CORP	2.8	4.7	4.6	2.4	3.3	3.2	4.0	5.1	5.2
YORK WATER CO	3.9	4.3	4.3	3.4	3.4	3.2	4.7	5.0	4.7

Median	3.6	4.4	4.3	3.1	3.4	3.2	4.9	5.4	5.2
--------	-----	-----	-----	-----	-----	-----	-----	-----	-----

Company Name	GCF To Debt			GCF To CAPX		
	2018	2017	2016	2018	2017	2016
AMERICAN STATES WATER CO	23.6	31.7	30.7	77.7	106.6	97.1
AMERICAN WATER WORKS CO INC	14.7	17.5	16.7	80.1	94.4	91.5
AQUA AMERICA INC	12.1	17.4	19.7	62.5	78.4	97.5
ARTESIAN RESOURCES -CL A	18.6	26.9	24.7	50.6	76.4	96.9
CALIFORNIA WATER SERVICE GP	19.1	20.2	20.8	61.9	62.8	59.5
MIDDLESEX WATER CO	17.9	25.3	25.2	51.9	87.4	81.2
SIW CORP	15.2	22.9	22.4	56.1	69.9	70.4
YORK WATER CO	21.4	23.4	23.3	119.7	86.8	149.6

Median	18.3	23.2	22.9	62.2	82.6	94.2
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	2018	2017	2016
Pre-Tax Interest Coverage - Including AFC(3)(x)	3.6	4.4	4.3
Post-Tax Interest Coverage - Including AFC(3)(x)	3.1	3.4	3.2
GCF / Interest Coverage(4)(x)	4.9	5.4	5.2
GCF / Tot. Debt(7)(%)	18.3	23.2	22.9
GCF / Construction(6)(%)	62.2	82.6	94.2

Bulletin No. 189

1912 to January 1, 2019

The
Handy-Whitman Index®
of
Public Utility
Construction Costs™



Trends of Construction Costs

COMPILED & PUBLISHED BY
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Engineers, Architects and Planners
801 South Caroline Street
Baltimore, Maryland 21231
410-235-3450

Cost Trends Of

Water Utility

Construction

COST TREND TABLES
1912 to January 1, 2019

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Act 340.5	
Series Id: PCU334118334118	Series Id: PCU334220334220
Series Title: PPI	Series Title: PPI
Industry data for	Industry data for
Computer terminal	Broadcast and wireless
and other computer	communications
peripheral equipment	equipment mfg, not
mfg not seasonally	seasonally mfg
industry computer	industry Broadcast
terminal and other	and wireless
computer peripheral	communications
equipment mfg	equipment mfg
Product: Computer	Product: Broadcast
terminal and other	and wireless
computer peripheral	communications
equipment mfg	equipment mfg
Base Date: 199312	Base Date: 199112

Act 341.1	
Series Id: PCU336110336110	Series Id: PCU336110336110
Series Title: PPI	Series Title: PPI
Industry data for	Industry data for
Automobile, light truck	Automobile, light truck
and utility vehicle mfg,	and utility vehicle mfg,
not seasonally	not seasonally
adjusted	adjusted
Industry: Automobill	Industry: Automobill
e, light truck and utility	e, light truck and utility
vehicle mfg	vehicle mfg
Product: Automobill	Product: Automobill
e, light truck and utility	e, light truck and utility
vehicle mfg	vehicle mfg
Base Date: 198206	Base Date: 198206

Act 346.1	
Series Id: PCU334220334220	Series Id: PCU334220334220
Series Title: PPI	Series Title: PPI
Industry data for	Industry data for
Broadcast and wireless	Broadcast and wireless
communications	communications
equipment mfg, not	equipment mfg, not
seasonally mfg	seasonally mfg
industry Broadcast	industry Broadcast
and wireless	and wireless
communications	communications
equipment mfg	equipment mfg
Product: Broadcast	Product: Broadcast
and wireless	and wireless
communications	communications
equipment mfg	equipment mfg
Base Date: 199112	Base Date: 199112

1961	Series Id: PCU3411834118	Series Id: PCU336110336110	Series Id: PCU334220334220
1962	Series Title: PPI	Series Title: PPI	Series Title: PPI
1963	Industry data for	Industry data for	Industry data for
1964	Computer terminal	Automobile, light truck	Broadcast and wireless
1965	and other computer	and utility vehicle mfg.	communications
1966	peripheral equipment	not seasonally	equipment mfg. not
1967	mfg. not seasonally	adjusted	seasonally adjusted
1968	terminal and other	Industry: Automobill	Industry: Broadcast
1969	computer peripheral	e, light truck and utility	and wireless
1970	equipment mfg	vehicle mfg	communications
1971	Product: Computer	Product: Automobill	Product: Broadcast
1972	terminal and other	e, light truck and utility	equipment mfg
1973	computer peripheral	vehicle mfg	and wireless
1974	equipment mfg	Base Date: 198206	equipment mfg
1975	Base Date: 199312		Base Date: 199112
1976		1975	
1977		1976	
1978		1977	
1979	100.000	1978	100.000
1980	100.000	1979	100.000
1981	100.000	1980	100.000
1982	100.000	1981	100.000
1983	100.000	1982	100.000
1984	100.000	1983	100.000
1985	100.000	1984	100.000
1986	100.000	1985	100.000
1987	100.000	1986	100.000
1988	100.000	1987	100.000
1989	100.000	1988	100.000
1990	100.000	1989	100.000
1991	100.000	1990	100.000
1992	100.000	1991	100.000
1993	100.000	1992	101.583
1994	97.742	1993	102.908
1995	95.708	1994	103.900
1996	93.142	1995	103.517
1997	90.533	1996	104.225
1998	84.650	1997	105.758
1999	80.083	1998	105.525
2000	78.842	1999	104.125
2001	78.325	2000	101.475
2002	78.625	2001	101.717
2003	78.083	2002	98.258
2004	76.983	2003	95.100
2005	76.600	2004	93.267
2006	76.125	2005	92.617
2007	75.417	2006	92.117
2008	74.192	2007	92.483
2009	74.375	2008	94.083
2010	72.725	2009	94.558
2011	72.733	2010	94.808
2012	73.333	2011	94.408
2013	74.575	2012	93.042
		2013	92.400

Series ID: PCU3411834118 Series Title: PPI Industry data for Computer terminal and other computer peripheral equipment mfg not seasonally adjusted Industry: Computer terminal and other computer peripheral equipment mfg Product: Computer terminal and other computer peripheral equipment mfg Base Date: 199312	2014	76,217	Series ID: PCU36110336110 Series Title: PPI Industry data for Automobile, light truck and utility vehicle mfg, not seasonally adjusted Industry: Automobill e, light truck and utility vehicle mfg Product: Automobill e, light truck and utility vehicle mfg Base Date: 198206	2014	145,333	Series ID: PCU334220334220 Series Title: PPI Industry data for Broadcast and wireless communications equipment mfg, not seasonally adjusted Industry: Broadcast and wireless communications equipment mfg Product: Broadcast and wireless communications equipment mfg Base Date: 199112
	2015	71,108		2015	148,883	
	2016	64,842		2016	150,108	
	2017	65,917		2017	152,067	
	2018	66,775		2018	153,250	
	2019	64,058		2019	153,642	
	SPOT	63,100		SPOT	155,100	
	2014	92,817		2014	92,817	
	2015	93,358		2015	93,358	
	2016	92,508		2016	92,508	
	2017	90,367		2017	90,367	
	2018	89,642		2018	89,642	
	2019	89,600		2019	89,600	
	SPOT	90,100		SPOT	90,100	

Pennsylvania Municipalities, Total Decennial Population, 2010 & 2000

Prepared by The Pennsylvania State Data Center

Source: U.S. Census Bureau, Census 2000 & 2010 Redistricting Data (Public Law 94-171) Summary File.

March 9, 2011

2010 State, County & Munic. FIPS Code	Geographic Area	Census: April 1, 2010			Census: April 1, 2000			Change: 2000 to 2010			
		Number	Percent Share of State Total	Munic. Pop. Rank	Number	Percent Share of State Total	Munic. Pop. Rank	Number	Munic. Rank	Percent	Munic. Rank
4202900000	Chester County	498,886	3.9%	-	433,501	3.5%	-	65,385	-	15.1%	-
4204500000	Delaware County	558,979	4.4%	-	550,864	4.5%	-	8,115	-	1.5%	-
4202921928	Easttown township	10,477	0.1%	240	10,270	0.1%	227	207	526	2.0%	1,074
4202977344	Tredyffrin township	29,332	0.2%	41	29,062	0.2%	42	270	458	0.9%	1,185
4204500676	Aldan borough	4,152	0.0%	692	4,313	0.0%	648	-161	2215	-3.7%	1,685
4204503336	Aston township	16,592	0.1%	126	16,203	0.1%	113	389	369	2.4%	1,039
4204506024	Bethel township	8,791	0.1%	295	6,421	0.1%	412	2,370	73	36.9%	70
4204509080	Brookhaven borough	8,006	0.1%	327	7,985	0.1%	309	21	1098	0.3%	1,250
4204512442	Chadds Ford township	3,640	0.0%	776	3,170	0.0%	859	470	334	14.8%	306
4204513208	Chester city	33,972	0.3%	30	36,854	0.3%	27	-2,882	2565	-7.8%	2,079
4204513232	Chester Heights borough	2,531	0.0%	1,047	2,481	0.0%	1,049	50	932	2.0%	1,074
4204513212	Chester township	3,940	0.0%	730	4,604	0.0%	597	-664	2500	-14.4%	2,433
4204514264	Clifton Heights borough	6,652	0.1%	416	6,779	0.1%	379	-127	2124	-1.9%	1,488
4204515232	Collingdale borough	8,786	0.1%	297	8,664	0.1%	282	122	686	1.4%	1,135
4204515432	Colwyn borough	2,546	0.0%	1,041	2,453	0.0%	1,057	93	766	3.8%	916
4204518152	Darby borough	10,687	0.1%	229	10,299	0.1%	226	388	372	3.8%	916
4204518160	Darby township	9,264	0.1%	277	9,622	0.1%	247	-358	2401	-3.7%	1,685
4204522296	Eddystone borough	2,410	0.0%	1,089	2,442	0.0%	1,062	-32	1593	-1.3%	1,430
4204522584	Edgmont township	3,987	0.0%	724	3,918	0.0%	711	69	849	1.8%	1,093
4204526408	Folcroft borough	6,606	0.1%	423	6,978	0.1%	362	-372	2411	-5.3%	1,864
4204529720	Glenolden borough	7,153	0.1%	385	7,476	0.1%	333	-323	2386	-4.3%	1,759
4204533144	Haverford township	48,491	0.4%	16	48,498	0.4%	17	-7	1359	0.0%	1,270
4204541440	Lansdowne borough	10,620	0.1%	234	11,044	0.1%	207	-424	2431	-3.8%	1,696
4204544888	Lower Chichester township	3,469	0.0%	809	3,591	0.0%	770	-122	2108	-3.4%	1,643
4204547344	Marcus Hook borough	2,397	0.0%	1,096	2,314	0.0%	1,100	83	803	3.6%	931
4204547616	Marple township	23,428	0.2%	68	23,737	0.2%	57	-309	2371	-1.3%	1,430
4204549136	Middletown township	15,807	0.1%	137	16,064	0.1%	116	-257	2330	-1.6%	1,460
4204551176	Morton borough	2,669	0.0%	1,001	2,715	0.0%	970	-46	1713	-1.7%	1,467
4204553104	Nether Providence township	13,706	0.1%	170	13,456	0.1%	158	250	474	1.9%	1,085
4204554224	Newtown township	12,216	0.1%	197	11,700	0.1%	187	516	310	4.4%	858
4204555664	Norwood borough	5,890	0.0%	479	5,985	0.0%	449	-95	1996	-1.6%	1,460
4204558176	Parkside borough	2,328	0.0%	1,124	2,267	0.0%	1,125	61	882	2.7%	1,016
4202961800	Pocopson township	4,582	0.0%	618	3,350	0.0%	813	1,232	173	36.8%	71
4204562792	Prospect Park borough	6,454	0.1%	434	6,594	0.1%	397	-140	2157	-2.1%	1,520
4204563264	Radnor township	31,531	0.2%	35	30,878	0.3%	36	653	265	2.1%	1,065
4204564832	Ridley Park borough	7,002	0.1%	398	7,196	0.1%	346	-194	2263	-2.7%	1,572
4204564800	Ridley township	30,768	0.2%	37	30,791	0.3%	37	-23	1522	-0.1%	1,285
4204566192	Rose Valley borough	913	0.0%	1,861	944	0.0%	1,839	-31	1583	-3.3%	1,626
4204566928	Rutledge borough	784	0.0%	1,960	860	0.0%	1,907	-76	1902	-8.8%	2,167
4204569752	Sharon Hill borough	5,697	0.0%	492	5,468	0.0%	494	229	496	4.2%	879
4204573032	Springfield township	24,211	0.2%	62	23,677	0.2%	58	534	299	2.3%	1,048
4204575648	Swarthmore borough	6,194	0.0%	453	6,170	0.1%	434	24	1073	0.4%	1,239
4204577288	Trainer borough	1,828	0.0%	1,318	1,901	0.0%	1,273	-73	1883	-3.8%	1,696
4204578712	Upland borough	3,239	0.0%	856	2,977	0.0%	906	262	464	8.8%	542
4204578776	Upper Chichester township	16,738	0.1%	123	16,842	0.1%	102	-104	2030	-0.6%	1,357
4204579000	Upper Darby township	82,795	0.7%	6	81,821	0.7%	5	974	213	1.2%	1,153
4204579248	Upper Providence township	10,142	0.1%	252	10,509	0.1%	221	-367	2408	-3.5%	1,658
4204586968	Yeadon borough	11,443	0.1%	208	11,762	0.1%	185	-319	2381	-2.7%	1,572

	BCWSA			ACSA			ALTOONA WATER AUTHORITY			CRWA		
	2018	2017	2016	2018	2017	2016	2018	2017	2016	2018	2017	2016
NET Property, plant and equipment	444,814,214	447,915,121	443,437,532	622,343,318	608,600,195	595,367,416	106,598,286	112,668,376	222,541,758	178,131,377	156,382,360	148,780,534
Operating Income	15,116,318	19,747,701	23,341,549	68,023,690	73,355,348	59,528,531	14,022,174	8,988,742	3,957,934	20,313,529	15,628,727	15,032,247
ROR/N PPE	3.40%	4.41%	5.26%	10.93%	12.05%	10.00%	13.15%	7.98%	1.78%	11.40%	9.99%	10.10%
3-Year Average	4.36%			10.99%			7.64%			10.50%		
Median of Each Year	4.90%											
Median of Each Entity	5.56%											
Conclusion												

	CHESTER WATER AUTHORITY			ERIE CITY WATER AUTHORITY			LASA*			RAWA		
	2018	2017	2016	2018	2017	2016	2018	2017	2016	2018	2017	2016
NET Property, plant and equipment	277,881,505	271,133,389	264,773,275	191,070,499	187,981,855	182,608,316	142,318,075	141,219,375	119,707,705	64,973,550	59,036,648	55,262,527
Operating Income	1,487,430	2,795,223	3,768,846	10,005,109	11,356,179	8,967,322	6,085,112	5,520,628	5,139,694	2,945,874	5,516,028	5,293,197
ROR/N PPE	0.54%	1.03%	1.42%	5.24%	6.04%	4.91%	4.28%	3.91%	4.29%	4.53%	9.34%	9.58%
3-Year Average	1.00%			5.40%			4.16%			7.82%		

* Fiscal Year 3/31

Median of Each Year

Median of Each Entity

Conclusion

	WCMA*			PITTSBURGH WATER & SEWER		
	2018	2017	2016	2018	2017	2016
NET Property, plant and equipment	554,245,152	510,067,669	472,496,629	757,480,000	689,807,000	676,798,000
Operating Income	27,079,696	21,532,860	20,596,637	61,660,000	29,604,000	32,134,000
ROR/N PPE	4.89%	4.22%	4.36%	8.14%	4.29%	4.75%
3-Year Average	4.49%			5.73%		

* Fiscal Year 3/31

Median of Each Year
Median of Each Entity
Conclusion

BUCKS COUNTY WATER AND SEWER AUTHORITY
STATEMENTS OF NET POSITION
DECEMBER 31, 2016 AND 2015

<u>ASSETS</u>	<u>2016</u>	<u>2015</u>
Current Assets		
Cash and Cash Equivalents	\$ 5,089,665	\$ 5,731,089
Investments	24,374,913	17,814,990
Accounts Receivable, Net of Allowance for Doubtful Accounts	10,620,665	10,570,311
Unbilled Revenue	8,573,348	7,935,326
Prepaid Expenses	789,370	260,954
Total Current Assets	<u>49,447,961</u>	<u>42,312,670</u>
Non-Current Assets		
Restricted Assets		
Cash and Cash Equivalents	3,216,792	3,161,760
Investments	94,684,066	135,009,814
Interest Receivable	59,621	64,688
Total Restricted Assets	<u>97,960,479</u>	<u>138,236,262</u>
Capital Assets		
Land, Rights-of-Way and CIP	77,719,725	74,796,483
Other Capital Assets, Net of Accumulated Depreciation	365,717,807	335,450,721
Total Capital Assets, Net	<u>443,437,532</u>	<u>410,247,204</u>
Total Non-Current Assets	<u>541,398,011</u>	<u>548,483,466</u>
Total Assets	<u>590,845,972</u>	<u>590,796,136</u>
Deferred Outflows of Resources		
Deferred Amount from Debt Refundings	3,184,947	3,396,951
Pension: Difference between expected and Actual Experience	144,527	173,432
Pension: Difference between projected and actual earnings on investments	1,676,529	181,362
Pension: Contributions made subsequent to measurement date	1,754,573	1,714,497
Total Deferred Outflows of Resources	<u>6,760,576</u>	<u>5,466,242</u>
<u>LIABILITIES AND NET POSITION</u>		
Current Liabilities		
Accounts Payable and Accrued Expenses	5,516,076	4,231,827
Current Portion of Bonds Payable	19,765,000	17,535,000
Interest Payable	1,031,332	1,073,303
Total Current Liabilities	<u>26,312,408</u>	<u>22,840,130</u>
Non-Current Liabilities		
Customer and Developer Deposits	3,216,788	3,161,756
Bonds Payable, Net of Unamortized Bond Discount and Premium	293,958,458	315,287,483
Net Pension Liability	6,800,663	5,114,435
Total Non-Current Liabilities	<u>303,975,909</u>	<u>323,563,674</u>
Total Liabilities	<u>330,288,317</u>	<u>346,403,804</u>
Deferred Inflows of Resources		
Pension: Changes in Assumptions	64,329	-
Proceeds from sale of future revenues	5,196,730	5,206,301
Total Deferred Inflows of Resources	<u>5,261,059</u>	<u>5,206,301</u>
Net Position		
Net Investment in Capital Assets	163,868,064	171,371,418
Restricted for Capital Activity	24,324,428	20,752,536
Restricted for Debt Service	30,964,216	34,304,360
Unrestricted	42,900,464	18,223,959
Total Net Position	<u>\$ 262,057,172</u>	<u>\$ 244,652,273</u>

See accompanying notes to the financial statements.

BUCKS COUNTY WATER AND SEWER AUTHORITY
STATEMENTS OF REVENUES, EXPENSES,
AND CHANGES IN NET POSITION
YEARS ENDED DECEMBER 31, 2016 AND 2015

	2016	2015
Operating Revenues		
Retail Sewer Service	\$ 43,421,110	\$ 40,074,901
Wholesale Sewer Service	14,897,563	15,357,443
Retail Water Service	11,916,548	8,704,536
Wholesale Water Service	12,191,561	11,633,096
Improvement and Tapping Fees	110,550	320,175
Other Revenues	4,481,483	4,144,208
Total Operating Revenues	87,018,815	80,234,359
Expenses		
Operating Expenses		
Sewage Treatment and Water Procurement		
Sewage Treatment	16,253,379	13,646,982
Water Procurement	8,547,084	8,073,320
Total Sewage Treatment and Water Procurement	24,800,463	21,720,302
Plant Operations		
Payroll and Related Costs	1,755,388	1,633,434
Repairs and Maintenance	968,414	984,929
Electricity	470,001	386,706
Water and Sewage Testing	165,530	118,633
Total Plant Operations	3,359,333	3,123,702
Collection, Transmission and Distribution Service		
Payroll and Related Costs	8,220,765	8,072,542
Repairs and Maintenance	1,468,471	1,540,762
Electricity	874,124	995,081
Other Related Costs	178,188	257,882
Total Collection, Transmission and Distribution Service	10,741,548	10,866,267
Total Operating Expenses	38,901,344	35,710,271
General and Administrative Expenses		
Payroll and Related Costs	3,343,236	3,444,298
Professional Fees	1,133,397	1,573,043
Insurance	471,189	518,425
Bad Debt	-	-
Other	3,844,235	2,781,201
Total General and Administrative Expense	8,792,057	8,316,967
Total Expenses	47,693,401	44,027,238
Income From Operations Before Depreciation	39,325,414	36,207,121
Depreciation	(15,983,865)	(15,105,344)
Operating Income	23,341,549	21,101,777
Non-Operating Revenue (Expense)		
Interest Expense,		
Net of Amounts Capitalized	(10,941,064)	(10,312,121)
Investment Income	1,338,537	903,993
Other	3,012	-
Improvement and Tapping Fees	4,048,410	3,033,482
Amortization	(385,545)	(1,174,018)
Total Non-Operating Expense	(5,936,650)	(7,548,664)
Increase In Net Position, Before Contributed Capital	17,404,899	13,553,113
Contributed Capital	-	192,833
Increase in Net Position	17,404,899	13,745,946
Net Position - Beginning of Year	244,652,273	234,178,514
Cumulative Change	-	(3,272,187)
Net Position - Beginning of Year, Restated	244,652,273	230,906,327
Net Position - End of Year	\$ 262,057,172	\$ 244,652,273

See accompanying notes to the financial statements.

BUCKS COUNTY WATER AND SEWER AUTHORITY
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
DECEMBER 31, 2018 AND 2017

NOTE 6: SEGMENT INFORMATION

As of and for the years ended December 31, 2018 and 2017 segment information is as follows:

Assets	2018			Totals
	Sewer System	Water System	Administrative Account	
Current Assets				
Cash and Investments	\$ 13,996,611	\$ 9,258,718	\$ 1,343,631	\$ 24,598,960
Accounts Receivable and Unbilled Revenue	6,114,899	18,137,594	(6,574,182)	17,678,311
Other	610,549	85,000	-	695,549
Non-Current Assets				
Restricted Assets	47,524,162	12,202,731	3,988,462	63,715,355
Capital Assets	293,945,954	145,484,365	5,383,895	444,814,214
Total Assets	362,192,175	185,168,408	4,141,806	551,502,389
Deferred Outflows of Resources				
Deferred Amount from Debt Refundings	3,503,369	6,462,562	-	9,965,931
Changes in Assumptions	632,513	155,628	-	788,141
Difference Between Expected and Actual Experience	162,431	40,607	-	203,038
Contributions Made Subsequent to Measurement Date	6,428,229	1,607,056	-	8,035,285
Total Deferred Outflows of Resources	10,726,542	8,265,853	-	18,992,395
Liabilities and Net Position				
Liabilities				
Current Liabilities	24,140,550	3,373,492	645,278	28,159,320
Non-Current Liabilities	156,519,961	91,561,281	3,496,528	251,577,770
Total Liabilities	180,660,511	94,934,773	4,141,806	279,737,090
Deferred Inflows of Resources				
Changes in Assumptions	36,187	6,638	-	42,825
Difference Between Projected and Actual Earnings on Investments	2,478,081	619,520	-	3,097,601
Proceeds from the Sale of Future Revenues	-	4,140,496	-	4,140,496
Total Deferred Inflows of Resources	2,514,268	4,766,654	-	7,280,922
Net Position				
Net Investment in Capital Assets	129,539,966	61,197,479	5,383,898	196,121,343
Restricted for Capital Activity	18,722,168	-	491,930	19,214,098
Restricted for Debt Service	28,801,994	6,333,246	-	35,135,240
Unrestricted	12,679,810	26,202,109	(5,875,828)	33,006,091
Total Net Position	\$ 189,743,938	\$ 93,732,834	\$ -	\$ 283,476,772

BUCKS COUNTY WATER AND SEWER AUTHORITY
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
DECEMBER 31, 2018 AND 2017

NOTE 6: SEGMENT INFORMATION (CONTINUED)

	2017		
	Sewer System	Water System	Administrative Account
Assets			Totals
Current Assets			
Cash and Investments	\$ 8,904,986	\$ 11,194,811	\$ 1,393,738
Accounts Receivable & Unbilled Revenue	22,076,404	4,854,323	(6,223,024)
Other	576,394	79,590	-
Non-Current Assets			
Restricted Assets	48,012,438	22,338,930	3,907,802
Capital Assets	294,731,969	147,991,214	5,191,938
Total Assets	374,302,191	186,458,868	4,270,454
Deferred Outflows of Resources			
Deferred Amount from Debt Refundings	4,223,088	6,924,098	-
Changes in Assumptions	788,141	197,035	-
Difference Between Expected and Actual Experience	208,819	52,205	-
Difference Between Projected and Actual Earnings on Investments	680,277	170,069	-
Contributions Made Subsequent to Measurement Date	1,562,388	390,597	-
Total Deferred Outflows of Resources	7,462,713	7,734,004	-
Liabilities and Net Position			
Liabilities			
Current Liabilities	22,888,994	3,518,492	809,871
Non-Current Liabilities	175,965,552	94,087,732	3,460,583
Total Liabilities	198,854,546	97,606,224	4,270,454
Deferred Inflows of Resources			
Changes in Assumptions	42,826	10,706	-
Proceeds from the Sale of Future Revenues	-	4,313,017	-
Total Deferred Inflows of Resources	42,826	4,323,723	-
Net Position			
Net Investment in Capital Assets	128,626,008	55,498,881	5,191,931
Restricted for Capital Activity	6,277,232	16,463,309	447,206
Restricted for Debt Service	24,622,642	5,870,408	-
Unrestricted	23,341,650	14,430,327	(5,639,137)
Total Net Position	\$ 182,867,532	\$ 92,262,925	\$ -

BUCKS COUNTY WATER AND SEWER AUTHORITY
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
DECEMBER 31, 2018 AND 2017

NOTE 6: SEGMENT INFORMATION (CONTINUED)

	2018		
	Sewer System	Water System	Totals
Operating Revenues			
Retail Sewer Service	\$ 48,634,267	\$ -	\$ 48,634,267
Wholesale Sewer Service	19,105,200	-	19,105,200
Retail Water Service	-	11,755,194	11,755,194
Wholesale Water Service	-	4,357,235	4,357,235
Improvement and Tapping Fees	-	279,425	279,425
Other Revenues	3,130,165	1,567,388	4,697,553
Total Operating Revenues	70,869,632	17,959,242	88,828,874
Expenses			
Operating Expenses			
Sewage Treatment and Water Procurement			
Sewage Treatment	20,862,709	-	20,862,709
Water Procurement	-	5,611,587	5,611,587
Total Sewage and Water Procurement	20,862,709	5,611,587	26,474,296
Plant Operations			
Payroll and Related Costs	1,592,995	-	1,592,995
Repairs and Maintenance	1,251,844	-	1,251,844
Electricity	461,808	-	461,808
Water and Sewage Testing	218,091	-	218,091
Total Plant Operations	3,524,738	-	3,524,738
Collection, Transmission and Distribution Service			
Payroll and related costs	6,404,591	1,787,297	8,191,888
Repairs and maintenance	1,660,514	331,489	1,992,003
Electricity	822,812	172,379	995,191
Other related costs	209,224	89,235	298,459
Total Collection, Transmission and Distribution	9,097,141	2,380,400	11,477,541
Service Expense			
Total Operating Expense	33,484,588	7,991,987	41,476,575
General and Administrative Expenses			
Payroll and related costs	5,714,319	1,066,453	6,780,772
Professional fees	1,747,815	233,440	1,981,255
Insurance	395,522	81,075	476,597
Other	4,821,938	111,852	4,933,790
Total General and Administrative Expenses	12,679,594	1,492,820	14,172,414
Income from Operations before depreciation	24,705,450	8,474,435	33,179,885
Depreciation	(14,696,296)	(3,367,271)	(18,063,567)
Operating Income	10,009,154	5,107,164	15,116,318
Nonoperating Revenue (Expense)			
Interest Expense, net of Amounts Capitalized	(5,405,915)	(3,611,700)	(9,017,615)
Investment Income	1,623,182	392,571	2,015,753
Other	4,824	-	4,824
Improvement and Tapping Fees	2,750,737	-	2,750,737
Amortization	(51,377)	-	(51,377)
Total Nonoperating Expense	(1,078,549)	(3,219,129)	(4,297,678)
Increase in Net Position, Before Contributed Capital	8,930,605	1,888,035	10,818,640
Contributed Capital	710,204	69,710	779,914
Net Position - Beginning of Year, as Previously Reported	182,867,532	92,262,925	275,130,457
Adjustment for GASB No. 75	(2,764,403)	(487,836)	(3,252,239)
Net Position - Beginning of Year, Restated	180,103,129	91,775,089	271,878,218
Net Position, End of Year	\$ 189,743,938	\$ 93,732,834	\$ 283,476,772

BUCKS COUNTY WATER AND SEWER AUTHORITY
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
DECEMBER 31, 2018 AND 2017

NOTE 6: SEGMENT INFORMATION (CONTINUED)

	2017		
	Sewer System	Water System	Totals
Operating Revenues			
Retail Sewer Service	\$ 45,876,948	\$ -	\$ 45,876,948
Wholesale Sewer Service	15,432,198	-	15,432,198
Retail Water Service	-	11,949,872	11,949,872
Wholesale Water Service	-	6,647,724	6,647,724
Improvement & Tapping Fees	-	232,767	232,767
Other Revenues	3,249,727	1,629,253	4,878,980
Total Operating Revenues	64,558,873	20,459,616	85,018,489
Expenses			
Operating Expenses			
Sewage Treatment and Water Procurement			
Sewage Treatment	17,676,455	-	17,676,455
Water Procurement	-	6,530,098	6,530,098
Total Sewage and Water Procurement	17,676,455	6,530,098	24,206,553
Plant Operations			
Payroll and Related Costs	1,566,670	-	1,566,670
Repairs and Maintenance	958,914	-	958,914
Electricity	407,469	-	407,469
Water and Sewage Testing	219,714	-	219,714
Total Plant Operations	3,152,767	-	3,152,767
Collection, Transmission and Distribution Service			
Payroll and related costs	6,419,918	1,969,201	8,389,119
Repairs and maintenance	1,314,607	262,103	1,576,710
Electricity	672,888	158,476	831,364
Other related costs	105,932	65,769	171,701
Total Collection, Transmission and Distribution Service Expense	8,513,345	2,455,549	10,968,894
Total Operating Expense	29,342,567	8,985,647	38,328,214
General and Administrative Expenses			
Payroll and related costs	3,206,904	623,007	3,829,911
Professional fees	1,322,262	265,487	1,587,749
Insurance	353,433	90,023	443,456
Other	3,503,737	393,590	3,897,327
Total General and Administrative Expenses	8,386,336	1,372,107	9,758,443
Income from Operations before depreciation	26,829,970	10,101,862	36,931,832
Depreciation	(13,769,257)	(3,414,874)	(17,184,131)
Operating Income	13,060,713	6,686,988	19,747,701
Non-Operating Revenue (Expense)			
Interest Expense, net of Amounts Capitalized	(4,463,766)	(4,352,345)	(8,816,111)
Investment Income	1,224,604	435,695	1,660,299
Improvement and Tapping Fees	1,497,598	-	1,497,598
Amortization	(280,152)	(736,050)	(1,016,202)
Total Non-Operating Expense	(2,021,716)	(4,652,700)	(6,674,416)
Increase in Net Position	11,038,997	2,034,288	13,073,285
Net Position, Beginning of Year	171,828,535	90,228,637	262,057,172
Net Position, End of Year	\$ 182,867,532	\$ 92,262,925	\$ 275,130,457

BUCKS COUNTY WATER AND SEWER AUTHORITY
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
DECEMBER 31, 2018 AND 2017

NOTE 6: SEGMENT INFORMATION (CONTINUED)

	2018			
	Sewer System	Water System	Administrative Account	Totals
Cash Flows from Operating Activities				
Cash Received from Customers	\$ 72,660,789	\$ 17,539,631	\$ -	\$ 90,200,420
Payments to Suppliers	(31,373,585)	(6,551,971)	-	(37,925,556)
Payroll and Related Payments	(13,711,973)	(3,095,494)	-	(16,807,467)
Other Operating (Payments) / Transactions	12,644,098	(13,022,354)	222,511	(155,745)
Net Cash Provided from Operations	40,219,329	(5,130,188)	222,511	35,311,652
Cash Flows from Capital and Related Financing Activities				
Acquisition and Construction of Capital Assets	(12,799,197)	(860,416)	(191,958)	(13,851,571)
Improvement and Tapping Fees	2,750,737	-	-	2,750,737
Bond Principal Repayments	(17,784,999)	(2,475,000)	-	(20,259,999)
Interest Paid	(6,364,234)	(3,537,201)	-	(9,901,435)
Net Cash Used in Capital and Related Financing Activities	(34,197,693)	(6,872,617)	(191,958)	(41,262,268)
Cash Flows from Investing Activities				
Sale of Investments, Net	(5,599,131)	12,069,155	-	6,470,024
Interest Received	14,790	392,571	-	407,361
Net Cash Used in Investing Activities	(5,584,341)	12,461,726	-	6,877,385
Net Increase (Decrease) in Cash and Cash Equivalents	437,295	458,921	30,553	926,769
Cash and Cash Equivalents - Beginning of Year	1,529,900	33,485	4,854,334	6,417,719
Cash and Cash Equivalents - End of Year	\$ 1,967,195	\$ 492,406	\$ 4,884,887	\$ 7,344,488
Displayed as:				
Cash and Cash Equivalents	\$ 1,967,195	\$ 492,406	\$ 1,343,631	\$ 3,803,232
Restricted Cash and Cash Equivalents	-	-	3,541,256	3,541,256
	\$ 1,967,195	\$ 492,406	\$ 4,884,887	\$ 7,344,488
Reconciliation of Operating Income to Net Cash Provided from Operations:				
Operating Income	\$ 10,009,154	\$ 5,107,164	\$ -	\$ 15,116,318
Adjustments to Reconcile Operating Income to Net Cash				
Provided from Operating Activities				
Depreciation	14,696,296	3,367,271	-	18,063,567
Changes in Assets and Liabilities:				
Receivables and Unbilled Revenue, Net	3,276,483	(247,091)	-	3,029,392
Prepaid Expenses	(34,155)	(5,410)	-	(39,565)
Intercompany Receivables (Payables)	12,685,022	(13,036,180)	351,158	-
Accounts Payable and Accrued Expenses	531,336	(121,266)	(164,592)	245,478
Interest Payable	(37,555)	16,262	-	(21,293)
Customer and Developer Deposits	-	-	35,945	35,945
Net Pension and OPEB Liabilities and Related Pension Deferrals	(907,252)	(210,938)	-	(1,118,190)
Net Cash Provided from Operations	\$ 40,219,329	\$ (5,130,188)	\$ 222,511	\$ 35,311,652

BUCKS COUNTY WATER AND SEWER AUTHORITY
NOTES TO THE FINANCIAL STATEMENTS (CONTINUED)
DECEMBER 31, 2018 AND 2017

NOTE 6: SEGMENT INFORMATION (CONTINUED)

	2017			
	Sewer System	Water System	Administrative Account	Totals
Cash Flows from Operating Activities				
Cash Received from Customers	\$ 62,575,421	\$ 20,069,302	\$ -	\$ 82,644,723
Payments to Suppliers	(25,232,863)	(7,175,732)	457,880	(31,950,715)
Payroll and Related Payments	(11,445,049)	(2,595,164)	-	(14,040,213)
Other Operating (Payments) / Transactions	(253,988)	(1,470,351)	1,625,942	(98,397)
Net Cash Provided from Operations	25,643,521	8,828,055	2,083,822	36,555,398
Cash Flows from Capital and Related Financing Activities				
Acquisition and Construction of Capital Assets	(15,016,258)	(3,846,355)	(1,629,962)	(20,492,575)
Improvement and Tapping Fees	1,497,598	-	-	1,497,598
Bond Principal Repayments	(17,375,000)	(2,390,000)	-	(19,765,000)
Bond Issuance Proceeds	34,112,802	80,744,268	-	114,857,070
Transfer to Escrow Agent for Bond Defeasance	(35,441,434)	(97,773,208)	-	(133,214,642)
Interest Paid	(7,346,730)	(4,899,811)	-	(12,246,541)
Net Cash Used in Capital and Related Financing Activities	(39,569,022)	(28,165,106)	(1,629,962)	(69,364,090)
Cash Flows from Investing Activities				
Sale of Investments, Net	12,001,747	17,241,059	-	29,242,806
Interest Received	1,241,452	435,696	-	1,677,148
Net Cash Provided by Investing Activities	13,243,199	17,676,755	-	30,919,954
Net Increase (Decrease) in Cash and Cash Equivalents	(682,302)	(1,660,296)	453,860	(1,888,738)
Cash and Cash Equivalents - Beginning of Year	2,212,202	1,693,781	4,400,474	8,306,457
Cash and Cash Equivalents - End of Year	\$ 1,529,900	\$ 33,485	\$ 4,854,334	\$ 6,417,719
Displayed as:				
Cash and Cash Equivalents	\$ 1,529,900	\$ 33,485	\$ 1,393,738	\$ 2,957,123
Restricted Cash and Cash Equivalents	-	-	3,460,596	3,460,596
	\$ 1,529,900	\$ 33,485	\$ 4,854,334	\$ 6,417,719
Reconciliation of Operating Income to Net Cash Provided from Operations:				
Operating Income	\$ 13,060,713	\$ 6,686,988	\$ -	\$ 19,747,701
Adjustments to Reconcile Operating Income to Net Cash				
Provided from Operating Activities				
Depreciation	13,769,257	3,414,874	-	17,184,131
Changes in Assets and Liabilities:				
Receivables and Unbilled Revenue, Net	(2,092,088)	578,398	-	(1,513,690)
Prepaid Expenses	(31,647)	9,560	155,474	133,387
Intercompany Receivables (Payables)	77,451	(1,420,368)	1,342,917	-
Accounts Payable and Accrued Expenses	935,352	(293,880)	341,623	983,095
Interest Payable	(63,616)	(144,543)	-	(208,159)
Customer and Developer Deposits	-	-	243,808	243,808
Net Pension Liability and Related Pension Deferrals	(11,901)	(2,974)	-	(14,875)
Net Cash Provided from Operations	\$ 25,643,521	\$ 8,828,055	\$ 2,083,822	\$ 36,555,398

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF NET POSITION

DECEMBER 31, 2018 AND 2017

Assets and Deferred Outflows of Resources		Liabilities, Deferred Inflows of Resources, and Net Position	
	2018	2017	
Assets:			
Current assets:			
Cash and cash equivalents	\$ 142,482,220	\$ 119,248,255	
Accounts receivable:			
Billed sewer revenue	16,544,587	17,185,654	
Unbilled sewer revenue	41,408,016	40,232,780	
Other	4,469	4,635	
Other current assets	6,556,274	6,432,263	
Total current assets	206,995,566	183,103,587	
Restricted/designated assets:			
Cash and cash equivalents	83,445,720	100,289,509	
Investments	167,782,528	-	
Accrued interest receivable	622,842	-	
Total restricted/designated assets	251,851,090	100,289,509	
Prepaid bond costs	7,187,959	6,472,479	
Nondepreciable capital assets:			
Land	5,344,896	5,344,896	
Construction in progress	59,836,813	38,371,565	
Total nondepreciable capital assets	65,181,709	43,716,461	
Depreciable capital assets - at cost, net of accumulated depreciation	557,161,609	564,883,734	
Total	622,343,318	608,600,195	
Net pension asset	2,705,577	-	
Total Assets	1,091,083,510	898,465,770	
Deferred Outflows of Resources:			
Related to pensions	17,633,917	21,247,515	
Other post-retirement benefits	932,894	-	
Refunding adjustment	7,077,328	8,074,203	
Total Deferred Outflows of Resources	25,644,139	29,321,718	
Total Assets and Deferred Outflows of Resources	\$ 1,116,727,649	\$ 927,787,488	
Liabilities:			
Current liabilities:			
Accounts payable	\$ 7,180,579	\$ 7,167,120	
Accrued liabilities:			
Compensated absences	4,539,483	4,689,828	
Salaries and wages	1,529,529	1,441,024	
Accrued interest on bonds	2,745,875	2,260,535	
Reserve for litigation	2,371,900	2,371,900	
Pretreatment advance payments	24,375	71,600	
Current maturities of sewer revenue bonds	26,630,000	25,395,000	
Total current liabilities	45,021,741	43,397,007	
Long-term liabilities:			
Other post-employment benefits	13,297,158	6,199,726	
Net pension liability	6,121,872	16,421,705	
Sewer revenue bonds - less current maturities	677,935,000	547,335,000	
Unamortized bond premium	55,857,500	48,952,220	
Net long-term debt	733,792,500	596,287,220	
Total long-term liabilities	753,211,530	618,908,651	
Total Liabilities	798,233,271	662,305,658	
Deferred Inflows of Resources:			
Related to pensions	12,389,471	2,935,957	
Net Position:			
Net investment in capital assets	120,849,236	95,281,689	
Unrestricted	185,255,671	167,264,184	
Total Net Position	306,104,907	262,545,873	
Total Liabilities, Deferred Inflows of Resources, and Net Position	\$ 1,116,727,649	\$ 927,787,488	

The notes to financial statements are an integral part of this statement.

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEARS ENDED DECEMBER 31, 2018 AND 2017

	2018	2017
Operating Revenues	\$ 169,724,327	\$ 170,182,173
Operating Expenses:		
Treatment	47,633,280	44,821,531
Intercepting sewer systems	8,490,808	7,100,846
Upper Allegheny system	563,244	487,512
Administrative and engineering	14,736,160	13,772,696
Billing and collecting	3,482,212	4,439,250
Management information systems	3,723,344	3,778,272
Total operating expenses before depreciation	78,629,048	74,400,107
Operating Income Before Depreciation	91,095,279	95,782,066
Depreciation	23,071,589	22,426,718
Operating Income	68,023,690	73,355,348
Non-operating Revenues (Expenses):		
Interest income, net of amounts capitalized	3,127,451	1,096,517
Interest expense on bonds, net of amounts capitalized	(20,735,872)	(21,544,440)
Amortization of prepaid bond costs	(629,995)	(693,501)
Change in value of pension related items	(61,702)	(3,196,667)
Change in value of OPEB related items	(789,172)	-
Total non-operating revenues (expenses)	(19,089,290)	(24,338,091)
Change in Net Position	48,934,400	49,017,257
Net Position:		
Beginning of year, as restated for 2018	257,170,507	213,528,616
End of year	<u>\$ 306,104,907</u>	<u>\$ 262,545,873</u>

The notes to financial statements are an integral part of this statement.

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF NET POSITION

DECEMBER 31, 2017 AND 2016

Assets and Deferred Outflows of Resources		Liabilities, Deferred Inflows of Resources, and Net Position	
	2017	2016	
Assets:			
Current assets:			
Cash and cash equivalents	\$ 119,248,255	\$ 91,684,772	
Accounts receivable:			
Billed sewer revenue	17,185,654	14,582,462	
Unbilled sewer revenue	40,232,780	35,405,033	
Other	4,635	40,361	
Other current assets	6,432,263	6,129,723	
Total current assets	183,103,587	147,842,351	
Restricted/designated assets:			
Cash and cash equivalents	100,289,509	92,275,291	
Investments	-	31,442,508	
Accrued interest receivable	-	156,762	
Total restricted/designated assets	100,289,509	123,874,561	
Prepaid bond costs	6,472,479	7,165,980	
Nondepreciable capital assets:			
Land	5,344,896	5,344,896	
Construction in progress	38,371,555	30,816,357	
Total nondepreciable capital assets	43,716,461	36,161,253	
Depreciable capital assets - at cost, net of accumulated depreciation	564,883,734	559,206,163	
Total	608,600,195	595,367,416	
Capital fees receivable	-	40,000	
Total Assets	898,465,770	874,290,308	
Deferred Outflows of Resources:			
Related to pensions	21,247,515	19,454,240	
Refunding adjustment	8,074,203	9,259,327	
Total Deferred Outflows of Resources	29,321,718	28,713,567	
Total Assets and Deferred Outflows of Resources	\$ 927,787,488	\$ 903,003,875	
Liabilities:			
Current liabilities:			
Accounts payable	\$ 7,167,120	\$ 8,192,941	
Accrued liabilities:			
Compensated absences	4,689,828	4,543,017	
Salaries and wages	1,441,024	1,315,045	
Accrued interest on bonds	2,260,535	2,007,614	
Reserve for litigation	2,371,900	2,371,900	
Pretreatment advance payments	71,600	53,300	
Current maturities of sewer revenue bonds	25,395,000	24,205,000	
Total current liabilities	43,397,007	42,688,817	
Long-term liabilities:			
Other post-employment benefits	6,199,726	5,173,881	
Net pension liability	16,421,705	10,265,284	
Sewer revenue bonds - less current maturities	547,335,000	572,730,000	
Unamortized bond premium	48,952,220	54,514,841	
Net long-term debt	596,287,220	627,244,841	
Total long-term liabilities	618,908,651	642,684,006	
Total Liabilities	662,305,658	685,372,823	
Deferred Inflows of Resources:			
Related to pensions	2,935,957	4,102,436	
Net Position:			
Net investment in capital assets	95,281,689	77,051,463	
Unrestricted	167,264,184	136,477,153	
Total Net Position	262,545,873	213,528,616	
Total Liabilities, Deferred Inflows of Resources, and Net Position	\$ 927,787,488	\$ 903,003,875	

The notes to financial statements are an integral part of this statement.

ALLEGHENY COUNTY SANITARY AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEARS ENDED DECEMBER 31, 2017 AND 2016

	2017	2016
Operating Revenues	\$ 170,182,173	\$ 151,390,618
Operating Expenses:		
Treatment	44,821,531	44,955,562
Intercepting sewer systems	7,100,846	5,896,400
Upper Allegheny system	487,512	451,733
Administrative and engineering	13,772,696	12,366,247
Billing and collecting	4,439,250	3,348,876
Management information systems	3,778,272	3,571,943
Total operating expenses before depreciation	74,400,107	70,590,761
Operating Income Before Depreciation	95,782,066	80,799,857
Depreciation	22,426,718	21,271,326
Operating Income	73,355,348	59,528,531
Non-operating Revenues (Expenses):		
Interest income, net of amounts capitalized	1,096,517	310,794
Interest expense on bonds, net of amounts capitalized	(21,544,440)	(23,172,637)
Amortization of prepaid bond costs	(693,501)	(1,306,549)
Change in value of pension related items	(3,196,667)	(123,155)
Total non-operating revenues (expenses)	(24,338,091)	(24,291,547)
Change in Net Position	49,017,257	35,236,984
Net Position:		
Beginning of year	213,528,616	178,291,632
End of year	<u>\$ 262,545,873</u>	<u>\$ 213,528,616</u>

The notes to financial statements are an integral part of this statement.

CAPITAL REGION WATER

BALANCE SHEET

DECEMBER 31, 2016

Assets and Deferred Outflows of Resources

Assets:

Current assets:

Cash and cash equivalents	\$ 31,370,479
Accounts receivable, net of allowance for uncollectible accounts of \$4,798,347	8,391,183
Due from the City of Harrisburg	2,995,798
Prepaid expenses	291,184
Inventory	489,164
Total current assets	<u>43,537,808</u>

Restricted assets:

Cash and cash equivalents - restricted under trust indentures and guarantee agreement	4,723,331
Investments - restricted under trust indentures	37,547,376
Total restricted assets	<u>42,270,707</u>

Noncurrent assets:

Capital assets, not being depreciated	12,360,288
Capital assets, net of accumulated depreciation of \$118,292,680	136,420,246
Total noncurrent assets	<u>148,780,534</u>

Total Assets

234,589,049

Deferred Outflows of Resources:

Deferred loss on refunding	8,778,954
Deferred outflows of resources for pensions	757,778
Total Deferred Outflows of Resources	<u>9,536,732</u>

Total Assets and Deferred Outflows of Resources

\$244,125,781

CAPITAL REGION WATER

STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEAR ENDED DECEMBER 31, 2016

Operating Revenues:

User charges	\$ 38,184,824
Total operating revenues	38,184,824

Operating Expenses:

Operating	13,802,610
Administrative	5,051,155
Depreciation	4,298,812
Total operating expenses	23,152,577

Operating Income

15,032,247

Non-Operating Revenues (Expenses):

Investment income	2,192,129
Intergovernmental revenue	16,177
Gain on sale of easements	4,671,738
Miscellaneous expense	(240,506)
Interest expense	(7,713,386)
Total non-operating revenues (expenses)	(1,073,848)

Change in Net Position Before Special Item

13,958,399

Special item

92,933

Change in Net Position

14,051,332

Net Position:

Beginning of year	35,564,284
End of year	\$ 49,615,616

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

CAPITAL REGION WATER

BALANCE SHEET

DECEMBER 31, 2017

Assets and Deferred Outflows of Resources

Assets:

Current assets:

Cash and cash equivalents	\$ 39,042,983
Accounts receivable, net of allowance for uncollectible accounts of \$5,381,652	10,642,831
Due from the City of Harrisburg	2,999,854
Prepaid expenses	330,564
Inventory	475,789
Total current assets	<u>53,492,021</u>

Restricted assets:

Cash and cash equivalents - restricted under trust indentures and guarantee agreement	28,128,910
Investments - restricted under trust indentures	19,919,838
Total restricted assets	<u>48,048,748</u>

Noncurrent assets:

Capital assets, not being depreciated	6,640,532
Capital assets, net of accumulated depreciation of \$123,593,986	149,741,828
Total noncurrent assets	<u>156,382,360</u>

Total Assets

257,923,129

Deferred Outflows of Resources:

Deferred loss on refunding	7,666,840
Deferred outflows of resources for pensions	1,087,971
Total Deferred Outflows of Resources	<u>8,754,811</u>

Total Assets and Deferred Outflows of Resources

\$ 266,677,940

CAPITAL REGION WATER

BALANCE SHEET

DECEMBER 31, 2018

Assets and Deferred Outflows of Resources

Assets:

Current assets:

Cash and cash equivalents	\$ 48,169,716
Accounts receivable, net of allowance for uncollectible accounts of \$5,914,774	10,001,747
Grants receivable	905,431
Due from the City of Harrisburg	3,686,285
Prepaid expenses	403,089
Inventory	347,960
Total current assets	<u>63,514,228</u>

Restricted assets:

Cash and cash equivalents - restricted under trust indentures and guarantee agreement	19,430,292
Investments - restricted under trust indentures	19,433,058
Total restricted assets	<u>38,863,350</u>

Noncurrent assets:

Capital assets, not being depreciated	16,946,141
Capital assets, net of accumulated depreciation of \$128,988,007	160,175,578
Net pension asset	1,009,658
Total noncurrent assets	<u>178,131,377</u>

Total Assets	<u>280,508,955</u>
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Deferred Outflows of Resources:

Deferred loss on refunding	7,877,263
Deferred outflows of resources for other postemployment benefits	77,533
Deferred outflows of resources for pension	651,522
Total Deferred Outflows of Resources	<u>8,606,318</u>

Total Assets and Deferred Outflows of Resources

\$ 289,115,273

CAPITAL REGION WATER

STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEAR ENDED DECEMBER 31, 2017

Operating Revenues:

User charges	\$ 40,503,481
Total operating revenues	<u>40,503,481</u>

Operating Expenses:

Operating	14,206,161
Administrative	5,367,287
Depreciation	<u>5,301,306</u>
Total operating expenses	<u>24,874,754</u>

Operating Income

15,628,727

Non-Operating Revenues (Expenses):

Investment income	682,914
Intergovernmental revenue	471,421
Miscellaneous expense	(135,908)
Interest expense	<u>(7,450,743)</u>
Total non-operating revenues (expenses)	<u>(6,432,316)</u>

Change in Net Position

9,196,411

Net Position:

Beginning of year - restated	<u>47,619,135</u>
End of year	<u><u>\$ 56,815,546</u></u>

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

CAPITAL REGION WATER

STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

YEAR ENDED DECEMBER 31, 2018

Operating Revenues:

User charges	\$ 44,895,271
Total operating revenues	<u>44,895,271</u>

Operating Expenses:

Operating	13,894,496
Administrative	5,293,225
Depreciation	<u>5,394,021</u>
Total operating expenses	<u>24,581,742</u>

Operating Income

20,313,529

Non-Operating Revenues (Expenses):

Investment income	568,004
Grant revenue	1,502,468
Gain on sale of easements	4,838,927
Miscellaneous expense	(180,383)
Interest expense	<u>(6,812,458)</u>
Total non-operating revenues (expenses)	<u>(83,442)</u>

Change in Net Position

20,230,087

Net Position:

Beginning of year - restated	<u>55,942,804</u>
End of year	<u>\$ 76,172,891</u>

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

**ALTOONA WATER AUTHORITY
STATEMENTS OF NET POSITION**

EXHIBIT 20
Page 170 of 267

	<u>December 31,</u>	
	<u>2017</u>	<u>2016</u>
<u>ASSETS</u>		
<u>Current Assets</u>		
Cash	\$ 1,187,229	\$ 2,426,395
Investments	3,009,242	3,590,996
Accounts Receivable	3,728,307	3,890,186
Accrued Interest Receivable	15,956	--
Prepaid Expenses	<u>476,123</u>	<u>301,183</u>
Total Current Assets	<u>8,416,857</u>	<u>10,208,760</u>
<u>Restricted Assets</u>		
Capital Projects	243,872	1,220,873
Debt Service	1,152,851	1,053,440
Debt Service Reserve	2,036,583	2,132,427
Surplus Fund	<u>1,081,611</u>	<u>364,266</u>
Total Restricted Assets	<u>4,514,917</u>	<u>4,771,006</u>
<u>Right to Use Asset</u>		
Right to Use Asset Net	<u>112,668,376</u>	--
<u>Capital Assets</u>		
Total Plant and Properties	--	348,811,369
Less: Accumulated Depreciation	--	<u>(126,289,611)</u>
Net Plant and Properties	--	<u>222,541,758</u>
TOTAL ASSETS	<u>125,600,150</u>	<u>237,521,524</u>
<u>DEFERRED OUTFLOWS OF RESOURCES</u>		
Outflow Related to Pension	<u>1,526,330</u>	<u>792,553</u>
<u>LIABILITIES</u>		
<u>Current Liabilities</u>		
Accounts Payable	1,211,479	1,353,287
Accrued Expenses	353,388	382,098
Accrued Payroll and Taxes	236,925	234,996
Deposits and Credits	99,009	98,909
Current Portion of City Lease Obligation	29,982	--
Current Portion of Notes Payable	2,682,406	1,862,721
Current Portion of Bonds Payable	<u>6,010,000</u>	<u>5,725,000</u>
Total Current Liabilities	<u>10,623,189</u>	<u>9,657,011</u>
<u>Long Term Liabilities</u>		
City Lease Obligation	113,242,714	--
Loans Payable – PennVest	38,640,937	41,937,165
Bonds Payable	31,728,617	37,372,825
Net Pension Liability	2,570,058	2,101,758
Unearned Interest - Series of 1994	<u>105,310</u>	<u>157,966</u>
Total Long Term Liabilities	<u>186,287,636</u>	<u>81,569,714</u>
TOTAL LIABILITIES	<u>196,910,825</u>	<u>91,226,725</u>
<u>DEFERRED INFLOWS OF RESOURCES</u>		
Inflow Related to Pension	<u>829,998</u>	<u>192,683</u>
<u>NET POSITION</u>		
Invested in Capital Assets Net of Related Debt	--	138,861,752
Restricted for:		
Construction	222,881	499,882
Debt Service	1,045,329	1,053,419
Unrestricted	<u>(71,882,553)</u>	<u>6,479,616</u>
TOTAL NET POSITION	<u>\$(70,614,343)</u>	<u>\$ 146,894,669</u>

See Accompanying Notes to Financial Statements

**ALTOONA WATER AUTHORITY
STATEMENTS OF NET POSITION**

EXHIBIT 20
Page 171 of 267

	<u>December 31,</u>	
	<u>2018</u>	<u>2017</u>
<u>ASSETS</u>		
<u>Current Assets</u>		
Cash	\$ 2,420,679	\$ 1,187,229
Investments	4,484,450	3,009,242
Accounts Receivable	4,460,455	3,728,307
Accrued Interest Receivable	29,077	15,956
Prepaid Expenses	<u>307,825</u>	<u>476,123</u>
Total Current Assets	<u>11,702,486</u>	<u>8,416,857</u>
<u>Restricted Assets</u>		
Capital Projects	247,194	243,872
Debt Service	1,041,048	1,152,851
Debt Service Reserve	2,067,009	2,036,583
Surplus Fund	<u>1,097,730</u>	<u>1,081,611</u>
Total Restricted Assets	<u>4,452,981</u>	<u>4,514,917</u>
<u>Right to Use Asset</u>		
Right to Use Asset Net	<u>106,598,286</u>	<u>112,668,376</u>
TOTAL ASSETS	<u>122,753,753</u>	<u>125,600,150</u>
<u>DEFERRED OUTFLOWS OF RESOURCES</u>		
Outflow Related to Pension	<u>2,359,034</u>	<u>1,526,330</u>
<u>LIABILITIES</u>		
<u>Current Liabilities</u>		
Accounts Payable	1,079,614	1,211,479
Accrued Expenses	352,761	353,388
Accrued Payroll and Taxes	274,897	236,925
Deposits and Credits	92,183	99,009
Demand Note	1,464,081	--
Current Portion of City Lease Obligation	1,114,720	29,982
Current Portion of Notes Payable	2,974,950	2,682,406
Current Portion of Bonds Payable	<u>6,305,000</u>	<u>6,010,000</u>
Total Current Liabilities	<u>13,658,206</u>	<u>10,623,189</u>
<u>Long Term Liabilities</u>		
City Lease Obligation	112,127,994	113,242,714
Loans Payable – PennVest	35,892,461	38,640,937
Bonds Payable	25,798,561	31,728,617
Net Pension Liability	4,271,068	2,570,058
Unearned Interest - Series of 1994	<u>52,655</u>	<u>105,310</u>
Total Long Term Liabilities	<u>178,142,739</u>	<u>186,287,636</u>
TOTAL LIABILITIES	<u>191,800,945</u>	<u>196,910,825</u>
<u>DEFERRED INFLOWS OF RESOURCES</u>		
Inflow Related to Pension	<u>642,998</u>	<u>829,998</u>
<u>NET POSITION</u>		
Restricted for:		
Construction	226,203	222,881
Debt Service	1,040,814	1,045,329
Unrestricted	<u>(68,598,173)</u>	<u>(71,882,553)</u>
TOTAL NET POSITION	<u>\$ (67,331,156)</u>	<u>\$ (70,614,343)</u>

See Accompanying Notes to Financial Statements

ALTOONA WATER AUTHORITY
STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

	Year Ended December 31,	
	2017	2016
<u>Operating Revenues, Securing Revenue Bonds</u>		
Water/Sewer Rentals	\$ 28,033,026	\$ 27,234,701
Installations and Renewals Service Lines	119,509	116,080
Meter Sales, Shut-Offs, and Remotes	224,910	224,676
Timber Sales	40,197	142,007
Septic Hauler Fees	75,649	81,269
Fire Hydrant and Line Rentals	343,767	331,999
Service to Wastewater Division	1,057,455	1,097,406
Miscellaneous	322,114	414,937
Intermunicipal Service Reimbursements	1,409,183	1,346,227
Total Operating Revenues	31,625,810	30,989,302
<u>Operating Expenses - Functional and Departmental</u>		
Administration	2,117,738	5,106,472
Billing and Collection	709,035	750,662
Purification and Distribution/Disposal	5,001,575	5,078,445
Meter Division	482,163	476,819
Maintenance	3,823,793	3,918,953
Fringe Benefits and Insurance	3,706,216	3,838,891
Depreciation and Amortization	6,796,548	7,861,126
Total Operating Expenses- Functional and Departmental	22,637,068	27,031,368
Operating Income	8,988,742	3,957,934
<u>Nonoperating Revenues and (Expenses)</u>		
Capital Contribution to City of Altoona	(223,701,014)	--
Investment Income	80,223	50,052
Interest Expense	(2,813,892)	(2,983,688)
Fees and Miscellaneous	(379)	(839)
Gain on Disposition of Fixed Assets	45,961	34,612
Contributed Capital	16,825	--
Amortization Bond Issue Costs	(125,478)	(126,251)
Total Nonoperating Revenues and (Expenses)	(226,497,754)	(3,026,114)
Net Income	(217,509,012)	931,820
<u>Net Position - January 1</u>	146,894,669	145,962,849
<u>Net Position - December 31</u>	\$(70,614,343)	\$ 146,894,669

See Accompanying Notes to Financial Statements

ALTOONA WATER AUTHORITY
STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

	Year Ended December 31,	
	2018	2017
<u>Operating Revenues, Securing Revenue Bonds</u>		
Water/Sewer Rentals	\$ 30,794,341	\$ 28,033,026
Installations and Renewals Service Lines	139,503	119,509
Meter Sales, Shut-Offs, and Remotes	250,565	224,910
Timber Sales	116,337	40,197
Septic Hauler Fees	2,269,905	75,649
Fire Hydrant and Line Rentals	341,023	343,767
Service to Wastewater Division	1,047,022	1,057,455
Miscellaneous	421,392	322,114
Intermunicipal Service Reimbursements	1,231,099	1,409,183
Total Operating Revenues	36,611,187	31,625,810
<u>Operating Expenses - Functional and Departmental</u>		
Administration	2,180,781	2,117,738
Billing and Collection	681,880	709,035
Purification and Distribution/Disposal	5,060,425	5,001,575
Meter Division	505,784	482,163
Maintenance	3,956,167	3,823,793
Fringe Benefits and Insurance	4,133,886	3,706,216
Depreciation and Amortization	6,070,090	6,796,548
Total Operating Expenses- Functional and Departmental	22,589,013	22,637,068
Operating Income	14,022,174	8,988,742
<u>Nonoperating Revenues and (Expenses)</u>		
Capital Contribution to City of Altoona	(4,277,135)	(223,701,014)
Investment Income	170,111	80,223
Interest Expense	(6,783,092)	(2,813,892)
Fees and Miscellaneous	--	(379)
Gain on Disposition of Fixed Assets	105,075	45,961
Contributed Capital	201,042	16,825
Amortization Bond Issue Costs	(154,988)	(125,478)
Total Nonoperating Revenues and (Expenses)	(10,738,987)	(226,497,754)
Net Income/(Loss)	3,283,187	(217,509,012)
<u>Net Position - January 1</u>	(70,614,343)	146,894,669
<u>Net Position - December 31</u>	\$(67,331,156)	\$(70,614,343)

See Accompanying Notes to Financial Statements

Reading Area Water Authority
A Component Unit of the City of ReadingManagement's Discussion and Analysis
December 31, 2018 and 2017**Financial Information****Net Position** - The following schedule presents a summary of net position comparison at December 31, 2018, 2017, and 2016:

	<u>2018</u>	<u>2017</u> (As Restated)	<u>2016</u> (As Restated)
Assets			
Unrestricted current assets	\$ 25,886,197	\$ 24,371,571	\$ 20,614,911
Restricted current assets	9,389,010	11,067,725	19,177,064
Capital assets, net	64,973,550	59,036,648	55,262,527
Other asset	951,010	1,020,000	1,020,000
Deferred Outflow of Resources	<u>1,054,979</u>	<u>1,197,798</u>	<u>1,346,286</u>
Total Assets and Deferred Outflow of Resources	<u>\$ 102,255,546</u>	<u>\$ 96,693,742</u>	<u>\$ 97,420,788</u>
Liabilities			
Current liabilities	\$ 7,496,258	\$ 5,387,837	\$ 5,985,559
Long-term debt	<u>80,796,512</u>	<u>84,017,089</u>	<u>87,200,895</u>
Total Liabilities	<u>\$ 88,292,770</u>	<u>\$ 89,404,926</u>	<u>\$ 93,186,454</u>
Net Position			
Net investment in capital assets	\$ (18,130,096)	\$ (27,177,795)	\$ (22,222,481)
Restricted for debt service	7,513,275	7,426,839	7,409,503
Unrestricted	<u>24,579,597</u>	<u>27,039,772</u>	<u>19,047,312</u>
Total Net Position	<u>\$ 13,962,776</u>	<u>\$ 7,288,816</u>	<u>\$ 4,234,334</u>

Current liabilities increased by 39.1% in 2018 compared to a decrease by 10.0% in 2017 and an increase by 20.7% in 2016. The 2018 increase is attributable to increases in capital accounts payable.

Revenues - The following schedule presents a summary of revenues for the years ended December 31, 2018, 2017, and 2016:

	<u>2018</u>	<u>2017</u>	<u>2016</u>
Operating Revenues			
Water billings	\$ 29,663,185	\$ 29,736,140	\$ 29,622,297
Interest and penalty charges	541,209	472,340	586,502
Tampered meter and other charges	310,720	449,933	591,344
Tapping and connection fees	50,610	177,175	86,244
Abandonment fees	<u>20,107</u>	<u>60,907</u>	<u>32,001</u>
Total Operating Revenues	<u>\$ 30,585,831</u>	<u>\$ 30,896,495</u>	<u>\$ 30,918,388</u>

The 2018 fiscal year's total operating revenue decreased by 1.0% compared to 2017, and decreased by 0.1% and increased by 11.7% in 2017 and 2016, respectively.

Reading Area Water Authority
A Component Unit of the City of Reading

Management's Discussion and Analysis
December 31, 2018 and 2017

Financial Information (continued)

Expenses - The following schedule presents a summary of expenses for the years ended December 31, 2018, 2017, and 2016:

	<u>2018</u>	<u>2017</u> (As Restated)	<u>2016</u> (As Restated)
Operating Expenses			
Lease payments, City of Reading	\$ 11,640,032	\$ 11,426,339	\$ 11,441,419
Chemical supplies	1,051,101	746,486	1,197,002
Meter reading	-	-	539,483
Salaries, payroll taxes, and employee benefits	6,213,345	5,877,245	5,529,809
Contracted services	967,302	849,520	1,089,676
Other	<u>3,895,738</u>	<u>3,176,042</u>	<u>2,881,120</u>
Total Operating Expenses	<u>\$ 23,767,518</u>	<u>\$ 22,075,632</u>	<u>\$ 22,678,509</u>

The \$1,691,886 increase in expenses is primarily the result of the increase in chemical supplies, salaries, payroll taxes and employee benefits, and bad debt expense.

Changes in Net Position - The following schedule presents a summary of changes in net position for the years ended December 31, 2018, 2017, and 2016:

	<u>2018</u>	<u>2017</u> (As Restated)	<u>2016</u> (As Restated)
Operating revenues	\$ 30,585,831	\$ 30,896,495	\$ 30,918,388
Operating expenses	<u>23,767,518</u>	<u>22,075,632</u>	<u>22,678,509</u>
Operating Income before Depreciation	6,818,313	8,820,863	8,239,879
Depreciation and amortization	<u>3,872,439</u>	<u>3,304,835</u>	<u>2,946,682</u>
Operating Income	2,945,874	5,516,028	5,293,197
Nonoperating revenues (expenses), net	<u>3,728,086</u>	<u>(2,461,546)</u>	<u>(3,468,433)</u>
Increase in Net Position	<u>\$ 6,673,960</u>	<u>\$ 3,054,482</u>	<u>\$ 1,824,764</u>

LANCASTER AREA SEWER AUTHORITY
Management's Discussion and Analysis
March 31, 2017 and 2016

Table 2 below shows a Condensed Statement of Revenue, Expenses, and Changes in Net Position for the years ended March 31, 2017, 2016, and 2015 as restated. The change in net position increased from \$ 3.7 million in fiscal year 2016 to \$ 4.6 million in fiscal year 2017. Operating income increased \$ 1.1 million over last year while non-operating revenue (expense) increased \$ 1.1 million over fiscal year 2016.

	2017	2016	2015
Operating revenue	\$ 20,849,832	\$ 19,713,716	\$ 17,642,797
Operating expenses	<u>15,710,138</u>	<u>14,557,000</u>	<u>12,620,147</u>
Operating income	<u>5,139,694</u>	5,156,716	5,022,650
Non-operating revenue (expenses)	<u>(908,165)</u>	<u>(1,983,244)</u>	<u>(741,293)</u>
Income before capital contribution	4,231,529	3,173,472	4,281,357
Capital contribution	<u>324,142</u>	<u>551,477</u>	<u>638,017</u>
Change in net position	4,555,671	3,724,949	4,919,374
Net position, beginning of year	<u>76,825,172</u>	<u>73,100,223</u>	<u>68,180,849</u>
Net position, end of year	<u>\$ 81,380,843</u>	<u>\$ 76,825,172</u>	<u>\$ 73,100,223</u>

**Table 2 - Condensed Statement of Revenues, Expenses,
and Changes in Net Position**

Table 3 and Table 4 below show a breakdown of fiscal year 2017 Operating Revenue and Operating Expenses, respectively.

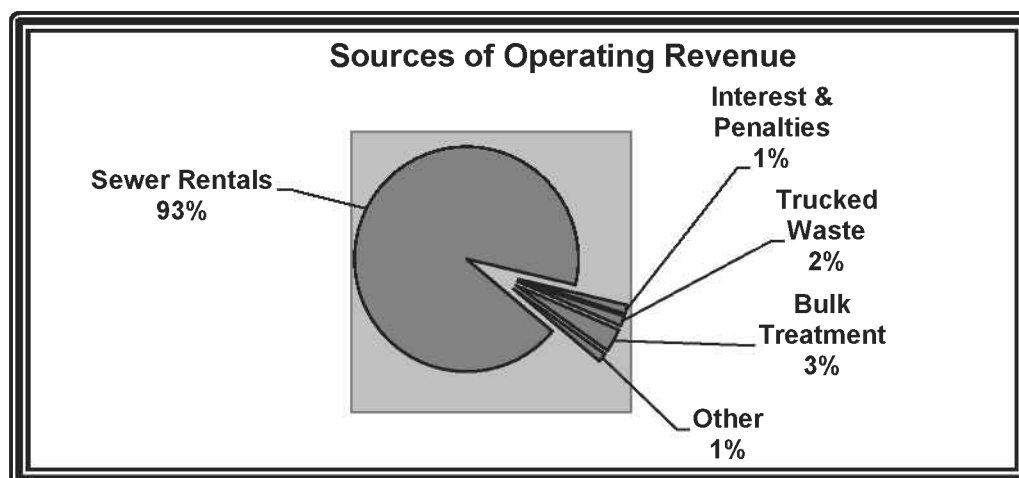


Table 3 - Sources of Operating Revenue - Fiscal Year 2017

LANCASTER AREA SEWER AUTHORITY
Management's Discussion and Analysis
March 31, 2018 and 2017

Table 2 below shows a Condensed Statement of Revenue, Expenses, and Changes in Net Position for the years ended March 31, 2018, 2017, and 2016. The change in net position increased from \$ 4.6 million in fiscal year 2017 to \$ 9.0 million in fiscal year 2018. Operating income increased \$ 381,000 over last year while non-operating revenue (expense) increased \$ 3.2 million over fiscal year 2017.

	2018	2017	2016
Operating revenue	\$ 21,499,186	\$ 20,849,832	\$ 19,713,716
Operating expenses	15,978,558	15,710,138	14,557,000
Operating income	5,520,628	5,139,694	5,156,716
Non-operating revenue (expenses)	2,251,417	(908,165)	(1,983,244)
Income before capital contribution	7,772,045	4,231,529	3,173,472
Capital contribution	1,224,093	324,142	551,477
Change in net position	8,996,138	4,555,671	3,724,949
Net position, beginning of year	81,380,843	76,825,172	73,100,223
Net position, end of year	\$ 90,376,981	\$ 81,380,843	\$ 76,825,172

**Table 2 - Condensed Statement of Revenues, Expenses,
and Changes in Net Position**

Table 3 and Table 4 below show a breakdown of fiscal year 2018 Operating Revenue and Operating Expenses, respectively.

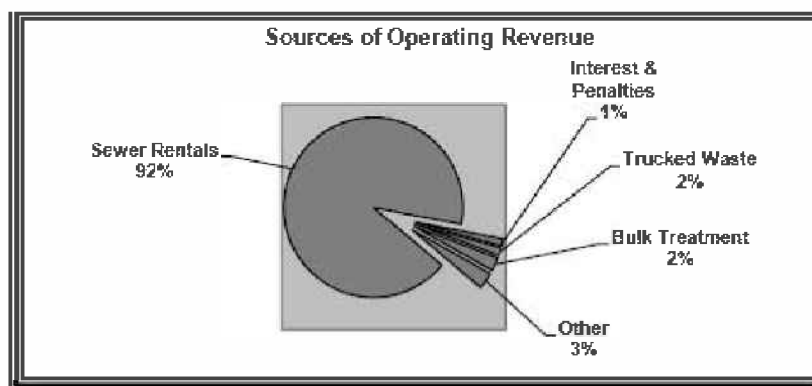


Table 3 - Sources of Operating Revenue - Fiscal Year 2018

LANCASTER AREA SEWER AUTHORITY
Management's Discussion and Analysis

Financial Analysis (Continued)

Table 2 below shows a Condensed Statement of Revenue, Expenses, and Changes in Net Position for the years ended March 31, 2019, 2018, and 2017. The change in net position decreased from \$ 9.0 million in fiscal year 2018 to \$ 6.1 million in fiscal year 2019. Operating income increased \$ 564,000 over last year while non-operating revenue (expense) decreased \$ 3.1 million over fiscal year 2018.

	2019	2018	2017
Operating revenue	\$ 22,974,614	\$ 21,499,186	\$ 20,849,832
Operating expenses	16,889,502	15,978,558	15,710,138
Operating income	6,085,112	5,520,628	5,139,694
Non-operating revenue (expenses)	(825,158)	2,251,417	(908,165)
Income before capital contribution	5,259,954	7,772,045	4,231,529
Capital contribution	840,017	1,224,093	324,142
Change in net position	6,099,971	8,996,138	4,555,671
Net position, beginning of year	90,376,981	81,380,843	76,825,172
Net position, end of year	\$ 96,476,952	\$ 90,376,981	\$ 81,380,843

**Table 2 - Condensed Statement of Revenues, Expenses,
and Changes in Net Position**

Table 3 and Table 4 below show a breakdown of fiscal year 2019 Operating Revenue and Operating Expenses, respectively.

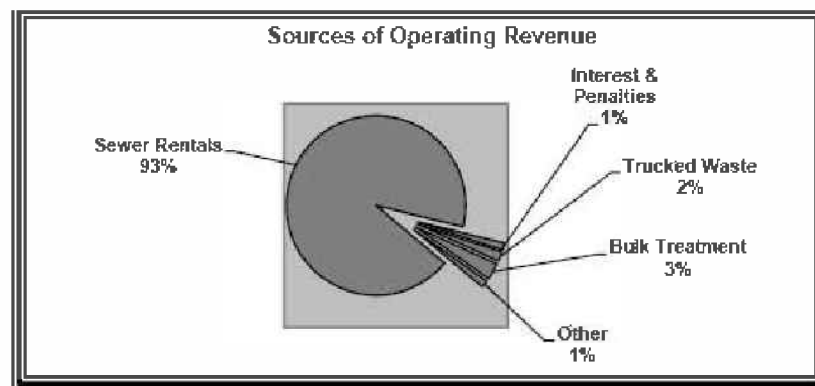


Table 3 - Sources of Operating Revenue - Fiscal Year 2019

LANCASTER AREA SEWER AUTHORITY
Management's Discussion and Analysis
March 31, 2017 and 2016

Revenue

In fiscal year 2017, revenue exceeded budgeted revenue by 1.0% resulting from additional investment income earned from higher than expected rates of return and below projection draws on construction funds.

Expenses

Expenses, excluding depreciation, were 1.3% under budget. Interest expenses were below budget as 24% of paid interest expenses were capitalized as project costs. This was offset by above-budget expenditures in Administrative and Treatment Plant expenses. Higher than budgeted employee health care costs of \$ 113,000 in the self-funded health insurance plan and amortization of pension liability of \$ 52,000 generated above-budget Administrative expenses. Treatment plant expenses for nutrient credit purchases to remain in compliance with the Authority's discharge permit were over-budget by \$ 131,000 and expenses for sludge disposal were over-budget by \$ 63,000 to cover disposal costs during an extended repair of the centrifuge. Above-budget expense for depreciation account for 48.5% of the negative budget variance in operating expenses. Prior period adjustments to correct the posting of capitalized interest increased the asset value of constructed assets leading to above-budget depreciation costs.

CAPITAL ASSETS AND DEBT ADMINISTRATION

Capital Assets

The Authority's capital assets, net of accumulated depreciation, as of March 31, 2017 were \$ 119.7 million. The Authority capitalizes all assets costing more than \$ 20,000 whose expected life exceeds 12 months. A condensed statement of capital assets for fiscal years 2017, 2016, and 2015 is presented in Table 6 below. Additional information on the Authority's capital assets can be found in Note 5 of the financial statements.

	2017	2016	2015
Construction in progress	\$ 24,247,571	\$ 8,328,405	\$ 6,383,634
Land	95,181	95,181	36,257
Sewer System			
Lines	99,909,426	99,088,012	89,292,400
Pump stations	33,042,528	32,887,101	32,787,258
Treatment plant	38,039,056	37,266,392	37,189,692
Buildings and improvements	3,640,150	3,199,420	3,199,420
Technology	1,353,402	1,295,369	1,295,369
Vehicles	1,760,826	1,706,256	1,699,097
Equipment	830,745	830,745	830,745
	<u>202,918,885</u>	<u>184,696,881</u>	<u>172,713,872</u>
Total accumulated depreciation	<u>(83,211,180)</u>	<u>(78,843,305)</u>	<u>(74,748,106)</u>
Total Capital Assets	<u>\$ 119,707,705</u>	<u>\$ 105,853,576</u>	<u>\$ 97,965,766</u>

**Table 6 - Condensed Statement of Capital Assets -
Fiscal Years 2017, 2016, and 2015**

LANCASTER AREA SEWER AUTHORITY
Management's Discussion and Analysis
March 31, 2018 and 2017

Revenue

In fiscal year 2018, revenue exceeded budgeted revenue by 7.2% resulting from capacity reservation and tapping fee income exceeding budget, which offset below-budget investment and other income.

Expenses

Expenses, excluding depreciation, were 5.3% over budget. Interest expense was below budget as 52% of paid interest expense was capitalized as project costs. This was offset by above-budget expenditures in Administrative and Treatment Plant expenses. Higher than budgeted legal expenses of \$ 31,000 and amortization of pension liability of \$ 58,000 generated above-budget Administrative expenses. Treatment plant expenses for nutrient credit purchases to remain in compliance with the Authority's discharge permit were over-budget by \$ 62,000 and expenses for sludge disposal were over-budget by \$ 91,000. Above-budget expense for depreciation of \$ 573,000 accounts for 71.2% of the negative budget variance in operating expenses.

CAPITAL ASSETS AND DEBT ADMINISTRATION

Capital Assets

The Authority's capital assets, net of accumulated depreciation, as of March 31, 2018 were \$ 141.2 million. The Authority capitalizes all assets costing more than \$ 20,000 whose expected life exceeds 12 months. A condensed statement of capital assets for fiscal years 2018, 2017, and 2016 is presented in Table 6 below. Additional information on the Authority's capital assets can be found in Note 5 of the financial statements.

	2018	2017	2016
Construction in progress	\$ 41,124,606	\$ 24,247,571	\$ 8,328,405
Land	95,181	95,181	95,181
Sewer System			
Lines	102,594,800	99,909,426	99,088,012
Pump stations	38,845,592	33,042,528	32,887,101
Treatment plant	38,193,779	38,039,056	37,266,392
Buildings and improvements	3,640,150	3,640,150	3,199,420
Technology	1,424,091	1,353,402	1,295,369
Vehicles	2,291,170	1,760,826	1,706,256
Equipment	830,745	830,745	830,745
	<u>229,040,114</u>	<u>202,918,885</u>	<u>184,696,881</u>
Total accumulated depreciation	<u>(87,820,739)</u>	<u>(83,211,180)</u>	<u>(78,843,305)</u>
Total Capital Assets	<u>\$ 141,219,375</u>	<u>\$ 119,707,705</u>	<u>\$ 105,853,576</u>

**Table 6 - Condensed Statement of Capital Assets -
Fiscal Years 2018, 2017, and 2016**

LANCASTER AREA SEWER AUTHORITY
Management's Discussion and Analysis

Budgetary Highlights (Continued)

Revenue

In fiscal year 2019, actual revenue exceeded budgeted revenue by \$ 820,000 resulting from sewer rental, investment, and other income exceeding budget. These were partially offset by below-budget revenue in capacity reservation and tapping fee income.

Expenses

Expenses, excluding depreciation, were \$ 1.5 million over budget. Above average rainfall generated a 40% increase in flow through the collection system and treatment plant for the year. Consequently, electricity and chemical costs, sewer treatment costs from the City of Lancaster and the Borough of Columbia, and nutrient credit purchase costs were \$ 1.4 million over budget. When combined with extensive rehabilitation of the centrifuge at the treatment plant, the operating expenses, excluding depreciation, exceeded budget by \$ 1.5 million. Above budget expense for depreciation of \$ 308,000 accounts for the balance of the negative budget variance in operating expenses.

CAPITAL ASSETS AND DEBT ADMINISTRATION

Capital Assets

The Authority's capital assets, net of accumulated depreciation, as of March 31, 2019 were \$ 142.3 million. The Authority capitalizes all assets costing more than \$ 20,000 whose expected life exceeds 12 months. A condensed statement of capital assets for fiscal years 2019, 2018, and 2017 is presented in Table 6 below. Additional information on the Authority's capital assets can be found in Note 5 of the financial statements.

	2019	2018	2017
Construction in progress	\$ 37,011,554	\$ 41,124,606	\$ 24,247,571
Land	95,181	95,181	95,181
Sewer System			
Lines	110,392,727	102,594,800	99,909,426
Pump stations	40,897,235	38,845,592	33,042,528
Treatment plant	38,262,279	38,193,779	38,039,056
Buildings and improvements	3,640,150	3,640,150	3,640,150
Technology	1,424,091	1,424,091	1,353,402
Vehicles	2,295,745	2,291,170	1,760,826
Equipment	977,181	830,745	830,745
	<u>234,996,143</u>	<u>229,040,114</u>	<u>202,918,885</u>
Total accumulated depreciation	<u>(92,678,068)</u>	<u>(87,820,739)</u>	<u>(83,211,180)</u>
Total Capital Assets	<u>\$ 142,318,075</u>	<u>\$ 141,219,375</u>	<u>\$ 119,707,705</u>

**Table 6 - Condensed Statement of Capital Assets -
Fiscal Years 2019, 2018, and 2017**

MUNICIPAL AUTHORITY OF WESTMORELAND COUNTY
Statements of Net Position
March 31, 2019 and 2018

	2019	Restated 2018
Current Assets		
Cash and cash equivalents, unrestricted (Note 3)	\$ 27,812,712	\$ 19,209,356
Accounts receivable, customers (net of allowance for doubtful accounts of \$473,827 in 2019 and \$470,533 in 2018)	6,547,940	6,298,373
Unbilled water and sewer service	9,852,958	9,851,714
Surcharges receivable, current portion	350,000	350,000
Other receivables	498,933	1,070,190
Inventory - material and supplies	2,868,304	2,515,551
Prepaid expenses	352,547	200,121
Total Current Assets	48,283,394	39,495,305
Property, Plant and Equipment		
Property, plant and equipment (Note 2)	767,648,700	711,563,565
Less: accumulated depreciation	(213,403,548)	(201,495,896)
Property, Plant and Equipment, Net	554,245,152	510,067,669
Non-Current Assets		
Surcharges receivable, net of current portion and allowance for doubtful accounts of \$200,000 in 2019 and 2018	1,509,942	1,653,673
Prepaid bond insurance	913,328	958,845
Restricted assets:		
Special funds held by trustee (Note 4 & 5)	207,837,151	234,717,525
Restricted cash held by the Authority (Note 6)	16,415,126	19,597,310
Total Non-Current Assets	226,675,547	256,927,353
Total Assets	829,204,093	806,490,327
Deferred Outflows of Resources		
Net difference between projected and actual earnings on pension plan investments	30,552	-
Changes in assumptions related to pensions	57,541	77,283
Difference between expected and actual experience related to pensions	602,541	825,024
Contribution to pension plan subsequent to measurement date	150,548	56,041
Difference between expected and actual experience related to OPEB	24,517	-
Changes in assumptions related to OPEB	1,501,026	-
Deferred losses on bond refundings, net of amortization (Note 8)	4,283,283	4,612,214
Total Deferred Outflows of Resources	6,650,008	5,570,562

(continued)

See accompanying notes to the financial statements.

MUNICIPAL AUTHORITY OF WESTMORELAND COUNTY
Statements of Net Position
March 31, 2018 and 2017

	<u>2018</u>	<u>2017</u>
Current Assets		
Cash and cash equivalents, unrestricted (Note 3)	\$ 19,209,356	\$ 15,067,865
Accounts receivable, customers (net of allowance for doubtful accounts of \$470,533 in 2018 and \$458,506 in 2017)	6,298,373	5,597,012
Unbilled water and sewer service	9,851,714	9,777,602
Surcharges receivable, current portion	350,000	350,000
Other receivables	1,070,190	5,178,590
Inventory - material and supplies	2,515,551	2,289,998
Prepaid expenses	200,121	129,312
Total Current Assets	39,495,305	38,390,379
Property, Plant and Equipment		
Property, plant and equipment (Note 2)	711,563,565	662,320,792
Less: accumulated depreciation	(201,495,896)	(189,824,163)
Property, Plant and Equipment, net	510,067,669	472,496,629
Non-Current Assets		
Surcharges receivable, net of current portion and allowance for doubtful accounts of \$200,000 in 2018 and 2017	1,653,673	1,959,138
Prepaid bond insurance	958,845	596,655
Restricted assets:		
Special funds held by trustee (Note 4 & 5)	234,717,525	254,963,842
Restricted cash held by authority (Note 6)	19,597,310	19,003,328
Total Non-Current Assets	256,927,353	276,522,963
Total Assets	806,490,327	787,409,971
Deferred Outflows of Resources		
Net difference between projected and actual earnings on pension plan investments	-	170,728
Changes in assumptions related to pensions	77,283	-
Difference between expected and actual experience related to pensions	825,024	104,074
Contribution to pension plan subsequent to measurement date	56,041	-
Deferred losses on bond refundings, net of amortization (Note 8)	4,612,214	1,205,212
Total Deferred Outflows of Resources	5,570,562	1,480,014

(continued)

See accompanying notes to the financial statements.

MUNICIPAL AUTHORITY OF WESTMORELAND COUNTY
Statements of Revenues, Expenses and Changes in Net Position
Fiscal Years Ended March 31, 2018 and 2017

	2018	2017
Operating Revenues		
Water	\$ 81,638,410	\$ 77,440,502
Wastewater	14,901,786	14,121,562
Other operating revenues	3,527,303	2,858,021
Total Operating Revenues	100,067,499	94,420,085
Operating Expenses		
Source of supply	865,364	861,886
Treatment system	8,002,831	8,006,826
Distribution	17,775,014	17,459,687
Engineering	1,307,465	1,271,392
Wastewater system	8,509,813	7,632,386
Landfill	43,367	12,005
Depreciation and amortization	12,577,264	11,562,121
Commercial and general	28,228,521	25,817,145
Management fee	1,225,000	1,200,000
Total Operating Expenses	78,534,639	73,823,448
Operating Income Before Non-Operating Revenues	21,532,860	20,596,637
Non-Operating Revenues (Expenses)		
Investment income	3,535,070	3,225,914
Net increase (decrease) in the fair value of investments	(407,750)	431,964
Interest expense	(15,262,836)	(15,032,096)
Loss on disposals of property	(336,175)	(1,732,987)
Total Non-Operating Expenses	(12,471,691)	(13,107,205)
Income Before Capital Contributions	9,061,169	7,489,432
Capital Contributions	13,400,327	13,432,729
Increase in Net Position	22,461,496	20,922,161
Total Net Position, Beginning of Year	135,957,658	115,035,497
Total Net Position, End of Year	\$ 158,419,154	\$ 135,957,658

See accompanying notes to the financial statements.

MUNICIPAL AUTHORITY OF WESTMORELAND COUNTY
Statements of Revenues, Expenses and Changes in Net Position
Fiscal Years Ended March 31, 2019 and 2018

	2019	Restated 2018
Operating Revenues		
Water	\$ 86,597,707	\$ 81,638,410
Wastewater	15,286,438	14,901,786
Other operating revenues	<u>5,450,849</u>	<u>3,527,303</u>
Total Operating Revenues	107,334,994	100,067,499
Operating Expenses		
Source of supply	935,776	865,364
Treatment system	8,810,618	8,002,831
Distribution	18,735,370	17,775,014
Engineering	1,530,906	1,307,465
Wastewater system	8,444,588	8,509,813
Landfill	4,765	43,367
Depreciation and amortization	13,433,385	12,577,264
Commercial and general	27,059,890	28,228,521
Management fee	<u>1,300,000</u>	<u>1,225,000</u>
Total Operating Expenses	<u>80,255,298</u>	<u>78,534,639</u>
Operating Income Before Non-Operating Revenues	27,079,696	21,532,860
Non-Operating Revenues (Expenses)		
Investment income	4,943,913	3,535,070
Net increase (decrease) in the fair value of investments	20,450	(407,750)
Interest expense	(20,975,541)	(15,262,836)
Loss on disposals of property	<u>(403,367)</u>	<u>(336,175)</u>
Total Non-Operating Expenses	(16,414,545)	(12,471,691)
Income Before Capital Contributions	10,665,151	9,061,169
Capital Contributions	<u>6,523,749</u>	<u>13,400,327</u>
Increase in Net Position	17,188,900	22,461,496
Total Net Position, Beginning of Fiscal Year	127,988,860	135,957,658
Prior Period Adjustment, see Note 19	<u>-</u>	<u>(30,430,294)</u>
Total Net Position, End of Fiscal Year	<u><u>\$ 145,177,760</u></u>	<u><u>\$ 127,988,860</u></u>

See accompanying notes to the financial statements.

Erie City Water Authority

(aka Erie Water Works)

MANAGEMENT DISCUSSION AND ANALYSIS (Unaudited)**December 31, 2018 and 2017**

to \$285.50 million. Total liabilities and inflows increased \$36.14 million [11.88%] to \$340.36 million. The primary reasons for the increase are discussed in the following *Changes in Net Position* section.

Restricted investments of \$32.39 million increased \$21.03 million [285.19%], primarily from \$27 million of new capital project funds from the 2018 bond issue.

Capital assets (net of depreciation) increased \$3.09 million. Gross capital assets (before depreciation) increased \$11.47 million representing capital additions in accordance with the Authority's adopted capital project program.

**ERIE CITY WATER AUTHORITY
STATEMENTS OF FINANCIAL POSITION**

	As of December 31,			
	2018	2017	\$ Change	% Change
ASSETS				
Current assets	\$ 17,026,267	\$ 13,116,705	\$ 3,909,562	29.8%
Restricted investments	32,386,195	11,356,255	21,029,940	185.2%
Capital assets, net of accumulated depreciation	191,070,499	187,981,855	3,088,644	1.6%
Other non-current assets	10,481,961	10,665,706	(183,745)	(1.7%)
Deferred outflows of resources	34,530,203	30,999,314	3,530,889	11.4%
Total Assets and Deferred Outflows	\$ 285,495,125	\$ 254,119,835	\$ 31,375,290	12.3%
LIABILITIES AND NET ASSETS				
Current liabilities	\$ 8,766,073	\$ 7,893,978	\$ 872,095	29.8%
Long-term debt, net of unaccreted discounts	310,547,787	284,395,079	26,152,708	9.2%
Other non-current liabilities	21,044,412	11,930,218	(9,114,194)	(76.4%)
Deferred inflow of resources	-	1,113,991	(1,113,991)	-
Total liabilities and deferred outflow of resources	340,358,272	305,333,266	35,025,006	11.5%
Net position –				
Invested in capital assets, net of related debt	11,468,894	7,320,870	4,148,024	56.7%
Restricted for capital projects, debt service	9,849,537	7,691,083	2,158,454	28.1%
Unrestricted	(76,181,578)	(66,225,384)	(9,956,194)	(15.0%)
Total net position	(54,863,147)	(51,213,431)	(3,649,716)	(7.1%)
Total liabilities and net position	\$ 285,495,125	\$ 254,119,835	(\$ 31,375,290)	(12.3%)

Changes in Net Position –

The Authority's net position decreased by <\$3.65> million in 2018, compared to a <\$.84> million decrease in 2017. The 2018 decrease in the net position resulted from several factors – \$1.84 million increase in pension costs, \$1.1 million increase in interest expense and \$1.03 million of bond issue costs.

Total operating revenues for the year ended December 31, 2018 of \$39.8 million increased \$1.3 million [3.3%] compared to December 31, 2017.

Total operating expenses of \$21.4 million increased \$2.48 million [13.1%]. The majority of the

Erie City Water Authority

(aka Erie Water Works)

MANAGEMENT DISCUSSION AND ANALYSIS (Unaudited)**December 31, 2017 and 2016****ERIE CITY WATER AUTHORITY
STATEMENTS OF FINANCIAL POSITION**

	As of December 31,			
	2017	2016	\$ Change	% Change
ASSETS				
Current assets	\$ 13,116,705	\$ 13,797,317	(\$ 680,612)	(4.9%)
Restricted investments	11,356,255	20,831,757	(9,475,502)	(45.5%)
Capital assets, net of accumulated depreciation	187,981,855	182,608,316	5,373,539	2.9%
Other non-current assets	10,665,706	11,274,848	(609,142)	(5.4%)
Deferred outflows of resources	30,999,314	34,010,414	(3,011,100)	(8.9%)
Total Assets and Deferred Outflows	\$ 254,119,835	\$ 262,522,652	(\$ 8,402,817)	(3.2%)
LIABILITIES AND NET ASSETS				
Current liabilities	\$ 7,893,978	\$ 7,918,630	(\$ 24,652)	(4.9%)
Long-term debt, net of unaccreted discounts	284,395,079	289,960,220	(5,565,141)	(1.9%)
Other non-current liabilities	11,930,218	15,019,944	(3,089,726)	(20.6%)
Deferred inflow of resources	1,113,991	-	1,113,991	-
Total liabilities and deferred outflow of resources	305,333,266	312,898,794	(7,565,528)	(2.4%)
Net position –				
Invested in capital assets, net of related debt	7,320,870	7,270,325	50,545	0.7%
Restricted for capital projects, debt service	7,691,083	13,216,103	5,525,020	41.8%
Unrestricted	(66,225,384)	(70,862,570)	(4,637,186)	(6.5%)
Total net position	(51,213,431)	(50,376,142)	(837,289)	(1.7%)
Total liabilities and net position	\$ 254,119,835	\$ 262,522,652	(\$ 8,402,817)	(3.2%)

Changes in Net Position –

The Authority's net position decreased by \$.84 million in 2017, compared to a \$1.92 million in 2016. The 2017 increase in the net position deficit of \$.85 million resulted from several factors – \$2.6 million increase in net operating revenue - \$19.6 million in 2017 versus \$17.0 million in 2016 and a \$.4 million increase in interest expense - \$13.2 million in 2017 versus \$12.7 million in 2016.

Total operating revenues for the year ended December 31, 2017 of \$38.5 million increased \$1.8 million (4.9%) compared to December 31, 2016.

Total operating expenses of \$18.9 million decreased \$.77 million (3.9%). The majority of the 2017 decrease in operating expenses was attributable to lower repair costs on water mains.

Total 2017 expenses of \$40.3 million increased \$.15 million (.04%) compared to 2016.

Erie City Water Authority

(aka Erie Water Works)

MANAGEMENT DISCUSSION AND ANALYSIS (Unaudited)

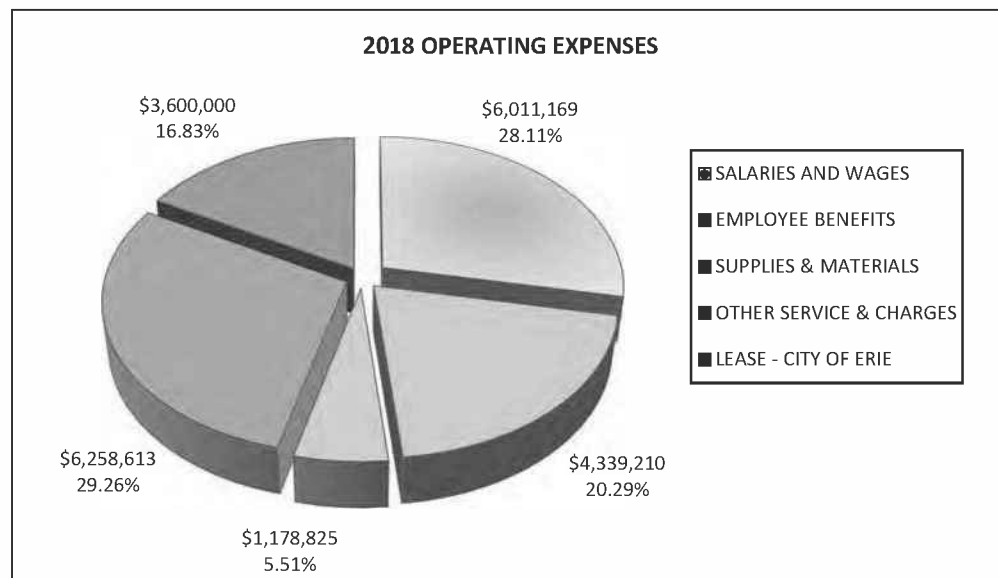
December 31, 2018 and 2017

2018 decrease in operating expenses was attributable to higher pension costs and contracted services.

Total 2018 expenses of \$44.0 million \$40.3 million increased \$3.7 million [9.18%] compared to 2017.

**ERIE CITY WATER AUTHORITY
STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION**

	For the year ended December 31,			
	2018	2017	\$ Change	% Change
Operations -				
Operating revenues	\$ 39,770,149	\$ 38,483,311	\$ 1,286,838	3.3%
Operating expenses	(21,387,817)	(18,912,253)	2,475,564	13.1%
Depreciation	(8,377,223)	(8,214,879)	162,344	(2.0%)
Operating income	10,005,109	11,356,179	1,351,070	(11.9%)
Non-operating revenue (expense)				
Interest expense	(14,236,358)	(13,165,069)	1,071,289	8.1%
Other revenues	1,948,092	1,326,328	621,764	46.9%
Other expenses	(1,446,534)	(354,727)	1,091,807	307.8%
	(13,734,800)	(12,193,468)	1,541,332	12.6%
Net loss before capital contributions	(3,729,691)	(837,289)	(2,892,402)	(345.4%)
Capital asset contributions	79,975		79,975	-
Change in net position	(\$ 3,649,716)	(\$ 837,289)	(\$ 2,812,427)	(335.9%)



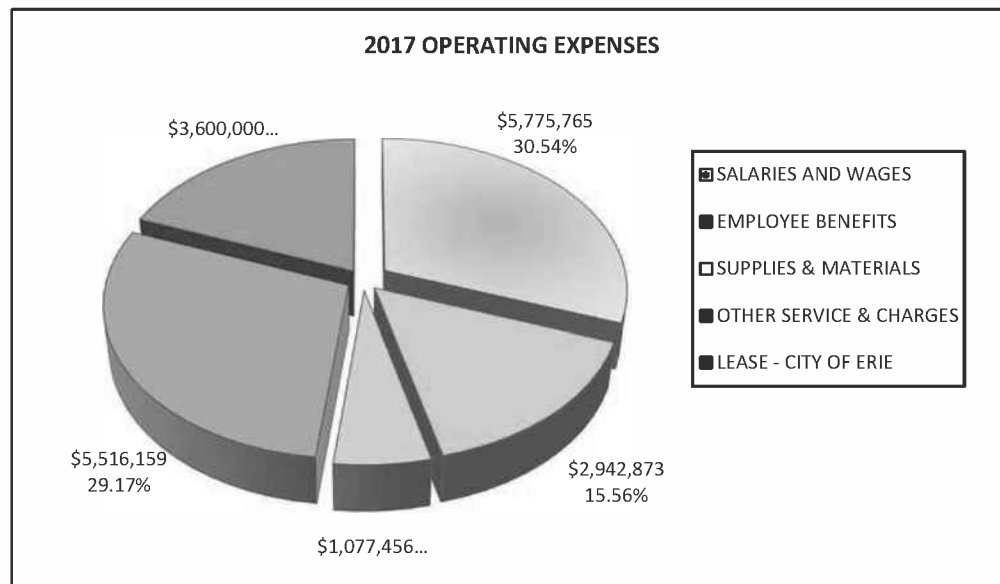
Erie City Water Authority
(aka Erie Water Works)

MANAGEMENT DISCUSSION AND ANALYSIS (Unaudited)

December 31, 2017 and 2016

ERIE CITY WATER AUTHORITY
STATEMENTS OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

	For the year ended December 31,			
	2017	2016	\$ Change	% Change
Operations -				
Operating revenues	\$ 38,483,311	\$ 36,687,234	\$ 1,796,077	4.9%
Operating expenses	(18,912,253)	(19,686,218)	773,965	3.9%
Depreciation	(8,214,879)	(8,033,694)	181,185	2.3%
Operating income	11,356,179	8,967,322	2,388,857	26.6%
Non-operating revenue (expense)				
Interest expense	(13,165,069)	(12,733,444)	431,625	3.4%
Other revenues	1,326,328	1,292,480	33,848	2.6%
Other expenses	(354,727)	(924,621)	569,894	61.6%
	(12,193,468)	(12,365,585)	172,117	1.4%
Net loss before capital contributions	(837,289)	(3,398,263)	2,560,974	75.4%
Capital asset contributions		211,506	211,506	100.0%
Change in net position	(\$ 837,289)	(\$ 3,186,757)	(\$ 2,349,468)	73.7%



CAPITAL ASSETS AND DEBT ADMINISTRATION

Capital Assets

As of December 31, 2017, the Authority had \$307.0 million of gross investment in capital assets, with \$119.0 million in accumulated depreciation, for a net book value of \$188.0 million. This amount represents a 3.0% increase over the prior year. Net capital assets make up 82.6% of the Authority's total

Chester Water Authority
Statements of Net Position
December 31, 2017 and 2016

Assets and Deferred Outflows of Resources

	<u>December 31,</u>	
	<u>2017</u>	<u>2016</u>
<u>Current Assets</u>		
Cash and cash equivalents	\$ 12,277,333	\$ 15,403,124
Investments	1,185,056	2,006,735
Accounts receivable, net of allowance for doubtful accounts of \$300,000 in both 2017 and 2016	4,018,123	4,041,759
Unbilled revenue	4,100,936	4,657,916
Materials and supplies	2,438,785	1,992,837
Other current assets	72,551	87,336
Total Current Assets	<u>24,092,784</u>	<u>28,189,707</u>
<u>Non-Current Assets</u>		
Property, plant, and equipment—net of accumulated depreciation	271,133,389	264,773,275
Net pension asset	1,501,182	-
Total Non-Current Assets	<u>272,634,571</u>	<u>264,773,275</u>
<u>Restricted Assets</u>		
Cash and cash equivalents	7,549,260	11,607,560
Total Restricted Assets	<u>7,549,260</u>	<u>11,607,560</u>
Total Assets	<u>304,276,615</u>	<u>304,570,542</u>
<u>Deferred Outflows of Resources</u>		
Changes in pension investment returns and actuarial assumptions	1,479,458	1,387,427
Deferred debt issuance costs	-	58,717
Total Deferred Outflows of Resources	<u>1,479,458</u>	<u>1,446,144</u>
<u>Total Assets and Deferred Outflows of Resources</u>	<u>\$ 305,756,073</u>	<u>\$ 306,016,686</u>

See accompanying notes to financial statements.

Chester Water Authority
Statements of Net Position
December 31, 2018 and 2017

Assets and Deferred Outflows of Resources

	December 31,	
	<u>2018</u>	<u>2017</u>
<u>Current Assets</u>		
Cash and cash equivalents	\$ 9,680,971	\$ 12,277,333
Investments	1,207,385	1,185,056
Accounts receivable, net of allowance for doubtful accounts of \$300,000 in both 2018 and 2017	4,215,519	4,018,123
Unbilled revenue	4,143,347	4,100,936
Materials and supplies	2,894,794	2,438,785
Other current assets	44,734	72,551
Total Current Assets	<u>22,186,750</u>	<u>24,092,784</u>
<u>Non-Current Assets</u>		
Property, plant, and equipment—net of accumulated depreciation	277,881,505	271,133,389
Net pension asset	-	1,501,182
Total Non-Current Assets	<u>277,881,505</u>	<u>272,634,571</u>
<u>Restricted Assets</u>		
Cash and cash equivalents	7,629,992	7,549,260
Total Restricted Assets	<u>7,629,992</u>	<u>7,549,260</u>
Total Assets	<u>307,698,247</u>	<u>304,276,615</u>
<u>Deferred Outflows of Resources</u>		
Changes in pension investment returns and actuarial assumptions	4,646,383	1,479,458
Changes in OPEB investment returns and actuarial assumptions	420,158	-
Total Deferred Outflows of Resources	<u>5,066,541</u>	<u>1,479,458</u>
<u>Total Assets and Deferred Outflows of Resources</u>	<u>\$ 312,764,788</u>	<u>\$ 305,756,073</u>

See accompanying notes to financial statements.

Chester Water Authority
Statements of Revenues, Expenses, and Changes In Net Position
For The Years Ended December 31, 2017 and 2016

	December 31,	
	<u>2017</u>	<u>2016</u>
<u>Operating Revenues</u>		
Residential	\$ 16,471,074	\$ 15,921,450
Commercial	5,885,341	7,832,237
Industrial	7,414,215	7,555,707
Fire protection	4,001,045	3,741,370
Capacity charges, flat and late fee revenues	1,360,899	933,218
Sales to other water utilities	7,158,892	6,674,498
Total Operating Revenues	<u>42,291,466</u>	<u>42,658,480</u>
<u>Operating Expenses</u>		
Purification and Pumping	7,326,031	7,857,889
Distribution	7,159,659	6,740,726
Administrative	11,664,820	11,925,625
Finance/customer service, billing and collections	3,824,583	3,721,092
Depreciation	9,521,150	8,644,302
Total Operating Expenses	<u>39,496,243</u>	<u>38,889,634</u>
<u>Operating Income</u>	<u>2,795,223</u>	<u>3,768,846</u>
<u>Non-Operating Revenues (Expenses)</u>		
Net investment income	146,144	113,603
Interest expense	(2,681,713)	(2,384,151)
Other nonoperating revenues/expenses	982,798	294,218
Amortization of bond discounts and debt issue costs	250,136	20,360
Loss on disposal of property and equipment	(481,900)	(12,038)
Total Non-Operating Revenues/(Expenses)	<u>(1,784,535)</u>	<u>(1,968,008)</u>
<u>Income Before Contributions</u>	<u>1,010,688</u>	<u>1,800,838</u>
<u>Capital Contributions</u>	<u>2,699,498</u>	<u>1,623,074</u>
<u>Change In Net Position</u>	<u>3,710,186</u>	<u>3,423,912</u>
<u>Net Position—Beginning of year</u>	<u>229,828,321</u>	<u>226,404,409</u>
<u>Net Position—End of year</u>	<u>\$ 233,538,507</u>	<u>\$ 229,828,321</u>

See accompanying notes to financial statements.

Chester Water Authority
Statements of Revenues, Expenses, and Changes In Net Position
For The Years Ended December 31, 2018 and 2017

	December 31,	
	2018	2017
<u>Operating Revenues</u>		
Residential	\$ 16,270,379	\$ 16,471,074
Commercial	7,006,726	5,885,341
Industrial	8,262,780	7,414,215
Fire protection	3,902,103	4,001,045
Capacity charges, flat and late fee revenues	1,134,612	1,360,899
Sales to other water utilities	6,749,553	7,158,892
Total Operating Revenues	<u>43,326,153</u>	<u>42,291,466</u>
<u>Operating Expenses</u>		
Purification and Pumping	7,479,180	7,326,031
Distribution	7,989,652	7,159,659
Administrative	12,605,483	11,664,820
Finance/customer service, billing and collections	4,189,300	3,824,583
Depreciation	9,575,108	9,521,150
Total Operating Expenses	<u>41,838,723</u>	<u>39,496,243</u>
<u>Operating Income</u>	<u>1,487,430</u>	<u>2,795,223</u>
<u>Non-Operating Revenues (Expenses)</u>		
Net investment income	131,632	146,144
Interest expense	(2,776,729)	(2,681,713)
Other nonoperating revenues	514,231	982,798
Amortization of bond discounts and debt issuance costs	401,140	250,136
Gain (loss) on disposal of property and equipment	17,882	(481,900)
Total Non-Operating Revenues/(Expenses)	<u>(1,711,844)</u>	<u>(1,784,535)</u>
<u>(Loss) Income Before Contributions</u>	<u>(224,414)</u>	<u>1,010,688</u>
<u>Capital Contributions</u>	<u>5,652,845</u>	<u>2,699,498</u>
<u>Change In Net Position</u>	<u>5,428,431</u>	<u>3,710,186</u>
<u>Net Position—Beginning of year, as previously reported</u>	<u>233,538,507</u>	<u>229,828,321</u>
<u>Cumulative effect of prior period adjustment for adoption of GASB 75 - Net OPEB Liability</u>	<u>(4,932,637)</u>	<u>-</u>
<u>Net Position - Beginning of year, restated</u>	<u>228,605,870</u>	<u>229,828,321</u>
<u>Net Position—End of year</u>	<u>\$ 234,034,301</u>	<u>\$ 233,538,507</u>

See accompanying notes to financial statements.

PITTSBURGH WATER AND SEWER AUTHORITY

STATEMENTS OF NET POSITION

(Dollars expressed in thousands)

DECEMBER 31, 2017 AND 2016

	2017	2016
Assets		
Current assets:		
Cash and cash equivalents	\$ 11,076	\$ 21,620
Accounts receivable, net:		
Water:		
Billed	9,335	6,388
Unbilled	6,760	5,886
Total water	16,095	12,274
Wastewater treatment:		
Billed	9,975	10,844
Unbilled	3,746	3,719
Total wastewater treatment	13,721	14,563
Other receivables	1,074	797
Total accounts receivable, net	30,890	27,634
Prepaid expenses	674	65
Inventory	3,777	2,218
Total current assets	46,417	51,537
Noncurrent assets:		
Restricted assets:		
Cash and cash equivalents	18,264	11,900
Investments	11,684	14,437
Total restricted assets	29,948	26,337
Capital assets, not being depreciated	100,240	88,861
Capital assets, net of accumulated depreciation	589,567	587,937
Total noncurrent assets	719,755	703,135
Total Assets	766,172	754,672
Deferred Outflows of Resources		
Deferred charge on refunding	110,326	25,008
Accumulated decrease in fair value of hedging derivatives	3,279	70,897
Total Deferred Outflows of Resources	113,605	95,905

(Continued)

The notes to financial statements are an integral part of this statement.

PITTSBURGH WATER AND SEWER AUTHORITY

STATEMENTS OF NET POSITION

(Dollars expressed in thousands)

DECEMBER 31, 2018 AND 2017

	2018	2017
Assets		
Current assets:		
Cash and cash equivalents	\$ 46,920	\$ 11,076
Accounts receivable, net:		
Water:		
Billed	8,537	9,335
Unbilled	8,583	6,760
Total water	17,120	16,095
Wastewater treatment:		
Billed	7,014	9,975
Unbilled	3,719	3,746
Total wastewater treatment	10,733	13,721
Other receivables	1,510	1,074
Total accounts receivable, net	29,363	30,890
Prepaid expenses	520	674
Inventory	1,984	3,777
Total current assets	78,787	46,417
Noncurrent assets:		
Restricted assets:		
Cash and cash equivalents	13,970	18,264
Investments	9,356	11,684
Total restricted assets	23,326	29,948
Hedging derivative - interest rate swap	4,750	-
Capital assets, not being depreciated	139,303	100,240
Capital assets, net of accumulated depreciation	618,177	589,567
Total noncurrent assets	785,556	719,755
Total Assets	864,343	766,172
Deferred Outflows of Resources		
Deferred charge on refunding	102,534	110,326
Accumulated decrease in fair value of hedging derivatives	757	3,279
Total Deferred Outflows of Resources	103,291	113,605

(Continued)

The notes to financial statements are an integral part of this statement.

PITTSBURGH WATER AND SEWER AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

(Dollars expressed in thousands)

YEARS ENDED DECEMBER 31, 2017 AND 2016

	2017	2016
Operating Revenues:		
Residential, commercial, and industrial water sales	\$ 128,488	\$ 113,818
Wastewater treatment	68,935	62,125
Other	5,573	4,784
Total operating revenues	202,996	180,727
Operating Expenses:		
Direct operating expenses	71,156	60,687
Wastewater treatment	75,107	62,125
Cooperation agreement operating expenses:		
Indirect cost allocation - sewer conveyance	2,250	2,846
Indirect cost allocation - water	3,113	4,304
Expense of water provided by other entities:		
Subsidy of customers located in the City	5,594	1,974
Depreciation	16,172	16,657
Total operating expenses	173,392	148,593
Operating Income	29,604	32,134
Non-operating Revenues (Expenses):		
Donated property	1,595	981
Interest revenue	460	383
Investment income (loss) - change in fair value of swap	835	1,690
Interest and amortization	(34,913)	(36,966)
Bond issuance costs	(3,894)	-
Total non-operating revenues (expenses)	(35,917)	(33,912)
Net Income (Loss)	(6,313)	(1,778)
Net Position:		
Beginning of year	(37,523)	(35,745)
End of year	\$ (43,836)	\$ (37,523)

The notes to financial statements are an integral part of this statement.

PITTSBURGH WATER AND SEWER AUTHORITY

STATEMENTS OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

(Dollars expressed in thousands)

YEARS ENDED DECEMBER 31, 2018 AND 2017

	2018	2017
Operating Revenues:		
Residential, commercial, and industrial water sales	\$ 159,506	\$ 128,488
Wastewater treatment	67,261	68,935
Other	4,967	5,573
Total operating revenues	231,734	202,996
Operating Expenses:		
Direct operating expenses	72,633	71,156
Wastewater treatment	71,822	75,107
Reimbursement for City of Pittsburgh services	4,911	5,363
Expense of water provided by other entities:		
Subsidy of customers located in the City	3,814	5,594
Depreciation	16,894	16,172
Total operating expenses	170,074	173,392
Operating Income	61,660	29,604
Non-operating Revenues (Expenses):		
Donated property	13,649	1,595
Interest revenue	469	460
Investment income (loss) - change in fair value of swap	2,542	835
Interest and amortization	(34,365)	(34,913)
Bond issuance costs	-	(3,894)
Total non-operating revenues (expenses)	(17,705)	(35,917)
Special Item:		
Private lead line replacement	(4,478)	-
Net Income (Loss)	39,477	(6,313)
Net Position:		
Beginning of year	(43,836)	(37,523)
End of year	\$ (4,359)	\$ (43,836)

The notes to financial statements are an integral part of this statement.

Series Id: PCU334118334118

Series Title: PPI industry data for Computer terminal and other computer peripheral equipment mfg, not seasonally adjusted

Industry: Computer terminal and other computer peripheral equipment mfg

Product: Computer terminal and other computer peripheral equipment mfg

Base Date: 199312

Download:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1993												100
1994	98.5	98	99	97.6	97.5	97.7	97.4	97.5	97.3	97.2	97.5	97.7
1995	97.1	96.2	95.8	96.1	95.8	96	95.6	95.2	95.2	95.4	95.1	95
1996	93.7	94	94.1	94	93.6	93.9	93	93	92.7	91.9	91.9	91.9
1997	91.4	91.3	91.4	91.1	91.1	90.5	90.2	90.3	89.8	89.8	89.8	89.7
1998	89.1	89	86.5	84.2	84.2	84	83.9	83.8	83.7	82.9	83	81.5
1999	80.7	80.7	80.2	80.1	80.1	80.1	80	79.8	79.9	79.9	79.9	79.6
2000	79.4	79.5	79.1	79	78.9	78.6	78.7	78.5	78.5	78.7	78.6	78.6
2001	78.7	78.4	78.4	78.3	78.3	78.3	78.1	77.8	78.5	78.4	78.4	78.3
2002	78.3	78.2	78.2	78.8	78.8	78.8	78.9	78.9	78.7	78.7	78.6	78.6
2003	78.5	78.6	78.6	78.5	78.5	78.5	78.5	78.1	77.9	77.1	77.1	77.1
2004	77.1	77.1	77.3	77.4	77.4	76.9	76.9	76.7	76.8	76.6	76.6	77
2005	76.7	76.6	76.6	76.6	76.6	76.6	76.6	76.6	76.6	76.6	76.6	76.5
2006	76.6	76.6	76.6	76.1	76.1	76	76	75.9	75.9	75.9	75.9	75.9
2007	75.6	75.6	75.6	76	75.8	75.8	75.8	75.2	75.2	75	74.7	74.7
2008	74.8	74.8	74.4	74.2	74.2	74.2	74	73.9	73.9	73.9	73.9	74.1
2009	74.3	74.6	74.6	74.7	74.6	74.6	74.6	74.6	74.6	74.8	73.3	73.2
2010	73.2	73.1	73.9	73.2	73	73	72.6	72.2	72.2	72.1	72.1	72.1
2011	72.1	72.1	72.1	72.8	72.8	72.9	72.9	72.9	72.9	72.9	73.1	73.3
2012	73.5	73.5	73.5	73.5	73.3	73.1	73.2	73.2	73.1	73.4	73.3	73.4
2013	73.6	74.2	74.3	74.5	74.6	74.6	74.6	74.6	74.5	74.5	75.3	75.6
2014	75.6	75.6	75.6	76.1	76.1	76.1	76.3	76.7	76.7	76.6	76.6	76.6
2015	77.1	71.2	71.2	70.7	70.6	70.7	70.7	70.3	70.2	70.2	70.2	70.2
2016	70.6	70.7	63.4	64	63.9	63.9	63.5	63.5	63.5	63.7	63.7	63.7
2017	63.7	64	64	66.5	66.5	66.5	66.5	66.5	66.5	66.8	66.8	66.7
2018	66.7	66.7	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.8	66.7	66.8
2019	65.7	65.7	65.7	65.7	63.5	63.5	63.5	63.1	63.0	63.1	63.1	63.1

P : Preliminary. All indexes are subject to revision four months after original publication.

PPI				
Industry				
Data	63.0(P)	63.1(P)	63.1(P)	63.1(P)

Series Id: PCU336110336110

Series Title: PPI industry data for Automobile, light truck and utility vehicle mfg, not seasonally adjusted

Industry: Automobile, light truck and utility vehicle mfg

Product: Automobile, light truck and utility vehicle mfg

Base Date: 198206

Download:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1975												62.9
1976	63	62.9	63	63.1	62.9	63	63	63.3	63.4	66.9	66.9	66.9
1977	66.8	66.8	66.9	67.1	67.2	67.3	67.3	67.4	67.4	71.4	71.3	71.4
1978	71.4	71.4	71.4	71.4	72.5	72.7	72.5	72.5	72.5	75.4	75.4	75.6
1979	76.7	76.9	77	78.3	78.4	78.5	78.7	76.8	77	81.9	81.8	82
1980	83.5	82.8	82.9	85.2	84.6	84.6	86.3	86.7	82.7	90.9	91	90.6
1981	91.4	91.6	90.7	93.3	94.1	94.5	94.6	94.4	90.2	99.7	99.8	100.1
1982	100.5	97.5	97.5	97.4	98.8	100	100.1	100.4	94.9	102.5	102.5	102.7
1983	102.2	101.8	101.4	101.6	101.7	101.8	102	102.3	97.8	104.2	104.2	104.3
1984	104.5	104.5	104.6	104.9	104.6	104.4	104.7	104.4	101	106.1	106.3	105.5
1985	106.7	106.8	106.5	106.5	107	107.3	107.3	107.2	100.2	110.4	110.4	110.2
1986	109	109.3	108.7	110.3	110	110.2	110.3	109.7	105.6	116.9	116.7	115.4
1987	115.3	112.6	111.9	113.7	112.9	112.5	112.4	111.4	108.4	116.5	115.2	112.8
1988	113	113	112.5	112.6	113	113.1	113.2	113.3	110.2	119.5	118.1	117.9
1989	117.8	118.1	116.4	115.4	116.6	116.9	114.7	114.6	113.3	122.5	121.2	120.8
1990	118.4	118.5	118	117.8	117.3	119	119.2	118.2	117.2	125	124.8	124.8
1991	125.1	125.9	125.5	124.4	123.2	122.9	122.8	122.6	120.3	131	130.3	129.5
1992	129.2	129	129.3	129.2	128.9	128.3	128.4	127.5	123.5	132.1	132.1	131.8
1993	132.1	132.9	133	132.9	132.6	132.8	132.9	132.6	128	135.7	136.2	136.3
1994	137.3	137.5	137.4	137.4	138.3	138.1	138.2	138.2	133.9	140	139.3	139.8
1995	140.1	139.9	139.3	139.1	138.7	137.8	137.7	137.2	132.9	141.7	142.4	142.4
1996	141.2	141.1	141.1	140.5	140.6	140.7	139.5	139.2	135.6	142.2	141.9	141.6
1997	141.7	141.5	141.2	140.3	138.4	138	135.9	135.9	133.7	140.6	139.4	137.8
1998	137.8	138	137.8	137.2	135.4	134.3	134.8	133.9	132.7	140.6	140.4	139.2
1999	138.2	138.7	137.7	138	137.2	136	134.7	134.4	133.4	142.1	140.8	140.5
2000	139.9	139.4	139	138.9	138.9	137.4	136.8	135.8	135.5	141.2	141.3	141.1
2001	140.3	137.7	138.1	138.9	136.9	135.9	136.5	136	135.8	138.3	137.8	138.3
2002	136.8	137.7	136.4	136	134.9	134.4	131.3	130.3	130.4	139	136.5	135
2003	135.7	135.8	138.5	134	133.6	132	131.6	132	130.5	140.7	139	137.6
2004	137.4	136.8	137.1	135.9	136.2	136.2	132.8	132.4	131.5	142	139.9	139.5
2005	139.8	137.4	136.8	136.5	135.8	132.6	132.8	131.7	131.9	137.8	134.8	132.9
2006	133.7	133.7	133.4	132.3	132	130.6	123.7	125.7	126.5	129.4	135	133.8
2007	132.8	132.5	131.9	130.5	130.1	129.8	129.2	128.2	126.6	134.1	134.8	132.9
2008	133.6	133.5	132.1	133.1	132.2	129.5	128.2	129.1	128.7	139.4	137.7	137.6
2009	137	136.8	136	136.7	136.1	137.9	134.6	136.1	133.8	138.3	139.5	138.1
2010	139.3	139	137.8	137.2	137.3	135.4	134.8	135	134.5	137.7	137	136.4
2011	137	137	136.7	137.4	136.7	136.9	136.7	136.5	135.7	140.6	140.7	140.3
2012	141	140.4	140.3	140.6	139.7	140.1	140.9	140.8	139.6	143.9	144.1	143.6
2013	143.4	143.3	142.6	142.4	141.7	141.3	140.7	140.4	140.2	144.8	145.6	146.4
2014	146.8	146.6	145.5	145.2	144.4	143.8	143.6	143.4	142.6	148	147.8	146.3
2015	147.8	149.4	149.2	148.7	148.5	148.1	148.5	147.4	147.2	150.7	150.6	150.5
2016	149.9	150.2	149.8	149.6	149.7	149.8	148.5	147.7	147.6	152.7	152.4	153.4
2017	152.6	152.3	152.9	152.8	151.2	151.2	150.1	149.8	149.8	153.5	154.3	154.3
2018	153.3	152.9	152.9	152.5	152.5	152.7	152.2	152.1	152.4	155.3	155.2	155
2019	154.8	154.5	153.7	153.4	153.2	153	152.6	152	151.7	154.6	155.1	155.1

P : Preliminary. All indexes are subject to revision four months after original publication.

151.7(P)	154.6(P)	155.1(P)	155.1(P)
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PPI
Industry
Data
PPI
Industry
Data

Series Id: PCU334220334220

Series Title: PPI industry data for Broadcast and wireless communications equipment mfg, not seasonally adjusted

Industry: Broadcast and wireless communications equipment mfg

Product: Broadcast and wireless communications equipment mfg

Base Date: 199112

Download:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1991												100
1992	100.9	101.3	101.6	101.5	101.5	101.5	101.3	101.5	101.7	101.9	102.1	102.2
1993	103.1	103.2	103.2	102.6	102.6	102.7	102.6	102.6	102.4	103.4	103.3	103.2
1994	103.4	103.6	104	104.1	104.1	104.1	104.1	104	104	103.9	103.7	103.8
1995	104	103.6	103.7	104.1	104	103.2	103.2	103.3	103.4	103.3	103.2	103.2
1996	104	103.9	104.1	104.2	104.1	104.1	103.9	104	104.1	104.3	105	105
1997	105.3	105.4	105.3	105.6	105.6	105.9	105.9	105.9	106.2	106.2	105.9	105.9
1998	106.2	106.4	106	105.3	105.2	105.2	105.5	105.3	105.3	105.3	105.3	105.3
1999	106	104.7	104.7	104.8	104.8	104.8	104.8	104.8	102.2	102.5	102.7	102.7
2000	103	102.1	101.7	101.8	101.1	101.2	101.2	101.2	101.1	101.1	101.1	101.1
2001	101.5	101.4	101.4	101.5	101.8	101.8	101.8	101.8	101.9	101.9	101.9	101.9
2002	101.6	100.3	100.4	98.8	98.7	98.4	96.6	96.9	97	97	97	96.4
2003	96.5	96.5	96.5	96.2	95.5	95.5	94.5	94.2	94.2	93.9	93.9	93.8
2004	93.4	93.4	93.5	93.5	93.7	93.8	93.5	93.2	92.8	92.7	92.9	92.8
2005	93	92.9	92.5	92.5	92.4	91.9	92.1	92.7	92.7	92.7	93	93
2006	92.7	92.2	91.7	91.7	91.7	91.9	91.9	92.3	92.4	92.3	92.3	92.3
2007	92.3	92.4	92.4	92.6	93.1	92.5	92.3	92.3	92.3	92.5	92.5	92.6
2008	93.1	93.6	93.4	93.6	94.2	94.2	94.5	94.5	94.2	94.3	94.7	94.7
2009	94.5	94.2	94.2	94.4	94.5	94.6	94.7	94.7	94.6	94.7	94.8	94.8
2010	94.8	94.8	94.7	94.5	94.5	94.4	95	95	94.9	94.9	95.1	95.1
2011	94.9	94.9	95	94.7	94.8	94.4	94.6	94.6	94.5	93.4	93.6	93.5
2012	93.7	93.7	93.7	93.6	93.7	93.7	93.6	93.4	91.9	91.7	91.9	91.9
2013	92.1	92.2	92.2	92.5	92.4	92.5	92.4	92.5	92.8	92.2	92.4	92.6
2014	92.6	92.7	92.7	92.7	92.7	92.8	92.8	92.7	93	93.1	92.9	93.1
2015	93.3	93.3	93.4	93.4	93.7	93.9	93.7	93.5	92.8	93.1	93.1	93.1
2016	92.9	93.2	93	93.1	93	92.6	92.5	92.7	92.7	91.7	92	90.7
2017	91.1	90.7	91	90.9	90.6	90.7	90.7	90.1	89.5	89.5	89.9	89.7
2018	89.7	90	89.6	89.6	89.6	89.6	89.7	89.9	89.5	89.5	89.5	89.5
2019	89.9	89.5	89.5	89.6	89.5	89.5	89.7	89.7	89.1	89.7	89.4	90.1
P : Preliminary. All indexes are subject to revision four months after original publication.												
									89.1(P)	89.7(P)	89.4(P)	90.1(P)

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Aqua America's Pennsylvania Subsidiary Enters Agreement to Purchase Cheltenham Township Wastewater System

July 02, 2018 07:00 AM Eastern Daylight Time

BRYN MAWR, Pa.--(BUSINESS WIRE)--Aqua America announced today that its Pennsylvania subsidiary has signed an asset purchase agreement with Cheltenham Township to purchase its wastewater system, which serves approximately 10,500 connections in Montgomery County, for \$50.25 million. The agreement must be approved by the Pennsylvania Public Utility Commission.

The transaction will be Aqua Pennsylvania's fourth acquisition application referred to the Pennsylvania PUC since Act 12, commonly referred to as fair market value legislation, was enacted last year. Aqua Pennsylvania has asset purchase agreements with the 2,100-customer New Garden Township wastewater system in Chester County and the 5,400-customer Limerick Township wastewater system in Montgomery County. The company also has an agreement, signed in December 2017, with East Bradford Township in Chester County to purchase its 1,200-customer wastewater collection system. Aqua already provides water service to East Bradford, as it does with Cheltenham.

These four systems, including Cheltenham, total more than 19,000 wastewater connections and would nearly double Aqua Pennsylvania's current 22,000-customer wastewater operation.

The new law encourages a consolidation of the fragmented industry for the benefit of customers, the environment, and local governments. This transaction will benefit customers by leveraging compliance expertise, purchasing power gained through economies of scale and operational efficiencies to ultimately benefit service to our customers at affordable rates.

"We are pleased with the momentum we are gaining to reach agreements with municipal systems," said Aqua America Chairman and CEO Christopher Franklin. "Act 12 is having its intended impact, allowing municipalities to be compensated for the fair value of their water and wastewater assets and enabling utility professionals to bring expertise to systems in need."

Aqua Pennsylvania President Marc Lucca says his team is ready to work with the Cheltenham community on making needed system improvements.

"As with our pending agreements with New Garden, East Bradford and Limerick, the Aqua Pennsylvania team is looking forward to assuming Cheltenham's sewer utility responsibilities so the township can direct its attention and capital to other priorities," said Lucca. "We are anxious to begin the work necessary to help the township meet the requirements of an outstanding Pennsylvania Department of Environmental Protection consent order, specifically related to inflow and infiltration issues there."

In total, Aqua has plans to spend nearly \$50 million over the next 10 years to improve Cheltenham's wastewater system.

Aqua America is one of the largest U.S.-based, publicly traded water utilities and serves nearly 3 million people in Pennsylvania, Ohio, North Carolina, Illinois, Texas, New Jersey, Indiana and Virginia. Aqua America is listed on the New York Stock Exchange under the ticker symbol WTR. Visit AquaAmerica.com for more information.

Forward-Looking Statements

This release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 including, among others: the company's ability to successfully close the acquisition of the wastewater systems noted in this release. There are important factors that could cause actual results to differ materially from those expressed or implied by such forward-looking statements including: general economic business conditions, the successful integration of the customers and the facilities, the success of the company's growth efforts including its ability to utilize Act 12, and other factors discussed in our Annual Report on Form 10-K, which is on file with the Securities and Exchange Commission.

Cheltenham Township
1329 Proceeding
Cheltenham Twp. - Water Accounts reported for Sewer Billing

Type of Service	Gallons	Customers ¹
Commercial	280,938,300	534
Industrial	364,400	14
Public	9,962,700	23
Residential	484,692,800	9,648
Total	775,958,200	10,219

1. Customers include all Active and Inactive Accounts

The following table breaks down the above total figures by customer class as of December 31, 2017, 2016, and 2015 :

	2017	2016	2015
Customers:			
Residential	118,493	111,494	110,254
Commercial	9,386	8,626	8,569
Industrial	536	479	478
Public Authority	1,072	948	964
Fire Protection	3,178	2,876	2,815
Other (including non-metered accounts)	2,980	545	553
Total	135,645	124,968	123,633
Water Revenues (in thousands):			
Residential	\$ 62,831	\$ 59,884	\$ 58,439
Commercial	13,676	12,250	11,816
Industrial	3,196	3,176	3,229
Public Authority	3,845	3,510	3,193
Fire Protection	20,235	18,486	18,016
Other (including non-metered accounts)	3,271	1,361	1,348
Total	\$ 107,054	\$ 98,667	\$ 96,041
Customer Water Consumption (millions of gallons):			
Residential	6,408	6,583	6,551
Commercial	2,026	1,954	1,941
Industrial	711	724	777
Public Authority	575	539	503
Total	9,720	9,800	9,772

The Regulated Companies own various small, discrete parcels of land that are no longer required for water supply purposes. At December 31, 2017, this land totaled over 600 acres. Over the past several years, we have been disposing of these land parcels through sales and/or donations, primarily to towns and municipalities. For more information, please refer to *Segments of Our Business* below.

Additional information on land dispositions can be found in Item 7 – “Management’s Discussion and Analysis of Financial Conditions and Results of Operations – Commitments and Contingencies”.

Competition

Our Regulated Companies face competition from a few small privately-owned water systems operating within, or adjacent to, our franchise areas and from municipal and public authority systems whose service areas in some cases overlap portions of our franchise areas.

Employees

As of December 31, 2017, we employed a total of 294 people. Our employees are not covered by collective bargaining agreements.



DEALS AUGUST 6, 2018 / 5:11 PM / 6 MONTHS AGO

SJW Group makes \$1.1 billion all-cash offer for Connecticut Water

3 MIN READ



NEW YORK (Reuters) - SJW Group ([SJW.N](#)) and Connecticut Water Service Inc ([CTWS.O](#)) said on Monday they were changing from a merger to an acquisition agreement, with SJW offering to buy the New England utility for \$1.1 billion in cash instead of combining stock.

The switch to an all-cash offer is worth \$70 per Connecticut Water share, a 33 percent premium to Connecticut Water's share price prior to the original deal announced in March, according to a joint statement.

It was also higher than the implied \$61.86 per share value of the Clinton, Connecticut-based firm under the merger-of-equals transaction, which would have created a combined company in which existing SJW shareholders would hold 60 percent of the stock.

SJW closed 2.3 percent lower, while Connecticut Water was 9 percent higher at \$68.50.

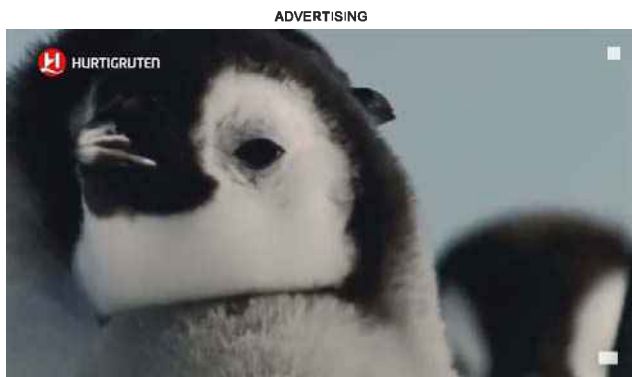
ADVERTISEMENT

To pay for the acquisition, SJW will initially utilize a \$975 million bridge loan from financial adviser JP Morgan Chase ([JPM.N](#)). Ultimately, the purchase would be covered by debt and between \$450 million and \$500 million of equity finance.

The new deal aims to conclude in the first quarter of 2019, subject to approvals from Connecticut Water's shareholders, as well as regulators in Connecticut and Maine.

The duo's original all-stock merger announcement in March triggered competing offers from Eversource Energy (ES.N) and California Water Service Group (CWT.N).

ADVERTISEMENT



"We have converted from a stock-for-stock deal to a cash offer, which will resolve any further market distractions from the inferior proposals," SJW Chief Executive Eric Thornburg told Reuters, in reference to the actions by Eversource and CalWater.

Switching to an acquisition, versus a merger structure, means that SJW shareholders will no longer be required to vote on approving the deal, the statement said.

CalWater has an open tender offer to acquire SJW that runs until Sept. 28.

However, asked if the change was aimed at heading off any shareholder challenge to the deal, Thornburg told Reuters it "wasn't a consideration" and it had received nothing but support from its shareholders.

RBS sounds alarm over Brexit

CalWater declined to comment. A spokesman for Eversource said the company was evaluating developments but, as it has made clear, it will be disciplined in pursuing this or any other transaction.

Reporting by David French in New York; Additional Reporting by Liana B. Baker; Editing by Lisa Shumaker

Our Standards: [*The Thomson Reuters Trust Principles.*](#)

MORE FROM REUTERS

Wastewater treatment is provided by the Borough of West Chester pursuant to a Sewer Capacity Agreement dated November 14, 2017, by and between the Borough and East Bradford Township. Copies of West Chester's 2017 Chapter 94 Reports to DEP for the Goose Creek WWTP and for the Taylor Run WWTP are attached hereto as Exhibit E3 and Exhibit E4.

15. The Goose Creek WWTP has a permitted treatment capacity of 1.672 MGD. The Taylor Run WWTP has a permitted treatment capacity of 1.50 MGD. The elevation of the Goose Creek WWTP is generally about EL 370. The elevation of the Taylor Run WWTP is generally about EL 260. The elevation of the Requested Territory ranges from approximately EL 365 to EL 280.

16. Water service in the Requested Territory is provided by both Aqua Pennsylvania, Inc. and private wells.

17. The original cost, by year and major plant category, of the East Bradford Township used and useful plant in service is \$8,294,931 with a related calculation depreciation reserve of \$2,820,983. The original cost value includes a series of capped sewers along the North Benjamin Drive area of the Township. The capped sewers include approximately 3,300 linear feet of 8" Gravity PVC pipe and 20 manholes, with an estimated original cost value of approximately \$100,000 as estimated by Aqua. The pipe and manholes are included in the totals on page 2-11 and 2-12 of Exhibit W. Aqua will categorize the capped sewer pipe and manholes as plant held for future use in its asset allocation upon closing. The area of capped sewers along North Benjamin Drive is not included in the Requested Territory.

18. Tentative journal entries to record the transaction are presented in Section IV.

IV. ASSET PURCHASE AGREEMENT

19. The *Assets Purchase Agreement* is dated December 20, 2017. The *First Amendment to Assets Purchase Agreement* is dated April 18, 2018. The purchase price is Five Million Dollars

(\$5,000,000.00). In addition to the purchase price, Section 1.5 of the Agreement provides that Aqua will assume certain defined liabilities and pay certain out-of-pocket costs incurred by East Bradford Township.

20. The purchase price and Agreement are based on arm's length negotiations. Aqua and East Bradford Township are not affiliated with each other. Aqua will use short term debt initially for the purchase of the assets with the expectation that the short term debt will be converted to long term debt and equity capital at a later date.

21. The wastewater system assets to be acquired are the "Assets" and have the meaning specified in Section 1.1 of the Agreement. The Assets include the assets, properties and rights of East Bradford Township that comprise the wastewater system or that are owned by East Bradford Township and used by it solely in connection with operation of the system.

22. "Excluded Assets," which are those assets not being transferred to Aqua, have the meaning specified in Section 1.4 of the Agreement. Excluded Assets include customer service laterals that run from the curb area to individual customer residences or structures; piping and fixtures internal to each customer residence or structure; cash and cash equivalents; and the items set forth in Schedule 1.4 of the Agreement.

23. "Assumed Liabilities" has the meaning specified in Section 1.6 of the Agreement and include the liabilities and obligations under the Assumed Contracts that arise after Closing, liabilities incurred or arising from and after Closing under or from failure to comply with permits, approvals or licenses related to the system that are transferred to Aqua and the obligation to provide wastewater service after Closing. The Assumed Contracts, which are listed in Schedule 1.6 of the APA and attached hereto as **Exhibit F1** and **Exhibit F2**, are the Sewer Capacity Agreement dated November 14, 2017, by and between the Borough of West Chester and East Bradford Township and the Intergovernmental Cooperation Agreement dated March 15, 1999, between East Bradford and Birmingham Township.

East Bradford Township

	# of Customers	Annual Gallons Treated (2017)
Residential- Single Family	399	23,783,560
Residential- Townhomes	814	36,390,635
Commercial		
Bradford Retail - The Bistro		112,800
Bradford Retail - Strip Stores		688,000
Brookworth Plaza - Dunkin Donuts		147,200
Brookworth Plaza - CVS		35,300
Brookworth Plaza - empty building		-
Brookworth Plaza - Strip Stores		142,000
Brookworth Plaza - PNC Bank		17,000
Countryside Food Mart		52,700
Antique Ice Museum		3,600
Mrs. Mike's Restaurant		103,110
Brandywine Hall Nursing Home		8,281,000
Daily Local News - now empty building		24,400
Bradford Plaza - Strip Stores		1,991,430
Bradford Plaza - Giant Food Store		2,527,700
Bradford Plaza - Walgreens		47,000
Bradford Plaza - Giant Gas Station		6,200
Chester County Art Association		120,100
Industrial		
Diesel Systems		66,300
Chem Service		173,400
Other Class(?)*		
Goddard School		252,800
Hillsdale Elementary School		649,700
WCU S Campus Apts - 144		24,200
WCU S Campus Apts - 167		583,900
WCU S Campus Apts - 168		500,900
WCU S Campus Apts - 169		441,900
WCU S Campus Apts - 170		570,900
WCU S Campus Apts - 171		318,900
WCU S Campus Apts - 172		422,000
WCU S Campus Apts - 173		306,400
WCU S Campus Apts - 174		424,500
WCU S Campus Apts - 175		323,400
WCU S Campus Apts - 176		340,000
WCU S Campus Apts - 177		356,000
University Student Housing 1		4,463,500
University Student Housing 2		5,429,000
Total		90,121,435

*May include church, school, public, etc... (please insert a line for each)

420,000
153,300,000

35
399
814
1,248

1 **Q. How many customers will the acquisition add?**

2 A. The acquisition of East Norriton will add 4,966 customers to Aqua's existing 28,000
3 wastewater customers. This is an increase in customers of 17.7% (or about 20%).²³

4 **Q. Will the acquisition increase rates for the customers to be acquired?**

5 A. Yes. Aqua witness Packer states that he reasonably expects that rates for East Norriton
6 customers will increase under Aqua ownership.²⁴ As discussed above, Aqua calculates
7 that if the entire revenue deficiency resulting from the acquisition is applied to East
8 Norriton Township customers, the adjusted average bill for customers using four thousand
9 gallons per month would increase from approximately \$39 per month to \$52 per month,
10 which would be a 35% rate increase.²⁵

11 **Q. Will the acquisition increase rates for existing Aqua customers?**

12 A. Yes. Mr. Packer's testimony shows that, as a result of the acquisition, rates for existing
13 Aqua water customers and existing Aqua wastewater customers will increase if the revenue
14 deficiency is not fully borne by the East Norriton Township customers. Mr. Packer's
15 schedules show estimated increases to existing total Aqua water and wastewater customers
16 ranging from \$0.17 per month to \$1.66 per month (\$2.04 per year to \$19.92 per year).²⁶ If
17 the costs were spread to only existing wastewater customers, and not water customers, the

²³ Exhibit U, Direct Testimony of William C. Packer, p. 9, lines 2-3 and 11-12, p. 16, lines 11-12.

²⁴ Exhibit U, Direct Testimony of William C. Packer, p. 18, lines 17-20 and Appendix A, p. 1; Response to OCA-II-4, Attachment 1, p. 22 (attached as OCA Exhibit DJG-12).

²⁵ Exhibit U, Direct Testimony of William C. Packer, Appendix A, pp. 1-2 ($\$38.52 + \$13.42 = \$51.94$). $(\$13.42 \div \$38.52) \times 100 = 34.84\%$.

²⁶ Exhibit U, Direct Testimony of William C. Packer, Appendix A, p. 1.

1 **Q. Describe the scope and organization of your testimony.**

2 A. My testimony addresses the application filed by Aqua Pennsylvania Wastewater, Inc.
3 (“Aqua” or the “Company”) for the acquisition of the East Norriton Township (the
4 “Township”) wastewater collection system assets. My testimony responds to the fair
5 market value (“FMV”) approaches addressed in the testimonies of Harold Walker, III of
6 Gannett Fleming, who sponsors the FMV appraisals commissioned by the Company, and
7 Jerome C. Weinert, who sponsors the appraisal commissioned by the Township. I also
8 discuss the sufficiency of the notices sent to the customers of Aqua and the Township
9 regarding the impact on rates of the proposed acquisition.

II. EXECUTIVE SUMMARY

A. Overview

10 **Q. Please summarize Aqua’s application in this proceeding.**

11 A. Aqua’s application proposes to acquire the Township’s wastewater assets under Sections
12 1102 and 1329 of the Public Utility Code (the “Code”). According to Section 1329(c)(2)
13 of the Code, the ratemaking rate base is the lesser of the negotiated purchase price and the
14 average of two FMV appraisals. The FMV estimated by Gannett Fleming and AUS
15 Consultants is \$24.2 million and \$25.1 million, respectively. The purchase price negotiated
16 by Aqua and the Township is \$21 million. Thus, the proposed rate base in the application
17 is \$21 million.

09/02/16

**Exeter Township
Customer List****Report by Class**

Account	Name Service Address	Tax ID	Book	Status	Alert Code
97990.00	F M BROWN SONS INC 790 DANIEL BOONE ROAD	43-5345-07-68-8539 BIRDSBORO	PA	A 19508-8737	
99991.00	DIEROLF, CANDACE 21 PINE AVENUE	BIRDSBORO	PA	A 19508	
99992.00	TELFORD, MARK 19-6 CRANBERRY RIDGE	READING	PA	A 19606-3934	

Total Class: R: 8,708**Class: TRAILER PARK**

20000.00	KLIEWER, KIM B 4851 PERKIOMEN AVENUE	43-5325-08-79- READING	100 PA	A 19606	
(610) 670-0191 20010.00	KL MHC LLC 44 KEYSTONE ROAD	43-5335-14-34- READING	201 PA	A 19606-3655	
20020.00	BORDIC MOBILE HOME PARK 214 BORDIC ROAD	43-5335-09-16- READING	200 PA	A 19606-3605	
20030.00	KL MHC LLC 44 KEYSTONE ROAD	43-5335-10-35- READING	201 PA	A 19606-3655	
20060.00	ALSACE TOWNSHIP 240 SPIES CHURCH ROAD	READING	101 PA	A 19606	
20070.00	KL MHC LLC 44 KEYSTONE ROAD	43-5335-14-34-2494 READING	PA	A 19606-3655	
91230.00	PENN VIEW MOBILE PARK BROADWAY AVENUE	43-5327-14-42- READING	200 PA	A 19606	
(610) 779-4202					

Total Class: T: 7**Total: 8,984**

Exeter Township supervisors agree to sell municipal wastewater system for \$96 million

 readingeagle.com/news/article/exeter-township-supervisors-agree-to-sell-municipal-wastewater-system-for-96-million

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Adjust font size: A A A

The sale to Pennsylvania American Water Co. will keep taxes steady for 10 years and do other things for Exeter, the township manager said.

Written by Mike Urban
Exeter Township, PA —

The Exeter Township supervisors have agreed to sell the township's wastewater treatment plant and system to a private company for \$96 million, a move they expect will save taxpayers money and put the township on much better financial footing.

The supervisors voted 4-1 on April 23 to approve the sale to Pennsylvania American Water Co., which supplies water to the township and operates 15 wastewater treatment systems statewide.

The two sides must finalize the asset purchase agreement, and the sale will require Pennsylvania Utility Commission approval, meaning the earliest the company is likely to take ownership would be early next year.

Township Manager John A. Granger said that if the sale goes through as planned, it will allow the township to hold real estate taxes steady for 10 years or more; pay for future capital projects including equipment replacement, township building relocation and storm sewer improvements; and still leave \$48 million in the bank.

The current property tax rate is 2.14 mills, but that would have increased 32.6 percent to 2.8 mills in 2019 if the township retained ownership of the plant, he said.

The township is expected to raise sewer rates 29 percent before the sale is completed, but that rate hike would likely have been higher if the township held onto the system and made necessary upgrades, said Supervisor John Cusatis.

And the supervisors plan to enact a homestead tax exemption that would more than cover the rate increase for most homeowners, he said.

There are about 9,000 properties in Exeter connected to the wastewater system, and Pennsylvania American spokesman Terry M. Maenza said that they shouldn't notice any changes in sewer service once the company takes control of the system.

"It should be seamless," he said.

The company plans to retain the township's six wastewater employees, he said.

Cusatis and fellow Supervisors Lisa VanderLaan, William F. White and David G. Speece Jr. voted for the sale, saying it was a tough decision but the economic benefits were too good to turn down.

"The sale will pay off the library and sewer debt, stabilize the tax base and improve the township's credit rating," Cusatis said.

Supervisor Gary E. Lloyd Jr. voted against the sale, saying he didn't want to lose the valuable asset.

Cusatis said that most Exeter residents he spoke with support the move, but at the April 23 meeting several expressed concern about selling public property to private industry and giving up control of the wastewater system.

A written handout from resident Sherrie Greene noted that: "I have done some research and read that many municipalities have taken this route, then regretted it later. Once our sewer system is sold, it is gone forever and we cannot get it back."

Pennsylvania American, headquartered in Hershey, is a subsidiary of American Water Works Co., based in Voorhees, N.J.

This would be Pennsylvania American's first wastewater treatment system in Berks.

(Correspondent Valdis I. Lacis contributed to this story.)

Contact Mike Urban: 610-371-5023 or murban@readingeagle.com.

Service Address	Customer Number	Edu Purchased	Group Code	Drainage Basin	SPA Amt	SPA Qty	SWR Amt	SWR Qty	Swr Base Amt	PEN Amt	INT Amt
3793 900 FOXMEADOW DR	12133	16	King Road	SOUTHEAST (6)	-	116,300.00	F	-	\$ 1,348.80	-	-
3794 1000 FOXMEADOW DR	12134	16	King Road	SOUTHEAST (6)	-	94,400.00	F	-	\$ 1,348.80	-	-
3795 1100 FOXMEADOW DR	12135	16	King Road	SOUTHEAST (6)	\$ 216.44	153,200.00	F	-	\$ 1,348.80	-	-
3796 1200 FOXMEADOW DR	12136	16	King Road	SOUTHEAST (6)	\$ 69.15	130,400.00	F	-	\$ 1,348.80	-	-
3799 1500 FOXMEADOW CIR	12139	16	King Road	SOUTHEAST (6)	\$ 43.95	126,500.00	F	-	\$ 1,348.80	-	-
3800 1600 FOXMEADOW CIR	12140	16	King Road	SOUTHEAST (6)	-	82,300.00	F	-	\$ 1,348.80	-	-
3801 1700 FOXMEADOW CIR	12141	16	King Road	SOUTHEAST (6)	-	84,300.00	F	-	\$ 1,348.80	-	-
3802 1800 FOXMEADOW CIR	12142	16	King Road	SOUTHEAST (6)	-	92,500.00	F	-	\$ 1,348.80	-	-
3803 1900 FOXMEADOW DR	12143	16	King Road	SOUTHEAST (6)	-	111,200.00	F	-	\$ 1,348.80	-	-
3804 2000 FOXMEADOW CIR	12144	16	King Road	SOUTHEAST (6)	\$ 8.42	121,000.00	F	-	\$ 1,348.80	-	-
3805 2100 FOXMEADOW CIR	12145	16	King Road	SOUTHEAST (6)	\$ 160.88	144,600.00	F	-	\$ 1,348.80	-	-
3806 2200 FOXMEADOW DR	12146	16	King Road	SOUTHEAST (6)	-	101,000.00	F	-	\$ 1,348.80	-	-
3807 2300 FOXMEADOW DR	12147	16	King Road	SOUTHEAST (6)	\$ 176.38	147,000.00	F	-	\$ 1,348.80	-	-
3808 2400 FOXMEADOW CIR	12148	16	King Road	SOUTHEAST (6)	\$ 94.99	134,400.00	F	-	\$ 1,348.80	-	-
3809 2500 FOXMEADOW CIR	12149	16	King Road	SOUTHEAST (6)	\$ 107.26	136,300.00	F	-	\$ 1,348.80	-	-
161 640 N LEWIS RD	275	17	King Road	SOUTHEAST (6)	\$ 1,932.95	306,700.00	F	-	\$ 84.30	-	-
3674 7-27 W RIDGE PIKE/STRP ML	12005	18	King Road	SOUTHEAST (6)	\$ 63.37	92,100.00	F	-	\$ 927.30	-	-
3727 125 SUNSET RD	12065	18	King Road	282 GRATERFORD RD (20)	\$ 1,198.45	193,000.00	F	-	\$ 84.30	-	-
3772 15 KEYSTONE DR	12112	18	King Road	TRINLEY (5)	\$ 2,452.98	387,200.00	F	-	\$ 84.30	-	-
5199 256 SWAMP PIKE/SCHOOL	60965	18	Possum Hollow	RAVENS CLAW (18)	\$ 2,015.24	334,400.00	F	-	\$ 252.90	-	-
162 339 N LEWIS RD	276	19	King Road	SOUTHEAST (6)	\$ 1,256.59	202,000.00	F	-	\$ 84.30	-	-
3706 W RIDGE PIKE/STRIP/BANK	12039	19	King Road	SOUTH LIMERICK (3)	\$ 1,373.73	272,500.00	F	-	\$ 674.40	-	-
3745 542 N LEWIS RD	12084	19	King Road	TRINLEY (5)	\$ 112.65	32,400.00	F	-	\$ 168.60	-	-
3411 70 BUCKWALTER RD/1350/APPLEB	11737	20	King Road	SOUTHEAST (6)	\$ 3,375.47	530,000.00	F	-	\$ 84.30	-	-
5389 206 JONES BLVD/MICROCOAX	70011	20	Possum Hollow	BROOKE EVANS (16)	\$ 14,938.23	2,319,900.00	F	-	\$ 84.30	-	-
3445 70 BUCKWALTER RD/1250/TEXAS	11771	21	King Road	SOUTHEAST (6)	\$ 2,419.39	382,000.00	F	-	\$ 84.30	-	-
3707 22 ANCHOR PARKWAY	12040	23	King Road	SOUTHEAST (6)	\$ 1,958.79	310,700.00	F	-	\$ 84.30	-	-
3773 77 GRATERFORD RD	12113	23	King Road	282 GRATERFORD RD (20)	\$ 1,208.14	194,500.00	F	-	\$ 84.30	-	-
64 677 ELM ST	170	24	Royersford	ORCHARD TERRACE (OT)	-	12,000.00	F	-	\$ 2,023.20	-	-
3863 430 W LINFIELD TRAPPE RD	12208	24	King Road	TRINLEY (5)	\$ 4,782.46	747,800.00	F	-	\$ 84.30	-	-
794 1101 ENTERPRISE DR	2573	28	King Road	TRINLEY (5)	\$ 1,182.95	190,600.00	F	-	\$ 84.30	-	-
2502 196 W RIDGE PK/FLEA MRKT	10679	29	King Road	RIDGE PIKE (10)	\$ 629.07	247,000.00	F	-	\$ 1,686.00	\$ 1.80	-
3869 420 LINFIELD TRAPPE RD	12214	30	King Road	TRINLEY (5)	\$ 852.20	139,400.00	F	-	\$ 84.30	-	-
5410 14 W LIGHTCAP RD	70032	34	Possum Hollow	POSSUM HOLLOW (17)	\$ 7,741.14	1,205,800.00	F	-	\$ 84.30	-	-
3401 19 W LINFIELD TRAPPE RD	11727	36	King Road	SOUTHEAST (6)	\$ 5,421.59	846,736.00	F	-	\$ 84.30	-	-
107 475 N LEWIS RD	216	52	King Road	SOUTHEAST (6)	\$ 3,921.34	614,500.00	F	-	\$ 84.30	-	-
3761 88 ANCHOR PARKWAY	12101	52	King Road	SOUTHEAST (6)	\$ 3,746.92	587,500.00	F	-	\$ 84.30	-	-
2292 420 W LINFIELD TRAPPE RD	10357	59	King Road	TRINLEY (5)	\$ 5,568.64	869,500.00	F	-	\$ 84.30	-	-
167 350 S LEWIS RD	282	60	King Road	SOUTHEAST (6)	\$ 3,791.50	594,400.00	F	-	\$ 84.30	-	-
2465 827 N LEWIS RD	10630	80	King Road	SOUTH LIMERICK (3)	-	150,200.00	F	-	\$ 6,744.00	-	-
3091 FOX RIDGE APTS	11378	97	King Road	SOUTH LIMERICK (3)	\$ 2,050.04	1,043,000.00	F	-	\$ 8,177.10	-	-
2685 165 W RIDGE PIKE/TRLR PK	10913	115	King Road	SOUTHEAST (6)	\$ 6,018.69	1,792,000.00	F	-	\$ 9,694.50	-	-
5397 EXELON LIM GEN STA	70019	137	Possum Hollow	POSSUM HOLLOW (17)	N	-	\$ 8,659.75	1,348,000.00	\$ 84.30	\$ 1,041.07	-
5400 18 LIGHTCAP RD	70022	200	Possum Hollow	POSSUM HOLLOW (17)	\$ 4,006.31	1,278,500.00	F	-	\$ 7,418.40	-	-
5416	8402				\$ 299,707.92	89,160,697	\$ 25,039.14	7,288,556	\$ 600,843.05	\$ 14,296.74	\$ 1,169.98

ASSET PURCHASE AGREEMENT

7. Aqua and Limerick are parties to an Asset Purchase Agreement dated November 16, 2016. Aqua Exhibit 1, Application ¶ 5 and ¶ 18; *see also* Aqua Exhibit No. 1, Exhibit C.

8. The negotiated purchase price, which is based on arms' length negotiation, is Seventy-Five Million One Hundred Thousand Dollars (\$75,100,000.00). Aqua and Limerick are not affiliated with each other. Aqua Exhibit No. 1, Application ¶ 18 and Aqua St. No. 1 at 6, lines 6 through 10.

9. Aqua will use short term credit lines to fund the transaction. The short term credit funding will be converted to a mix of long-term debt and equity capital shortly after closing. Aqua St. No. 1 at 7, lines 18 through 20; *see also* Aqua Exhibit No. 1, Application ¶ 18.

ASSETS BEING TRANSFERRED

10. The wastewater system assets to be transferred are the "Acquired Assets" and have the meaning specified in Section 2.01 of the Agreement. The Acquired Assets include all real property Limerick owns and uses in the operation of the wastewater system and all sanitary wastewater related treatment and conveyance facilities, including the Possum Hollow Waste Water Treatment Plant ("PHWWTP"), the King Road Waste Water Treatment Plant ("KRWWTTP") and all pipes, pumping stations, manholes and pipelines and billing and collections related assets necessary to run the system. Aqua Exhibit No. 1, Application ¶ 19.

11. Acquired Assets also include the contracts identified on Schedule 4.15 of the Agreement to which Limerick is a party (the "Assigned Contracts"). Since contract parties, other than Limerick, are identified by name, Schedule 4.15 and the Assigned Contracts are considered CONFIDENTIAL. Copies of CONFIDENTIAL Schedule 4.15 and the CONFIDENTIAL Assigned Contracts were included with the Application as Confidential Exhibit F and admitted into evidence as CONFIDENTIAL Aqua Exhibit No. 4. Aqua Exhibit No. 1, Application ¶ 20 and Tr. 13 and 20.

\$5,572,770. Exh. A-14-a, SWPA St. 1 at 11-12. The allocated purchase price for the water system is \$4,734,800 and the wastewater system is \$4,765,200. Appendix A-14, SWPA St. 2 at 4-5.

The valuation experts were paid \$59,145 for the Fair Market Value Appraisal Reports for both the water and wastewater systems. Exh. A-8-a. SWPA also indicates that it will incur transaction and closing costs of approximately \$1,000,000 between the Water System and the Wastewater System, which will be included in rate base. Appendix A-14, SWPA St.1 at 5-6; Appendix A-12.

OCA will examine the ratemaking rate base claims to determine if the claims are reasonable and appropriate for ratemaking purposes.

2. Proposed Rates: SWPA proposes to charge customers of the Mahoning Township system the Mahoning Township water and wastewater rates in effect at closing. Application at 6, 11; Appendix A-13. Those rates will remain in effect until SWPA's next base rate case but SWPA may impose any fee or surcharge permitted by its Commission-approved tariff. Id.

The proposed rates do not appear to match the existing Mahoning Township rates. The OCA will investigate this apparent discrepancy. The OCA will investigate the impacts on the current customers as well as on Mahoning Township customers of the various assumptions and proposals.

3. The OCA submits that additional information is necessary to determine how the transaction will substantially and affirmatively benefit Suez's existing customers.

4. Conditions: Whether any conditions should be imposed upon the proposed transfer to ensure that Suez's customers are treated in a fair and just manner in accord with Pennsylvania law and Commission rules and regulations.

MAHONING TOWNSHIP CUSTOMER LIST

Customer No	Name	Service Address	Service	SWR EDUs	EDU	Count
11470.01	T & S REALTY	304 HOLLOW DR	Sewer	1	1	1431
11471.01	T & S REALTY	306 HOLLOW DR	Sewer	1	1	1432
11472.01	T & S REALTY	308 HOLLOW DR	Sewer	1	1	1433
11473.01	T & S REALTY	310 HOLLOW DR	Sewer	1	1	1434
11474.01	T & S REALTY	312 HOLLOW DR	Sewer	1	1	1435
11475.01	DAVID & JOANNE BROOKO\	32 TERRE LANE	Sewer	1	1	1436
11476.02	JAYA SUGUNARAJ & JESSIT\	214 ABBEY RD	Sewer	1	1	1437
11478.01	DAVID BULBIN & BARBARA	74 WOODLAND DR	Sewer	1	1	1438
11479.01	JEFFREY MOLINARO	1318 BLOOM RD	Sewer	1	1	1439
11480.01	CRYSTAL DOMETITA	91 WOODLAND DR	Sewer	1	1	1440
11482.01	AYUSA SINHA	672 LOWER ST	Sewer	1	1	1441
11483.01	MADIAN YAHYA	676 LOWER ST	Sewer	1	1	1442
11484.01	JEFF WATSON	168 KASEVILLE RD	Sewer	1	1	1443
11485.01	ANWER & SARAH QURESHI	656 LOWER ST	Sewer	1	1	1444
11486.01	ROSS & ASHLEY PETERS	83 TERRE LN	Sewer	1	1	1445
11488.01	QUESHI ANWER	664 LOWER STREET	Sewer	1	1	1446
11489.01	MATHUR HERSH	660 LOWER STREET	Sewer	1	1	1447
11490.01	PRASANNA SANKEPALLI & S	668 LOWER ST	Sewer	1	1	1448
11491.01	MARK GATSKI & CATHERINE	82 DELWOOD DR	Sewer	1	1	1449
11492.01	JONATHAN & LAURA SPAHF	78 TERRE LN	Sewer	1	1	1450
11166.02	DANKO HOLDINGS LP	1301 BLOOM RD	Sewer	0	1	1451
TOTALS					2195	1451

Report Criteria:
Customer.Final bill date = (IS NULL)

5/30/18

Customer #	Name	Service Address	Meter ID	Customer Type	Size
11104.01	ANIMAL CARE	32 ENTERPRISE DR	0049503582	Commercial	1
11107.01	EMMANUEL HOME	MONTOUR BLVD. 11107	8280982952	Commercial	1
11120.02	REDEEMER ORTHODOX PRESBYTER	1820 MONTOUR BLVD.	1540802894	Commercial	1
11121.01	FAB-TEX	29 WOODBINE LANE	0004695133	Commercial	1
11137.01	GEISINGER HEALTH SYSTEMS - MCB	MCBRIDE	1541355520	Commercial	1
11151.01	ROAT-KRINER ROAT	1133 BLOOM RD.	1541286282	Commercial	1
11157.01	TRINITY METHODIST CHURCH	84 LOMBARD AVE	1018010545	Commercial	1
11159.01	VINTAGE KNOLLS ASSISTED LIVING	9 JUSTIN DR 101	1541313242	Commercial	1
11160.01	GEISINGER COMMUNITY HEALTH - VI	44 WOODBINE LANE	0048920994	Commercial	1
11165.01	RINEHART DENTAL	20 WESNER LANE	1481726108	Commercial	1
Total 1:				10	10
11110.01	BUSY BEAVER	23 WESNER LN	0053635505	Commercial	1.5
11139.01	MEADOWS COMM.	77 TOWER VIEW CIRCLE	0051583844	Commercial	1.5
11148.01	SHANER HOTEL GRP ✓	43 PINE BARN PLACE	1832339361	Commercial	1.5
11170.01	HAWKINS CHEVROLET	1856 MONTOUR BLVD.	1852732193	Commercial	1.5
11439.01	GEORGE HEIM CAR WASH	1802 MONTOUR BLVD	1541551330	Commercial	1.5
Total 1.5:				5	5
11102.01	ATLANTIC EQUIP	15 ENTERPRISE DR	0048304212	Commercial	2
11108.01	EMMANUEL NAZARETH	1707 MONTOUR BLVD. 11108	1007034764	Commercial	2
11117.01	T & S REALTY	1083 BLOOM RD	0046645520	Commercial	2
11126.01	GUM REALTY GROUP LLC	74 SCHOOL HOUSE RD STE 101	0022379100	Commercial	2
11134.01	MARIA JOSEPH AL CENTER	MONTOUR BLVD. 11134	1832120637	Commercial	2
11136.01	GEISINGER HEALTH SYSTEMS - HUG	HUGHES CENTER SOUTH	0052693508	Commercial	2
11146.01	SHANER HOTEL GRP ✓	43 PINE BARN PLACE A	0043702654	Commercial	2
11166.02	DANKO HOLDINGS LP	1301 BLOOM RD	1548931502	Commercial	2
Total 2:				8	8
11101.01	NAILS TO TAILS GROOMING SALON	938 BLOOM RD.	1810172132	Commercial	3/4
11109.01	BROKENSHERE JOHN	769 BLOOM RD.	1541276964	Commercial	3/4
11111.01	CERO JAMES PATRICK	795 BLOOM RD	1541282452	Commercial	3/4
11113.01	COLE'S HARDWARE	25 ENTERPRISE ROAD	1541310306	Commercial	3/4
11115.01	HAWKINS JAMES	1581 MONTOUR BLVD.	1852924202	Commercial	3/4
11116.01	HAWKINS COLLISION CENTER	MONTOUR BLVD. 11116	1541425432	Commercial	3/4

Commercial
Water meters
70

Residential
Water meters
1116

2"
+ 1 = 15 Wesner Lane
added 5/24/18

Total Meters
=
1186

21. Second, Ms. Vicari used inconsistent purchase price values to calculate the average costs per customer. Id. at 21-22.

(a) Incorrect Use of Projected Customers

Ms. Vicari used an incorrect number of customers for MACM. In Appendix A-17-a, it states that MACM has 12,780 customers, yet Ms. Vicari used 21,953 customers. OCA St. 1 at 20-21. She explained that she used that number because she counted the individual connections for each bulk customer. Id. She never supplied her calculation of the individual connections for the four bulk customers. Id.

Ms. Vicari does not necessarily apply that logic to the other acquisitions in her sample group by reflecting individual connections for any bulk customers. OCA St. 1S at 16-17. By using the actual number of customers for the other systems, she achieved a higher average cost per customer. She then multiplied this overstated cost per customer times the unsupported number of bulk customers' individual connection, compounding the error. Ms. Everette was not able to confirm whether all of the customer numbers in Ms. Vicari's sample group were consistently counted. She therefore used the 21,953 customer number used by Ms. Vicari to minimize the issues in the proceeding.

(b) Inconsistent Purchase Price Values

Similar to the problem with the customer count, MACM witness Vicari did not use consistent purchase price values. OCA St. 1 at 21-22. For the comparative acquisitions, she used the purchase price plus the value of capital improvements required by the agreement of sale. For MACM, however, she uses only the purchase price and does not consider the \$62.7 million of capital investments that PAWC anticipates making over the next 10 years. Including the cost



McKeesport sewer system to be sold for \$156 million

September 16, 2016 12:00 AM

By Deana Carpenter

The Municipal Authority of the City of McKeesport has agreed to sell its sewer system to Pennsylvania American Water for approximately \$156 million.

The sale is needed to bring the city to more stable financial ground and avoid Act 47, the program for financially distressed municipalities, or municipal bankruptcy, McKeesport Mayor Michael Cherepko said at the Sept. 7 council meeting.

“It became very clear to this administration that the only way to save our community from municipal bankruptcy, while continuing to offer the same level of services our residents deserve, would be to transfer our local sewage system to a regional or national utility company,” Mr. Cherepko said in a news release.

A purchase agreement was signed by both parties last Friday following votes by city council and the municipal authority to sell the sewer system. The sale is expected to be finalized in the second half of next year pending regulatory approvals and other closing conditions.

The system serves 22,000 customers in McKeesport and the communities of Dravosburg, Duquesne, East McKeesport, Elizabeth Township, Glassport, Liberty, Lincoln, North Versailles, Port Vue, Versailles and White Oak.

“We look forward to closing the proposed acquisition and to providing wastewater services that reflect our commitment to environmental stewardship and quality customer service,” said

Kathy L. Pape, president of Pennsylvania American Water, said that after the deal is closed, the company looks forward “to welcoming the Municipal Authority of the City of McKeesport’s employees and customers to the Pennsylvania American Water family.”

She said the company also looks forward to “providing wastewater services that reflect our commitment to environmental stewardship and quality customer service.”

The next step is approval of the acquisition by the Pennsylvania Public Utility Commission along with other approvals, such as from the state Department of Environmental Protection.

In June, state Auditor General Eugene DePasquale said McKeesport erred when it accidentally spent \$729,275 in state funds earmarked for pension costs and subsequently couldn't pay its \$2.3 million annual pension obligation last year.

McKeesport officials said then they would remedy the shortfall through “the sale of an asset in the near future.”

“The total proceeds of the pending sale of the Municipal Authority of the City of McKeesport will solidify the City of McKeesport’s financial position for years to come,” Mr. Cherepko said this week. “The down payment associated with this

sale will generate enough revenue to cover all of the city's outstanding financial obligations, including the minimum municipal obligations associated with the city's pension funds."

Deana Carpenter, freelance writer: suburbanliving@post-gazette.com.

EAST END SEWER ACCOUNTS

Type	2015-4	2015-3	2015-2	2015-1	2014-4	2014-3	2014-2	2014-1
CO1	2,070,000	2,060,000	1,831,000	2,284,000	2,971,000	2,665,000	1,498,000	1,278,000
CO2	739,000	1,050,000	885,000	793,000	1,028,000	1,061,000	873,000	873,000
IND								
MIX	15,000	9,000	10,000	4,000	17,000	14,000	12,000	18,000
RES	13,780,000	13,367,000	12,924,000	13,280,000	12,700,000	14,137,000	14,241,000	12,874,000
Grand Total	16,604,000	16,486,000	15,650,000	16,361,000	16,716,000	17,877,000	16,624,000	15,043,000

# DAYS	94	90	89	91	87	94	93	91
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Type	2015-4 GPD	2015-3 GPD	2015-2 GPD	2015-1 GPD	2014-4 GPD	2014-3 GPD	2014-2 GPD	2014-1 GPD
CO1	22,021	22,889	20,573	25,099	34,149	28,351	16,108	14,044
CO2	7,862	11,667	9,944	8,714	11,816	11,287	9,387	9,593
IND								
MIX	160	100	112	44	195	149	129	198
RES	146,596	148,522	145,213	145,934	145,977	150,394	153,129	141,473
Grand Total	176,638	183,178	175,843	179,791	192,138	190,181	178,753	165,308

Type	Total Units	Total Active Units	Total Accounts
CO1	145	109	65
CO2	40	16	13
IND			
MIX	8	7	3
RES	1,043	1012	823
Grand Total	1,236	1,144	904

Type	2015 Total	2014 Total
CO1	8,245,000	8,412,000
CO2	3,467,000	3,835,000
IND		
MIX	38,000	61,000
RES	53,351,000	53,952,000
Grand Total	65,101,000	66,260,000

Service Area	Total Units	Total Active Units	Total Accounts
BP	290	282	107
BR	52	51	52
BW	99	90	56
CR	5	4	5
CW	110	109	110
EE	1		1
GL	132	110	70
HD	127	110	112
PD	31	31	31
PM	48	47	48
PS	66	66	66
SC	65	37	40
SH	132	132	132
SRO	2	2	2
WB	76	73	72
Grand Total	1,236	1,144	904

SOUTH END SEWER ACCOUNTS

Type	2015-4	2015-3	2015-2	2015-1	2014-4	2014-3	2014-2	2014-1
CO1	163,000	68,000	33,000	27,000	277,000	265,000	28,000	25,000
RES	7,444,000	7,494,000	7,172,000	7,565,000	7,109,000	7,576,000	7,233,000	7,750,000
Grand Total	7,607,000	7,562,000	7,205,000	7,592,000	7,386,000	7,841,000	7,261,000	7,775,000

# DAYS	94	90	89	91	87	94	93	91
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Type	2015-4 GPD	2015-3 GPD	2015-2 GPD	2015-1 GPD	2014-4 GPD	2014-3 GPD	2014-2 GPD	2014-1 GPD
CO1	1,734	756	371	297	3,184	2,819	301	275
RES	79,191	83,267	80,584	83,132	81,713	80,596	77,774	85,165
Grand Total	80,926	84,022	80,955	83,429	84,897	83,415	78,075	85,440

Type	Total Units	Total Active Units	Total Accounts
CO1	6	2	2
RES	611	605	607
Grand Total	617	607	609

Type	2015 Total	2014 Total
CO1	291,000	595,000
RES	29,675,000	29,668,000
Grand Total	29,966,000	30,263,000

Service Area	Total Units	Total Active Units	Total Accounts
ES	178	174	174
HGN	129	125	125
HGS	30	29	30
MG	21	21	21
WS	259	258	259
Grand Total	617	607	609

AVONDALE SEWER ACCOUNTS SEWER ACCOUNTS

Type	2015-4	2015-3	2015-2	2015-1	2014-4	2014-3	2014-2	2014-1
CO1	2,833,000	3,044,000	2,895,000	3,014,000	2,844,000	2,681,000	2,598,000	2,992,000
CO2	191,000	208,000	235,000	228,000	224,000	195,000	192,000	179,000
MIX	301,000	312,000	255,000	273,000	227,000	258,000	276,000	332,000
RES	4,090,000	3,750,000	3,588,000	4,089,000	3,506,000	4,183,000	4,716,000	3,705,000
TWP	31,000	24,000	20,000	19,000	21,000	22,000	19,000	74,000
Grand Total	7,446,000	7,338,000	6,993,000	7,623,000	6,822,000	7,339,000	7,801,000	7,282,000

# DAYS	94	90	89	91	87	94	93	91
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Type	2015-4 GPD	2015-3 GPD	2015-2 GPD	2015-1 GPD	2014-4 GPD	2014-3 GPD	2014-2 GPD	2014-1 GPD
CO1	30,138	33,822	32,528	33,121	32,690	28,521	27,935	32,879
CO2	2,032	2,311	2,640	2,505	2,575	2,074	2,065	1,967
MIX	3,202	3,467	2,865	3,000	2,609	2,745	2,968	3,648
RES	43,511	41,667	40,315	44,934	40,299	44,500	50,710	40,714
TWP	330	267	225	209	241	234	204	813
Grand Total	79,213	81,533	78,573	83,769	78,414	78,074	83,882	80,022

Type	Total Units	Total Active Units	Total Accounts
CO1	397	48	38
CO2	4	4	4
MIX	8	22	8
RES	306	282	230
TWP	3	3	3
Grand Total	718	359	283

Type	2015 Total	2014 Total
CO1	11,786,000	11,115,000
CO2	862,000	790,000
MIX	1,141,000	1,093,000
RES	15,517,000	16,110,000
TWP	94,000	136,000
Grand Total	29,400,000	29,244,000

Service Area	Total Units	Total Active Units	Total Accounts
41	308	76	46
BH	123	120	121
BH2	6	6	6
RR	130	119	79
TK	151	38	31
Grand Total	718	359	283



Dilworth
Paxson

Home > News / Events > Press Releases > The PA PUC Approves First Wastewater Sale Under New Act 12

The PA PUC Approves First Wastewater Sale Under New Act 12

06/14/2017

June 14, 2017 (Philadelphia, PA) - On June 14, 2017, the Pennsylvania Public Utility Commission approved, in a four-to-one vote, Aqua Pennsylvania Wastewater, Inc.'s application to acquire the wastewater system of New Garden Township and its Sewer Authority, and to begin providing wastewater service to the residents of New Garden and Kennett Townships in Chester County. The transaction is the first to be approved using the fair market valuation approach established by the Pennsylvania State Legislature and Governor Tom Wolf with Act 12 of 2016 (Act of Apr. 14, 2016, P.L. 76, No. 12, 66 Pa. C.S. § 1329).

Act 12 is changing the landscape for municipal sales of water and wastewater systems to PUC-regulated public utility companies. The new law allows the parties to the transaction to opt in to a new method of valuation, which takes the value of the system for ratemaking purposes as either the lower of the average of two independent fair market value appraisals—one obtained by the utility buyer and one by the municipal seller—or by the negotiated purchase price. Prior to Act 12, system value for ratemaking was based on depreciated original cost, which would likely always result in a lower sale price than fair market value. In addition, the new law requires the PUC to act within six months of the acceptance of the application.

Act 12 became effective mid-June 2016, and the PUC issued its final implementation order in October 2016. The New Garden transaction was the first Act 12 application, submitted for approval in December 2016. Aqua, New Garden, and the Authority agreed to a negotiated purchase price of \$29,500,000, which turned out to be less than the average of the two appraisals commissioned by Aqua and New Garden. The valuation for ratemaking purposes was therefore set at \$29,500,000.

A protest to Aqua's application for PUC approval pursuant to Act 12 in the New Garden transaction was filed by the Bureau of Investigation and Enforcement, which sought a review of both of the fair market appraisals used, additional information about the proposed rate freeze agreed to by the parties, and a determination of whether the transaction was in the public interest under Section 1102 of the Public Utility Code.

An additional protest was filed by the Office of Consumer Advocates requesting further information to determine whether supplementary conditions should be imposed on the transaction to ensure that Aqua's existing customers are treated in a fair and just manner; how the transaction will substantially and affirmatively benefit Aqua's existing customers; and whether the agreement sufficiently provides for safe, adequate, and reasonable service at just and reasonable rates.

An evidentiary hearing was held before an administrative law judge on February 16, 2017. After the hearing, the judge recommended the denial of Aqua's application, concluding that Aqua had failed to demonstrate by a preponderance of the evidence that the acquisition was in the public interest because it failed to demonstrate that the transaction will result in affirmative public benefits to its existing customers. The judge also concluded that Aqua had failed to support its rate stabilization plan with evidence to show its basis and impact. The judge did

Related Lawyers

Skye C.A. Nickalls

Marc A. Feller

Related Practices

Corporate and Business

Related Offices

Philadelphia, PA

1 invest in necessary capital improvements and resources, and experienced managerial and
2 operating personnel necessary to provide safe and reliable sewer services to the residents of
3 the TOS and surrounding areas. PAWC is currently the water provider within TOS and is
4 the operator of TOS's System pump station.

5
6 **Q. PLEASE DESCRIBE PAWC'S HISTORICAL RELATIONSHIP WITH TOS.**

7 A. Since PAWC's acquisition of the water and wastewater assets of the City of Coatesville
8 Authority ("CCA") in March 2001, PAWC has been the regional wastewater (and water)
9 provider in the City of Coatesville and surrounding communities. . PAWC's treats the
10 wastewater from the communities of Sadsbury Township, City of Coatesville, East
11 Fallowfield Township, Caln Township, West Caln Township, Valley Township, West
12 Sadsbury Township, Highland Township, West Brandywine Township and Parksburg
13 Borough. TOS has been a bulk wastewater customer of PAWC since PAWC's acquisition
14 of CCA's water and wastewater system assets. We maintain a relationship with TOS and
15 other local municipalities by participating in local events, providing environmental and
16 firefighting grants, offering the "H2O Assistance Program," and supporting economic
17 growth through infrastructure improvements in the communities we serve.

18
19 **Q. HOW MANY CUSTOMERS DOES THE TOS SYSTEM CURRENTLY SERVE**
20 **AND HOW MANY CUSTOMERS DOES PAWC CURRENTLY SERVE?**

21 A. As of December 31, 2016, TOS furnished wastewater services to 998 customers. This
22 number includes 950 residential and 48 commercial customer connections. Of these

1 interest in discussing the potential acquisition of the System and the use of Section 1329,
2 the fair market value approach. TOS's representatives executed the Letter of Interest on
3 December 6 and 7, 2016 and returned it to PAWC. This "Letter of Interest" was extended
4 through amendments on March 9, 2017, May 2, 2017, June 6, 2017, and July 5, 2017 to
5 allow the parties to enter into a definitive agreement. Through these extensions, PAWC
6 and TOS jointly retained the services of Herbert E. MacCombie, Jr., P.E., of Media
7 Pennsylvania to complete the Engineer's Assessment of Tangible Assets pursuant to
8 Section 1329. The Engineer's Assessment of Tangible Assets is included as Schedule 1.1
9 of the APA and included with the UVE fair market valuation reports at **Appendix A-5**.
10 PAWC, pursuant to Section 1329, retained the services of AUS Consultants of Greenfield
11 Wisconsin to complete an appraisal of the System. TOS retained the services of Herbert,
12 Rowland & Grubic, Inc. of Harrisburg, Pennsylvania to also complete an appraisal of the
13 System. These appraisals accompany the Application at **Appendix A-5** (together with
14 electronic working documents at **Appendix A-4**) and are included as Schedule 2.2 of the
15 APA. After receipt of the two appraisals and subsequent arms-length negotiations, on May
16 1, 2018 TOS's Board of Supervisors approved the APA, which was subsequently executed
17 by PAWC and TOS that day too. This APA includes a negotiated purchase price of
18 \$9,250,000.

19
20 **Q. CAN YOU PLEASE PROVIDE AN OVERVIEW OF THE APA?**

21 **A.** Yes. The APA is attached as **Appendix A-24-a** to the Application (**PAWC Exhibit KEG-**
22 **1**). The APA sets forth the terms and conditions pursuant to which the TOS will sell, and
23 PAWC will purchase, the System, as well as substantially all assets, properties and rights

71.59.88.179



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Aqua America's Pennsylvania Subsidiary Enters Agreement to Purchase Cheltenham Township Wastewater System

July 02, 2018 07:00 AM Eastern Daylight Time

BRYN MAWR, Pa.--(BUSINESS WIRE)--Aqua America announced today that its Pennsylvania subsidiary has signed an asset purchase agreement with Cheltenham Township to purchase its wastewater system, which serves approximately 10,500 connections in Montgomery County, for \$50.25 million. The agreement must be approved by the Pennsylvania Public Utility Commission.

The transaction will be Aqua Pennsylvania's fourth acquisition application referred to the Pennsylvania PUC since Act 12, commonly referred to as fair market value legislation, was enacted last year. Aqua Pennsylvania has asset purchase agreements with the 2,100-customer New Garden Township wastewater system in Chester County and the 5,400-customer Limerick Township wastewater system in Montgomery County. The company also has an agreement, signed in December 2017, with East Bradford Township in Chester County to purchase its 1,200-customer wastewater collection system. Aqua already provides water service to East Bradford, as it does with Cheltenham.

These four systems, including Cheltenham, total more than 19,000 wastewater connections and would nearly double Aqua Pennsylvania's current 22,000-customer wastewater operation.

The new law encourages a consolidation of the fragmented industry for the benefit of customers, the environment, and local governments. This transaction will benefit customers by leveraging compliance expertise, purchasing power gained through economies of scale and operational efficiencies to ultimately benefit service to our customers at affordable rates.

"We are pleased with the momentum we are gaining to reach agreements with municipal systems," said Aqua America Chairman and CEO Christopher Franklin. "Act 12 is having its intended impact, allowing municipalities to be compensated for the fair value of their water and wastewater assets and enabling utility professionals to bring expertise to systems in need."

Aqua Pennsylvania President Marc Lucca says his team is ready to work with the Cheltenham community on making needed system improvements.

"As with our pending agreements with New Garden, East Bradford and Limerick, the Aqua Pennsylvania team is looking forward to assuming Cheltenham's sewer utility responsibilities so the township can direct its attention and capital to other priorities," said Lucca. "We are anxious to begin the work necessary to help the township meet the requirements of an outstanding Pennsylvania Department of Environmental Protection consent order, specifically related to inflow and infiltration issues there."

In total, Aqua has plans to spend nearly \$50 million over the next 10 years to improve Cheltenham's wastewater system.

Aqua America is one of the largest U.S.-based, publicly traded water utilities and serves nearly 3 million people in Pennsylvania, Ohio, North Carolina, Illinois, Texas, New Jersey, Indiana and Virginia. Aqua America is listed on the New York Stock Exchange under the ticker symbol WTR. Visit AquaAmerica.com for more information.

Forward-Looking Statements

This release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 including, among others: the company's ability to successfully close the acquisition of the wastewater systems noted in this release. There are important factors that could cause actual results to differ materially from those expressed or implied by such forward-looking statements including: general economic business conditions, the successful integration of the customers and the facilities, the success of the company's growth efforts including its ability to utilize Act 12, and other factors discussed in our Annual Report on Form 10-K, which is on file with the Securities and Exchange Commission.

Cheltenham Township
1329 Proceeding
Cheltenham Twp. - Water Accounts reported for Sewer Billing

Type of Service	Gallons	Customers ¹
Commercial	280,938,300	534
Industrial	364,400	14
Public	9,962,700	23
Residential	484,692,800	9,648
Total	775,958,200	10,219

1. Customers include all Active and Inactive Accounts

Wastewater treatment is provided by the Borough of West Chester pursuant to a Sewer Capacity Agreement dated November 14, 2017, by and between the Borough and East Bradford Township. Copies of West Chester's 2017 Chapter 94 Reports to DEP for the Goose Creek WWTP and for the Taylor Run WWTP are attached hereto as Exhibit E3 and Exhibit E4.

15. The Goose Creek WWTP has a permitted treatment capacity of 1.672 MGD. The Taylor Run WWTP has a permitted treatment capacity of 1.50 MGD. The elevation of the Goose Creek WWTP is generally about EL 370. The elevation of the Taylor Run WWTP is generally about EL 260. The elevation of the Requested Territory ranges from approximately EL 365 to EL 280.

16. Water service in the Requested Territory is provided by both Aqua Pennsylvania, Inc. and private wells.

17. The original cost, by year and major plant category, of the East Bradford Township used and useful plant in service is \$8,294,931 with a related calculation depreciation reserve of \$2,820,983. The original cost value includes a series of capped sewers along the North Benjamin Drive area of the Township. The capped sewers include approximately 3,300 linear feet of 8" Gravity PVC pipe and 20 manholes, with an estimated original cost value of approximately \$100,000 as estimated by Aqua. The pipe and manholes are included in the totals on page 2-11 and 2-12 of Exhibit W. Aqua will categorize the capped sewer pipe and manholes as plant held for future use in its asset allocation upon closing. The area of capped sewers along North Benjamin Drive is not included in the Requested Territory.

18. Tentative journal entries to record the transaction are presented in Section IV.

IV. ASSET PURCHASE AGREEMENT

19. The *Assets Purchase Agreement* is dated December 20, 2017. The *First Amendment to Assets Purchase Agreement* is dated April 18, 2018. The purchase price is Five Million Dollars

(\$5,000,000.00). In addition to the purchase price, Section 1.5 of the Agreement provides that Aqua will assume certain defined liabilities and pay certain out-of-pocket costs incurred by East Bradford Township.

20. The purchase price and Agreement are based on arm's length negotiations. Aqua and East Bradford Township are not affiliated with each other. Aqua will use short term debt initially for the purchase of the assets with the expectation that the short term debt will be converted to long term debt and equity capital at a later date.

21. The wastewater system assets to be acquired are the "Assets" and have the meaning specified in Section 1.1 of the Agreement. The Assets include the assets, properties and rights of East Bradford Township that comprise the wastewater system or that are owned by East Bradford Township and used by it solely in connection with operation of the system.

22. "Excluded Assets," which are those assets not being transferred to Aqua, have the meaning specified in Section 1.4 of the Agreement. Excluded Assets include customer service laterals that run from the curb area to individual customer residences or structures; piping and fixtures internal to each customer residence or structure; cash and cash equivalents; and the items set forth in Schedule 1.4 of the Agreement.

23. "Assumed Liabilities" has the meaning specified in Section 1.6 of the Agreement and include the liabilities and obligations under the Assumed Contracts that arise after Closing, liabilities incurred or arising from and after Closing under or from failure to comply with permits, approvals or licenses related to the system that are transferred to Aqua and the obligation to provide wastewater service after Closing. The Assumed Contracts, which are listed in Schedule 1.6 of the APA and attached hereto as **Exhibit F1** and **Exhibit F2**, are the Sewer Capacity Agreement dated November 14, 2017, by and between the Borough of West Chester and East Bradford Township and the Intergovernmental Cooperation Agreement dated March 15, 1999, between East Bradford and Birmingham Township.

East Bradford Township

	# of Customers	Annual Gallons Treated (2017)
Residential- Single Family	399	23,783,560
Residential- Townhomes	814	36,390,635
Commercial		
Bradford Retail - The Bistro		112,800
Bradford Retail - Strip Stores		688,000
Brookworth Plaza - Dunkin Donuts		147,200
Brookworth Plaza - CVS		35,300
Brookworth Plaza - empty building		-
Brookworth Plaza - Strip Stores		142,000
Brookworth Plaza - PNC Bank		17,000
Countryside Food Mart		52,700
Antique Ice Museum		3,600
Mrs. Mike's Restaurant		103,110
Brandywine Hall Nursing Home		8,281,000
Daily Local News - now empty building		24,400
Bradford Plaza - Strip Stores		1,991,430
Bradford Plaza - Giant Food Store		2,527,700
Bradford Plaza - Walgreens		47,000
Bradford Plaza - Giant Gas Station		6,200
Chester County Art Association		120,100
Industrial		
Diesel Systems		66,300
Chem Service		173,400
Other Class(?)*		
Goddard School		252,800
Hillsdale Elementary School		649,700
WCU S Campus Apts - 144		24,200
WCU S Campus Apts - 167		583,900
WCU S Campus Apts - 168		500,900
WCU S Campus Apts - 169		441,900
WCU S Campus Apts - 170		570,900
WCU S Campus Apts - 171		318,900
WCU S Campus Apts - 172		422,000
WCU S Campus Apts - 173		306,400
WCU S Campus Apts - 174		424,500
WCU S Campus Apts - 175		323,400
WCU S Campus Apts - 176		340,000
WCU S Campus Apts - 177		356,000
University Student Housing 1		4,463,500
University Student Housing 2		5,429,000
Total		90,121,435

*May include church, school, public, etc... (please insert a line for each)

420,000
153,300,000

35
399
814
1,248

Exeter Township supervisors agree to sell municipal wastewater system for \$96 million

 readingeagle.com/news/article/exeter-township-supervisors-agree-to-sell-municipal-wastewater-system-for-96-million

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The sale to Pennsylvania American Water Co. will keep taxes steady for 10 years and do other things for Exeter, the township manager said.

Written by Mike Urban
Exeter Township, PA —

The Exeter Township supervisors have agreed to sell the township's wastewater treatment plant and system to a private company for \$96 million, a move they expect will save taxpayers money and put the township on much better financial footing.

The supervisors voted 4-1 on April 23 to approve the sale to Pennsylvania American Water Co., which supplies water to the township and operates 15 wastewater treatment systems statewide.

The two sides must finalize the asset purchase agreement, and the sale will require Pennsylvania Utility Commission approval, meaning the earliest the company is likely to take ownership would be early next year.

Township Manager John A. Granger said that if the sale goes through as planned, it will allow the township to hold real estate taxes steady for 10 years or more; pay for future capital projects including equipment replacement, township building relocation and storm sewer improvements; and still leave \$48 million in the bank.

The current property tax rate is 2.14 mills, but that would have increased 32.6 percent to 2.8 mills in 2019 if the township retained ownership of the plant, he said.

The township is expected to raise sewer rates 29 percent before the sale is completed, but that rate hike would likely have been higher if the township held onto the system and made necessary upgrades, said Supervisor John Cusatis.

And the supervisors plan to enact a homestead tax exemption that would more than cover the rate increase for most homeowners, he said.

There are about 9,000 properties in Exeter connected to the wastewater system, and Pennsylvania American spokesman Terry M. Maenza said that they shouldn't notice any changes in sewer service once the company takes control of the system.

"It should be seamless," he said.

The company plans to retain the township's six wastewater employees, he said.

Cusatis and fellow Supervisors Lisa VanderLaan, William F. White and David G. Speece Jr. voted for the sale, saying it was a tough decision but the economic benefits were too good to turn down.

"The sale will pay off the library and sewer debt, stabilize the tax base and improve the township's credit rating," Cusatis said.

Supervisor Gary E. Lloyd Jr. voted against the sale, saying he didn't want to lose the valuable asset.

Cusatis said that most Exeter residents he spoke with support the move, but at the April 23 meeting several expressed concern about selling public property to private industry and giving up control of the wastewater system.

A written handout from resident Sherrie Greene noted that: "I have done some research and read that many municipalities have taken this route, then regretted it later. Once our sewer system is sold, it is gone forever and we cannot get it back."

Pennsylvania American, headquartered in Hershey, is a subsidiary of American Water Works Co., based in Vorhees, N.J.

This would be Pennsylvania American's first wastewater treatment system in Berks.

(Correspondent Valdis I. Lacis contributed to this story.)

Contact Mike Urban: 610-371-5023 or murban@readingeagle.com.

09/02/16

**Exeter Township
Customer List****Report by Class**

Account	Name Service Address	Tax ID	Book	Status	Alert Code
97990.00	F M BROWN SONS INC 790 DANIEL BOONE ROAD	43-5345-07-68-8539 BIRDSBORO	PA	A 19508-8737	
99991.00	DIEROLF, CANDACE 21 PINE AVENUE	BIRDSBORO	PA	A 19508	
99992.00	TELFORD, MARK 19-6 CRANBERRY RIDGE	READING	PA	A 19606-3934	
Total Class: R: 8,708					
Class: TRAILER PARK					
20000.00	KLIEWER, KIM B 4851 PERKIOMEN AVENUE	43-5325-08-79- READING	100 PA	A 19606	
(610) 670-0191 20010.00	KL MHC LLC 44 KEYSTONE ROAD	43-5335-14-34- READING	201 PA	A 19606-3655	
20020.00	BORDIC MOBILE HOME PARK 214 BORDIC ROAD	43-5335-09-16- READING	200 PA	A 19606-3605	
20030.00	KL MHC LLC 44 KEYSTONE ROAD	43-5335-10-35- READING	201 PA	A 19606-3655	
20060.00	ALSACE TOWNSHIP 240 SPIES CHURCH ROAD	READING	101 PA	A 19606	
20070.00	KL MHC LLC 44 KEYSTONE ROAD	43-5335-14-34-2494 READING	PA	A 19606-3655	
91230.00	PENN VIEW MOBILE PARK BROADWAY AVENUE	43-5327-14-42- READING	200 PA	A 19606	
(610) 779-4202					

Total Class: T: 7**Total: 8,984**

ASSET PURCHASE AGREEMENT

7. Aqua and Limerick are parties to an Asset Purchase Agreement dated November 16, 2016. Aqua Exhibit 1, Application ¶ 5 and ¶ 18; *see also* Aqua Exhibit No. 1, Exhibit C.

8. The negotiated purchase price, which is based on arms' length negotiation, is Seventy-Five Million One Hundred Thousand Dollars (\$75,100,000.00). Aqua and Limerick are not affiliated with each other. Aqua Exhibit No. 1, Application ¶ 18 and Aqua St. No. 1 at 6, lines 6 through 10.

9. Aqua will use short term credit lines to fund the transaction. The short term credit funding will be converted to a mix of long-term debt and equity capital shortly after closing. Aqua St. No. 1 at 7, lines 18 through 20; *see also* Aqua Exhibit No. 1, Application ¶ 18.

ASSETS BEING TRANSFERRED

10. The wastewater system assets to be transferred are the "Acquired Assets" and have the meaning specified in Section 2.01 of the Agreement. The Acquired Assets include all real property Limerick owns and uses in the operation of the wastewater system and all sanitary wastewater related treatment and conveyance facilities, including the Possum Hollow Waste Water Treatment Plant ("PHWWTP"), the King Road Waste Water Treatment Plant ("KRWWTTP") and all pipes, pumping stations, manholes and pipelines and billing and collections related assets necessary to run the system. Aqua Exhibit No. 1, Application ¶ 19.

11. Acquired Assets also include the contracts identified on Schedule 4.15 of the Agreement to which Limerick is a party (the "Assigned Contracts"). Since contract parties, other than Limerick, are identified by name, Schedule 4.15 and the Assigned Contracts are considered CONFIDENTIAL. Copies of CONFIDENTIAL Schedule 4.15 and the CONFIDENTIAL Assigned Contracts were included with the Application as Confidential Exhibit F and admitted into evidence as CONFIDENTIAL Aqua Exhibit No. 4. Aqua Exhibit No. 1, Application ¶ 20 and Tr. 13 and 20.

Service Address	Customer Number	Edu Purchased	Group Code	Drainage Basin	SPA Amt	SPA Qty	SWR Amt	SWR Qty	Swr Base Amt	PEN Amt	INT Amt
3793 900 FOXMEADOW DR	12133	16	King Road	SOUTHEAST (6)	-	116,300.00	F	-	\$ 1,348.80	-	-
3794 1000 FOXMEADOW DR	12134	16	King Road	SOUTHEAST (6)	-	94,400.00	F	-	\$ 1,348.80	-	-
3795 1100 FOXMEADOW DR	12135	16	King Road	SOUTHEAST (6)	\$ 216.44	153,200.00	F	-	\$ 1,348.80	-	-
3796 1200 FOXMEADOW DR	12136	16	King Road	SOUTHEAST (6)	\$ 69.15	130,400.00	F	-	\$ 1,348.80	-	-
3799 1500 FOXMEADOW CIR	12139	16	King Road	SOUTHEAST (6)	\$ 43.95	126,500.00	F	-	\$ 1,348.80	-	-
3800 1600 FOXMEADOW CIR	12140	16	King Road	SOUTHEAST (6)	-	82,300.00	F	-	\$ 1,348.80	-	-
3801 1700 FOXMEADOW CIR	12141	16	King Road	SOUTHEAST (6)	-	84,300.00	F	-	\$ 1,348.80	-	-
3802 1800 FOXMEADOW CIR	12142	16	King Road	SOUTHEAST (6)	-	92,500.00	F	-	\$ 1,348.80	-	-
3803 1900 FOXMEADOW DR	12143	16	King Road	SOUTHEAST (6)	-	111,200.00	F	-	\$ 1,348.80	-	-
3804 2000 FOXMEADOW CIR	12144	16	King Road	SOUTHEAST (6)	\$ 8.42	121,000.00	F	-	\$ 1,348.80	-	-
3805 2100 FOXMEADOW CIR	12145	16	King Road	SOUTHEAST (6)	\$ 160.88	144,600.00	F	-	\$ 1,348.80	-	-
3806 2200 FOXMEADOW DR	12146	16	King Road	SOUTHEAST (6)	-	101,000.00	F	-	\$ 1,348.80	-	-
3807 2300 FOXMEADOW DR	12147	16	King Road	SOUTHEAST (6)	\$ 176.38	147,000.00	F	-	\$ 1,348.80	-	-
3808 2400 FOXMEADOW CIR	12148	16	King Road	SOUTHEAST (6)	\$ 94.99	134,400.00	F	-	\$ 1,348.80	-	-
3809 2500 FOXMEADOW CIR	12149	16	King Road	SOUTHEAST (6)	\$ 107.26	136,300.00	F	-	\$ 1,348.80	-	-
161 640 N LEWIS RD	275	17	King Road	SOUTHEAST (6)	\$ 1,932.95	306,700.00	F	-	\$ 84.30	-	-
3674 7-27 W RIDGE PIKE/STRP ML	12005	18	King Road	SOUTHEAST (6)	\$ 63.37	92,100.00	F	-	\$ 927.30	-	-
3727 125 SUNSET RD	12065	18	King Road	282 GRATERFORD RD (20)	\$ 1,198.45	193,000.00	F	-	\$ 84.30	-	-
3772 15 KEYSTONE DR	12112	18	King Road	TRINLEY (5)	\$ 2,452.98	387,200.00	F	-	\$ 84.30	-	-
5199 256 SWAMP PIKE/SCHOOL	60965	18	Possum Hollow	RAVENS CLAW (18)	\$ 2,015.24	334,400.00	F	-	\$ 252.90	-	-
162 339 N LEWIS RD	276	19	King Road	SOUTHEAST (6)	\$ 1,256.59	202,000.00	F	-	\$ 84.30	-	-
3706 W RIDGE PIKE/STRIP/BANK	12039	19	King Road	SOUTH LIMERICK (3)	\$ 1,373.73	272,500.00	F	-	\$ 674.40	-	-
3745 542 N LEWIS RD	12084	19	King Road	TRINLEY (5)	\$ 112.65	32,400.00	F	-	\$ 168.60	-	-
3411 70 BUCKWALTER RD/1350/APPLEB	11737	20	King Road	SOUTHEAST (6)	\$ 3,375.47	530,000.00	F	-	\$ 84.30	-	-
5389 206 JONES BLVD/MICROCOAX	70011	20	Possum Hollow	BROOKE EVANS (16)	\$ 14,938.23	2,319,900.00	F	-	\$ 84.30	-	-
3445 70 BUCKWALTER RD/1250/TEXAS	11771	21	King Road	SOUTHEAST (6)	\$ 2,419.39	382,000.00	F	-	\$ 84.30	-	-
3707 22 ANCHOR PARKWAY	12040	23	King Road	SOUTHEAST (6)	\$ 1,958.79	310,700.00	F	-	\$ 84.30	-	-
3773 77 GRATERFORD RD	12113	23	King Road	282 GRATERFORD RD (20)	\$ 1,208.14	194,500.00	F	-	\$ 84.30	-	-
64 677 ELM ST	170	24	Royersford	ORCHARD TERRACE (OT)	-	12,000.00	F	-	\$ 2,023.20	-	-
3863 430 W LINFIELD TRAPPE RD	12208	24	King Road	TRINLEY (5)	\$ 4,782.46	747,800.00	F	-	\$ 84.30	-	-
794 1101 ENTERPRISE DR	2573	28	King Road	TRINLEY (5)	\$ 1,182.95	190,600.00	F	-	\$ 84.30	-	-
2502 196 W RIDGE PK/FLEA MRKT	10679	29	King Road	RIDGE PIKE (10)	\$ 629.07	247,000.00	F	-	\$ 1,686.00	\$ 1.80	-
3869 420 LINFIELD TRAPPE RD	12214	30	King Road	TRINLEY (5)	\$ 852.20	139,400.00	F	-	\$ 84.30	-	-
5410 14 W LIGHTCAP RD	70032	34	Possum Hollow	POSSUM HOLLOW (17)	\$ 7,741.14	1,205,800.00	F	-	\$ 84.30	-	-
3401 19 W LINFIELD TRAPPE RD	11727	36	King Road	SOUTHEAST (6)	\$ 5,421.59	846,736.00	F	-	\$ 84.30	-	-
107 475 N LEWIS RD	216	52	King Road	SOUTHEAST (6)	\$ 3,921.34	614,500.00	F	-	\$ 84.30	-	-
3761 88 ANCHOR PARKWAY	12101	52	King Road	SOUTHEAST (6)	\$ 3,746.92	587,500.00	F	-	\$ 84.30	-	-
2292 420 W LINFIELD TRAPPE RD	10357	59	King Road	TRINLEY (5)	\$ 5,568.64	869,500.00	F	-	\$ 84.30	-	-
167 350 S LEWIS RD	282	60	King Road	SOUTHEAST (6)	\$ 3,791.50	594,400.00	F	-	\$ 84.30	-	-
2465 827 N LEWIS RD	10630	80	King Road	SOUTH LIMERICK (3)	-	150,200.00	F	-	\$ 6,744.00	-	-
3091 FOX RIDGE APTS	11378	97	King Road	SOUTH LIMERICK (3)	\$ 2,050.04	1,043,000.00	F	-	\$ 8,177.10	-	-
2685 165 W RIDGE PIKE/TRLR PK	10913	115	King Road	SOUTHEAST (6)	\$ 6,018.69	1,792,000.00	F	-	\$ 9,694.50	-	-
5397 EXELON LIM GEN STA	70019	137	Possum Hollow	POSSUM HOLLOW (17)	N	-	\$ 8,659.75	1,348,000.00	\$ 84.30	\$ 1,041.07	-
5400 18 LIGHTCAP RD	70022	200	Possum Hollow	POSSUM HOLLOW (17)	\$ 4,006.31	1,278,500.00	F	-	\$ 7,418.40	-	-
5416	8402				\$ 299,707.92	89,160,697	\$ 25,039.14	7,288,556	\$ 600,843.05	\$ 14,296.74	\$ 1,169.98

\$5,572,770. Exh. A-14-a, SWPA St. 1 at 11-12. The allocated purchase price for the water system is \$4,734,800 and the wastewater system is \$4,765,200. Appendix A-14, SWPA St. 2 at 4-5.

The valuation experts were paid \$59,145 for the Fair Market Value Appraisal Reports for both the water and wastewater systems. Exh. A-8-a. SWPA also indicates that it will incur transaction and closing costs of approximately \$1,000,000 between the Water System and the Wastewater System, which will be included in rate base. Appendix A-14, SWPA St.1 at 5-6; Appendix A-12.

OCA will examine the ratemaking rate base claims to determine if the claims are reasonable and appropriate for ratemaking purposes.

2. Proposed Rates: SWPA proposes to charge customers of the Mahoning Township system the Mahoning Township water and wastewater rates in effect at closing. Application at 6, 11; Appendix A-13. Those rates will remain in effect until SWPA's next base rate case but SWPA may impose any fee or surcharge permitted by its Commission-approved tariff. Id.

The proposed rates do not appear to match the existing Mahoning Township rates. The OCA will investigate this apparent discrepancy. The OCA will investigate the impacts on the current customers as well as on Mahoning Township customers of the various assumptions and proposals.

3. The OCA submits that additional information is necessary to determine how the transaction will substantially and affirmatively benefit Suez's existing customers.

4. Conditions: Whether any conditions should be imposed upon the proposed transfer to ensure that Suez's customers are treated in a fair and just manner in accord with Pennsylvania law and Commission rules and regulations.

MAHONING TOWNSHIP CUSTOMER LIST

Customer No	Name	Service Address	Service	SWR EDUs	EDU	Count
11470.01	T & S REALTY	304 HOLLOW DR	Sewer	1	1	1431
11471.01	T & S REALTY	306 HOLLOW DR	Sewer	1	1	1432
11472.01	T & S REALTY	308 HOLLOW DR	Sewer	1	1	1433
11473.01	T & S REALTY	310 HOLLOW DR	Sewer	1	1	1434
11474.01	T & S REALTY	312 HOLLOW DR	Sewer	1	1	1435
11475.01	DAVID & JOANNE BROOKO\	32 TERRE LANE	Sewer	1	1	1436
11476.02	JAYA SUGUNARAJ & JESSIT\	214 ABBEY RD	Sewer	1	1	1437
11478.01	DAVID BULBIN & BARBARA	74 WOODLAND DR	Sewer	1	1	1438
11479.01	JEFFREY MOLINARO	1318 BLOOM RD	Sewer	1	1	1439
11480.01	CRYSTAL DOMETITA	91 WOODLAND DR	Sewer	1	1	1440
11482.01	AYUSA SINHA	672 LOWER ST	Sewer	1	1	1441
11483.01	MADIAN YAHYA	676 LOWER ST	Sewer	1	1	1442
11484.01	JEFF WATSON	168 KASEVILLE RD	Sewer	1	1	1443
11485.01	ANWER & SARAH QURESHI	656 LOWER ST	Sewer	1	1	1444
11486.01	ROSS & ASHLEY PETERS	83 TERRE LN	Sewer	1	1	1445
11488.01	QUESHI ANWER	664 LOWER STREET	Sewer	1	1	1446
11489.01	MATHUR HERSH	660 LOWER STREET	Sewer	1	1	1447
11490.01	PRASANNA SANKEPALLI & S	668 LOWER ST	Sewer	1	1	1448
11491.01	MARK GATSKI & CATHERINE	82 DELWOOD DR	Sewer	1	1	1449
11492.01	JONATHAN & LAURA SPAHF	78 TERRE LN	Sewer	1	1	1450
11166.02	DANKO HOLDINGS LP	1301 BLOOM RD	Sewer	0	1	1451
TOTALS					2195	1451

Report Criteria:
Customer.Final bill date = (IS NULL)

Customer #	Name	Service Address	Meter ID	Customer Type	Size
11104.01	ANIMAL CARE	32 ENTERPRISE DR	0049503582	Commercial	1
11107.01	EMMANUEL HOME	MONTOUR BLVD. 11107	8280982952	Commercial	1
11120.02	REDEEMER ORTHODOX PRESBYTER	1820 MONTOUR BLVD.	1540802894	Commercial	1
11121.01	FAB-TEX	29 WOODBINE LANE	0004695133	Commercial	1
11137.01	GEISINGER HEALTH SYSTEMS - MCB	MCBRIDE	1541355520	Commercial	1
11151.01	ROAT-KRINER ROAT	1133 BLOOM RD.	1541286282	Commercial	1
11157.01	TRINITY METHODIST CHURCH	84 LOMBARD AVE	1018010545	Commercial	1
11159.01	VINTAGE KNOLLS ASSISTED LIVING	9 JUSTIN DR 101	1541313242	Commercial	1
11160.01	GEISINGER COMMUNITY HEALTH - VI	44 WOODBINE LANE	0048920994	Commercial	1
11165.01	RINEHART DENTAL	20 WESNER LANE	1481726108	Commercial	1
Total 1:				10	10
11110.01	BUSY BEAVER	23 WESNER LN	0053635505	Commercial	1.5
11139.01	MEADOWS COMM.	77 TOWER VIEW CIRCLE	0051583844	Commercial	1.5
11148.01	SHANER HOTEL GRP ✓	43 PINE BARN PLACE	1832339361	Commercial	1.5
11170.01	HAWKINS CHEVROLET	1856 MONTOUR BLVD.	1852732193	Commercial	1.5
11439.01	GEORGE HEIM CAR WASH	1802 MONTOUR BLVD	1541551330	Commercial	1.5
Total 1.5:				5	5
11102.01	ATLANTIC EQUIP	15 ENTERPRISE DR	0048304212	Commercial	2
11108.01	EMMANUEL NAZARETH	1707 MONTOUR BLVD. 11108	1007034764	Commercial	2
11117.01	T & S REALTY	1083 BLOOM RD	0046645520	Commercial	2
11126.01	GUM REALTY GROUP LLC	74 SCHOOL HOUSE RD STE 101	0022379100	Commercial	2
11134.01	MARIA JOSEPH AL CENTER	MONTOUR BLVD. 11134	1832120637	Commercial	2
11136.01	GEISINGER HEALTH SYSTEMS - HUG	HUGHES CENTER SOUTH	0052693508	Commercial	2
11146.01	SHANER HOTEL GRP ✓	43 PINE BARN PLACE A	0043702654	Commercial	2
11166.02	DANKO HOLDINGS LP	1301 BLOOM RD	1548931502	Commercial	2
Total 2:				8	8
11101.01	NAILS TO TAILS GROOMING SALON	938 BLOOM RD.	1810172132	Commercial	3/4
11109.01	BROKENSHERE JOHN	769 BLOOM RD.	1541276964	Commercial	3/4
11111.01	CERO JAMES PATRICK	795 BLOOM RD	1541282452	Commercial	3/4
11113.01	COLE'S HARDWARE	25 ENTERPRISE ROAD	1541310306	Commercial	3/4
11115.01	HAWKINS JAMES	1581 MONTOUR BLVD.	1852924202	Commercial	3/4
11116.01	HAWKINS COLLISION CENTER	MONTOUR BLVD. 11116	1541425432	Commercial	3/4

Commercial
Water meters
70

Residential
Water meters
1116

2"
+ 1 = 15 Wesner Lane
added 5/24/18

Total Meters
=
1186



McKeesport sewer system to be sold for \$156 million

September 16, 2016 12:00 AM

By Deana Carpenter

The Municipal Authority of the City of McKeesport has agreed to sell its sewer system to Pennsylvania American Water for approximately \$156 million.

The sale is needed to bring the city to more stable financial ground and avoid Act 47, the program for financially distressed municipalities, or municipal bankruptcy, McKeesport Mayor Michael Cherepko said at the Sept. 7 council meeting.

“It became very clear to this administration that the only way to save our community from municipal bankruptcy, while continuing to offer the same level of services our residents deserve, would be to transfer our local sewage system to a regional or national utility company,” Mr. Cherepko said in a news release.

A purchase agreement was signed by both parties last Friday following votes by city council and the municipal authority to sell the sewer system. The sale is expected to be finalized in the second half of next year pending regulatory approvals and other closing conditions.

The system serves 22,000 customers in McKeesport and the communities of Dravosburg, Duquesne, East McKeesport, Elizabeth Township, Glassport, Liberty, Lincoln, North Versailles, Port Vue, Versailles and White Oak.

“We look forward to closing the proposed acquisition and to providing wastewater services that reflect our commitment to environmental stewardship and quality customer service,” said

Kathy L. Pape, president of Pennsylvania American Water, said that after the deal is closed, the company looks forward “to welcoming the Municipal Authority of the City of McKeesport’s employees and customers to the Pennsylvania American Water family.”

She said the company also looks forward to “providing wastewater services that reflect our commitment to environmental stewardship and quality customer service.”

The next step is approval of the acquisition by the Pennsylvania Public Utility Commission along with other approvals, such as from the state Department of Environmental Protection.

In June, state Auditor General Eugene DePasquale said McKeesport erred when it accidentally spent \$729,275 in state funds earmarked for pension costs and subsequently couldn't pay its \$2.3 million annual pension obligation last year.

McKeesport officials said then they would remedy the shortfall through “the sale of an asset in the near future.”

“The total proceeds of the pending sale of the Municipal Authority of the City of McKeesport will solidify the City of McKeesport’s financial position for years to come,” Mr. Cherepko said this week. “The down payment associated with this

sale will generate enough revenue to cover all of the city's outstanding financial obligations, including the minimum municipal obligations associated with the city's pension funds."

Deana Carpenter, freelance writer: suburbanliving@post-gazette.com.

21. Second, Ms. Vicari used inconsistent purchase price values to calculate the average costs per customer. Id. at 21-22.

(a) Incorrect Use of Projected Customers

Ms. Vicari used an incorrect number of customers for MACM. In Appendix A-17-a, it states that MACM has 12,780 customers, yet Ms. Vicari used 21,953 customers. OCA St. 1 at 20-21. She explained that she used that number because she counted the individual connections for each bulk customer. Id. She never supplied her calculation of the individual connections for the four bulk customers. Id.

Ms. Vicari does not necessarily apply that logic to the other acquisitions in her sample group by reflecting individual connections for any bulk customers. OCA St. 1S at 16-17. By using the actual number of customers for the other systems, she achieved a higher average cost per customer. She then multiplied this overstated cost per customer times the unsupported number of bulk customers' individual connection, compounding the error. Ms. Everette was not able to confirm whether all of the customer numbers in Ms. Vicari's sample group were consistently counted. She therefore used the 21,953 customer number used by Ms. Vicari to minimize the issues in the proceeding.

(b) Inconsistent Purchase Price Values

Similar to the problem with the customer count, MACM witness Vicari did not use consistent purchase price values. OCA St. 1 at 21-22. For the comparative acquisitions, she used the purchase price plus the value of capital improvements required by the agreement of sale. For MACM, however, she uses only the purchase price and does not consider the \$62.7 million of capital investments that PAWC anticipates making over the next 10 years. Including the cost



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Home > News / Events > Press Releases > The PA PUC Approves First Wastewater Sale Under New Act 12

The PA PUC Approves First Wastewater Sale Under New Act 12

06/14/2017

June 14, 2017 (Philadelphia, PA) - On June 14, 2017, the Pennsylvania Public Utility Commission approved, in a four-to-one vote, Aqua Pennsylvania Wastewater, Inc.'s application to acquire the wastewater system of New Garden Township and its Sewer Authority, and to begin providing wastewater service to the residents of New Garden and Kennett Townships in Chester County. The transaction is the first to be approved using the fair market valuation approach established by the Pennsylvania State Legislature and Governor Tom Wolf with Act 12 of 2016 (Act of Apr. 14, 2016, P.L. 76, No. 12, 66 Pa. C.S. § 1329).

Act 12 is changing the landscape for municipal sales of water and wastewater systems to PUC-regulated public utility companies. The new law allows the parties to the transaction to opt in to a new method of valuation, which takes the value of the system for ratemaking purposes as either the lower of the average of two independent fair market value appraisals—one obtained by the utility buyer and one by the municipal seller—or by the negotiated purchase price. Prior to Act 12, system value for ratemaking was based on depreciated original cost, which would likely always result in a lower sale price than fair market value. In addition, the new law requires the PUC to act within six months of the acceptance of the application.

Act 12 became effective mid-June 2016, and the PUC issued its final implementation order in October 2016. The New Garden transaction was the first Act 12 application, submitted for approval in December 2016. Aqua, New Garden, and the Authority agreed to a negotiated purchase price of \$29,500,000, which turned out to be less than the average of the two appraisals commissioned by Aqua and New Garden. The valuation for ratemaking purposes was therefore set at \$29,500,000.

A protest to Aqua's application for PUC approval pursuant to Act 12 in the New Garden transaction was filed by the Bureau of Investigation and Enforcement, which sought a review of both of the fair market appraisals used, additional information about the proposed rate freeze agreed to by the parties, and a determination of whether the transaction was in the public interest under Section 1102 of the Public Utility Code.

An additional protest was filed by the Office of Consumer Advocates requesting further information to determine whether supplementary conditions should be imposed on the transaction to ensure that Aqua's existing customers are treated in a fair and just manner; how the transaction will substantially and affirmatively benefit Aqua's existing customers; and whether the agreement sufficiently provides for safe, adequate, and reasonable service at just and reasonable rates.

An evidentiary hearing was held before an administrative law judge on February 16, 2017. After the hearing, the judge recommended the denial of Aqua's application, concluding that Aqua had failed to demonstrate by a preponderance of the evidence that the acquisition was in the public interest because it failed to demonstrate that the transaction will result in affirmative public benefits to its existing customers. The judge also concluded that Aqua had failed to support its rate stabilization plan with evidence to show its basis and impact. The judge did

Related Lawyers

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EAST END SEWER ACCOUNTS

Type	2015-4	2015-3	2015-2	2015-1	2014-4	2014-3	2014-2	2014-1
CO1	2,070,000	2,060,000	1,831,000	2,284,000	2,971,000	2,665,000	1,498,000	1,278,000
CO2	739,000	1,050,000	885,000	793,000	1,028,000	1,061,000	873,000	873,000
IND								
MIX	15,000	9,000	10,000	4,000	17,000	14,000	12,000	18,000
RES	13,780,000	13,367,000	12,924,000	13,280,000	12,700,000	14,137,000	14,241,000	12,874,000
Grand Total	16,604,000	16,486,000	15,650,000	16,361,000	16,716,000	17,877,000	16,624,000	15,043,000

# DAYS	94	90	89	91	87	94	93	91
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Type	2015-4 GPD	2015-3 GPD	2015-2 GPD	2015-1 GPD	2014-4 GPD	2014-3 GPD	2014-2 GPD	2014-1 GPD
CO1	22,021	22,889	20,573	25,099	34,149	28,351	16,108	14,044
CO2	7,862	11,667	9,944	8,714	11,816	11,287	9,387	9,593
IND								
MIX	160	100	112	44	195	149	129	198
RES	146,596	148,522	145,213	145,934	145,977	150,394	153,129	141,473
Grand Total	176,638	183,178	175,843	179,791	192,138	190,181	178,753	165,308

Type	Total Units	Total Active Units	Total Accounts
CO1	145	109	65
CO2	40	16	13
IND			
MIX	8	7	3
RES	1,043	1012	823
Grand Total	1,236	1,144	904

Type	2015 Total	2014 Total
CO1	8,245,000	8,412,000
CO2	3,467,000	3,835,000
IND		
MIX	38,000	61,000
RES	53,351,000	53,952,000
Grand Total	65,101,000	66,260,000

Service Area	Total Units	Total Active Units	Total Accounts
BP	290	282	107
BR	52	51	52
BW	99	90	56
CR	5	4	5
CW	110	109	110
EE	1		1
GL	132	110	70
HD	127	110	112
PD	31	31	31
PM	48	47	48
PS	66	66	66
SC	65	37	40
SH	132	132	132
SRO	2	2	2
WB	76	73	72
Grand Total	1,236	1,144	904

SOUTH END SEWER ACCOUNTS

Type	2015-4	2015-3	2015-2	2015-1	2014-4	2014-3	2014-2	2014-1
CO1	163,000	68,000	33,000	27,000	277,000	265,000	28,000	25,000
RES	7,444,000	7,494,000	7,172,000	7,565,000	7,109,000	7,576,000	7,233,000	7,750,000
Grand Total	7,607,000	7,562,000	7,205,000	7,592,000	7,386,000	7,841,000	7,261,000	7,775,000

# DAYS	94	90	89	91	87	94	93	91
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Type	2015-4 GPD	2015-3 GPD	2015-2 GPD	2015-1 GPD	2014-4 GPD	2014-3 GPD	2014-2 GPD	2014-1 GPD
CO1	1,734	756	371	297	3,184	2,819	301	275
RES	79,191	83,267	80,584	83,132	81,713	80,596	77,774	85,165
Grand Total	80,926	84,022	80,955	83,429	84,897	83,415	78,075	85,440

Type	Total Units	Total Active Units	Total Accounts
CO1	6	2	2
RES	611	605	607
Grand Total	617	607	609

Type	2015 Total	2014 Total
CO1	291,000	595,000
RES	29,675,000	29,668,000
Grand Total	29,966,000	30,263,000

Service Area	Total Units	Total Active Units	Total Accounts
ES	178	174	174
HGN	129	125	125
HGS	30	29	30
MG	21	21	21
WS	259	258	259
Grand Total	617	607	609

AVONDALE SEWER ACCOUNTS SEWER ACCOUNTS

Type	2015-4	2015-3	2015-2	2015-1	2014-4	2014-3	2014-2	2014-1
CO1	2,833,000	3,044,000	2,895,000	3,014,000	2,844,000	2,681,000	2,598,000	2,992,000
CO2	191,000	208,000	235,000	228,000	224,000	195,000	192,000	179,000
MIX	301,000	312,000	255,000	273,000	227,000	258,000	276,000	332,000
RES	4,090,000	3,750,000	3,588,000	4,089,000	3,506,000	4,183,000	4,716,000	3,705,000
TWP	31,000	24,000	20,000	19,000	21,000	22,000	19,000	74,000
Grand Total	7,446,000	7,338,000	6,993,000	7,623,000	6,822,000	7,339,000	7,801,000	7,282,000

# DAYS	94	90	89	91	87	94	93	91
--------	----	----	----	----	----	----	----	----

Type	2015-4 GPD	2015-3 GPD	2015-2 GPD	2015-1 GPD	2014-4 GPD	2014-3 GPD	2014-2 GPD	2014-1 GPD
CO1	30,138	33,822	32,528	33,121	32,690	28,521	27,935	32,879
CO2	2,032	2,311	2,640	2,505	2,575	2,074	2,065	1,967
MIX	3,202	3,467	2,865	3,000	2,609	2,745	2,968	3,648
RES	43,511	41,667	40,315	44,934	40,299	44,500	50,710	40,714
TWP	330	267	225	209	241	234	204	813
Grand Total	79,213	81,533	78,573	83,769	78,414	78,074	83,882	80,022

Type	Total Units	Total Active Units	Total Accounts
CO1	397	48	38
CO2	4	4	4
MIX	8	22	8
RES	306	282	230
TWP	3	3	3
Grand Total	718	359	283

Type	2015 Total	2014 Total
CO1	11,786,000	11,115,000
CO2	862,000	790,000
MIX	1,141,000	1,093,000
RES	15,517,000	16,110,000
TWP	94,000	136,000
Grand Total	29,400,000	29,244,000

Service Area	Total Units	Total Active Units	Total Accounts
41	308	76	46
BH	123	120	121
BH2	6	6	6
RR	130	119	79
TK	151	38	31
Grand Total	718	359	283

1 interest in discussing the potential acquisition of the System and the use of Section 1329,
2 the fair market value approach. TOS's representatives executed the Letter of Interest on
3 December 6 and 7, 2016 and returned it to PAWC. This "Letter of Interest" was extended
4 through amendments on March 9, 2017, May 2, 2017, June 6, 2017, and July 5, 2017 to
5 allow the parties to enter into a definitive agreement. Through these extensions, PAWC
6 and TOS jointly retained the services of Herbert E. MacCombie, Jr., P.E., of Media
7 Pennsylvania to complete the Engineer's Assessment of Tangible Assets pursuant to
8 Section 1329. The Engineer's Assessment of Tangible Assets is included as Schedule 1.1
9 of the APA and included with the UVE fair market valuation reports at **Appendix A-5**.
10 PAWC, pursuant to Section 1329, retained the services of AUS Consultants of Greenfield
11 Wisconsin to complete an appraisal of the System. TOS retained the services of Herbert,
12 Rowland & Grubic, Inc. of Harrisburg, Pennsylvania to also complete an appraisal of the
13 System. These appraisals accompany the Application at **Appendix A-5** (together with
14 electronic working documents at **Appendix A-4**) and are included as Schedule 2.2 of the
15 APA. After receipt of the two appraisals and subsequent arms-length negotiations, on May
16 1, 2018 TOS's Board of Supervisors approved the APA, which was subsequently executed
17 by PAWC and TOS that day too. This APA includes a negotiated purchase price of
18 \$9,250,000.

19
20 **Q. CAN YOU PLEASE PROVIDE AN OVERVIEW OF THE APA?**

21 **A.** Yes. The APA is attached as **Appendix A-24-a** to the Application (**PAWC Exhibit KEG-**
22 **1**). The APA sets forth the terms and conditions pursuant to which the TOS will sell, and
23 PAWC will purchase, the System, as well as substantially all assets, properties and rights

1 invest in necessary capital improvements and resources, and experienced managerial and
2 operating personnel necessary to provide safe and reliable sewer services to the residents of
3 the TOS and surrounding areas. PAWC is currently the water provider within TOS and is
4 the operator of TOS's System pump station.

5
6 **Q. PLEASE DESCRIBE PAWC'S HISTORICAL RELATIONSHIP WITH TOS.**

7 A. Since PAWC's acquisition of the water and wastewater assets of the City of Coatesville
8 Authority ("CCA") in March 2001, PAWC has been the regional wastewater (and water)
9 provider in the City of Coatesville and surrounding communities. . PAWC's treats the
10 wastewater from the communities of Sadsbury Township, City of Coatesville, East
11 Fallowfield Township, Caln Township, West Caln Township, Valley Township, West
12 Sadsbury Township, Highland Township, West Brandywine Township and Parksburg
13 Borough. TOS has been a bulk wastewater customer of PAWC since PAWC's acquisition
14 of CCA's water and wastewater system assets. We maintain a relationship with TOS and
15 other local municipalities by participating in local events, providing environmental and
16 firefighting grants, offering the "H2O Assistance Program," and supporting economic
17 growth through infrastructure improvements in the communities we serve.

18
19 **Q. HOW MANY CUSTOMERS DOES THE TOS SYSTEM CURRENTLY SERVE**
20 **AND HOW MANY CUSTOMERS DOES PAWC CURRENTLY SERVE?**

21 A. As of December 31, 2016, TOS furnished wastewater services to 998 customers. This
22 number includes 950 residential and 48 commercial customer connections. Of these

PENNSYLVANIA REAL-TIME NEWS

Steelton water sale closer to completion as Pa. American Water signs \$22.5 million agreement

Updated Nov 15, 2018;
Posted Nov 15, 2018



Pennsylvania American Water announced today it signed an agreement to acquire the water assets of the Steelton Borough Authority. Pending regulatory approvals, the sale should be complete by the third quarter of 2019.

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By **Steve Marroni** | smarroni@pennlive.com

The sale of Steelton's water system is one step closer to completion.

Pennsylvania American Water announced today it has signed an agreement to acquire the water assets of the Steelton Borough Authority for \$22.5 million.

The two will next seek approval of the acquisition from the Pennsylvania Public Utility Commission and other necessary approvals from the Pennsylvania Department of Environmental Protection, according to the company.



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The Applicant's attorneys are authorized to receive all notices and communications regarding this Application.

6. PAWC is a regulated public utility corporation duly organized and existing under the laws of the Commonwealth of Pennsylvania, and is engaged in the business of collecting, treating, storing, supplying, distributing and selling water to the public, and collecting, treating, transporting and disposing of wastewater for the public. Water and wastewater services are furnished by PAWC to the public in a service territory encompassing more than 400 communities across the Commonwealth with a combined population of over 2,400,000. A description of PAWC's existing certificated water and wastewater service territory is found in **Appendix B**, along with a detailed corporate history, outlining all of the mergers, acquisitions and consolidations, which have created PAWC as it exists on the date of this Application.

7. Steelton is a municipal water authority, organized by the Borough of Steelton in accordance with the Municipality Authorities Act, 53 Pa. C.S. §5601, et seq., with its offices located at 123 North Front Street, Steelton, Pennsylvania. Steelton owns and operates the Steelton System, providing water service to the public in the Borough of Steelton and a portion of Swatara Township (the "Service Area"), in Dauphin County, Pennsylvania.

8. As of November 30, 2018, Steelton furnishes water service to 2,472 customers including 2,289 residential, 124 commercial, 13 industrial, 34 institutional, 11 municipal, and one bulk sales customer connection.



DEALS AUGUST 6, 2018 / 5:11 PM / 6 MONTHS AGO

SJW Group makes \$1.1 billion all-cash offer for Connecticut Water

3 MIN READ



NEW YORK (Reuters) - SJW Group ([SJW.N](#)) and Connecticut Water Service Inc ([CTWS.O](#)) said on Monday they were changing from a merger to an acquisition agreement, with SJW offering to buy the New England utility for \$1.1 billion in cash instead of combining stock.

The switch to an all-cash offer is worth \$70 per Connecticut Water share, a 33 percent premium to Connecticut Water's share price prior to the original deal announced in March, according to a joint statement.

It was also higher than the implied \$61.86 per share value of the Clinton, Connecticut-based firm under the merger-of-equals transaction, which would have created a combined company in which existing SJW shareholders would hold 60 percent of the stock.

SJW closed 2.3 percent lower, while Connecticut Water was 9 percent higher at \$68.50.

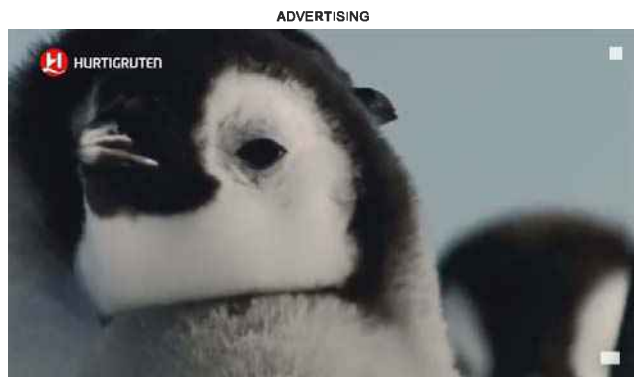
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To pay for the acquisition, SJW will initially utilize a \$975 million bridge loan from financial adviser JP Morgan Chase ([JPM.N](#)). Ultimately, the purchase would be covered by debt and between \$450 million and \$500 million of equity finance.

The new deal aims to conclude in the first quarter of 2019, subject to approvals from Connecticut Water's shareholders, as well as regulators in Connecticut and Maine.

The duo's original all-stock merger announcement in March triggered competing offers from Eversource Energy (ES.N) and California Water Service Group (CWT.N).

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"We have converted from a stock-for-stock deal to a cash offer, which will resolve any further market distractions from the inferior proposals," SJW Chief Executive Eric Thornburg told Reuters, in reference to the actions by Eversource and CalWater.

Switching to an acquisition, versus a merger structure, means that SJW shareholders will no longer be required to vote on approving the deal, the statement said.

CalWater has an open tender offer to acquire SJW that runs until Sept. 28.

However, asked if the change was aimed at heading off any shareholder challenge to the deal, Thornburg told Reuters it "wasn't a consideration" and it had received nothing but support from its shareholders.

RBS sounds alarm over Brexit

CalWater declined to comment. A spokesman for Eversource said the company was evaluating developments but, as it has made clear, it will be disciplined in pursuing this or any other transaction.

Reporting by David French in New York; Additional Reporting by Liana B. Baker; Editing by Lisa Shumaker

Our Standards: [The Thomson Reuters Trust Principles.](#)

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The following table breaks down the above total figures by customer class as of December 31, 2017, 2016, and 2015 :

	2017	2016	2015
Customers:			
Residential	118,493	111,494	110,254
Commercial	9,386	8,626	8,569
Industrial	536	479	478
Public Authority	1,072	948	964
Fire Protection	3,178	2,876	2,815
Other (including non-metered accounts)	2,980	545	553
Total	135,645	124,968	123,633
Water Revenues (in thousands):			
Residential	\$ 62,831	\$ 59,884	\$ 58,439
Commercial	13,676	12,250	11,816
Industrial	3,196	3,176	3,229
Public Authority	3,845	3,510	3,193
Fire Protection	20,235	18,486	18,016
Other (including non-metered accounts)	3,271	1,361	1,348
Total	\$ 107,054	\$ 98,667	\$ 96,041
Customer Water Consumption (millions of gallons):			
Residential	6,408	6,583	6,551
Commercial	2,026	1,954	1,941
Industrial	711	724	777
Public Authority	575	539	503
Total	9,720	9,800	9,772

The Regulated Companies own various small, discrete parcels of land that are no longer required for water supply purposes. At December 31, 2017, this land totaled over 600 acres. Over the past several years, we have been disposing of these land parcels through sales and/or donations, primarily to towns and municipalities. For more information, please refer to *Segments of Our Business* below.

Additional information on land dispositions can be found in Item 7 – “Management’s Discussion and Analysis of Financial Conditions and Results of Operations – Commitments and Contingencies”.

Competition

Our Regulated Companies face competition from a few small privately-owned water systems operating within, or adjacent to, our franchise areas and from municipal and public authority systems whose service areas in some cases overlap portions of our franchise areas.

Employees

As of December 31, 2017, we employed a total of 294 people. Our employees are not covered by collective bargaining agreements.

Elizabeth Rose Triscari, Esquire
Pennsylvania-American Water Company
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Hershey, PA 17033
(717) 520-4606
elizabeth.triscari@amwater.com

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

Interest Rates	History								Consensus Forecasts-Quarterly Avg.					
	Average For Week Ending				Average For Month			Latest Qtr	4Q	1Q	2Q	3Q	4Q	1Q
	Nov 22	Nov 15	Nov 8	Nov 1	Oct	Sep	Aug		2019	2020	2020	2020	2020	2021
Federal Funds Rate	1.55	1.55	1.57	1.83	1.83	2.04	2.13	2.19	1.7	1.6	1.5	1.4	1.4	1.4
Prime Rate	4.75	4.75	4.75	5.00	4.99	5.15	5.25	5.30	4.8	4.7	4.6	4.6	4.5	4.5
LIBOR, 3-mo.	1.90	1.91	1.90	1.91	1.98	2.13	2.16	2.19	1.9	1.8	1.8	1.7	1.7	1.7
Commercial Paper, 1-mo.	1.60	1.63	1.62	1.73	1.86	2.01	2.08	2.11	1.7	1.6	1.6	1.5	1.5	1.5
Treasury bill, 3-mo.	1.57	1.58	1.55	1.59	1.68	1.93	1.99	2.02	1.6	1.5	1.5	1.4	1.4	1.4
Treasury bill, 6-mo.	1.58	1.59	1.58	1.61	1.67	1.89	1.93	1.97	1.6	1.5	1.5	1.5	1.5	1.5
Treasury bill, 1 yr.	1.55	1.56	1.58	1.57	1.61	1.80	1.77	1.84	1.6	1.6	1.6	1.5	1.6	1.6
Treasury note, 2 yr.	1.59	1.62	1.64	1.59	1.55	1.65	1.57	1.69	1.6	1.6	1.6	1.6	1.6	1.7
Treasury note, 5 yr.	1.62	1.68	1.67	1.60	1.53	1.57	1.49	1.63	1.6	1.6	1.7	1.7	1.8	1.8
Treasury note, 10 yr.	1.77	1.87	1.86	1.78	1.71	1.70	1.63	1.80	1.7	1.8	1.8	1.9	1.9	2.0
Treasury note, 30 yr.	2.24	2.34	2.35	2.26	2.19	2.16	2.12	2.28	2.2	2.2	2.3	2.4	2.4	2.5
Corporate Aaa bond	3.13	3.22	3.22	3.15	3.11	3.10	3.06	3.20	3.1	3.2	3.3	3.4	3.4	3.5
Corporate Baa bond	3.83	3.92	3.92	3.87	3.86	3.84	3.82	3.94	4.0	4.1	4.2	4.3	4.4	4.4
State & Local bonds	3.13	3.18	3.18	3.16	3.14	3.15	3.08	3.15	2.9	2.9	3.0	3.1	3.1	3.2
Home mortgage rate	3.66	3.75	3.69	3.78	3.69	3.61	3.62	3.67	3.7	3.7	3.8	3.8	3.8	3.9
Key Assumptions	History								Consensus Forecasts-Quarterly					
	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q
	2017	2018	2018	2018	2018	2019	2019	2019	2019	2020	2020	2020	2020	2021
Fed's AFE Index	106.2	102.9	105.5	107.8	109.4	109.4	110.2	110.4	109.9	109.4	108.8	108.4	108.1	108.1
Real GDP	3.5	2.5	3.5	2.9	1.1	3.1	2.0	1.9	1.5	1.7	1.7	1.7	1.7	1.8
GDP Price Index	2.6	2.3	3.2	2.0	1.6	1.1	2.4	1.7	2.1	2.0	2.0	2.0	2.1	2.1
Consumer Price Index	3.1	3.2	2.1	2.0	1.5	0.9	2.9	1.8	2.0	2.1	2.0	2.0	2.0	2.1

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DUFF & PHELPS

2019 SBBI[®] Yearbook
Stocks, Bonds, Bills, and Inflation[®]

U.S. Capital Markets Performance by
Asset Class 1926–2018

Exhibit 7.1: Aggregate Market Capitalization and Company Counts of the CRSP (NYSE/NYSE MKT/NASDAQ) Deciles and Size Groupings
December 31, 2018

Decile	Historic Average Percentage of Total Capitalization	Recent Number of Companies	Recent Decile Market Capitalization (in \$thousands)	Recent Percentage of Total Capitalization
1-Largest	63.22%	191	19,292,756,366	69.06%
2	13.91%	202	3,374,015,549	12.08%
3	7.53%	192	1,736,953,613	6.22%
4	4.72%	222	1,163,165,541	4.16%
5	3.25%	219	736,762,076	2.64%
6	2.41%	286	631,058,072	2.26%
7	1.79%	284	403,045,100	1.44%
8	1.33%	348	307,565,042	1.10%
9	1.02%	444	200,061,186	0.72%
10-Smallest	0.81%	725	89,596,785	0.32%
Mid-Cap 3-5	15.50%	633	3,636,881,230	13.02%
Low-Cap 6-8	5.52%	918	1,341,668,214	4.80%
Micro-Cap 9-10	1.84%	1,169	289,657,971	1.04%

Source of data: CRSP U.S. Stock Database and CRSP U.S. Indices Database © 2019 Center for Research in Security Prices (CRSP), University of Chicago Booth School of Business. To learn more about CRSP, visit crsp.com.

In Exhibit 7.2, the largest company in each of the CRSP (NYSE/NYSE MKT/NASDAQ) deciles and size groupings (by market capitalization) are listed as of September 30, 2018.

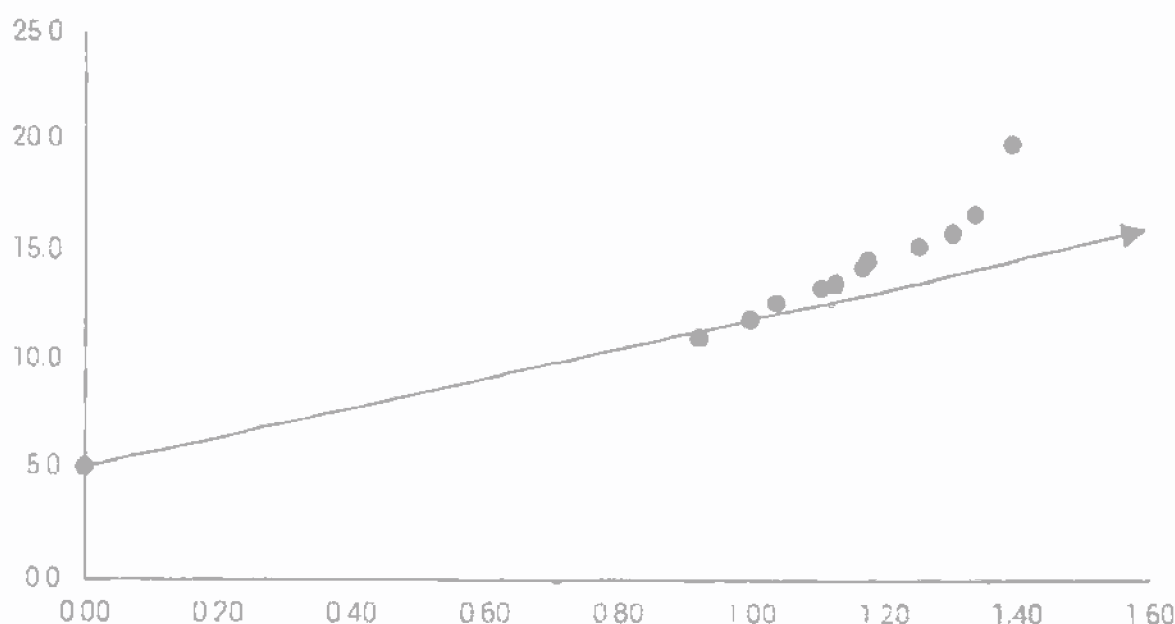
Exhibit 7.6: Summary Statistics of Annual Returns (CRSP NYSE/NYSE MKT/NASDAQ Deciles) (%) 1926–2018

Decile	Geometric Mean (%)	Arithmetic Mean (%)	Standard Deviation (%)	Serial Correlation
1 - Largest	9.3	11.0	18.8	0.06
2	10.4	12.7	21.4	0.00
3	10.9	13.4	23.2	-0.03
4	10.7	13.6	25.4	-0.03
5	11.2	14.3	26.0	-0.03
6	11.2	14.6	27.0	0.01
7	11.4	15.2	28.9	0.01
8	11.3	15.8	32.7	0.00
9	11.3	16.7	36.8	0.06
10	12.9	19.8	42.1	0.14
Mid-Cap	10.9	13.6	24.3	-0.03
Low-Cap	11.3	15.0	28.5	0.01
Micro-Cap	11.9	17.7	38.5	0.08
The "Market" (Deciles 1–10)	9.8	11.7	19.9	0.01

Source of underlying data: CRSP U.S. Stock Database and CRSP U.S. Indices Database © 2019 Center for Research in Security Prices (CRSP®), University of Chicago Booth School of Business. To learn more about CRSP, visit crsp.com. All calculations performed by Duff & Phelps.

Exhibit 7.7 is a graphical depiction of the year-end index levels presented in Exhibit 7.5 for mid-cap stocks (a portfolio comprised of CRSP deciles 3, 4, and 5), low-cap stocks (a portfolio comprised of CRSP deciles 6, 7, and 8), micro-cap stocks (a portfolio comprised of CRSP deciles 9 and 10), and the "market" (a portfolio comprised of CRSP deciles 1–10).

Exhibit 7.9: Security Market Line Versus a Scatter-Plot of Average Arithmetic Total Returns of the CRSP NYSE/NYSE MKT/NADAQ Deciles 1–10 and Their Respective Betas.



Sources of underlying data: Betas are estimated from monthly returns in excess of the 30-day U.S. Treasury bill total return, January 1926–December 2018. Historical riskless rate measured by the 93-year arithmetic mean income return component of SBBI® 20-year government bonds (4.97%). Calculated in the context of the CAPM by multiplying the equity risk premium by beta. The equity risk premium is estimated by the arithmetic mean total return of the S&P 500 (11.88%) minus the arithmetic mean income return component of SBBI® 20-year government bonds (4.97%) from 1926–2018. Sources of underlying data: (i) Morningstar Inc. Used with permission. All rights reserved. (ii) CRSP U.S. Stock Database and CRSP U.S. Indices Database © 2019 Center for Research in Security Prices (CRSP®) University of Chicago Booth School of Business. To learn more about CRSP, visit crsp.com. All calculations performed by Duff & Phelps.

Serial Correlation in Small-Cap Stock Returns

Serial correlation, or first-order autocorrelation, measures the degree to which the return of a given series is related from period to period. Serial correlation, like cross-correlation, ranges from 1.0 to negative 1.0. A positive serial correlation can be an indicator of a trend in a return series. A serial correlation of 1.0 indicates that returns from one period have a perfectly positive relationship to the returns of the next period; returns are therefore perfectly predictable from one period to the next. A negative serial correlation can be an indicator of a cycle in a return series. A serial correlation of negative 1.0 indicates that returns from one period have a perfectly negative relationship to the next period. A serial correlation near zero indicates that returns are random or unpredictable.

If stock returns have a positive or a negative serial correlation, one can gain some information about future performance based on prior period returns. The serial correlation of returns on large-cap stocks is near zero (see Exhibit 7.6). For the smallest deciles of stocks, the serial correlation tends to be higher. This observation bears further examination.

October 11, 2019

WATER UTILITY INDUSTRY

1788

Stocks in the Water Utility Industry turned in another solid performance in the third quarter. These equities have surprised many on Wall Street as they continue to do well in a bull market. Historically, investors bought water utilities because they were regulated monopolies that offered higher than average yields, the potential for dividend growth, well-defined earnings, and low volatility. The group was considered a defensive sector. Over the past several years, however, the stocks have outperformed the broader market indices during a bull market. This has led to yields on utilities stocks now being lower than the median of all stocks in the Value Line universe.

The water industry in the United States remains extremely fragmented. Less than a dozen are publicly traded. Thousands of water districts around the country are mostly owned and operated by municipalities. Consolidation has been ongoing over the past decade as some of the larger entities have been absorbing smaller ones.

In general, relations between state regulatory agencies and utilities has been constructive. This is important as these authorities determine the rate of return that can companies can earn on investment.

New Highs

Just as many experts were suggesting a top was nearing for stocks in this group, they continued to move higher in the third quarter. Indeed, the industry now ranks among the top handful of the nearly 100 industry followed by Value Line. We attribute part of the positive showing to the recent policy of The Federal Reserve. By reversing course and reducing the range of the Fed Funds rates twice, fixed-income securities have increased in value, which means their yields have declined. Water utilities are also of interest to income-oriented accounts (at least this was true in the past), because fixed-income instruments were seen as competitors to attract investors funds. However, the relationship has changed in the recent past. Of the eight regulated companies followed in this space the average yield is under 1.7%, and only Aqua America has a yield that reached 2.0%. Thus, this group is yielding about 50 basis points less than the typical equity in the Value Line universe. Perhaps more importantly, most yields are now lower than that of the three-month Treasury bill (1.7%). Investors have to decide whether to choose a government obligation that carries as little risk as possible, versus hanging on to water utility stocks. One thing is for sure, the market is willing to pay a "scarcity premium" for the water stocks. With less than 10 stocks to choose from and many of them being classified as small caps, there is a shortage of supply for institutions that want to have some exposure to this sector.

Industry Fundamentals

The basic fundamentals of the water industry are slow to change. Currently, most of the companies here are in the midst of large construction projects aimed at upgrading and modernizing the nation's aging water infrastructure. In previous decades, in order to maintain artificially low water rates for both residential and commercial accounts, many utilities deferred spending the capital required to maintain these assets. With many of these pipes laid in the 1950s, the average age of

INDUSTRY TIMELINESS: 3 (of 97)

many pipes is the is over 60 year.

Consolidation

There are over 50,000 water districts in the United States, many of them being quite small. As a result, they are often inefficient. Moreover, the small water entities do not have the capital required to modernize their systems. This has led the bigger concerns, especially American Water Works and Aqua America, to acquire many smaller ones. The bolt-on acquisitions are easily absorbed and the operations streamlined, which saves on costs.

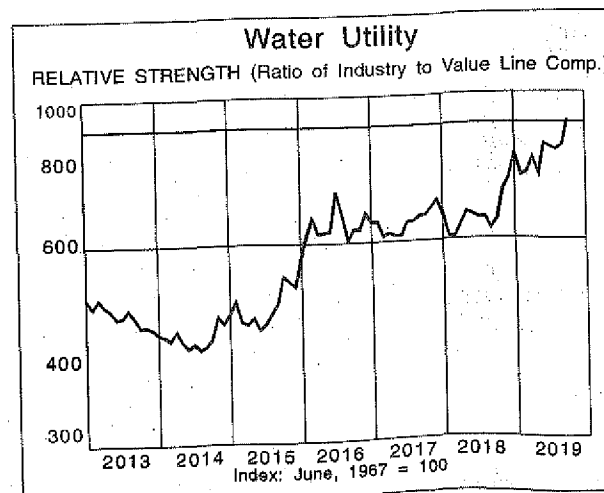
Regulation

One of main underpinnings of the industry's improved operational performance has been a positive regulatory climate. Often, natural gas and electric utilities have very contentious relationships with state authorities. Many times these companies are not allowed to recoup all of the investments they have made because the costs would be passed on to ratepayers. Shareholders end up absorbing some losses. By contrast, on the whole, water companies and the states they operate in, have been working together with the same aim of modernizing the water system. Authorities realize the investment is needed, and as long as the work is done in efficiently, they permit companies to earn an equitable return.

Conclusion

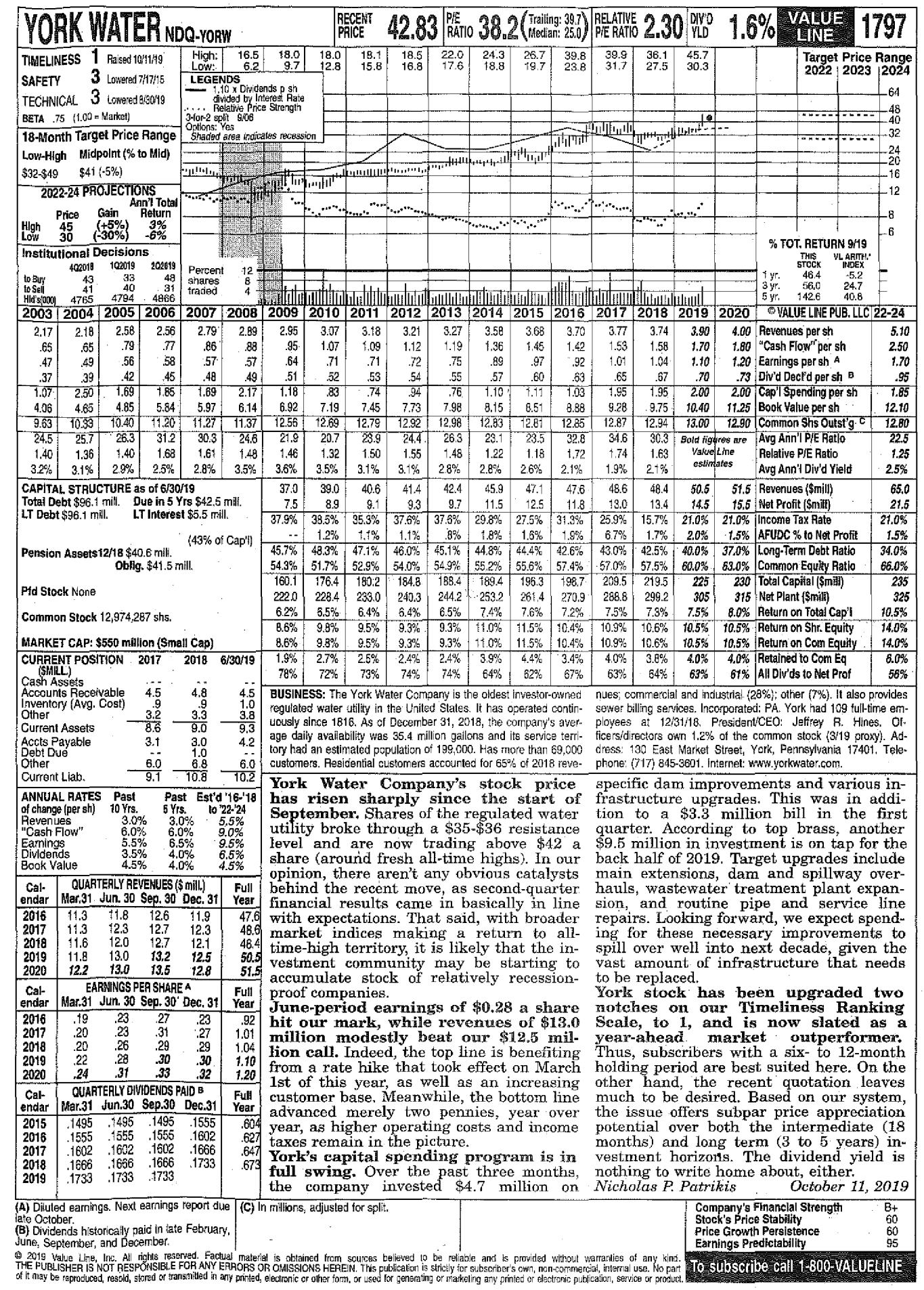
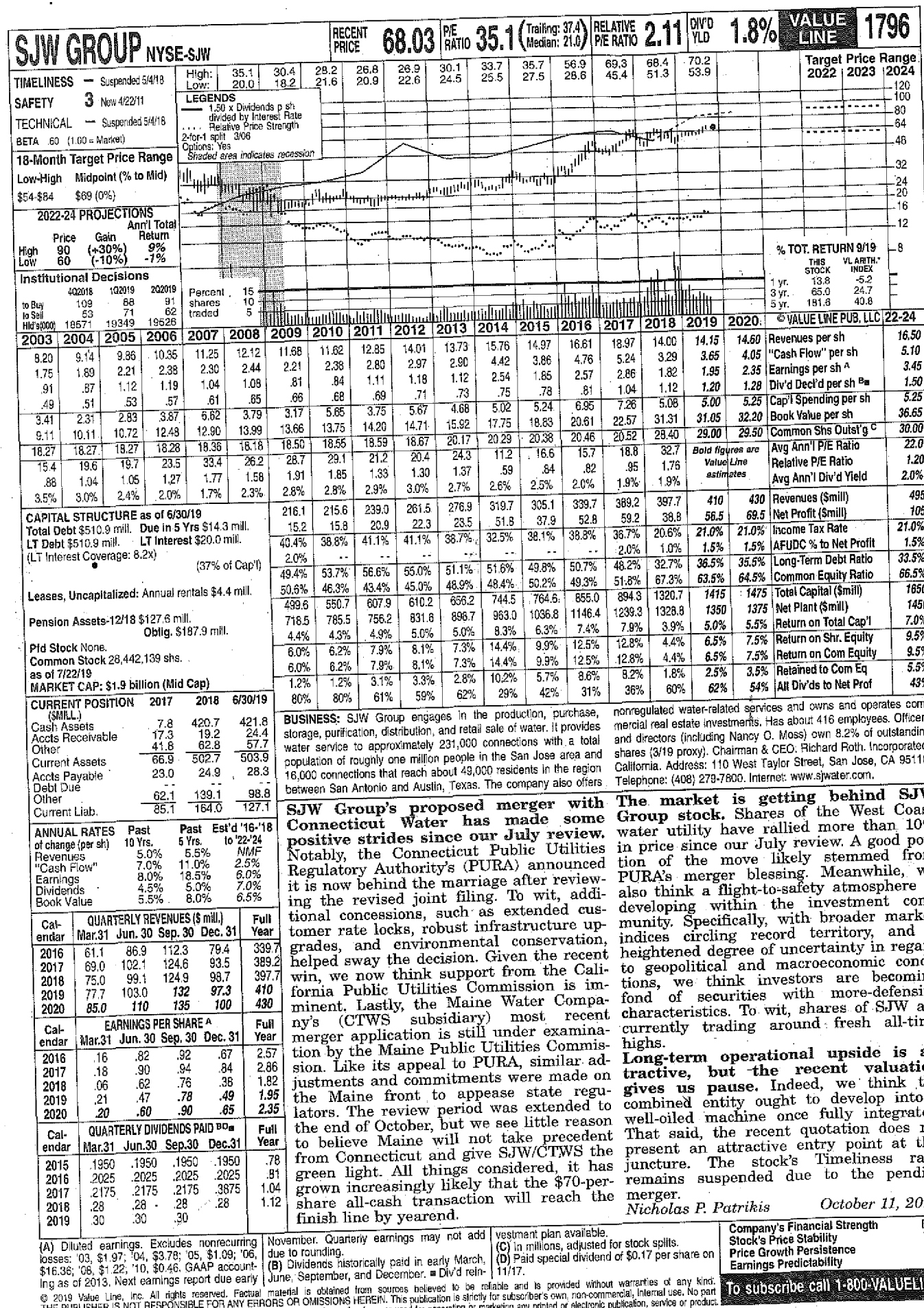
Indeed, these are interesting times to be an investor in water utilities. Shareholders in this space have done very well over the past one-, three-, and five-year periods. Perhaps the biggest issue facing investors here is whether or not market sentiment for these securities has peaked? Based on traditional financial metrics, the answer is clearly yes. However, that does not mean valuations cannot continue to rise. Conservative accounts should be aware that these equities are probably not as safe as they once were. Should institutions decide to take profits, volatility could well increase. In any case, as always, we strongly recommend that subscribers read each individual report to better understand specific risks before making commitments.

James A. Flood



AMER. STATES WATER NYSE-AWR										RECENT PRICE	90.00	P/E RATIO	42.3 (Trailing: 43.7 Median: 21.0)	RELATIVE P/E RATIO	2.55	DIVID YLD	1.4%	VALUE LINE	1789																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
TIMELINESS	1	Raised 8/9/19	High: 21.0	19.4	19.8	18.2	24.1	33.1	38.7	44.1	47.2	58.4	69.6	94.4				Target Price Range	2022	2023	2024																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
SAFETY	2	Raised 7/20/12	Low: 13.5	14.9	15.6	15.3	17.0	24.0	27.0	35.8	37.3	41.1	50.1	63.3				2022	2023	2024																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
TECHNICAL	2	Raised 10/11/19	LEGENDS 1.35 x Dividends p/h divided by Interest Rate Relative Price Strength 2 for 1 split 9/13 Colors: Yes Shaded area indicates recession																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															

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Company Name	AMERICAN	AMERICAN	AQUA	AME	ARTESIAN	I CALIFORNI	MIDDLESE	SJW GROU	YORK WAT
2013 Sales-Net[c12]	472.077	2901.858	768.643	69.073	584.103	114.846	276.869	42.383	
2014 Sales-Net[c13]	465.791	3011.328	779.903	72.465	597.499	117.139	319.668	45.9	
2015 Sales-Net[c14]	458.641	3159	814.204	77.024	588.368	126.025	305.082	47.089	
2016 Sales-Net[c15]	436.087	3302	819.875	79.089	609.37	132.906	339.706	47.584	
2017 Sales-Net[c16]	440.603	3357	809.525	82.235	666.89	130.775	389.225	48.589	
2018 Sales-Net[c17]	436.816	3440	838.091	80.411	698.196	138.077	397.699	48.437	
2013 Cash & Short Term Investment	38.226	55.469	5.058	0.422	27.506	4.834	2.299	7.66	
2014 Cash & Short Term Investment	75.988	36.939	4.138	0.243	19.587	2.673	2.399	1.495	
2015 Cash & Short Term Investment	4.364	66	3.229	0.209	9.337	3.469	5.239	2.879	
2016 Cash & Short Term Investment	0.436	95	3.763	0.226	25.892	3.879	25.35	4.209	
2017 Cash & Short Term Investment	0.214	82	4.204	0.952	95.376	4.937	7.799	0.002	
2018 Cash & Short Term Investment	7.141	158	3.627	0.293	47.715	3.705	420.722	0.002	
2013 Current Assets-Total[c12]	191.617	550.39	171.669	13.254	139.49	25.838	39.652	15.232	
2014 Current Assets-Total[c13]	209.451	661.369	152.522	16.648	154.124	22.864	68.093	11.233	
2015 Current Assets-Total[c14]	132.697	657	128.37	14.444	127.578	24.41	73.376	11.792	
2016 Current Assets-Total[c15]	166.875	784	128.65	14.635	142.069	26.716	99.611	12.62	
2017 Current Assets-Total[c16]	155.463	720	131.246	18.985	227.873	29.247	66.858	8.611	
2018 Current Assets-Total[c17]	131.468	781	147.172	16.118	188.702	30.815	502.722	9.011	
2013 Debt in Current Liabilities[c12]	6.298	644.481	123.028	12.21	54.723	33.836	22.954	0.043	
2014 Debt in Current Liabilities[c13]	0.292	511.091	77.013	19.877	85.722	24.91	13.784	0.043	
2015 Debt in Current Liabilities[c14]	28.312	682	52.314	12.322	40.215	8.739	38.091	0.044	
2016 Debt in Current Liabilities[c15]	90.33	1423	157.206	8.478	123.308	18.159	14.325	0.044	
2017 Debt in Current Liabilities[c16]	59.324	1227	139.048	11.258	291.02	34.865	25	1.044	
2018 Debt in Current Liabilities[c17]	40.32	1035	168.944	17.784	170.011	55.843	100	1.03	
2013 Current Liabilities-Total[c12]	100.906	1235.533	266.91	25.563	166.584	52.678	59.195	7.843	
2014 Current Liabilities-Total[c13]	99.29	1240.998	225.335	30.192	217.706	43.872	44.694	5.93	
2015 Current Liabilities-Total[c14]	123.507	1533	193.199	23.218	148.455	28.319	79.623	6.197	
2016 Current Liabilities-Total[c15]	177.944	2392	301.536	19.328	250.23	47.056	63.573	8.184	
2017 Current Liabilities-Total[c16]	156.662	2325	284.488	28.461	490.959	64.537	85.052	9.145	
2018 Current Liabilities-Total[c17]	146.585	2094	398.977	37.731	321.166	94.363	163.985	10.841	
2013 noncash wkcap	58.783	-96.1309	22.729	-0.521	0.123005	2.161996	1.112001	-0.228	
2014 noncash wkcap	34.465	-105.477	0.061997	6.090002	2.552999	1.228998	34.784	3.851	
2015 noncash wkcap	33.138	-260	-15.744	3.338999	10.001	-49.943	100.031	8.957	
2016 noncash wkcap	78.825	-280	-19.443	3.559001	-10.745	-6.06	25.013	0.271	
2017 noncash wkcap	57.911	-460	-18.398	0.830001	-67.442	-5.362	-0.993	0.508	
2018 noncash wkcap	18.062	-436	-86.488	-4.122	-10.168	-11.41	18.015	-0.802	
2014 Change Non cashWrk Cap	-24.318	-9.3461	-22.667	6.611002	2.429995	-0.933	33.672	4.078999	
2015 Change Non cashWrk Cap	-1.327	-154.523	-15.806	-2.751	7.448002	-51.172	65.247	5.106	
2016 Change Non cashWrk Cap	45.687	-20	-3.69901	0.220001	-20.746	43.883	-75.018	-8.686	
2017 Change Non cashWrk Cap	-20.914	-180	1.045023	-2.729	-56.697	0.697999	-26.006	0.237	
2018 Change Non cashWrk Cap	-39.849	24	-68.09	-4.952	57.27404	-6.048	19.008	-1.31	
2014	-5.22%	-0.31%	-2.91%	9.12%	0.41%	-0.80%	10.53%	8.89%	
2015 WK cap/sale	-0.29%	-4.89%	-1.94%	-3.57%	1.27%	-40.60%	21.39%	10.84%	
2016 WK cap/sale	10.48%	-0.61%	-0.45%	0.28%	-3.40%	33.02%	-22.08%	-18.25%	
2017 WK cap/sale	-4.75%	-5.36%	0.13%	-3.32%	-8.50%	0.53%	-6.68%	0.49%	
2018 WK cap/sale	-9.12%	0.70%	-8.12%	-6.16%	8.20%	-4.38%	4.78%	-2.70%	
Median	-4.75%	-0.61%	-1.94%	-3.32%	0.41%	-0.80%	4.78%	0.49%	
						Median		-0.70%	