BEFORE THE
STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF
NEW JERSEY-AMERICAN WATER COMPANY, INC.
FOR APPROVAL OF INCREASED TARIFF RATES
AND CHARGES FOR WATER AND WASTEWATER SERVICE, AND
OTHER TARIFF MODIFICATIONS

BPU Docket No. WR2201____

Direct Testimony of

HAROLD WALKER, III

On Behalf of

New Jersey-American Water Company, Inc.

January 14, 2022

Exhibit P-12

NEW JERSEY-AMERICAN WATER COMPANY, INC.

INTRODUCTION

1. Q. Please state your name and address.

A. My name is Harold Walker, III. My business mailing address is P. O. Box 80794, Valley Forge, Pennsylvania, 19484.

2. Q. By whom are you employed?

A. I am employed by Gannett Fleming Valuation and Rate Consultants, LLC as Manager, Financial Studies.

3. Q. What is your educational background and employment experience?

A. My educational background, business experience and qualifications are provided at the end of Exhibit P-12 as Appendix A.

SCOPE OF TESTIMONY

4. Q. What is the purpose of your testimony?

A. The purpose of my testimony is to recommend appropriate working capital allowances that New Jersey-American Water Company, Inc. ("NJAWC" or "Company") should be afforded an opportunity to earn on as part of its rate base. My recommendation is based upon the results of a lead-lag study of NJAWC that was performed under my direct supervision.

5. Q. Have you prepared an exhibit presenting the results of your study?

A. Yes. I have prepared 26 Schedules identified as Schedule HW-1 through Schedule HW-26 summarizing the Company's working capital requirement in this proceeding.

PRINCIPLES OF WORKING CAPITAL

6. Q. Would you please explain the ratemaking principles concerning the inclusion of working capital as an element of rate base?

A. Yes. The working capital allowance is a component of rate base. A utility's need for working capital was first recognized in the noted Supreme Court case, *Smyth v. Ames*.[1] Among the many benchmarks established in the case was the "property devoted to public use" doctrine as a basis for fixing rates. The case recognized that among the matters to be considered in determining the value of property used was "the sum required to meet operating expenses." Since that time working capital has generally been recognized as a proper item to be included in the rate base on which a utility is entitled to earn a return.

The rationale for the inclusion of working capital in rate base is to compensate investors for the use of that amount of their funds needed by the business over and above the investment in plant and other tangible assets. Working capital bridges the gap between the time funds are provided by investors to provide service to the

[1] Smyth v. Ames, 169 U.S. 466 (1898).

customer and the time the revenue requirement is received from the customer as reimbursement for these services.

The lead-lag study in this case represents the level of funding required to operate on a day-to-day basis in providing for the cost of service. This is measured by calculating the net lag between (1) the provision of the cost of service and the receipt of the revenue requirement from the Company's customers and (2) the receipt of goods and services used by the Company in providing service and the payment by the Company for those cost of service items.

The net lag is multiplied by the average daily cost of service or revenue requirement to determine the working capital requirement. That requirement is included in rate base to provide investors with a return on the funds required by the Company for daily operations.

RESULTS OF THE LEAD-LAG STUDY

7. Q. What time period does your lead-lag study encompass?

A. The lead-lag study in this case analyzed the revenues and the associated cost of service during the 12 months ended June 30, 2021 to derive the appropriate lag (lead) days. The appropriate lag (lead) days were then used to develop the pro forma 12-months ending June 30, 2022 weighted revenue requirement and

associated weighted cost of service to calculate the Company's working capital requirement.[2]

8. Q. What are the results of the lead-lag study?

A. The lead-lag schedules are set forth in Schedule HW-1 through Schedule HW-26. Schedule HW-1 summarizes NJAWC's working capital requirement of $89,700,000.

9. Q. Please describe Schedule HW-1.

A. Schedule HW-1 calculates the net lag days and applies the result to the average daily cost of service or revenue requirement. The weighted lag days for the receipt of the revenue requirement is developed at the top of the schedule, with supporting detail shown in Schedule HW-2. Lag days are then computed for cost of service items. The cost of service represents the sum of annual operating and maintenance expenses, depreciation expense, taxes other than income, income taxes, and the operating income (*i.e.*, product of the rate base times the recommended rate of return). The supporting detail of the cost of service items is provided in Schedule HW-3.

10. Q. How did you calculate the working capital requirement shown on Schedule HW-1?

[2] The Company's working capital requirement and the pro forma 12-months ending June 30, 2022 weighted revenue requirement and associated weighted cost of service schedules will be updated as needed throughout the proceeding.

A. The working capital requirement shown on Schedule HW-1 was calculated by subtracting the weighted lag days for the cost of service of 14.2 from the weighted average lag days for the revenue requirement of 48.9 to determine the net lag days of 34.7. The 34.7 net lag days is multiplied by the average adjusted daily cost of service or revenue requirement of $2,583,771. The result is a working capital requirement of approximately $89,700,000.

11. Q. Please explain the procedures used to determine the lag days for the revenue requirement for the Company.

A. Schedule HW-2 summarizes the development of the 48.9 lag days for revenue requirement for the Company. The lag days for revenue requirement are comprised of service period lag, billing lag, and collection lag.

12. Q. Please explain the procedures used to determine the service period lag days for the revenue requirement.

A. The lag days for NJAWC's service period and the billing lag are developed on page 2 of Schedule HW-2. The service period lag is the average time between actual meter readings, roughly 27.2 days, based on monthly billing. The average time between meter readings, roughly 27.2 days, is divided by two to produce a midpoint for the service period lag of 13.6 days.

The next period to be measured is from the meter reading date to the time the customer is billed. The customer billing date is the day when the total billing amount for a cycle is recorded to accounts receivable. The bills are prepared,

mailed, and posted to accounts payable 5.2 days after meters are read and the billed amount is recorded to accounts receivable. Adding the midpoint for the service period lag to the billing lag produces a combined 18.8 day service period and billing lag.

13. Q. Please describe the procedure used to calculate the collection lag portion of the revenue lag.

A. The collection lag is the average number of days from the date the bills were mailed to the date payments are received. This was determined by summing the daily accounts receivable balance during the test year and dividing by the sum of the daily test year receipts. This results in an average collection lag of 30.1 days for NJAWC as shown on page 3 of Schedule HW- 2.

14. Q. Please summarize the total revenue lag.

A. The total revenue lag of 48.9 days is the sum of the service period and billing lag of 18.8 days and the collection lag of 30.1 days as shown on page 1 of Schedule HW-2.

15. Q. Please explain the revenue adjustment line item shown on Schedule HW-1 for the Company.

A. The revenue adjustment line item adds back the purchased water adjustment clause ("PWAC") and the purchased sewerage treatment adjustment clause ("PSTAC") that the Company collects as a surcharge and subtracts insurance other than group and property tax expense. The PWAC and PSTAC are included as part of the lead-

lag study because the Company has working capital requirements associated with the lag between the payment for the expenses related to the services provided by the PWAC and the PSTAC and receipt of revenues. Insurance other than group and property tax expense are excluded because these two items are included in the prepaid line in rate base.

16. Q. Please explain the calculation of lag days for the cost of service expenses shown on Schedule HW-1.

A. On Schedule HW-1 the cost of service expenses are separated into three major sub-accounts based upon the Company's cost of service. The three major sub accounts include: operating expenses; taxes other than income taxes; and income taxes and utility operating income. For each cost of service expense item that is shown, the lag days were calculated for each invoice or account based on the midpoints of the service periods to the dates the Company paid the invoices or accounts. Schedule HW-3 summarizes the lag days for each cost of service expense item and identifies the source schedule.

17. Q. How were the lag days determined for the operating expenses sub account line items shown on Schedule HW-1?

A. For most of the operating expenses sub account line items shown, the lag days were determined for each invoice or account sampled based on the midpoints of the service periods to the dates NJAWC paid the invoices or accounts based on varying

levels of sampling of data.[3] The exceptions were the depreciation and amortization line item and three other expenses line items.[4] The lag days for the three other expenses line items were assumed to be 25 days, which is equal to the weighted average lag days found for operating expenses (excluding depreciation and amortization) that were sampled. Sampling for the line-item dollars (or expenses) averaged 79% reflecting a range of sampling from 6% to 100% of the total line-item dollars (or expenses) being sampled.

For example, the weighted average lag days for purchased water equal 50.2 days (see Schedule HW-4). The lag days for purchased water expense were calculated for each invoice examined based on the midpoints of the service periods to the dates NJAWC paid the invoices. In total, 90% of the purchased water expenses were sampled. Similar analyses were conducted for sewage treatment (see Schedule HW-5), power (see Schedule HW-6), chemicals (see Schedule HW-7), waste disposal (see Schedule HW-8), salaries and wages (see Schedule HW-9), pensions (see Schedule HW-10), group insurance (see Schedule HW-11), other benefits (see Schedule HW-12), support services costs (see Schedule HW-13), rents (see Schedule HW-14), transportation (see Schedule HW-15), customer accounting (see Schedule HW-16), contracted services (see Schedule HW-17), building maintenance and services (see Schedule HW-18), telecommunication expenses (see

[3] It should be noted that the number of expense line items sampled were consistent with the number sampled in the 2019 rate case to avoid concerns raised by other parties in rate cases prior to 2019 regarding expense line items not being sampled.
[4] The three other expenses line items include regulatory expense, engineered coating of steel structures and property sales.

Schedule HW-19), office supplies and services (see Schedule HW-20), employee related expense travel & entertainment (see Schedule HW-21), miscellaneous expenses (see Schedule HW-22), and maintenance service & supplies (see Schedule HW-23).

For uncollectables expense, a zero lag has been assigned to recognize the full revenue lag related to this expense. For the depreciation and amortization line item, a zero lag has been assigned because these are deducted from rate base when the expense is recorded. In total, NJAWC's operating expenses sub account line items have a weighted average 15.2 lag days as shown on Schedule HW-1.

18. Q. Please explain in more detail why a zero lag day should be assigned to the depreciation and amortization line item?

A. A zero lag has been assigned because accumulated depreciation, the contra account for the depreciation expense, has been deducted from rate base. The accumulated depreciation account balance always includes an uncollected amount of depreciation expense that is equal to the revenue requirement lag days (i.e., 48.9 days). Assigning a zero lag recognizes that investor funding occurred but it has not yet been recovered from customers.

19. Q. How were the lag days determined for the taxes other than income tax sub account line items shown on Schedule HW-1?

A. For most of the taxes other than income tax sub account line items shown, the lag days were calculated based on the midpoint of the tax period to the payment date,

weighted by the actual amount paid. The exception being the excise tax and Gross Receipts and Franchise Tax ("GRFT") on "proposed increase" line items and the "taxes – other" line item. The taxes other than income tax sub account line items that were calculated based upon the actual amounts paid are shown on Schedule HW-24 for excise tax payments at present rates and GRFT payments at present rates and Schedule HW-25 for payroll taxes. As is evident from reviewing Schedule HW-24, many taxes are paid before the mid-point of the tax period, thus resulting in negative lag days or lead days from the service period.

20. Q. How were the lag days determined for the excise tax on the proposed increase, GRFT on the proposed increase, the payroll taxes and taxes - other line item?

A. The lag days assigned to the excise tax and GRFT on the proposed increase line items represent the incremental increase in these taxes resulting from the full approval of the Company's rate request. That is, assuming full approval of the Company's rate request increase will result in an incremental increase in the level of excise tax and GRFT over that which was paid during the test year. This incremental increase in excise tax and GRFT on proposed increase has a lag that is 365 days greater than the excise tax payment at present rates and the GRFT at present rates that are developed on Schedule HW-24. The logic for adding the additional 365 days is to account for the difference between the test year and the year following rate implementation.

The lag days used for the payroll taxes, Schedule HW-25, reflect the 11.5 lag days determined for the payroll taxes. The lag days for the taxes - other line item were

calculated based on an assumed midpoint of a monthly service period, or 15 days, plus an estimated 30 days to pay such expenses. In total, the taxes other than income tax sub account line items have a weighted average 41.0 lag days as shown on Schedule HW-1.

21. Q. Can you please explain in more detail how you calculated the lag days for excise tax on present rates and GRFT on present rates in your study?

A. The Company's actual individual payments of the excise tax on present rates and GRFT on present rates and the actual service periods are shown on Schedule HW-24. Based on a review of the Company's 2020 excise tax and GRFT tax forms or worksheets, each of these taxes is comprised of a prepayment portion and a current year portion. However, all the payments for these taxes were made during the 2020 base tax year and are, in fact, 2020 taxes. The prepayment portion represents a future year's liability that the State of New Jersey requires to be prepaid in the current year (i.e., 2020). As shown on Schedule HW-24, the excise tax on present rates has a weighted average lag, or negative lag, of -242.4 days. This is comprised of -64.0 lag days, or negative lag, of the current year's portion and -429.0 lag days, or negative lag, of the prepayment portion. Similarly, the GRFT on present rates has a weighted average lag of 33.7 days. This is comprised of 37.4 lag days of the current year's portion and -415.0 lag days, or negative lag, of the prepayment portion.

22. Q. How were the lag days determined for the income taxes and operating income sub account line items shown on Schedule HW-1?

A. For the federal taxes (current) sub account line item shown, the lag days were calculated based on the midpoint of the tax period to the payment date, weighted by the percent of the payment required. The derivation of the federal taxes (current) 36.8 lag days is shown on Schedule HW-26.

For both deferred taxes and utility operating income line items, a zero lag has been assigned. Deferred taxes have been assigned a zero lag because they are deducted from rate base, as they are recorded as part of accumulated deferred taxes. A zero lag has been assigned to utility operating income because it is the property of investors. In total, the income taxes and operating income sub account line items have a weighted average of 3.8 lag days as shown on Schedule HW-1.

23. Q. Please explain in more detail why a zero lag day should be assigned to the deferred taxes and utility operating income line items?

A. Concerning deferred taxes, a zero lag has been assigned because accumulated deferred taxes have been deducted from rate base as a source of cost-free funds. As is the case with accumulated depreciation, the deferred taxes account balance always includes an uncollected amount of deferred taxes expense that is equal to the revenue requirement lag days (i.e., 48.9 days). Therefore, the recorded amount of accumulated deferred taxes, deducted from rate base, overstates the actual amount of available cost-free capital by an amount equal to the revenue requirement lag days. Assigning a zero lag recognizes that a portion of these cost-free funds have not been recovered from customers.

A zero lag has been assigned to utility operating income, or return on invested capital, because operating income is the property of investors when it is earned.[5] Further, operating income is earned when service is provided. However, when service is provided, the operating income is not collected simultaneously as is evidenced by the existence of the revenue requirement lag days. This situation is remedied by assigning a zero lag to operating income in recognition that these earnings have not been recovered from customers.[6]

24. Q. Please summarize your determination of the working capital requirement shown on Schedule HW-1?

A. NJAWC's working capital requirement shown on Schedule HW-1 was calculated by subtracting the weighted average lag days for the cost of service of 14.2 from the weighted average lag days for the revenue requirement of 48.9 to determine the net lag days of 34.7. The 34.7 net lag days is multiplied by the average daily cost of service or revenue requirement of $2,583,771. The result is a working capital requirement of $89,700,000.

25. Q. Does this conclude your direct testimony?

A. Yes, it does.

[5] Smyth v. Ames, 169 U.S. 466 (1898)

[6] Atlantic City Electric Company, Board Docket No. 8310-883, August 17, 1984 ("The return on investment is the property of investors when service is provided. Payment from operating income for long and short term debt, preferred stock and common stock dividends require a zero payment lag because the funds used to render these payments are the property of investors of a utility."); Re Public Service Electric and Gas Company, Docket No. 837-620, Decision and Order dated March 23, 1984 (Ex. P-106, P.3); Accounting for Public Utilities, § 5.04[5] ("From a theoretical standpoint, operating income is earned when service is provided, and the operating income is the property of the investors in the company when earned.")

Professional Qualifications
of
Harold Walker, III
Manager, Financial Studies
Gannett Fleming, Inc.

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

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, wastewater, electric, natural gas distribution and transmission, oil pipeline and telephone utilities as well as resource recovery companies.

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.

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.

In 2004, Mr. Walker was elected to serve on the Board of Directors of SURFA. Previously, he served as an ex-officio director 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.

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. The following tabulation provides a listing of the electric power, natural gas distribution, telephone, wastewater, and water service utility cases in which he has been involved as a witness.

Client	Docket No.
Alpena Power Company	U-10020
Armstrong Telephone Company - Northern Division	92-0884-T-42T
Armstrong Telephone Company - Northern Division	95-0571-T-42T
Artesian Water Company, Inc.	90 10
Artesian Water Company, Inc.	06 158
Aqua Illinois Consolidated Water Divisions and Consolidated Sewer Divisions	11-0436
Aqua Illinois Hawthorn Woods Wastewater Division	07 0620/07 0621/08 0067
Aqua Illinois Hawthorn Woods Water Division	07 0620/07 0621/08 0067
Aqua Illinois Kankakee Water Division	10-0194
Aqua Illinois Kankakee Water Division	14-0419
Aqua Illinois Vermilion Division	07 0620/07 0621/08 0067
Aqua Illinois Willowbrook Wastewater Division	07 0620/07 0621/08 0067
Aqua Illinois Willowbrook Water Division	07 0620/07 0621/08 0067
Aqua Pennsylvania Wastewater Inc	A-2016-2580061
Aqua Pennsylvania Wastewater Inc	A-2017-2605434
Aqua Pennsylvania Wastewater Inc	A-2018-3001582
Aqua Pennsylvania Wastewater Inc	A-2019-3008491
Aqua Pennsylvania Wastewater Inc	A-2019-3009052
Aqua Pennsylvania Wastewater Inc	A-2019-3015173
Aqua Pennsylvania Wastewater Inc	A-2021-3024267
Aqua Pennsylvania Wastewater Inc	A-2021-3026132
Aqua Virginia - Alpha Water Corporation	Pue-2009-00059
Aqua Virginia - Blue Ridge Utility Company, Inc.	Pue-2009-00059
Aqua Virginia - Caroline Utilities, Inc. (Wastewater)	Pue-2009-00059
Aqua Virginia - Caroline Utilities, Inc. (Water)	Pue-2009-00059
Aqua Virginia - Earlysville Forest Water Company	Pue-2009-00059
Aqua Virginia - Heritage Homes of Virginia	Pue-2009-00059
Aqua Virginia - Indian River Water Company	Pue-2009-00059
Aqua Virginia - James River Service Corp.	Pue-2009-00059
Aqua Virginia - Lake Holiday Utilities, Inc. (Wastewater)	Pue-2009-00059

Client	Docket No.
Aqua Virginia - Lake Holiday Utilities, Inc. (Water)	Pue-2009-00059
Aqua Virginia - Lake Monticello Services Co. (Wastewater)	Pue-2009-00059
Aqua Virginia - Lake Monticello Services Co. (Water)	Pue-2009-00059
Aqua Virginia - Lake Shawnee	Pue-2009-00059
Aqua Virginia - Land'or Utility Company (Wastewater)	Pue-2009-00059
Aqua Virginia - Land'or Utility Company (Water)	Pue-2009-00059
Aqua Virginia - Mountainview Water Company, Inc.	Pue-2009-00059
Aqua Virginia - Powhatan Water Works, Inc.	Pue-2009-00059
Aqua Virginia - Rainbow Forest Water Corporation	Pue-2009-00059
Aqua Virginia - Shawnee Land	Pue-2009-00059
Aqua Virginia - Sydnor Water Corporation	Pue-2009-00059
Aqua Virginia - Water Distributors, Inc.	Pue-2009-00059
Atlantic City Sewerage Company	WR21071006
Berkshire Gas Company	18-40
Borough of Brentwood	A-2021-3024058
Borough of Hanover	R-2009-2106908
Borough of Hanover	R-2012-2311725
Borough of Hanover	R-2014-242830
Borough of Hanover	R-2021-3026116
Borough of Hanover	P-2021-3026854
Borough of Royersford	A-2020-3019634
Chaparral City Water Company	W 02113a 04 0616
California-American Water Company	CIVCV156413
Connecticut-American Water Company	99-08-32
Connecticut Water Company	06 07 08
Citizens Utilities Company Colorado Gas Division	-
Citizens Utilities Company Vermont Electric Division	5426
Citizens Utilities Home Water Company	R 901664
Citizens Utilities Water Company of Pennsylvania	R 901663
City of Bethlehem - Bureau of Water	R-00984375
City of Bethlehem - Bureau of Water	R 00072492
City of Bethlehem - Bureau of Water	R-2013-2390244

Client	Docket No.
City of Bethlehem - Bureau of Water	R-2020-3020256
City of Dubois – Bureau of Water	R-2013-2350509
City of Dubois – Bureau of Water	R-2016-2554150
City of Lancaster Sewer Fund	R-00005109
City of Lancaster Sewer Fund	R-00049862
City of Lancaster Sewer Fund	R-2012-2310366
City of Lancaster Sewer Fund	R-2019-3010955
City of Lancaster Sewer Fund	R-2019-3010955
City of Lancaster Water Fund	R-00984567
City of Lancaster Water Fund	R-00016114
City of Lancaster Water Fund	R 00051167
City of Lancaster Water Fund	R-2010-2179103
City of Lancaster Water Fund	R-2014-2418872
Coastland Corporation	15-cvs-216
Consumers Pennsylvania Water Company Roaring Creek Division	R-00973869
Consumers Pennsylvania Water Company Shenango Valley Division	R-00973972
Country Knolls Water Works, Inc.	90 W 0458
East Resources, Inc. - West Virginia Utility	06 0445 G 42T
Elizabethtown Water Company	WR06030257
Forest Park, Inc.	19-W-0168 & 19-W-0269
Hampton Water Works Company	DW 99-057
Hidden Valley Utility Services, LP	R-2018-3001306
Hidden Valley Utility Services, LP	R-2018-3001307
Illinois American Water Company	16-0093
Indian Rock Water Company	R-911971
Indiana Natural Gas Corporation	38891
Jamaica Water Supply Company	-
Kane Borough Authority	A-2019-3014248
Kentucky American Water Company, Inc.	2007 00134
Middlesex Water Company	WR 89030266J
Millcreek Township Water Authority	55 198 Y 00021 11
Missouri-American Water Company	WR 2000-281
Missouri-American Water Company	SR 2000-282
Mount Holly Water Company	WR06030257
Nevada Power Company d/b/a NV Energy	20-06003

Client	Docket No.
New Jersey American Water Company	WR 89080702J
New Jersey American Water Company	WR 90090950J
New Jersey American Water Company	WR 03070511
New Jersey American Water Company	WR-06030257
New Jersey American Water Company	WR08010020
New Jersey American Water Company	WR10040260
New Jersey American Water Company	WR11070460
New Jersey American Water Company	WR15010035
New Jersey American Water Company	WR17090985
New Jersey American Water Company	WR19121516
New Jersey Natural Gas Company	GR19030420
New Jersey Natural Gas Company	GR21030679
Newtown Artesian Water Company	R-911977
Newtown Artesian Water Company	R-00943157
Newtown Artesian Water Company	R-2009-2117550
Newtown Artesian Water Company	R-2011-2230259
Newtown Artesian Water Company	R-2017-2624240
Newtown Artesian Water Company	R-2019-3006904
North Maine Utilities	14-0396
Northern Indiana Fuel & Light Company	38770
Oklahoma Natural Gas Company	PUD-940000477
Palmetto Utilities, Inc.	2020-281-S
Palmetto Wastewater Reclamation, LLC	2018-82-S
Pennichuck Water Works, Inc.	DW 04 048
Pennichuck Water Works, Inc.	DW 06 073
Pennichuck Water Works, Inc.	DW 08 073
Pennsylvania Gas & Water Company (Gas)	R-891261
Pennsylvania Gas & Water Co. (Water)	R 901726
Pennsylvania Gas & Water Co. (Water)	R-911966
Pennsylvania Gas & Water Co. (Water)	R-22404
Pennsylvania Gas & Water Co. (Water)	R-00922482
Pennsylvania Gas & Water Co. (Water)	R-00932667
Philadelphia Gas Works	R-2020-3017206
Public Service Company of North Carolina, Inc.	G-5, Sub 565
Public Service Electric and Gas Company	ER181010029
Public Service Electric and Gas Company	GR18010030
Presque Isle Harbor Water Company	U-9702

Client	Docket No.
Sierra Pacific Power Company d/b/a NV Energy	19-06002
St. Louis County Water Company	WR-2000-844
Suez Water Delaware, Inc.	19-0615
Suez Water Idaho, Inc.	SUZ-W-20-02
Suez Water New Jersey, Inc.	WR18050593
Suez Water New Jersey, Inc.	WR20110729
Suez Water Owego-Nichols, Inc.	17-W-0528
Suez Water Pennsylvania, Inc.	R-2018-3000834
Suez Water Pennsylvania, Inc.	A-2018-3003519
Suez Water Pennsylvania, Inc.	A-2018-3003517
Suez Water Rhode Island, Inc.	Docket No. 4800
Suez Water Owego-Nichols, Inc.	19-W-0168 & 19-W-0269
Suez Water New York, Inc.	19-W-0168 & 19-W-0269
Suez Westchester, Inc.	19-W-0168 & 19-W-0269
Town of North East Water Fund	9190
Township of Exeter	A-2018-3004933
United Water New Rochelle	W-95-W-1168
United Water Toms River	WR-95050219
Upper Pottsgrove Township	A-2020-3021460
Valley Township (water)	A-2020-3019859
Valley Township (wastewater)	A-2020-3020178
Valley Water Systems, Inc.	06 10 07
Virginia American Water Company	PUR-2018-00175
West Virginia-American Water Company	15-0676-W-42T
West Virginia-American Water Company	15-0675-S-42T
Wilmington Suburban Water Corporation	94-149
York Water Company	R-901813
York Water Company	R-922168
York Water Company	R-943053
York Water Company	R-963619
York Water Company	R-994605
York Water Company	R-00016236
Young Brothers, LLC	2019-0117

Schedules

BEFORE THE
NEW JERSEY BOARD OF PUBLIC UTILITIES

Docket No. WR2201_____

New Jersey American Water

Lead-Lag Schedules

Schedule HW-1 Through Schedule HW-26

To Accompany the

Direct Testimony of Harold Walker, III

On Working Capital

NEW JERSEY AMERICAN WATER

CALCULATION OF CASH WORKING CAPITAL REQUIREMENTS
BASED ON LEAD-LAG STUDY AS OF JUNE 30, 2021

INDEX TO SCHEDULES

TOTAL COMPANY

CALCULATION OF CASH WORKING CAPITAL REQUIREMENTS
BASED ON LEAD-LAG STUDY AS OF JUNE 30, 2021

Description	Pro Forma 12 Mos Ended 6/30/2020	(Lead)/Lag Days Schedule Reference	Days	Weighted Amount
(1)	(2)	(3)	(4)	(5)
Operating Revenues				
Water, Sewer, & Other	$903,078,257			
Revenue Adjustments *	39,997,996			
Subtotal Operating Revenues	943,076,253	2	48.9	$46,116,428,772
Operating Expenses				
Purchased Water	34,439,450	3	50.2	$1,728,860,390
Sewage Treatment	18,646,171	3	16.2	302,067,970
Power	22,442,968	3	25.4	570,051,387
Chemicals	16,178,085	3	36.2	585,646,677
Waste Disposal	6,379,022	3	47.2	301,089,838
Salaries and Wages	51,928,504	3	11.5	597,177,796
Pensions	(3,233,927)	3	-2.5	8,084,818
Group Insurance	8,631,311	3	10.2	88,039,372
Other Benefits	3,398,208	3	10.6	36,021,005
Support Services Costs	48,864,048	3	-3.1	-151,478,549
Rents	475,274	3	-6.2	-2,946,699
Transportation	3,673,752	3	40.8	149,889,082
Uncollectible Accounts Expense	3,282,317	3	0.0	0
Customer Accounting	7,044,953	3	62.3	438,900,572
Regulatory Expense	560,998	3	25.0	14,024,950
Engineered Coating of Steel Structures	6,941,429	3	25.0	173,535,725
Property Sales	(81,076)	3	25.0	-2,026,900
Contracted Services	11,695,717	3	42.3	494,728,829
Building Maintenance and Services	3,500,134	3	45.5	159,256,097
Telecommunication Expenses	3,419,853	3	28.6	97,807,796
Office Supplies and Services	2,725,040	3	64.2	174,947,568
Advertising & Marketing Expenses	0	3	0.0	0
Employee Related Expense	1,092,714	3	35.6	38,900,618
Miscellaneous Expenses	4,098,191	3	25.7	105,323,509
Maintenance Service & Supplies	16,876,570	3	45.7	771,259,249
Depreciation & Amortization	166,805,766	3	0.0	0
Subtotal Operating Expenses	439,785,472		15.2	6,679,161,100

TOTAL COMPANY

CALCULATION OF CASH WORKING CAPITAL REQUIREMENTS
BASED ON LEAD-LAG STUDY AS OF JUNE 30, 2021

Description	Pro Forma 12 Mos Ended 6/30/2020	(Lead)/Lag Days Schedule Reference	Days	Weighted Amount
(1)	(2)	(3)	(4)	(5)
Taxes Other Than Income				
Excise Tax at Present Rates	12,031,713	3	-242.4	-2,916,487,231
GRFT at Present Rates	96,253,704	3	33.7	3,243,749,825
Excise Tax on Proposed Increase	1,434,377	3	122.6	175,854,620
GRFT on Proposed Increase	11,475,022	3	398.7	4,575,091,271
Payroll Taxes	4,069,860	3	11.5	46,803,390
Taxes - Other	3,143,043	3	45.0	141,436,935
Subtotal Taxes Other Than Income	128,407,719		41.0	5,266,448,810
Income Taxes & Utility Operating Income				
Federal Taxes	38,324,417	3	36.8	1,410,338,546
Deferred Taxes	12,974,763	3	0.0	0
Total Income Taxes	51,299,180		27.5	1,410,338,546
Utility Operating Income	323,583,882		0.0	0
Subtotal Income Taxes and Return	374,883,062		3.8	1,410,338,546
Total Expenses, Taxes & Income	$943,076,253		14.2	$13,355,948,456
Cash Working Capital Requirement (48.9 - 14.2) = 34.7 Days			34.7	
Pro Forma Daily Operating Expenses ($943,076,253 divided by 365 days) =	$2,583,771			
Cash Working Capital Requirement ($2,583,771 x 34.7 Days = $89,656,854)				$89,656,854
			Rounded =	$89,700,000

* - Revenue Adjustments

ADD: Purchased Water	$38,035,317
ADD: Sewage Treatment	18,278,899
LESS: Insurance Other Than Group	9,136,770
LESS: Property Taxes	7,179,450
Total Revenue Adjustments	$39,997,996

TOTAL COMPANY

CALCULATION OF CASH WORKING CAPITAL REQUIREMENTS
BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

Description	Amount	Weighted Amount	(Lead)/ Lag Days
(1)	(2)	(3)	(4)=(3)/(2)
Operating Revenues - Water, Sewer, & Other:			
Service Period & Billing Lag: (From mid-point of service period to posting date. See page 2 of this Schedule)	$800,892,709	$15,056,782,929	18.8
Collection Lag: (Sum of daily accounts receivable balance divided by the sum of daily receipts. See page 3 of this Schedule)	800,892,709	24,084,842,703	30.1
Total Revenue Lag Days			48.9

TOTAL COMPANY

CALCULATION OF SERVICE PERIOD AND BILLING LAG

Description	Calcultion of Lag
(1)	(2)
Sampled Weighted Service Lag (Jun 2021)	$162,597,656
Sampled Billing Total (Jun 2021)	11,941,928
Midpoint Service Period Lag Days	13.6
Sampled Weighted Billing Lag (Jun 2021)	61,912,707
Sampled Billing Total (Jun 2021)	11,941,928
Billing Lag Days	5.2
Total Service Period & Billing Lag Days	18.8

TOTAL COMPANY

CALCULATION OF COLLECTION LAG

Description	Amount
(1)	(1)
Sum of Net Daily Accounts Receivable Balance in a Year	$ 24,084,842,703
Divided By The Sum of Daily Receipts in a Year	800,892,709
Total Service Period Collection Lag	30.1

TOTAL COMPANY

SUMMARY OF OPERATING EXPENSES AND TAXES LAG DAYS
BASED ON LEAD-LAG STUDY AS OF JUNE 30, 2021

Description	Schedule Reference	Amount	Weighted Amount	(Lead)/ Lag Days
(1)	(2)	(3)	(4)	(5)=(4)/(3)
Operating Expenses & Taxes*				
Purchased Water	Schedule HW-4	31,865,865	1,599,666,423	50.2
Sewage Treatment	Schedule HW-5	11,625,713	188,336,546	16.2
Power	Schedule HW-6	8,526,220	216,565,978	25.4
Chemicals	Schedule HW-7	4,641,860	168,035,318	36.2
Waste Disposal	Schedule HW-8	1,881,142	88,789,889	47.2
Salaries and Wages	Schedule HW-9	82,164,166	944,887,909	11.5
Pensions	Schedule HW-10			-2.5
Group Insurance	Schedule HW-11	15,410,104	157,183,061	10.2
Other Benefits	Schedule HW-12	4,261,302	45,169,796	10.6
Support Services Costs	Schedule HW-13	54,776,126	-169,805,992	-3.1
Rents	Schedule HW-14	351,621	-2,180,048	-6.2
Transportation	Schedule HW-15	715,165	29,178,720	40.8
Uncollectible Accounts Expense**				0.0
Customer Accounting	Schedule HW-16	513,203	31,972,541	62.3
Regulatory Expense***				25.0
Engineered Coating of Steel Structures***				25.0
Property Sales***				25.0
Contracted Services	Schedule HW-17	1,591,512	67,320,942	42.3
Building Maintenance and Services	Schedule HW-18	879,244	40,005,581	45.5
Telecommunication Expenses	Schedule HW-19	1,611,786	46,097,092	28.6
Office Supplies and Services	Schedule HW-20	409,025	26,259,427	64.2
Employee Related Expense Travel & Entertainmer	Schedule HW-21	366,709	13,054,855	35.6
Miscellaneous Expenses	Schedule HW-22	1,509,653	38,798,085	25.7
Maintenance Service & Supplies	Schedule HW-23	928,176	42,417,658	45.7
Depreciation & Amortization**				0.0
Excise Tax	Schedule HW-24	11,873,083	-2,877,574,097	-242.4
GRFT	Schedule HW-24	90,710,726	3,056,951,466	33.7
Excise Tax Increase****				122.6
GRFT Increase****				398.7
Payroll Taxes	Schedule HW-25	6,587,821	75,759,942	11.5
Taxes - Other*****				45.0
Federal Income Taxes (Current)	Schedule HW-26			36.8
Deferred Taxes**				0.0

* Lag days for expenses are calculated from the mid-point of the service period to the payment date. (See Schedules 4 - 28.)
** Lag days are assumed to be 0.
*** Lag days are assumed to be equal to the weighted average lag days found for operating expenses (excluding depreciation).
**** Represent the incremental increase in these taxes resulting from the full approval of the Company's rate request. The incremental increase in excise tax and GRFT on proposed increase is 365 days greater than the excise tax payment and the GRFT at present rates.
***** Lag days for other expenses and other taxes are estimated based on 15 days for the midpoint of the previous month (service period) plus 30 days to the payment date.

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR PURCHASED WATER

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-20	49.7	$3,493,700.90	$173,689,203.15
August-20	53.0	2,598,562.04	137,633,864.69
September-20	46.3	2,721,405.43	125,957,799.24
October-20	52.2	3,566,667.38	186,301,131.63
November-20	52.3	2,648,942.90	138,527,875.09
December-20	41.9	1,785,167.11	74,759,373.82
January-21	59.3	3,000,742.45	177,976,978.10
February-21	50.3	2,504,932.98	126,086,462.02
March-21	50.9	2,122,738.24	108,095,494.33
April-21	48.8	3,511,430.07	171,520,512.00
May-21	47.4	1,943,605.17	92,048,360.11
June-21	44.3	1,967,970.33	87,259,088.97
Total Purchased Water	50.2	$31,865,865.00	$1,599,856,143.12

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR SEWAGE TREATMENT

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-20	19.0	$6,473.20	$122,762.64
August-20	5.6	3,721,419.23	20,772,508.83
September-20	51.8	39,460.30	2,043,182.11
October-20	21.0	9,638.91	202,812.43
November-20	(2.5)	1,565,064.00	-3,927,439.45
December-20	43.2	2,171,545.56	93,806,027.02
January-21	24.6	79,214.68	1,951,644.61
February-21	26.8	12,671.38	340,090.55
March-21	29.6	2,319,463.12	68,589,519.32
April-21	77.9	47,230.04	3,679,368.79
May-21	0.3	1,642,846.33	478,453.53
June-21	48.9	10,685.96	523,026.70
Total Sewage Treatment	16.2	$11,625,712.71	$188,581,957.06

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR POWER

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-20	26.1	$759,094.07	$19,828,144.38
August-20	25.1	775,995.95	19,499,950.72
September-20	27.5	751,913.80	20,679,236.64
October-20	30.0	861,196.03	25,794,834.10
November-20	21.2	521,755.05	11,048,599.40
December-20	23.7	665,549.58	15,775,609.60
January-21	22.1	636,353.09	14,064,688.17
February-21	22.6	684,016.75	15,426,213.05
March-21	29.9	735,386.40	22,012,295.44
April-21	26.6	744,727.00	19,836,123.01
May-21	24.1	608,356.67	14,642,100.81
June-21	22.9	781,875.20	17,871,839.47
Total Power	25.4	$8,526,219.59	$216,479,634.76

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR CHEMICALS

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-20	19.3	$138,830.30	$2,676,875.75
August-20	36.9	487,820.37	18,011,181.63
September-20	36.7	538,947.21	19,799,318.81
October-20	38.4	575,274.77	22,104,543.46
November-20	35.3	358,447.65	12,637,072.00
December-20	36.3	434,272.35	15,782,365.45
January-21	46.1	453,897.10	20,907,640.29
February-21	35.7	276,135.29	9,852,126.67
March-21	34.8	233,002.72	8,115,200.78
April-21	35.2	294,571.29	10,381,253.60
May-21	36.3	493,794.00	17,920,972.45
June-21	28.1	356,866.57	10,038,190.07
Total Chemicals	36.2	$4,641,859.62	$168,226,740.96

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR WASTE DISPOSAL

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-20	48.0	$21,805.95	$1,046,685.60
August-20	47.8	223,803.86	10,704,799.84
September-20	35.2	134,745.96	4,746,005.20
October-20	102.9	152,562.18	15,695,042.64
November-20	31.9	303,228.28	9,678,365.05
December-20	64.2	237,009.06	15,207,993.93
January-21	38.0	156,822.71	5,963,721.41
March-21	116.5	32,571.06	3,794,528.49
April-21	41.0	56,015.44	2,296,633.04
May-21	38.4	264,075.81	10,144,100.89
June-21	32.1	298,501.41	9,589,711.25
Total Waste Disposal	47.2	$1,881,141.72	$88,867,587.32

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR SALARIES AND WAGES

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

Facts	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)

All company employees are paid for a two week period (i.e., Days 1 through 14).

Pay date is five days following the end of the payroll period
(i.e., Day 19, where 19 = 14 + 5).

Lag days are 11.5 days [19 - 7.5 = 11.5; where 7.5 = (1 + 14 = 15 ÷ 2 = 7.5)]

	11.5	$82,164,166.00	$944,887,909.00
Total Salaries and Wages	11.5	$82,164,166.00	$944,887,909.00

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR PENSIONS

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

Service Period		Payment	(Lead)/		Weighted
From	To	Date	Lag Days	Amount	Amount
(1)	(2)	(3)	(4)	(5)	(6)
1/1/2020	12/31/2020	8/13/2020	42.5	25%	10.6
1/1/2020	12/31/2020	11/16/2020	137.5	25%	34.4
1/1/2021	12/31/2021	2/11/2021	(141.0)	25%	(35.3)
1/1/2021	12/31/2021	5/14/2021	(49.0)	25%	(12.3)
Total Pensions			(2.5)	100%	(2.5)

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR GROUP INSURANCE

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-20	10.5	$1,206,735.64	$12,670,724.22
August-20	10.5	1,198,001.69	12,579,017.75
September-20	10.0	1,196,843.31	11,965,530.67
October-20	9.5	1,192,252.68	11,326,400.46
November-20	10.5	1,190,893.80	12,504,384.90
December-20	10.5	1,194,424.69	12,541,459.25
January-21	10.5	1,272,603.20	13,362,333.60
February-21	10.0	1,265,470.45	12,651,729.45
March-21	10.5	1,263,613.29	13,267,939.55
April-21	10.5	1,266,077.39	13,293,812.60
May-21	10.5	1,270,070.31	13,335,738.26
June-21	9.5	1,893,117.58	17,984,617.01
Total Group Insurance	10.2	$15,410,104.03	$157,483,687.69

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR OTHER BENEFITS

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-20	11.0	$322,952.00	$3,552,472.00
August-20	10.5	324,306.73	3,405,278.93
September-20	10.3	487,042.51	5,032,488.47
October-20	11.0	323,872.94	3,562,602.34
November-20	10.0	324,161.66	3,241,616.60
December-20	10.5	324,078.80	3,401,947.92
January-21	11.0	326,840.73	3,595,248.03
February-21	10.5	334,620.34	3,513,920.50
March-21	10.6	536,327.00	5,703,568.22
April-21	10.5	346,463.20	3,638,141.89
May-21	10.5	348,500.67	3,658,334.81
June-21	11.0	262,134.94	2,883,484.34
Total Other Benefits	10.6	$4,261,301.52	$45,189,104.05

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR SUPPORT SERVICES COSTS

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

Month of Payment (1)	(Lead)/ Lag Days (2)	Amount (3)	Weighted Amount (4)
July-20	(3.0)	$4,180,693.14	-$12,542,079.42
August-20	(5.0)	4,698,417.06	-23,492,085.30
September-20	(5.5)	4,880,190.44	-26,841,047.42
October-20	(2.0)	4,561,031.89	-9,122,063.78
November-20	0.5	4,294,327.87	2,147,163.94
December-20	(2.0)	4,086,869.81	-8,173,739.62
January-21	(5.0)	4,969,772.92	-24,848,864.60
February-21	(3.5)	4,840,273.67	-16,940,957.85
March-21	(6.0)	4,285,130.95	-25,710,785.70
April-21	3.5	5,149,777.92	18,024,222.72
May-21	(5.0)	4,546,534.74	-22,732,673.70
June-21	(4.5)	4,283,105.93	-19,273,976.69
Total Support Services Costs	(3.1)	$54,776,126.34	-$169,506,887.42

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR RENTS

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-20	14.0	$18,857.70	$264,007.80
August-20	12.0	30,357.70	364,292.40
September-20	2.5	11,500.00	28,750.00
October-20	(7.0)	11,500.00	-80,500.00
November-20	16.0	49,215.40	789,706.15
December-20	(14.7)	60,715.40	-893,727.10
January-21	(24.5)	17,686.00	-433,307.00
February-21	(19.0)	18,857.70	-358,296.30
March-21	1.1	41,857.70	46,955.65
April-21	(21.9)	30,357.70	-664,407.90
May-21	(22.2)	30,357.70	-675,444.45
June-21	(19.3)	30,357.70	-584,834.80
Total Rents	(6.2)	$351,620.70	-$2,196,805.55

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR TRANSPORTATION

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
August-20	59.5	$126,797.26	$7,544,436.97
September-20	56.3	168,144.79	9,460,648.61
October-20	4.7	199,250.35	938,716.65
November-20	51.8	150,860.45	7,809,176.85
December-20	3.0	3,109.27	9,327.81
February-21	50.3	12,364.81	622,232.95
April-21	54.6	28,673.10	1,564,952.58
May-21	49.8	10,863.52	540,940.74
June-21	43.5	15,101.16	656,900.46
Total Transportation	40.8	$715,164.71	$29,147,333.62

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR CUSTOMER ACCOUNTING

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-20	60.2	$54,892.36	$3,306,492.89
August-20	42.2	42,770.02	1,804,101.26
September-20	60.9	84,601.11	5,154,097.13
October-20	57.3	50,095.16	2,871,792.70
November-20	63.6	34,158.12	2,171,840.35
December-20	66.8	10,215.12	682,746.65
January-21	81.4	64,208.51	5,225,354.68
February-21	59.7	36,473.02	2,175,970.62
March-21	58.8	41,151.73	2,417,916.34
April-21	59.6	34,294.44	2,045,213.00
May-21	66.0	1,934.40	127,670.40
June-21	68.2	58,408.92	3,980,864.45
Total Customer Accounting	62.3	$513,202.91	$31,964,060.45

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR CONTRACTED SERVICES

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-20	103.5	$42,263.29	$4,372,927.72
August-20	42.0	136,867.73	5,752,482.39
September-20	29.0	118,535.77	3,435,809.67
October-20	20.5	160,188.15	3,280,400.12
November-20	49.4	45,407.73	2,243,561.77
December-20	34.9	180,874.12	6,317,986.85
January-21	48.2	76,520.41	3,688,394.07
February-21	35.5	64,255.51	2,280,658.03
March-21	35.5	164,318.37	5,837,813.34
April-21	20.4	255,627.81	5,223,914.40
May-21	79.8	249,292.07	19,890,289.68
June-21	51.0	97,360.67	4,963,835.32
Total Contracted Services	42.3	$1,591,511.63	$67,288,073.33

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR BUILDING MAINTENANCE AND SERVICES

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-20	11.3	$427,429.85	$4,820,407.81
August-20	113.3	56,070.31	6,353,962.41
September-20	69.5	23,925.19	1,663,933.43
October-20	106.7	46,660.16	4,980,898.23
November-20	72.0	24,953.85	1,796,764.58
December-20	66.2	23,530.36	1,557,948.09
January-21	67.2	25,884.30	1,738,395.53
February-21	68.0	28,816.75	1,958,282.73
March-21	53.4	41,465.64	2,216,293.04
April-21	69.7	49,445.77	3,444,408.09
May-21	80.6	77,723.83	6,267,205.70
June-21	59.5	53,337.53	3,172,591.46
Total Building Maintenance and Services	45.5	$879,243.54	$39,971,091.07

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR TELECOMMUNICATION EXPENSES

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-20	39.6	$251,824.33	$9,967,948.52
August-20	31.2	153,144.72	4,781,793.79
September-20	29.7	148,892.18	4,424,047.51
October-20	0.9	62,531.41	53,680.39
November-20	31.7	170,901.75	5,415,914.50
December-20	39.8	181,206.93	7,210,061.76
January-21	39.6	203,214.34	8,042,152.52
February-21	13.7	86,163.37	1,181,842.35
March-21	16.9	101,585.61	1,720,357.67
April-21	4.5	62,834.91	285,396.50
May-21	23.2	113,179.84	2,628,994.85
June-21	5.5	76,307.06	418,309.17
Total Telecommunication Expenses	28.6	$1,611,786.45	$46,130,499.52

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR OFFICE SUPPLIES AND SERVICES

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-20	76.0	$28,266.93	$2,148,286.68
September-20	70.5	60,568.74	4,272,614.76
October-20	72.0	28,820.73	2,075,092.56
November-20	69.5	29,287.06	2,035,450.67
January-21	88.1	55,673.00	4,907,232.51
February-21	68.0	27,838.88	1,893,043.84
March-21	45.0	51,479.35	2,317,637.10
April-21	38.9	70,285.54	2,732,576.18
June-21	68.3	56,805.12	3,879,023.15
Total Office Supplies and Services	64.2	$409,025.35	$26,260,957.44

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR EMPLOYEE RELATED EXPENSE TRAVEL & ENTERTAINMENT

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
September-20	29.9	$320,347.00	$9,571,283.00
December-20	76.0	16,906.88	1,284,922.88
January-21	74.5	29,455.52	2,194,436.24
Total Employee Related Expense Travel & Entertainment	35.6	$366,709.40	$13,050,642.12

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR MISCELLANEOUS EXPENSES

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-20	9.4	$54,562.83	$514,212.10
August-20	44.0	113,448.74	4,994,700.35
September-20	75.1	116,710.51	8,760,399.97
October-20	55.1	105,218.61	5,801,948.22
November-20	41.1	147,961.56	6,080,843.45
December-20	24.4	240,016.80	5,846,828.26
January-21	22.2	151,023.24	3,360,222.36
February-21	46.9	196,326.72	9,204,675.80
March-21	(39.1)	102,868.42	-4,022,615.00
April-21	(26.9)	129,158.57	-3,470,515.85
May-21	44.4	45,120.41	2,004,914.96
June-21	(2.3)	107,236.71	-245,328.54
Total Miscellaneous Expenses	25.7	$1,509,653.12	$38,830,286.07

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR MAINTENANCE SERVICE & SUPPLIES

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
August-20	24.5	$33,001.01	$810,159.04
September-20	39.9	15,135.28	603,734.77
October-20	25.8	38,970.74	1,005,814.76
November-20	23.8	66,940.97	1,594,225.94
December-20	43.6	61,284.11	2,672,144.47
January-21	18.2	88,988.36	1,617,729.20
February-21	69.1	40,802.01	2,820,209.73
March-21	45.7	113,777.45	5,199,485.90
April-21	14.1	196,448.11	2,773,787.00
May-21	102.6	196,441.58	20,159,156.03
June-21	40.8	76,386.71	3,120,336.26
Total Maintenance Service & Supplies	45.7	$928,176.33	$42,376,783.10

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR EXCISE TAX

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

	Service Period From (1)	Service Period To (2)	Payment Date (3)	(Lead)/ Lag Days (4)	Amount (5)	Weighted Amount (6)
Excise Tax Payments (Used for present rates calculation)(1)						
PRE - W - EX	1/1/22	12/31/22	4/29/21	(429.0)	$5,593,307.00	-$2,399,528,703.00
PRE - S - EX	1/1/22	12/31/22	4/29/21	(429.0)	170,321.00	-73,067,709.00
PRE - - EX	1/1/22	12/31/22	4/29/21	(429.0)	38,281.00	-16,422,549.00
Curr - W - EX	1/1/21	12/31/21	4/29/21	(64.0)	5,867,830.00	-375,541,120.00
Curr - S - EX	1/1/21	12/31/21	4/29/21	(64.0)	165,071.00	-10,564,544.00
Curr - - EX	1/1/21	12/31/21	4/29/21	(64.0)	38,273.00	-2,449,472.00
Total Excise Tax Payments for State Use				(242.4)	$11,873,083.00	-$2,877,574,097.00
GRFT Tax Payments (Used for present rates calculation)(1)						
PRE - W - FR & GR	1/1/22	12/31/22	5/13/21	(415.0)	$721,399.00	-$299,380,585.00
PRE - S - FR & GR	1/1/22	12/31/22	5/13/21	(415.0)	19,736.00	-8,190,440.00
PRE - - FR & GR	1/1/22	12/31/22	5/13/21	(415.0)	770.00	-319,550.00
Curr - W - FR & GR	1/1/21	12/31/21	5/13/21	(50.0)	30,972,515.00	-1,548,625,750.00
Curr - S - FR & GR	1/1/21	12/31/21	5/13/21	(50.0)	949,837.00	-47,491,850.00
Curr - - FR & GR	1/1/21	12/31/21	5/13/21	(50.0)	214,368.00	-10,718,400.00
Curr - W - FR & GR	1/1/20	12/31/20	8/13/20	42.5	29,500,340.00	1,253,764,450.00
Curr - S - FR & GR	1/1/20	12/31/20	8/13/20	42.5	889,764.00	37,814,970.00
Curr - - FR & GR	1/1/20	12/31/20	8/13/20	42.5	211,796.00	9,001,330.00
Curr - W - FR & GR	1/1/20	12/31/20	11/12/20	133.5	25,286,007.00	3,375,681,934.50
Curr - S - FR & GR	1/1/20	12/31/20	11/12/20	133.5	762,654.00	101,814,309.00
Curr - - FR & GR	1/1/20	12/31/20	11/12/20	133.5	181,540.00	24,235,590.00
Curr - - FR & GR	1/1/20	12/31/20	12/18/20	169.5	1,000,000.00	169,500,000.00
Total GRFT Tax Payments				33.7	$90,710,726.00	$3,057,086,008.50
Summary - GRFT Tax Payments (Used for present rates calculation)						
Total GRFT Tax Payments - Current Year				37.4	$89,968,821.00	$3,364,976,583.50
Total GRFT Tax Payments - Future Year				(415.0)	741,905.00	-307,890,575.00
Total GRFT Tax Payments				33.7	$90,710,726.00	$3,057,086,008.50

Notes: (1) The abbreviation used are: Pre - Future Year; Curr - Current Year; W - Water; S - Sewer; EX - Excise Tax Payments; GR - Gross Receipts; and FT - Franchise Payment.

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR PAYROLL TAXES

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

Facts	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)

All company employees are paid for a two week period (i.e., Days 1 through 14).

Pay date is five days following the end of the payroll period
(i.e., Day 19, where 19 = 14 + 5).

Lag days are 11.5 days [19 - 7.5 = 11.5; where 7.5 = (1 + 14 = 15 ÷ 2 = 7.5)]

	11.5	$6,587,821.00	$75,759,941.50
Total Payroll Taxes	11.5	$6,587,821.00	$75,759,941.50

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR FEDERAL INCOME TAXES (CURRENT)

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2021

Service Period		Payment	(Lead)/		Weighted
From	To	Date	Lag Days	Amount	Amount
(1)	(2)	(3)	(4)	(5)	(6)
Federal Income Taxes (Current)					
1/1/2020	12/31/2020	9/15/2020	75.5	25%	18.9
1/1/2020	12/31/2020	12/15/2020	166.5	25%	41.6
1/1/2021	12/31/2021	4/15/2021	(78.0)	25%	(19.5)
1/1/2021	12/31/2021	6/15/2021	(17.0)	25%	(4.3)
Total Federal Income Taxes (Current)			36.8	100%	36.8