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September 23, 2022

Via Electronic Filing
Rosemary Chiavetta, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120

Re: The City of Lancaster – Water Bureau
Petition for Approval of a Distribution System Improvement Charge

Dear Secretary Chiavetta:

This firm is counsel to the City of Lancaster – Water Bureau ("City") and we are submitting this letter on its behalf, via electronic filing and pursuant to Section 1353 of the Public Utility Code ("Code"), 66 Pa. C.S.A. § 1353, and Section 5.41 of the Rules and Regulations of the Public Utility Commission, 52 Pa. Code § 5.41, a Petition for Approval of a Distribution System Improvement Charge ("DSIC"). A Long Term Infrastructure Improvement Plan ("LTIIP") is provided as Appendix B to the Petition, consistent with Section 1353(b) of the Code, and addressed in the body of the Petition and in the testimony of Christine Volkay-Hilditch, P.E., BCEE, Deputy Director of Public Works – Utilities, which is attached as Appendix D to the Petition. Please consider the Petition as a companion Petition for Approval of the LTIIP, to the extent a companion Petition is required.

My notice of appearance on behalf of the City, along with the notice of appearance of my colleague, Shane P. Simon, on behalf of the City, have been filed contemporaneously with this Petition. Please contact me if you have any questions.

Respectfully submitted,

Courtney L. Schultz

Encl.
cc: Certificate of Service (via email, w/encl.)
Barry Handwerger, Esq. (via mail, w/encl.)

Christine Volkay-Hilditch (via email, w/encl.)
Harold Walker, III (via email, w/encl.)

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of The City of Lancaster – Water Bureau for Approval of a Distribution System Improvement Charge	Docket No. P-2022-3035591

CERTIFICATE OF SERVICE

I, Courtney L. Schultz, hereby certify that a true and correct copy of The City of Lancaster's Petition in connection with the above-referenced docket was served on the following individuals on this 23rd day of September, 2022, via electronic filing and as indicated below.

PA PUC
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17105

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rchiavetta@pa.gov

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Counsel for Petitioner.
The City of Lancaster-Water Bureau

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Petition of The City of Lancaster – Water Bureau	:	
for Approval of a Distribution System	:	Docket No. P-2022-3035591
Improvement Charge	:	

PETITION OF THE CITY OF LANCASTER – WATER BUREAU FOR APPROVAL OF A DISTRIBUTION SYSTEM IMPROVEMENT CHARGE

TO THE HONORABLE PENNSYLVANIA PUBLIC UTILITY COMMISSION:

AND NOW, the City of Lancaster – Water Bureau (the "City" or "Water Bureau"), by and through its undersigned counsel, and, pursuant to Section 1353 of the Pennsylvania Public Utility Code ("Code"), 66 Pa. C.S.A. § 1353, and Section 5.41 of the Rules and Regulations of the Pennsylvania Public Utility Commission ("Commission"), 52 Pa. Code § 5.41, hereby petitions the Commission for approval of the establishment of a distribution system improvement charge ("DSIC") to recover costs related to the repair, replacement and improvement of eligible property. In support thereof, the City respectfully represents as follows:

I. INTRODUCTION

1. The City of Lancaster is an incorporated municipality in Lancaster County with a population of approximately 58,039.

2. The City provides water service to 30,385 customers outside the City of Lancaster in portions of the following municipalities in Lancaster County, Pennsylvania: (1) Lancaster Township; (2) Manheim Township; (3) Millersville Borough; (4) West Lampeter Township; (5) Pequea Township; (6) Manor Township; (7) West Hempfield Township; (8) East Hempfield Township; and (9) East Lampeter Township.

3. The City's water service outside of its municipal limits is regulated by the Commission under the terms and provision of the Code, 66 Pa. C.S. § 101, et seq.

4. The name, address, and contact information of the City's counsel for this matter are:

Courtney L. Schultz, Esq.
Shane P. Simon, Esq.
Saul Ewing Arnstein & Lehr, LLP
1500 Market Street
Centre Square West, 38th Floor
Philadelphia, PA 19102
Tel: 215-972-7717
courtney.schultz@saul.com
shane.simon@saul.com

All pleadings, orders, notices, correspondence and other documentation with respect to this matter should be directed to the above counsel.

II. THE LEGAL STANDARD FOR A DSIC

5. Section 1353(a) of the Code provides that a water utility may petition the Commission for approval of the establishment of a DSIC "to provide for the timely recovery of the reasonable and prudent costs incurred to repair, improve or replace eligible property in order to ensure and maintain adequate, efficient, safe, reliable and reasonable service."

6. Pursuant to Section 1353(b) of the Code, a petition seeking approval of a DSIC must contain:

(a) An initial tariff that complies with the model tariff adopted by the Commission. The proposed tariff shall include the following:

(i) A description of the eligible property.

(ii) The effective date of the [DSIC].

(iii) Computation of the [DSIC].

(iv) The method by which the utility will provide quarterly updates of the [DSIC].

(v) A description of consumer protections.

(b) Testimony, affidavits, exhibits, or other evidence that demonstrates that a [DSIC] is in the public interest and will facilitate compliance with:

(i) The provision and maintenance of adequate, efficient, safe, reliable and reasonable service consistent with section 1501 (relating to character of service and facilities).

(ii) Commission regulations and orders relating to the provision and maintenance of adequate, efficient, safe, reliable and reasonable service.

(iii) Any other requirement under Federal or State law relating to the provision and maintenance of adequate, efficient, safe, reliable and reasonable service.

(c) A long-term infrastructure improvement plan [("LTIIP")] under section 1352 (relating to [LTIIP]).

(d) Certification that a base rate case has been filed within five years prior to the date of the filing of the petition under section 1308(d) (relating to voluntary changes in rates); or, if a base rate case has not been filed within five years prior to the date of the filing of the petition, the utility must file a base rate case in order to be eligible for a [DSIC]; and

(e) Any other information required by the Commission.

III. THE CITY'S DSIC

A. The City's Proposed DSIC Tariff Complies with The Model Tariff Adopted by the Commission.

7. The City's proposed DSIC tariff complies with the Commission's model tariff,[1] is attached hereto as **Appendix A**, and is discussed further in the Direct Testimony of Harold Walker, which supports this Petition and is attached hereto as **Appendix C**.

[1] *See Implementation of Act 11 of 2021,* Docket No. M-2012-2293611, Supplemental Implementation Order, dated September 21, 2016.

(1) Description of Eligible Property

8. The City's eligible property is described in both its proposed DSIC tariff and LTIIP and includes the following: services, meters, and hydrants installed as in-kind replacements for customers; certain transmission and distribution mains and valves; certain main extensions; main cleaning and relining projects; the City's Supervisory Control and Data Acquisition ("SCADA") system, replacement of lead service lines, unreimbursed costs related to highway relocation projects where a water utility must relocate its facilities; and other related capitalized costs.

(2) Effective Date of the DSIC

9. The City requests that its DSIC tariff language become effective on January 1, 2023. While the DSIC tariff language will become effective as of January 1, 2023, the initial DSIC rate will be set at 0.0%, to reflect the previously concluded base rate proceeding at Docket No. R-2021-3026682 (the "2021 Base Rate Case"). The City will not recover any costs associated with infrastructure replacement through the DSIC until it has placed in service a level of DSIC-eligible plant that exceeds the level approved by the Commission for fully projected future test year base rate recovery in the 2021 Base Rate Case, or as otherwise directed by the Commission. Once the City is allowed to implement a non-0.0% DSIC, the DSIC will be calculated to reflect all eligible plant placed in service which has not been included in the 2021 Base Rate Case.

(3) Computation of the DSIC

10. The City's DSIC will be calculated as presented in its proposed tariff (**Appendix A**). In calculating its DSIC, because the City has not had a fully litigated base rate case for which a final order was received not more than two years prior to the effective date of the DSIC, the equity return rate will be the calculated rate from the most recent Quarterly Report on the Earnings of Jurisdictional Utilities released by the Commission under Distribution System Improvement

Charge Return in its Value Line Water Company Group analysis. The City elects to determine quarterly revenues on the basis of one-fourth (1/4) of projected annual revenues.

(4) Quarterly DSIC Reporting

11. The City will update the DSIC on a quarterly basis to reflect eligible property placed in service during the three-month period ending one month prior to the effective date of any DSIC update consistent with 66 Pa. C.S.A. §1357(a)(2). As explained above, the DSIC rate will initially be 0.0%, until the City has placed in service a level of DSIC-eligible plant that exceeds the level approved by the Commission for fully projected future test year base rate recovery in the 2021 Base Rate Case, or as otherwise directed by the Commission. After the City has implemented its DSIC, customers will receive notice of the quarterly changes in the DSIC through bill messages.

(5) Description of Consumer Protections

12. The City's proposed DSIC tariff contains all the consumer protections required by the Code, including:

(a) A 5% cap on the total amount of annual revenue that can be collected;

(b) Annual reconciliations of the DSIC;

(c) Commission audits of the DSIC;

(d) Customer notices of changes in the DSIC;

(e) The DSIC is reset to zero as of the effective date of new base rates that include DSIC-eligible property; and

(f) A provision that the DSIC will be reset to zero if, in a quarter, the City's most recent earnings report shows that it is earning a rate of return that exceeds the allowable rate of return used to calculate its fixed costs under the DSIC.[2]

[2] *See* 66 Pa. Code. § 1358.

B. The City's DSIC is in the Public Interest

13. The City is committed to providing and maintaining service to its customers in a safe, reliable, and economic manner and submits that the proposed DSIC is appropriate and in the public interest because it will allow the City to initiate the timely recovery of the costs it incurs between base rate proceedings to address and make necessary repairs, replacements, and improvements to aging existing system infrastructure, while, at the same time, accelerating the repair and replacement of such infrastructure and augmenting prudent capital investment.

14. With approval of the DSIC mechanism, the City will, as explained in the LTIIP, accelerate the repair, improvement, and replacement of its system. Significant investment in main and service line replacement will occur—including the anticipated replacement of eighty-five (85) lead service lines in the City's Commission-regulated area.

15. The City also believes that approval of the DSIC will allow it to attract lower cost capital which ultimately will be reflected in rates paid by its customers. The City's DSIC will ensure and facilitate the continued provision of adequate, safe, and reasonable service to its outside customers and will further the public interest.

C. The City's LTIIP Complies with Section 1352 Of The Code

16. The City's LTIIP is attached hereto as **Appendix B**. It complies with Section 1352 of the Code and the Commission's Final Implementation Order entered August 2, 2012 at Docket No. M-2012-22993611, and is addressed in the testimony of Christine Volkay-Hilditch, which is attached hereto as **Appendix D**. As described in its LTIIP, the City plans to spend $30,241,689.60 over the next five years, from 2023 through 2027. The City's LTIIP expects actual expenses per year to fall between $2 million and $4 million for the first four (4) years, with a significant expenditure of approximately $15 million in the fifth year of the LTIIP, largely associated with the commencement of Phase 2 of the City's large diameter main replacement project.

17. The City's LTIIP complies with the requirements of Section 1352 of the Code, 66 Pa. C.S.A. § 1352. As explained more fully in the LTIIP, the proposed plan and associated expenditures are reasonable and cost effective and are designed to maintain safe, adequate, and reliable service to the City's customers.

D. Base Rate Filing

18. The City's most recent prior base rate case was the 2021 Base Rate Case, with rates effective June 29, 2022, and the City is therefore eligible for a DSIC pursuant to Section 1353(b)(5) of the Code, 66 Pa. C.S.A. § 1353(b)(5).

E. Customer Notice

19. In accordance with Section 1354 of the Code, 66 Pa. C.S.A. § 1354, the City will provide notice[3] to customers of the initial filing of the proposed DSIC by regular mail on September 26, 2022, and customers will receive a subsequent notice following the Commission's final disposition of this Petition.

WHEREFORE, the City respectfully requests that the Commission find and conclude that its Petition for Approval of a DSIC meets the requirements of Section 1353 of the Code and that the Commission approve the City's DSIC effective January 1, 2023.

Respectfully submitted,

/s/ Courtney L. Schultz

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Shane P. Simon, Esq. (PA. ID. 319643)
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Attorneys for Petitioner

Dated: September 23, 2022

[3] A copy of the notice is attached hereto as **Appendix E**.

APPENDIX A

Supplement No. __
to
Tariff Water - Pa. P.U.C. No. 6

CITY OF LANCASTER

RATES, RULES AND REGULATIONS

GOVERNING THE DISTRIBUTION OF WATER

IN

TERRITORY OUTSIDE THE CITY OF LANCASTER

INCLUDING AREAS IN THE BOROUGH OF MILLERSVILLE AND

THE TOWNSHIPS OF

EAST HEMPFIELD, EAST LAMPETER, LANCASTER, MANHEIM,

MANOR, PEQUEA, WEST HEMPFIELD, AND WEST LAMPETER

IN LANCASTER COUNTY, PENNSYLVANIA

NOTICE

ISSUED: _____ EFFECTIVE: January 1, 2023

By: Patrick Hopkins
Business Administrator
Lancaster Pennsylvania

THIS SUPPLEMENT MAKES CHANGES TO EXISTING RATES
(see Page No. 2)

City of Lancaster
Lancaster, Pennsylvania

List of Changes Made by this Supplement

Changes: This supplement implements a Distribution System Improvement Charge (DSIC) for the recovery of the cost of distribution system improvement projects.

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DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC)

In addition to the net charges provided for in this Tariff, a charge of 0% will apply consistent with the Commission Order dated _____ at Docket No. _____, approving the DSIC.

1. General Description

A. Purpose: To recover the reasonable and prudent costs incurred to repair, improve, or replace eligible property which is completed and placed in service and recorded in the individual accounts, as noted below, between base rate cases and to provide the City with the resources to accelerate the replacement of aging infrastructure, to comply with evolving regulatory requirements and to develop and implement solutions to regional supply problems.

The costs of extending facilities to serve new customers are not recoverable through the DSIC.

The City projects receiving PENNVEST funding or using PENNVEST surcharges are not DSIC-eligible property to the extent of the PENNVEST funding or surcharge.

B. Eligible Property: The DSIC-eligible property will consist of the following:

- Services (account 333000), meters (account 334100) and hydrants (account 335000) installed as in-kind replacements for customers;
- Mains and valves (account 331800) installed as replacements for existing facilities that have worn out, are in deteriorated condition, or are required to be upgraded to meet under 52 Pa Code § 65 (relating to water service);
- Main extensions (account 331800) installed to eliminate dead ends and to implement solutions to regional water supply problems that present a significant health and safety concern for customers currently receiving service from the water City;
- Main cleaning and relining (account 331800) projects; and
- Unreimbursed costs related to highway relocation projects where a water City must relocate its facilities; and
- Other related capitalized costs.

C. Effective Date: The DSIC will become effective January 1, 2023.

DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC)

2. Computation of the DSIC

A. Calculation: The DSIC shall be calculated to recover the fixed costs of eligible plant additions that have not previously been reflected in the City's rates or rate base. The initial DSIC, effective January 1, 2023, shall be 0%. Thereafter, the DSIC will be updated on a quarterly basis to reflect eligible plant additions placed in service during the three-month periods ending one month prior to the effective date of each DSIC update. Thus, changes in the DSIC rate will occur as follows:

Effective Date of Change	Date to which DSIC-Eligible Plant Additions Reflected
May 1	January 1 through March 31
August 1	April 1 through June 30
November 1	July 1 through September 30
February 1	October 1 through December 31

B. Determination of Fixed Costs: The fixed costs of eligible distribution system improvements projects will consist of depreciation and pre-tax return, calculated as follows:

1. Depreciation: The depreciation expense shall be calculated by applying the annual accrual rates employed in the City's most recent base rate case for the plant accounts in which each retirement unit of DSIC-eligible property is recorded to the original cost of DSIC-eligible property.

2. Pre-tax return: The pre-tax return shall be calculated using the statutory state and federal income tax rates, the City's actual capital structure and actual cost rates for long-term debt and preferred stock as of the last day for the three-month period ending one month prior to the effective date of the DSIC and subsequent updates. The cost of equity will be the equity return rate approved in the City's last fully litigated base rate proceeding for which a final order was entered not more than two years prior to the effective date of the DSIC. If more than two years shall have elapsed between the entry of such a final order and the effective date of the DSIC, then the equity return rate used in the calculation will be the equity return rate calculated by the Commission in the most recent Quarterly Report on the Earnings of Jurisdictional Utilities released by the Commission.

C. Application of DSIC: The DSIC will be expressed as a percentage carried to two decimal places and will be applied to the total amount billed to each customer for service under the City's otherwise applicable rates and charges, excluding amounts billed for public fire protection service and the State Tax Adjustment Surcharge (STAS). To calculate the DSIC, one-fourth of the annual fixed costs associated with all property eligible for cost recovery under the DSIC will be divided by the City's projected revenue for distribution service (including all

DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC)

applicable clauses and riders) for the quarterly period during which the charge will be collected, exclusive of revenues from public fire protection service and the STAS.

D. Formula: The formula for calculation of the DSIC is as follows:

$$DSIC = \frac{(DSI * PTRR) + Dep}{PQR} + \frac{e}{PQR}$$

Where:

DSI = Original cost of eligible distribution system improvement projects net of accrued depreciation.
PTRR = Pre-tax return rate applicable to DSIC-eligible property.
Dep = Depreciation expense related to DSIC-eligible property.
e = Amount calculated (+/-) under the annual reconciliation feature or Commission audit, as described below.

PQR = Projected quarterly revenues for distribution service (including all applicable clauses and riders) from existing customers plus netted revenue from any customers which will be gained or lost by the beginning of the applicable service period.

Quarterly revenues will be determined on the basis of one-fourth of projected annual revenues.

3. Quarterly Updates: Supporting data for each quarterly update will be filed with the Commission and served upon the Commission's Bureau of Investigation and Enforcement, the Office of Consumer Advocate, and the Office of Small Business Advocate at least ten (10) days prior to the effective date of the update.

4. Customer Safeguards

A. Cap: The DSIC is capped at 5.0% of the amount billed to customers for distribution service (including all applicable clauses and riders) as determined on an annualized basis.

B. Audit/Reconciliation: The DSIC is subject to audit at intervals determined by the Commission. Any cost determined by the Commission not to comply with any provision of 66 Pa C.S. §§ 1350, *et seq.*, shall be credited to customer accounts. The DSIC is subject to annual reconciliation based on a reconciliation period consisting of the twelve months ending December 31 of each year. The revenue received under the DSIC for the reconciliation period

DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC)

will be compared to the Company's eligible costs for that period. The difference between revenue and costs will be recouped or refunded, as appropriate, in accordance with Section 1307(e), over a one-year period commencing on April 1 of each year. If DSIC revenues exceed DSIC-eligible costs, such over-collections will be refunded with interest. Interest on over-collections and credits will be calculated at the residential mortgage lending specified by the Secretary of Banking in accordance with the Loan Interest and Protection Law (41 P.S. §§ 101, *et seq*.) and will be refunded in the same manner as an over-collection. The City is not permitted to accrue interest on under collections.

C. New Base Rates: The DSIC will be reset at zero upon application of new base rates to customer billings that provide for prospective recovery of the annual costs that had previously been recovered under the DSIC. Thereafter, only the fixed costs of new eligible plant additions that have not previously been reflected in the City's rates or rate base will be reflected in the quarterly updates of the DSIC.

D. Customer Notice: Customers shall be notified of changes in the DSIC by including appropriate information on the first bill they receive following any change. An explanatory bill insert shall also be included with the first billing.

E. All customer classes: The DSIC shall be applied equally to all customer classes.

F. Earning Reports: The DSIC will also be reset at zero if, in any quarter, data filed with the Commission in the City's then most recent Annual or Quarterly Earnings reports show that the City would earn a rate of return that would exceed the allowable rate of return used to calculate its fixed costs under the DSIC as described in the pre-tax return section. The City shall file a tariff supplement implementing the reset to zero due to overearning on one-day's notice and such supplement shall be filed simultaneously with the filing of the most recent Annual or Quarterly Earnings reports indicating that the City has earned a rate of return that would exceed the allowable rate of return used to calculate its fixed costs.

G. Residual E-Factor Recovery Upon Reset To Zero: The City shall file with the Commission interim rate revisions to resolve the residual over/under collection or E-factor amount after the DSIC rate has been reset to zero. The City can collect or credit the residual over/under collection balance when the DSIC rate is reset to zero. The City shall refund any overcollection to customers and is entitled to recover any undercollections as set forth in Section 4.B. Once the City determines the specific amount of the residual over or under collection amount after the DSIC rate is reset to zero, the City shall file a tariff supplement with supporting data to address that residual amount. The tariff supplement shall be served upon the Commission's Bureau of Investigation and Enforcement, the Bureau of Audits, the Office of Consumer Advocate, and the Office of Small Business Advocate at least ten (10) days prior to the effective date of the supplement.

DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC)

H. Public Fire Protection: The DSIC will not apply to public fire protection customers.

APPENDIX B

CITY OF LANCASTER
120 NORTH DUKE STREET
P.O. BOX 1599
LANCASTER, PA 17608

LONG TERM INFRASTRUCTURE IMPROVEMENT PLAN

September 2022

Stephen Campbell, Director of Public Works
and
Benjamin M. Perwien, P.E., Utility Engineer
Bureau of Water

Table of Contents

The City of Lancaster is submitting this Long-Term Infrastructure Improvement Plan ("LTIIP") in accordance with the requirements of Subchapter B, Distribution Systems of 66 Pa. C.S. §1350-1360 and the Public Utility Commission's Final Implementation Order, Docket No. M-2012-2293611, entered August 2, 2012, for the establishment of a Distribution System Improvement Charge ("DSIC").

INTRODUCTION

The City of Lancaster owns the water distribution system, which is operated and maintained by the City of Lancaster - Department of Public Works, Bureau of Water.[1] The Lancaster water distribution system covers approximately 55 square miles in Lancaster County.

Major facilities in the water system include transmission and distribution mains, pumping stations, pressure reducing stations, a reservoir and storage tanks.

This LTIIP describes capital improvement recommendations for the City of Lancaster in the Public Utility Commission ("PUC") regulated area. This plan presents a strategy for infrastructure improvements to ensure that Lancaster can continue to provide safe, high quality, and reliable service to its customers. The City of Lancaster provides water service to over 49,000 customers in Lancaster County in Pennsylvania. Customers are served in the City of Lancaster; portions of the following townships: Lancaster, East Lampeter, West Lampeter, Pequea, Manor, Manheim, and West Hempfield; Millersville Borough and through bulk water agreements with East Petersburg, Upper Leacock Water Authority, West Earl Water Authority, East Hempfield Water Authority, and Northwestern Lancaster County Authority (Penn Township). The area of The City of Lancaster System that the PUC regulates is all of the territory outside of the City boundaries and includes about 31,300 customers. The capital improvements that are in this LTIIP are allocated for projects serving areas outside Lancaster's city limits.

In 2021, water demands averaged 20.707 million gallons per day ("MGD") and maximum day demands were 24.407 MGD. Customer growth in the Lancaster system is forecasted by review of the Lancaster County Planning Commission population projections and planning and zoning information from the municipalities within the City's Franchise Area obtained from Lancaster County GIS. Average water demands are projected to increase to 26.131 MGD by 2040. Maximum day demands are forecasted to increase to 34.385 MGD by 2040.

Lancaster recognizes the need for continual renewal and replacement of its distribution system to maintain safe, reliable, high-quality water service to its customers. Over the next ten years Lancaster will continue its annual main renewal and replacement program. Locations for pipeline infrastructure improvements will be associated with street improvement plans, history of main breaks, necessary system maintenance, projects associated with fire flow improvements, and system improvements to provide resiliency. This plan outlines the five-year plan for those system improvements.

[1] Sometimes referred to herein as the "City", "Lancaster" or the "City of Lancaster", all of which should be read to be referring to the Bureau of Water in most if not all contexts unless otherwise indicated.

1.0 TYPE AND AGE OF ELIGIBLE PROPERTY

The City of Lancaster's water system includes the raw water intake system on the Susquehanna and Conestoga rivers, two treatment plants and the treated water distribution system, including associated tanks and pumping stations. The raw water system includes supply intakes at the Susquehanna and Conestoga rivers, strainer facilities, low service pump buildings, over one mile of transmission mains, and three valves. The Susquehanna and Conestoga Water Treatment Plants were upgraded to membrane filtration with a capital improvement project that ended in 2011. Membranes were replaced at Conestoga in 2021, and four of eight membrane trains were replaced in 2021 at Susquehanna. The remaining four Susquehanna membrane trains will be replaced in 2022. The finished water distribution system includes two high service pump stations, over 620 miles of distribution and transmission main, over 5,000 hydrants, over 47,000 customer water meters and service lines, 12,000 valves, four booster pumping stations, a 15 million gallon reservoir, five storage tank facilities, four pressure reducing valve stations, and a supervisory control and data acquisition ("SCADA") system. Eligible property for the purpose of the LTIIP is limited to the portion of the City of Lancaster's water system that is regulated by the PUC, and is limited to Transmission and Distribution Lines, Hydrants and Pipeline Valves, Water Meters, and the SCADA System.

Low Service Pumps and Strainer Building

The Susquehanna low service pumps are 400 horsepower with magnetic metering that provides flow at approximately 40 psi to the strainer building. The low service pumping station was built as part of the original plant construction in 1956 and was rehabilitated in 2011 as part of the Membrane Filtration Project. A new strainer building was constructed as part of the Membrane Filtration Project completed in 2011. The flow is then pumped through a single 42-inch diameter steel water main for approximately one mile to the plant. There is no redundant main for this raw water intake pipe which was installed as part of the original plant construction in the 1950s.

The Conestoga low service pumps are 150 horsepower with venturi metering. The pump building was rebuilt in 1974 and was rehabilitated in 2001. A new strainer building was constructed as part of the Membrane Filtration Project in 2011. The flow is then pumped through a single 30-inch diameter ductile iron water main for approximately 810 feet to the plant.

Water Distribution System

The City of Lancaster water distribution system serves over 49,000 customers. The distribution network includes over 620 miles of pipe, ranging in size from 2-inch diameter to 42-inch diameter. Pipe materials in the system include asbestos cement, cast iron, cement-lined ductile iron, galvanized iron, steel, PVC, and cement-lined cast iron pipe. A majority of the water mains in the system are over 50 years old, and some mains are over 150 years old. Over 40 miles of water main within the system is over 100 years old. Over 40 miles of water mains are transite. There are approximately 13,000 pipeline valves, 4,950 hydrants, over 49,000 customer water meters, and over 188 miles of service lines in the Lancaster system.

Pipeline information is presented in Table 1-1, pipeline valve information is presented in Table 1-2, and water meter information is presented in Table 1-3.

Most of the Lancaster service area is served as a single pressure gradient. Treated water from the Susquehanna Water Treatment Plant flows through a 42-inch steel transmission main for approximately 4 miles to the Oyster Point Reservoir, where it flows another seven miles through 42-inch steel main to Race Avenue at the western edge of the City of Lancaster. The 42-inch main was installed in 1956. There are several smaller transmission mains that tie into the 42-inch main. In 2019, the City constructed the first phase of a three phase plan to create a replacement main for the original 42-inch steel main. This first phase was from the Oyster Point Reservoir to the western edge of the City, the second and third phases are explained in more detail in Section 2. Treated water from the Conestoga Water Treatment Plant flows under the Conestoga River and ties into transmission mains on New Holland Avenue through approximately one mile of a 36-inch ductile iron transmission main that was installed in 1970. A redundant main flows under the Conestoga River. It was installed in 1992, it utilizes 3,800 feet of 30-inch ductile iron transmission main and ties into an older transmission main at the intersection of Grofftown Road and Chestnut Street.

There are four pressure zones served by four booster pumping stations within the water system. They include the main pressure zone, the Blossom Hill pressure zone, the Willow Street pressure zone and the Lampeter pressure zone. The Lancaster distribution system storage is provided by five tanks and a reservoir. There are 26.4 million gallons of storage in the system. The main pressure zone is supplied water by the Oyster Point Reservoir, the Lafayette Tank, the Neffsville Tank, the Northwest Pump Station, and the East Pump Station and transmission mains from the two water plants. The Blossom Hill pressure zone is supplied water by the Blossom Hill Tank and the Hess Boulevard Pump Station. The Willow Street pressure zone is supplied water by the Willow Street Tank and Pump Station. The Lampeter pressure zone is supplied water by the Book Road Tank and flow is regulated by a pressure reducing valve ("PRV") from the Willow Street pressure zone. Pressure zone tank storage and pump station information is summarized in Tables 1-4 and 1-5.

There are five bulk water customers that are served by the Lancaster system that supply water to communities located in East Petersburg Township, Upper Leacock Water Authority, West Earl Water Authority, East Hempfield Water Authority and North Western Lancaster County Authority (Penn Township). Maximum allocated water usage is summarized in Table 1-6.

SCADA System

The SCADA system allows the plant operator to monitor existing conditions of all tank levels and pump stations within the entire system. The software allows them to control the plant output to allow for the system to operate efficiently. In addition, the system allows for pump stations to be monitored from the plants.

Table 1-1
City of Lancaster
Distribution System Pipeline Information Total System

Diameter (Inches)	Pipe Length (Feet)	Pipe Length (Miles)	Percentage of Total
2"	10,693	2.025	0.324%
4"	92,231	15.182	2.431%
6"	1,477,775	271.860	43.525%
8"	985,612	198.176	31.728%
10"	45,549	6.985	1.118%
12"	412,224	76.314	12.218%
16"	141,664	26.856	4.300%
20"	9,969	0.740	0.118%
24"	67,002	12.690	2.032%
30"	10,531	1.995	0.319%
36"	4,986	0.944	0.151%
42"	57,210	10.835	1.735%
Total	**3,315,446**	**624.603**	**100%**

Age Range	Pipe Length (Feet)	Pipe Length (Miles)	Percentage of Total
Before 1900	147,598	27.954	4.452%
1900-1909	20,160	3.818	0.608%
1910-1919	10,667	2.020	0.322%
1920-1929	236,095	44.715	7.121%
1930-1939	99,366	18.819	2.997%
1940-1949	59,879	11.341	1.806%
1950-1959	537,903	101.876	16.224%
1960-1969	323,907	61.346	9.770%
1970-1979	370,148	70.104	11.164%
1980-1989	600,336	113.700	18.107%
1990-1999	402,513	76.234	12.141%
2000-2010	300,632	56.938	9.068%
2010-2019	179,727	34.039	5.421%
2020+	26,515	5.022	0.800%
Total	**3,315,446**	**627.925**	**100%**

Table 1-2
City of Lancaster
Distribution System Valve Information Total System

Valve Diameter	Number of Valves (1)	Percentage of Total
2"	41	0.301%
4"	196	1.441%
6"	8,725	64.150%
8"	3,274	24.072%
10"	156	1.147%
12"	899	6.610%
16"	176	1.294%
20"	13	0.096%
24"	64	0.471%
30"	42	0.309%
36"	10	0.074%
42"	5	0.037%
Total	**13,601**	**100%**

Age Range	Number of Valves (1)	Percentage of Total
Before 1900	968	7.117%
1900-1909	56	0.412%
1910-1919	10	0.074%
1920-1929	1,003	7.374%
1930-1939	310	2.279%
1940-1949	210	1.544%
1950-1959	1,477	10.859%
1960-1969	1,260	9.264%
1970-1979	1,554	11.426%
1980-1989	2,688	19.763%
1990-1999	1,641	12.065%
2000-2010	1,431	10.521%
2010-2019	868	6.382%
2020+	125	0.919%
Total	**13,601**	**100%**

(1) Estimated

Table 1-3
City of Lancaster
Customer Meter Information Total System

Meter size	Number of Meters	Percent Total
5/8"	25,887	53.03%
5/8"x3/4"*	9,430	19.32%
3/4"	4,575	9.37%
3/4"x1"**	4,763	9.76%
1"	2,332	4.78%
1-1/2"	511	1.05%
2"	1,004	2.06%
4"	115	0.24%
6"	116	0.24%
8"	61	0.12%
10"	23	0.05%
Total	**48,817**	**100.00%**

*Meter size of 5/8" x 3/4" is a 3/4" service lateral from the main to the meter, but the meter size is 5/8".

**Meter size of 3/4" x 1" is a 1" service lateral from the main to the meter, but the meter size is 3/4".

Age Range	Number of Meters	Percent Total
Pre 1995	435	0.89%
1995-2000	442	0.91%
2001-2005	1,954	4.00%
2006-2010	4,746	9.72%
2011 to today	41,240	84.48%
Total	**48,817**	**100.00%**

Table 1-4
City of Lancaster
Distribution System Pipeline Information for PUC Regulated Area

Diameter (Inches)	Pipe Length (Feet)	Pipe Length (Miles)	Percentage of Total
2"	8,437	1.598	0.320%
4"	43,825	8.300	1.664%
6"	1,116,188	211.399	42.379%
8"	897,713	170.021	34.084%
10"	24,732	4.684	0.939%
12"	319,435	60.499	12.128%
16"	116,994	22.158	4.442%
20"	318	0.060	0.012%
24"	46,572	8.820	1.768%
30"	4,004	0.758	0.152%
36"	0	0.000	0.000%
42"	55,577	10.526	2.110%
Total	**2,633,795**	**498.825**	**100%**
Age Range	**Pipe Length (Feet)**	**Pipe Length (Miles)**	**Percentage of Total**
Before 1900	4,903	0.929	0.186%
1900-1909	10,619	2.011	0.403%
1910-1919	4,569	0.865	0.173%
1920-1929	105,997	20.075	4.024%
1930-1939	58,351	11.051	2.215%
1940-1949	42,587	8.066	1.617%
1950-1959	445,090	84.297	16.899%
1960-1969	283,571	53.707	10.767%
1970-1979	310,594	58.825	11.793%
1980-1989	539,568	102.191	20.486%
1990-1999	360,761	68.326	13.697%
2000-2010	294,268	55.733	11.173%
2010-2019	153,645	29.099	5.834%
2020+	19,272	3.650	0.732%
Total	**2,633,795**	**498.825**	**100%**

Type of Main	Pipe Length (Miles)	Percentage of Total
Ductile Iron	304.098	60.96%
Cast Iron	143.031	28.67%
Asbestos Cement	36.878	7.39%
Plastic	4.292	0.86%
Steel	10.526	2.11%
Total	**498.825**	**100%**

Table 1-5
City of Lancaster
Distribution System Valve Information for PUC Regulated Area

Age Range	Number of Valves (1)	Percentage of Total
Before 1900	9	0.090%
1900-1909	23	0.229%
1910-1919	7	0.070%
1920-1929	338	3.372%
1930-1939	149	1.486%
1940-1949	129	1.287%
1950-1959	1,202	11.991%
1960-1969	1,068	10.654%
1970-1979	1,236	12.330%
1980-1989	2,311	23.055%
1990-1999	1,467	14.635%
2000-2010	1,410	14.066%
2010-2019	630	6.285%
2020+	45	0.449%
Total	**10,024**	**100%**

Valve Diameter	Number of Valves (1)	Percentage of Total
2"	30	0.299%
4"	94	0.938%
6"	6,243	62.281%
8"	2,795	27.883%
10"	59	0.589%
12"	603	6.016%
16"	112	1.117%
20"	1	0.010%
24"	43	0.429%
30"	38	0.379%
36"	1	0.010%
42"	5	0.050%
Total	**10,024**	**100%**

(1) Estimated

Table 1-6
City of Lancaster
Customer Meter Information for PUC Regulated Area

Meter size	Number of Meters	Percent Total
5/8"	11,734	37.27%
5/8"x3/4"*	8,773	27.86%
3/4"	3,136	9.96%
3/4"x1"**	4,719	14.99%
1"	1,904	6.05%
1-1/2"	326	1.04%
2"	677	2.15%
4"	62	0.20%
6"	91	0.29%
8"	51	0.16%
10"	13	0.04%
Total	**31,486**	**100.00%**

*Meter size of 5/8" x 3/4" is a 3/4" service lateral from the main to the meter, but the meter size is 5/8".

**Meter size of 3/4" x 1" is a 1" service lateral from the main to the meter, but the meter size is 3/4".

Age Range	Number of Meters	Percent Total
Pre 1995	197	0.63%
1995-2000	279	0.89%
2001-2005	1,521	4.83%
2006-2010	3,293	10.46%
2011 to today	26,196	83.20%
Total	**31,486**	**100.00%**

Table 1-7
City of Lancaster
Distribution System Pump Information
Assets Not DSIC Eligible

Pumping Station	Construction Date	# of Pumps	Rated Flow (GPM)	Rated Total Dynamic Head	Motor HP	Drive Type	Back-Up Power
Low Service - Conestoga	1999	2	8333	50	150	VFD	Online November 2022
Low Service - Susquehanna	2010	3	9550	137	400	VFD	Online November 2022
High Service - Conestoga	1999	2	8333	260	750	VFD	Online November 2022
High Service - Susquehanna	2010	3	8333	294	800	VFD	Online November 2022
Hess Boulevard	1997	2	800	155	40	Telemecanique Altistart3 soft starter	100 kW Generator
Northwest	2011	4	7000	220	200	Eaton CPX9000 VFD	No
East	2015	2	4000	75	100	Eaton CPX9000 VFD	180 kW Generator
Willow Street	2012	2	2000	230	150	Eaton CPX9000 VFD	280 kW Generator

Table 1-8
City of Lancaster
Distribution System Storage Information
Assets Not DSIC Eligible

Storage Name	Construction Date	Last Year Painted	Dimensions or Diameter	Overflow Elevation (Feet)	Bottom Elevation (Feet)	Storage Height (Feet)	Nominal Capacity	Type
Oyster Point Reservoir	1956	N/A	102400 SF Rectangle	518	498	20	15 MG	Covered In-Ground
Lafayette Tank	1967	1986	113' Diameter	518	419	99	7.5 MG	Steel Standpipe
Willow Street Tank	1989	2013	52'	611	493	118	1.88 MG	Steel Standpipe
Neffsville Tank	1968	1986	60' Diam	518	430	88	1.86 MG	Steel Standpipe
Lampeter Tank*	1968	1986	40.5' Diam	560	531	29	.3 MG	Steel Spheroid
Blossom Hill Tank	1955	1984	23' Diam	589	510	79	.25 MG	Steel Standpipe
						Total	**26.11 MG**	

*Lampeter Tank is no longer in service. This area is now part of the Willow Street Pressure Zone.

2.0 SCHEDULE FOR PLANNED REPAIR AND REPLACEMENT OF DSIC ELIGIBLE PROPERTY

Lancaster recognizes the need for ongoing renewal and replacement of its distribution system to maintain safe, reliable, high-quality water service to its customers. Renewal of the system includes cleaning and relining of mains to improve water quality issues when minimal break history exists. Replacement of the system infrastructure involves annual pipeline replacement that target small-diameter mains that are problematic (based on break history), or have capacity issues. Renewal of system infrastructure also involves specific projects identified to address issues associated with pumping stations, storage facilities and SCADA systems. Other construction projects involve installation of main extensions to eliminate dead ends within the system.

Over the next 5 years Lancaster will increase its existing annual main renewal and replacement program, provided it has sufficient revenue to support that increased activity. Locations for pipeline infrastructure improvements will be associated with street improvement plans, history of main breaks, necessary system maintenance, projects associated with fire flow improvements, and system improvements to provide redundancy. The LTIIP expenditures by year is a listing of DSIC projects for the areas outside the Lancaster City limits. i.e., in the PUC Regulated Area.

The Susquehanna Large Diameter Replacement Main Project originally consisted of five phases of construction from the Susquehanna River to the western city limits of Lancaster. The purpose of this project is to provide system resiliency, given the sole transmission main from the Susquehanna Water Treatment Plant is over 60 years old, and to also provide additional pressure during peak demand periods. The existing 42-inch water main has had numerous breaks and supplies 66% of the total system consumptive flows. The first phase of this project (transmission main replacement from the Oyster Point Reservoir into the City) was completed in 2021. This project has been re-prioritized, where the third phase of the project (transmission main replacement from the Susquehanna River to the Susquehanna Water Treatment Plant) will be scheduled before the second phase (transmission main replacement from the Susquehanna Water Treatment Plant to Oyster Point Reservoir). The third phase should be bid in 2023 with a completion date in 2025 with an estimated construction cost of $9.761 million. Due to this phase being a raw water main, this is not eligible property, but it is still a part of the overall project. The second phase would likely start in the 2026–2027-time frame, based upon the amount of due diligence required for the acquisition of easements as well as securing additional bonding/financing. Phase 2 of this project is estimated to cost $31.758 million in current dollars (which is 50% more than the first phase construction costs).

As the City of Lancaster's water system ages, the need to replace the old cast iron lines becomes paramount. The design life of iron pipe is typically 100 years. Currently, the City has just over 4 miles of water main that was installed over 100 years ago in the PUC Regulated area. The City has an annual main replacement project that addresses the old cast iron mains and replaces them with new ductile iron main. Since the City is planning to coordinate with its municipal partners, as to not replace main in areas that have recently been paved, the City does not know what segments of streets are going to be in the project year over year.

In addition to its normal schedule of replacement of old cast iron mains, the City of Lancaster has approximately 42 miles of transite water main that is quickly coming to the end of the materials design life. In April/May 2017 the City repaired 19 water main breaks in 17 days in one development. Boil water advisories were issued with each main break since transite mains cannot be repaired under pressure. As a result of these main breaks, the City's priority shifted to replacing the transite mains. In 2021, the transite mains in the Colonial Manor service area were also replaced after a series of breaks. The City is planning to increase the amount that it spends on transite main replacement, and is planning to replace $2 million per year to start, with escalations in the succeeding years. This would equal about 6,700 linear feet of main replaced per year. Prioritization of these replacements would be based on known break history and paving schedules of the surrounding municipalities as well as PennDOT.

The City of Lancaster recognizes the need to address lead in service lines. During the pandemic lockdown in 2020, the City digitized all of its service line records, which were on paper, and input them into its GIS system. With this completed, the City of Lancaster now knows of the existence of approximately 550 lead services within the City's total distribution system including about 50 services in the PUC Regulated area. The estimated cost to replace a service from the curb stop to the meter is around $10,000. The City owns the portion of the service from the main to the curb stop. The customer owns from the curb stop to the meter. The 85 services are spread out though the older developments in the PUC Regulated Area. The City is planning to replace these services over the next few years. The City is actively assessing the feasibility of a lead service line replacement ("LSLR") schedule. The City's assessment has included evaluating various LSLR programs from a public health standpoint while also remaining cognizant of potential fiscal impact. Other considerations include: nature and extent of the LSLR program; duration of the program; and practical considerations associated with bidding any potential contract for the program.

3.0 LOCATION OF ELIGIBLE PROPERTY

Customers are served in the City of Lancaster and portions of the following townships: Lancaster, East Lampeter, West Lampeter, Pequea, Manor, Manheim, and West Hempfield; and Millersville Borough.

Eligible property in the Lancaster system includes the following water distribution facilities:

- Transmission and distribution mains;
- Hydrants and pipeline valves;
- Water meters; and
- SCADA system.

4.0 REASONABLE ESTIMATE OF THE QUANTITY OF ELIGIBLE PROPERTY TO BE IMPROVED

The quantity of eligible property to be improved has been estimated based on budget availability, bonding, projected customer water needs, and allowances for interim repair issues. The proposed cost to construct these improvements are based on engineering total construction estimates in 2022 dollars. Actual costs will vary depending on economies of scale, material costs, and on system conditions that occur each year, especially with the continued effects of the Covid-19 pandemic. The City is currently experiencing significant delays in the arrival of critical components for projects now under construction.

Planned capital projects for the 2023 through 2027 period are summarized below:

Distribution System		
1	Main Replacement for old main outside of the city	$3,168,000
2	2023 Transite Replacement	$2,250,000
3	2024 Transite Replacement	$2,500,000
4	2025 Transite Replacement	$2,750,000
5	2026 Transite Replacement	$2,000,000
6	2027 Transite Replacement	$2,000,000
7	Replace 8/10” Main on N. George Street Frederick Street to Landis Avenue	$800,000
8	Large Diameter Main Phase 2 (Start of Construction)	$12,703,239
9	Lead Service Replacements (All known lead lines in PUC Area - 85 lines in total)	$850,000
10	Meter Replacement Program (Over 5 Years)	$1,220,000

5.0 PROJECTED ANNUAL EXPENDITURES AND MEASURES TO ENSURE COST-EFFECTIVE PROJECT IMPLEMENTATION

Projected annual expenditures for each year from 2023 to 2027 are presented below. These annual expenditures are budget estimates and may vary depending on contractor bid prices and construction activity.

Year	Expenditure
2023	$4,352,690
2024	$3,802,690
2025	$3,802,690
2026	$2,877,690
2027	$15,580,929.60

The City of Lancaster is committed to cost-effective construction practices and project implementation. Measures to ensure cost-effectiveness include:

1. A Comprehensive Planning Study was prepared in 2003, and has been updated annually thereafter, that examined all aspects of the City's water treatment and distribution systems. Alternative improvement projects were identified and evaluated to address service capacity, pressure issues and operational issues associated with these systems. In addition, a new Facilities Plan is underway in 2022.

2. Individual feasibility studies are performed, where applicable, prior to project design. These studies ensure optimum and most up-to-date project designs.

3. Competitive bidding is used to obtain the best possible price for each project as required by Third-Class City Code.

4. On-going staff training provides the skills and knowledge required for correct equipment operation, preventative maintenance procedures, and making necessary repairs.

5. Qualified and experienced inspectors are employed to ensure conformance with the project plans and specifications. Inspectors require all projects are constructed and installed in accordance with AWWA, PADEP and Lancaster City requirements and standards.

6. Lancaster maintains contact with other utilities, municipalities, and agencies such as PennDOT to coordinate water system improvement projects with other related construction activities, such as road paving/resurfacing work. In addition, The City of Lancaster will continue its ongoing coordination of such projects including its work with the Pennsylvania Department of Transportation (PennDOT) to identify and to coordinate highway reconstruction projects.

As a result of these practices and procedures, Lancaster's capital improvement program maximizes cost-effectiveness, while minimizing impacts on customer water service, business access, and traffic congestion.

Table 5-1 (see attached) provides LTIIP expenditures by year. Please note that the total cost of the five (5) years of the LTIIP is $30,241,689.60, this is not the same as the total shown in Table 5-1. This is because Phase 3 has only one (1) year included in this LTIIP.

6.0 ACCELERATION PLAN AND MAINTENANCE OF SAFE AND RELIABLE SERVICE

As the existing water systems age, replacement and renewal projects are expected to expand and accelerate over the next ten years.

The objectives of the proposed improvement program are to maintain and enhance customer service by addressing system needs, including pressure and flow capacity, fire flow availability, water quality, and emergency capabilities, such as operations during power failures. Projects are proposed that replace aging, problematic, or inadequate capacity infrastructure. As a result, unexpected infrastructure failures should be less likely and fewer emergency repairs and replacements should be required.

As noted above, Lancaster's historic annual spending level from 2018 through 2021 was very high due to phase 1 of the large diameter transmission main and other large capital projects that are currently under construction. In addition, this period also had historic spending for our advanced metering infrastructure project, which was substantially completed in 2020. In total, $22,830,069 was spent on the large diameter transmission main project as well as the advanced metering project. Over the past four (4) years, the city has replaced approximately three (3) miles of transite main. The City of Lancaster is planning to accelerate that to replace approximately 1.3 miles of main per year on a going forward basis. Which is approximately 6.3 miles of main over the next five (5) years.

Unexpected infrastructure failures, such as main breaks, can have a significant impact on customer water service when compared to scheduled maintenance work. Standard Lancaster procedures for scheduled maintenance include advance meetings with local township or borough officials to advise them regarding project activities. Customers, traffic, and other project impacts are presented and discussed at these meetings. Individual notifications to affected residences and businesses are provided in writing and by telephone.

In addition, emergency repairs usually are more costly than scheduled maintenance for replacing inadequate infrastructure. Therefore, accelerated implementation of the proposed improvement program will enhance system safety, reliability, and dependability of customer service, and provide for more cost-effective maintenance work.
r

Previous 5 Year Spending Totals	
Year	Expenditure
2018	$3,824,182
2019	$11,041,648
2020	$9,738,394
2021	$10,298,113
2022*	$2,145,526

*Estimated

The previous five-year total spending came to an estimated $37,047,863. Comparatively, the next five years of spending, as shown in Section 5 above, is scheduled to be $30,416,689. This

may not look like an acceleration, but the previous five-year spend included a once in a hundred year Large Diameter Transmission Main, and a once every 25-30 year replacement of metering technology. The next five (5) years focuses more on main replacements and accelerating lead service line replacements.

Amounts of Eligible Property Replaced per Year in 2023-2027 LTIIP

	2023	2024	2025	2026	2027
Services	411	246	246	246	246
Hydrants	22	20	21	17	27
Meters	2441	2441	2441	2441	2441
Valves	76	50	50	44	64
Feet of Pipe	12412	8812	8812	8812	18852

*Project types broken out in Table 5-1

Historical Amounts of Eligible Property Replaced per Year

	2018	2019	2020	2021	2022*
Services	54	273	103	178	150
Hydrants	0	11	11	11	0
Meters	8179	22267	1485	2017	2000
Valves	54	72	57	68	45
Feet of Pipe	5834	15895	21309	21200	7800

*Quantities for 2022 are estimated

7.0 WORKFORCE MANAGEMENT

Lancaster effectively and efficiently manages and conducts construction projects utilizing competitive bidding and an experienced and qualified engineering and inspection staff. Competitive bidding documents are searchable and available online via PENNBID. Advertisements are posted on the PennBid website, in the local newspaper, and on the City's website.

Lancaster's experienced engineering staff evaluates bids received for each project. The staff is familiar with the contractors who have historically bid on projects in the Lancaster area. Bids are evaluated on a cost basis.

Project management involves regular engineering review meetings during project design, and inspection by qualified inspectors during construction. The level of experience of Lancaster's inspectors is such that unsatisfactory work items can be identified and remediated before construction is completed. If necessary, inspectors require unacceptable work to be removed and reinstalled in accordance with project specifications.

8.0 OUTREACH AND COORDINATION WITH OTHER UTILITIES, PENNDOT, AND LOCAL GOVERNMENTS REGARDING PLANNED MAINTENANCE/ CONSTRUCTION PROJECTS AND ROADWAYS THAT MAY BE IMPACTED BY THE LTIIP

The City states that it is in frequent contact with other utilities, municipalities, and agencies such as PennDOT to coordinate water system improvement projects with other related construction activities, such as road paving/resurfacing work. In addition, the City of Lancaster will continue its ongoing coordination of such projects including its work with the Pennsylvania Department of Transportation (PennDOT) and other municipalities to identify and to coordinate highway reconstruction projects.

APPENDIX C

CITY OF LANCASTER – BUREAU OF WATER

LANCASTER, PENNSYLVANIA

DIRECT TESTIMONY

OF

HAROLD WALKER, III

CITY OF LANCASTER

Date: September 23, 2022

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

RE: CITY OF LANCASTER – BUREAU OF WATER

PETITION FOR APPROVAL OF A DISTRIBUTION SYSTEM IMPROVEMENT CHARGE

DOCKET NO. P-2022-_____

DIRECT TESTIMONY OF HAROLD WALKER, III

Witness Background and Qualification

1. Q. Please state your name and business address.

A. My name is Harold Walker, III. My business address is 1010 Adams Avenue, Audubon, Pennsylvania 19403.

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

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

3. Q. Would you describe briefly Gannett Fleming?

A. Yes. Since 1915, Gannett Fleming and its predecessors have been helping clients in public pricing policy and related financial matters for managerial purposes, before regulatory commissions and courts of law.

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

A. My educational background, business experience and qualifications are provided at the end of this testimony as Appendix A.

5. Q. What is the purpose of your Direct Testimony?

A. The purpose of my testimony is to provide an overview of the City of Lancaster – Water Bureau's (the "City") Distribution System Improvement Charge ("DSIC") filing. I will also discuss the proposed tariff and explain how it is

compliant with the model tariff adopted by the Pennsylvania Public Utility Commission (the "Commission"). Finally, I present, in Exhibit HW-1, a sample calculation of the proposed DSIC for illustrative purposes, and explain said calculation in my testimony. This testimony and the exhibits appended thereto were prepared by me or under my direct supervision.

Overview of the City's Filing

6. Q. Please provide an overview of the City's filing and its request for a DSIC.

A. The Pennsylvania Public Utility Code ("Code") allows the City to request the implementation of a DSIC for certain water infrastructure replacements. In accordance with the Code, the City's DSIC request must include a Long Term Infrastructure Improvement Plan ("LTIIP"). The LTIIP provides details on the City's water infrastructure and how the City plans to address the replacement of such property over the five years beginning January 1, 2023, following the conclusion of the fully projected future test year from its last water base rate case at Docket No. R-2021-3026682 (the "2021 Base Rate Case"). The Direct Testimony of Christine Volkay-Hilditch, which is included with the City's Petition as Appendix D, addresses the City's LTIIP.

7. Q. Please describe the City's DSIC-eligible projects.

A. As permitted by Section 1351(4) of the Code, 66 Pa.C.S. § 1351(4), DSIC eligible investments include repair or replacements of the following types of property: services, meters, and hydrants installed as in-kind replacements for customers; certain mains and valves; certain main extensions; main cleaning and relining projects; unreimbursed costs related to highway relocation projects where a water

utility must relocate its facilities; and other related capitalized costs. The LTIIP, as summarized in the Direct Testimony of Christine Volkay-Hilditch, includes specifics relative to the City's planned investments necessary to address the aging infrastructure in its water facilities and system network.

8. Q. What types of capital expenditures are not DSIC-eligible?

A. Expenditures that are not DSIC-eligible include: buildings, treatment facilities, reimbursed projects such as highway relocations, and new (not replacement) mains and services.

Discussion of Proposed Tariff

9. Q. Please provide details on the City's proposed tariff.

A. The City's proposed DSIC tariff supplement is attached as Appendix A to the City's Petition. While the DSIC tariff mechanism, as proposed, will become effective January 1, 2023, the initial DSIC rate will be set at 0.0%, to reflect the fully projected future test year in the 2021 Base Rate Case. The City will not recover any costs associated with infrastructure replacement through the DSIC until it has placed in service a level of DSIC-eligible plant that exceeds the level approved by the Commission for fully projected future test year base rate recovery in the 2021 Base Rate Case, or as otherwise directed by the Commission. Once the City is allowed to implement a non-0.0% DSIC, the DSIC will be calculated to reflect all eligible plant placed in service which has not been included in the base rates arising out of the 2021 Base Rate Case.

10. Q. Is the City's proposed tariff in compliance with the model tariff included in the Commission's Implementation Order?

A. Yes, the City's proposed tariff contains all the elements required by the Commission's adopted model tariff. It includes a description of the eligible property, the effective date of the DSIC and a detailed example and explanation of the computation of the DSIC. It also includes the method by which the City will provide quarterly updates to its customers as well as a description of the consumer safeguards included in the DSIC.

11. Q. How will the City base its projected quarterly revenues?

A. The City will base its projected quarterly revenues on trailing twelve months. That is, the City will utilize one quarter of the most recent 12 months of revenue to calculate projected revenue.

12. Q. When do you anticipate that the City will reach the 5% DSIC surcharge cap?

A. The City expects to reach the 5% DSIC surcharge cap sometime in 2025.

13. Q. Do you believe that the proposed DSIC is in the best interest of the City's customers?

A. Yes. As explained in the LTIIP, the City is undertaking substantial replacement of its distribution system, as well as making other significant investments in system reliability. This replacement is critical to the continued provision of safe and reliable service. The DSIC is vital to support the City's efforts to undertake this replacement program.

14. Q. Does the proposed DSIC tariff contain consumer protections?

A. Yes. The proposed DSIC-related tariff includes customer safeguards in its structure.

The most significant safeguards include: (1) a 5.0% cap on the total amount of revenue that can be collected through the DSIC as determined on an annualized basis, (2) annual reconciliations performed by the City and reviewed by the Commission, (3) audits conducted by the Commission, (4) customer notice of any changes in the DSIC, and (5) a reset of the DSIC to zero if the City's return in any quarter exceeds the return used to calculate the DSIC.

Discussion of Proposed DSIC Determination

15. Q. How will the City's Proposed DSIC be calculated?

A. Exhibit HW-1 illustrates how the City's proposed DSIC would be calculated each quarter. First, the amount of investment in DSIC-eligible property placed in service would be identified for the three month-period prior to one month before the effective date of the DSIC as indicated on page 3 of Exhibit HW-1. The amount of new net investment, from page 3, would be added to existing DSIC-eligible plant investment already being recovered in an existing DSIC charge as shown on page 2 of Exhibit HW-1 to determine the aggregate balance of DSIC-eligible plant investment (column D). On page 2 of Exhibit HW-1, the existing DSIC-eligible plant investment already being recovered in an existing DSIC charge is shown as $0 (column B) as the illustration depicted in Exhibit HW-1 would be the initial implementation of the City's non-0.0% DSIC charge.

The second step would be the determination of the annual deprecation related to DSIC-eligible plant investment (columns E and F) as shown on page 2 of Exhibit HW-1. The depreciation rate (column E) would be the same rate approved in the 2021 Base Rate Case (e.g., Exhibit JJS-3R – Table 1) for the DSIC-eligible

plant accounts.

The Third step would be the determination of the reserve for depreciation, or accumulated depreciation, related to DSIC-eligible plant investment (line numbers 7 to 9) as shown on page 2 of Exhibit HW-1. The accumulated depreciation related to DSIC-eligible plant investment would then be subtracted from the gross balance of DSIC-eligible plant investment to produce the Net Distribution System Improvement Costs, or DSI, shown on page 1 of Exhibit HW-1 at lines 3 to 5.

The DSI is then multiplied by one-quarter of the pre-tax return rate (PTRR) to generate the Quarterly Capital Cost Recovery (line 8) on the DSIC-eligible property. Added to the Quarterly Capital Cost Recovery amount would be the quarterly depreciation expense (DEP) associated with each account based on the accrual rate approved in the most recent base rate case. The sum of the return and depreciation expense on a quarterly basis would be the amount of capital cost recovery for the current quarter (line 12), or Current Period Recoverable Cost Amount. The Current Period Recoverable Cost Amount would then be divided by the Projected Quarterly Revenue (PQR), from line 22, to produce the Current Cost Recovery Rate shown on line 13.

The Current Cost Recovery Rate would then be adjusted for the annual reconciliation, or "E" Factor (lines 14 to 17).[1] The "E" Factor is divided by four to

[1] The DSIC is subject to annual reconciliation based on a reconciliation period consisting of the twelve months ending December 31 of each year by the Commission. The revenue received under the DSIC for the reconciliation period will be compared to the City's eligible costs for that period. The difference between revenue and costs will be recouped or refunded, as appropriate, in accordance with Section 1307(e), over a one-year period commencing on April 1 of each year, or in the next quarter if permitted by the Commission. If DSIC revenues exceed DSIC-eligible

produce the Quarterly "E" Factor Amount (line 18). The Quarterly "E" Factor Amount would then be divided by the Projected Quarterly Revenue (PQR), from line 22, to produce the "E" Factor Rate shown on line 19. For illustrative purposes, the "E" Factor (lines 14 to 17) is shown at zero since Exhibit HW-1 depicts the initial implementation of the City's non-0.0% DSIC charge and no reconciliation would have occurred prior to this point.

The Current Period Recoverable Cost Amount (line 12) is then added to the Quarterly "E" Factor Amount (line 18) to produce the Total DSIC Revenue Requirement (line 21). The Total DSIC Revenue Requirement (line 21) is then divided by the Projected Quarterly Revenue (PQR), from line 22, to produce the DSIC Surcharge Rate shown on line 23.

16. Q. How will the Annual Pretax Rate of Return, shown on line 6, be calculated?

A. The calculation of the Annual Pretax Rate of Return is developed on page 2 of Exhibit HW-1 on lines 10 to 15. The first step in developing the Annual Pretax Rate of Return is the selection of capital structure ratios to be employed. Next, the cost rate for each capital component is determined. The Annual Pretax Rate of Return is the product of weighting each capital component by its respective capital cost rate. This procedure results in the Annual Pretax Rate of Return being weighted proportionately to the amount of capital and cost of capital of each type of capital.

costs, such over-collections will be refunded with interest. Interest on over-collections and credits will be calculated at the residential mortgage lending specified by the Secretary of Banking in accordance with the Loan Interest and Protection Law (41 P.S. §§ 101, et seq.) and will be refunded in the same manner as an over-collection. The utility is not permitted to accrue interest on under collections.

Consistent with 66 Pa. C.S. § 1301(b), the City's capital structure will be based upon an imputed capital structure updated each quarter. The City's imputed capital structure will be based upon the current water industry practice using the average capital structure ratio of the Value Line water utilities used in the current Quarterly Report on the Earnings of Jurisdictional Utilities released by the Commission for water utilities.

The debt cost rate will be based on the embedded debt cost rate of the long-term debt attributed to the City of Lancaster Water Fund. The embedded debt cost rate of the long-term debt will be determined by employing a cost rate to maturity calculation, using as inputs, the coupon rate, net proceeds ratio, and term in years. Once the cost rate to maturity, or effective cost rate, is determined for each issue, it will be weighted according to the amount of capital outstanding for each series to determine the weighted composite cost or the embedded cost.

The equity return rate will use the Commission's approved return on equity from the City's last fully litigated base rate case for which a final order was received not more than two years prior to the effective date of the DSIC. If not available, the equity return rate will be the calculated rate from the Commission staff in the most recent Quarterly Report on the Earnings of Jurisdictional Utilities released by the Commission under Distribution System Improvement Charge Return in its Value Line Water Company Group analysis.

Rate Case Certification

17. Q. Has the City filed a base rate case within the five years prior to this filing?

A. Yes. The City's most recent prior base rate case was the 2021 Base Rate Case.

That case has been concluded and the City is eligible for a DSIC pursuant to Section 1353(b)(5) of the Code, 66 Pa. C.S. § 1353(b)(5).

18. Q. Does this conclude your prepared direct testimony?

A. Yes, it does.

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

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 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.

EXPERT TESTIMONY

Mr. Walker has submitted testimony or been deposed on various topics before regulatory commissions and courts in 26 states including: Arizona, California, Colorado, Connecticut, Delaware, Hawaii, Idaho, 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, benchmarking, 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 Pennsylvania Wastewater Inc	A-2021-3027268
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
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
Berkshire Gas Company	22-20
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
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
City of Lancaster Water Fund	R-2021-3026682
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
Illinois American Water Company	22-0210
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
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
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

City of Lancaster Water Fund
For Outside-City Customers

DSIC Computation

April 1, 2023

Line	A	B	C	D	E
					Explanation
1.	DSIC =	(DSI × PTRR) + Dep + E			
2.		PQR	Annual	Quarterly	
3.		Distribution System Improvement Costs		$1,088,173	From page 2, column D, line 6.
4.		Less Accumulated Depreciation		2,585	From page 2, column F, line 10.
5.	DSI	Net Distribution System Improvement Costs		$1,085,588	Line 3 - line 4.
6.		Annual Pretax Rate of Return	7.05%		From page 2, column F, line 16.
7.	PTRR	Quarterly Pretax Rate of Return		1.76%	Line 6 ÷ 4.
8.	DSI x PTRR	Quarterly Capital Cost Recovery		$19,106	Line 5 x line 7.
9.		Annual Depreciation Expense	$10,341		From page 2, column F, line 6.
10.	DEP	Quarterly Depreciation Expense		2,585	Line 9 ÷ 4.
11.	(DSI × PTRR) +				
12.	Dep	Current Period Recoverable Cost Amount		$21,691	Line 8 + line 10.
13.		Current Cost Recovery Rate		0.40%	Line 12 ÷ line 22.
14.		2022 (Over) / Under Collection	$0		Developed during annual reconciliation.
15.		Interest Refundable			
16.		Prior Period "E" Factor Residual	0		Developed during annual reconciliation.
17.		Net "E" Factor Amount	$0		Line 14 + line 16.
18.	E	Quarterly "E" Factor Amount		$0	Line 17 ÷ 4.
19.		"E" Factor Rate		0.00%	Line 18 ÷ line 22.
20.	(DSI × PTRR) +				
21.	Dep + E	Total DSIC Revenue Requirement		$21,691	Line 12 + line 18.
22.	PQR	Projected Quarterly Revenue		$5,358,008	Quarterly revenues of trailing 12-months.
23.	DSIC	DSIC Surcharge Rate		0.40%	Line 21 ÷ line 22.

For Illustrative Purposes, Not Based on Projections

City of Lancaster Water Fund
For Outside-City Customers

DSIC Supporting Calculations

April 1, 2023

Line		A	B	C	D	E	F
				Utility Plant			
			Balance 12/31/2022	Additions to 04/01/23	Balance 04/01/2023	Depreciation Rate	Annual Depreciation
1.	Mains		$0.00	$920,900.00	$920,900.00	0.88%	$8,103.92
2.	Services		0.00	106,250.00	$106,250.00	1.33%	1,413.13
3.	Meters		0.00	61,023.00	$61,023.00	1.35%	823.81
4.	Fire Hydrants		0.00	0.00	$0.00	1.11%	0.00
5.	Valves		0.00	0.00	$0.00	1.31%	0.00
6.	Total		$0.00	$1,088,173.00	$1,088,173.00		$10,340.86
7.				Reserve for Depreciation			
8.	Reserve for Depreciation at 12/31/22						$0.00
9.	25% of Annual Depreciation at 04/01/23						2,585.22
10.	Reserve for Depreciation at 04/01/23						$2,585.22
11.				Cost of Capital			
12. 13.			Type of Capital	% of Total (1)	Cost Rate (2)	Weighted Cost Rate	Pretax Cost Rate
14.			Equity	52.0%	9.80%	5.10%	5.10%
15.			Debt	48.0%	4.06%	1.95%	1.95%
16.				100.0%		7.05%	7.05%

Notes: (1) Capital structure ratios is the average capital structure for the Value Line water utilities used in the current Quarterly Report on the Earnings of Jurisdictional Utilities released by the Commission for water utilities as of 4/1/2023.

(2) Equity cost rate is based on the most recent Quarterly Report on the Earnings of Jurisdictional Utilities released by the Commission for water utilities.
Debt cost rate is the current long term debt cost rate at 12/31/22.

For Illustrative Purposes, Not Based on Projections

City of Lancaster Water Fund
For Outside-City Customers

Distribution System Improvement Charge (DSIC)
Replaced Facilities for the
Quarter Ending April 1, 2023

	A	B	C	D
Line	Account	Description	Quantity	Cost (Less Retirements)
1.	322	Mains	3,103	$920,900.00
2.	323	Services	11	106,250.00
3.	324	Meters	610	61,023.00
4.	325	Fire Hydrants	0	0.00
5.	322	Valves	0	0.00
6.		Total		$1,088,173.00

For Illustrative Purposes, Not Based on Projections

APPENDIX D

CITY OF LANCASTER – BUREAU OF WATER

LANCASTER, PENNSYLVANIA

DIRECT TESTIMONY

OF

CHRISTINE VOLKAY-HILDITCH, P.E., BCEE
DEPUTY DIRECTOR OF PUBLIC WORKS

CITY OF LANCASTER

September 23, 2022

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

RE: CITY OF LANCASTER – BUREAU OF WATER
PETITION FOR APPROVAL OF A DISTRIBUTION SYSTEM IMPROVEMENT CHARGE
DOCKET NO. P-2022-_____

DIRECT TESTIMONY OF CHRISTINE VOLKAY-HILDITCH

1. Q. State your name and business address.

A. My name is Christine Volkay-Hilditch. My business address is Lancaster City Hall, 120 North Duke Street, P.O. Box 1599, Lancaster, PA 17608-1599.

2. Q. By whom are you employed?

A. I am employed by the City of Lancaster, as the Deputy Director of Public Works, Utilities.

3. Q: Please state your education and experience

A. I am a graduate of Villanova University with a Bachelor's degree in Civil Engineering. I also obtained a Master's of Civil Engineering/Water and Wastewater concentration from Northeastern University, and a Master's of Public Administration from Villanova University. I am a registered professional engineer in the Commonwealth of Pennsylvania, a diplomate of the Environmental Engineering Academy, and a PADEP licensed water operator and wastewater operator.

4. Q. Please describe your job responsibilities.

A. I serve as the City's Deputy Director of Public Works, Utilities. In this capacity, I am in responsible charge of the City's two drinking water plants and its advanced wastewater treatment plant. My responsibilities are utility management, including supervision of operations, maintenance, engineering, and laboratory functions, budgeting, personnel management, training, and capital planning. Prior to my

employment with the City, I served as the Director of Engineering for the Delaware County Regional Control Authority's ("DELCORA") 44 million gallon per day ("MGD") wastewater treatment plant for 13 years. My responsibilities were similar, concentrating on utility engineering management. Prior to DELCORA, I worked for the City of Reading as the Environmental Division Manager and for Acer Engineers and Consultants as a project manager.

5. Q What is the purpose of your Direct Testimony?

A. The purpose of my testimony is to address the City of Lancaster – Water Bureau's (the "City" or "Water Bureau") Long Term Infrastructure Improvement Plan ("LTIIP"), for which I am the sponsoring witness. The LTIIP has been submitted by the City as Appendix B to its Petition filed with the Pennsylvania Public Utility Commission ("Commission") requesting approval to implement a Distribution System Improvement Charge ("DSIC"). Section 1353 of the Pennsylvania Public Utility Code ("Code"), 66 Pa.C.S. § 1353 requires an LTIIP as part of a utility's request for a DSIC.

6. Q. Please describe the contents of the City's LTIIP.

A. The City's LTIIP includes the six elements enumerated in Section 1352 of the Code: (1) the types and ages of eligible property; (2) a schedule for its planned repair and replacement; (3) the location of the eligible property; (4) a reasonable estimate of the quantity of property to be improved; (5) the projected annual expenditures and measures to ensure that the LTIIP is cost effective; and (6) the manner in which replacement of aging infrastructure will be accelerated and how repair, improvement, or replacement will maintain safe and reliable service. The

City's LTIIP also includes a description of its workforce management plan ("WMP"). The City's WMP is the process through which the City will retain a qualified workforce to undertake the work set forth in the LTIIP in a cost-efficient, reliable, and safe fashion—as required by the Commission's Final Implementation Order entered on August 2, 2012, at Docket No. M-2012-2293611.

7. Q. Can you summarize the City's LTIIP?

A. Yes. The City's LTIIP focuses on maximizing the delivery of dependable, efficient, and safe water for its customers. From 2023 through 2027, the City intends to spend approximately $30,416,689 for infrastructure improvements, as shown in Section 5.0 of the City's LTIIP. Projects include main replacement for old or obsolete mains, lead service line ("LSL") replacement, improvements to the City's Supervisory Control and Data Acquisition ("SCADA") system, and a meter replacement program, among others, as indicated in Section 4.0 of the LTIIP.

8. Q. What is the current condition of the City's water system?

A. The City's water system consists of more than 620 miles of pipe and serves over 49,000 customers. Pipe materials in the City's system include asbestos cement, cast iron, cement-lined ductile iron, galvanized iron, steel, PVC, and cement-lined cast iron pipe. As shown in LTIIP Table 1-1, about forty-three percent (43%) of the City's total pipe is over fifty (50) years old. At least 40 miles of water main are more than one hundred (100) years old.

9. Q. Please explain how the City developed its LTIIP.

A. The City's focus in developing its LTIIP was on the replacement of critical infrastructure, with a particular emphasis on transite main replacements from 2023

through 2027—approximately 6,700 linear feet per year—as well as the replacement of portions of pipe that have an identified history of breakage and/or leakage. The LTIIP also focuses on the replacement of unsafe LSLs, which have been cataloged in the City's Geographic Information System ("GIS"). Fifty (50) LSLs exist in the City's Commission-regulated area. Finally, a key component of the City's LTIIP is the replacement of old cast iron mains with new ductile iron mains, consistent with the Commission's recommendation that utilities reduce cast iron piping within their systems.

10. Q. Would the Commission's adoption of the City's LTIIP be in the public interest?

A. Yes, unequivocally. The proposed DSIC will enable the City to continue to provide safe, reliable, and efficient service through replacing aged and inefficient portions of its water system. The DSIC will enable the City to make these replacements on an expedited basis, thereby minimizing potential disruptions and benefitting customers.

11. Q. Does this conclude your Direct Testimony?

A. Yes, it does.

APPENDIX E

NOTICE OF SUBMISSION OF PROPOSED DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC) AND INITIAL DSIC TARIFF

TO OUR CUSTOMERS

On September 23, 2022, the City of Lancaster, Bureau of Water filed a request with the Public Utility Commission (PUC) to implement a DSIC to provide for the timely recovery of the reasonable and prudent costs incurred to repair, improve or replace eligible property that is part of the City's water distribution system.

The DSIC tariff submitted to the PUC does not propose any immediate change in water service rates but would allow the City to implement a charge on a quarterly basis, in the future, to recover the fixed cost of eligible property that has not previously been reflected in the City's rates or rate base.

The PUC will examine the DSIC filing and may approve, modify or reject it.

You may examine the material the City filed with the PUC which contains the requested DSIC and the initial DSIC tariff. A copy of this material is kept at the City's office.

There are three ways to challenge the City's request for a DSIC:

1. You can file a formal complaint. If you want a hearing before a judge, you must file a formal complaint. By filing a formal complaint, you assure yourself the opportunity to take part in hearings about the DSIC request. All complaints should be filed with PUC as soon as possible.

2. You can send the PUC a letter telling why you object to the requested DSIC. Sometimes there is information in these letters that makes the PUC aware of problems with the City's service or management. This information can be helpful when investigating the DSIC request. Send your request for a formal complaint form or your letter to the Pennsylvania Public Utility Commission, Post Office Box 3265, Harrisburg, PA 17105-3265.

3. You can be a witness at a public input hearing. Public input hearings are held if the PUC opens an investigation of the City's DSIC request and if there is a large number of customers interested in the case. At these hearings you have the opportunity to present your views in person to the PUC judge hearing the case and the City representatives. All testimony given "under oath" becomes part of the official case record.

For more information, call the PUC at 1-800-692-7380. You may leave your name and address so you can be notified of any hearings that may be scheduled in this case.

CITY OF LANCASTER, BUREAU OF WATER