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July 31, 2020

Via Electronic Filing

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

Re: PaPUC Docket No. R-2020-3020256
The City of Bethlehem – Water Department
Supplement No. 15 to Tariff Water - Pa. P.U.C. No. 6

Dear Secretary Chiavetta:

We are counsel to the City of Bethlehem ("City") and are submitting with this letter, via electronic filing, the City's Tariff Supplement No. 15 and supporting information, as listed below, proposing an annual increase of \$908,421 in water service revenue for Outside City Customers:

1. Supplement No. 15 to Tariff Water – Pa. P.U.C. No. 6 ("Supplement No. 15") issued today with a proposed effective date of September 29, 2020;
2. Rate Study and Data in Support of Supplement No. 15 ("Rate Study");
3. Cost of Service Allocation Study for the Test Year Ended December 31, 2020 identified in the Rate Study as Exhibit CEH-1;
4. Customer Class Demand Study identified in the Rate Study as Exhibit CEH-2;
5. Depreciation Studies as of December 31, 2019 and December 31, 2020 identified in the Rate Study as Exhibit JJS-1 and Exhibit JJS-2, respectively; and
6. Notice to Customers.

Please enter our appearance and contact me if anything further is required in regard to the foregoing.

Very truly yours,

THOMAS, NIESEN & THOMAS, LLC

By 

Thomas T. Niesen

Encls.

cc: Certificate of Service (w/encls.)
Edward J. Boscola, P.E. (via mail, w/encls.)

CERTIFICATE OF SERVICE

I hereby certify that I have this 31st day of July 2020 served a true and correct copy of the foregoing letter, City of Bethlehem Supplement No. 15 to Tariff Water - Pa. P.U.C. No. 6, Rate Study and Data in Support of Supplement No. 15, Cost of Service Allocation Study, Customer Class Demand Study, Depreciation Studies as of December 31, 2019 and December 31, 2020, and Notice to Customers upon the persons and in the manner indicated below:

VIA ELECTRONIC MAIL

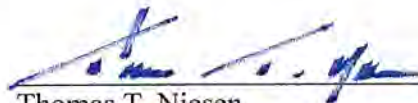
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Thomas T. Niesen
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SUPPLEMENT NO. 15
TO
TARIFF WATER – PA P.U.C. NO. 6

CITY OF BETHLEHEM

Rates, Rules and Regulations
Governing the Furnishing of Water
Directly to Customers

in

the following Townships and Boroughs located within
Lehigh and Northampton Counties, Pennsylvania

Salisbury Township (Portions of)	Lehigh County
Upper Saucon Township (Portions of)	Lehigh County
Lower Saucon Township (Portions of)	Northampton County
Bethlehem Township (Portions of)	Northampton County
Hanover Township (Portions of)	Northampton County
Hanover Township (Portions of)	Lehigh County
East Allen Township	Northampton County
Allen Township (Portions of)	Northampton County
Borough of Fountain Hill	Lehigh County
Borough of Freemansburg	Northampton County
Lower Nazareth Township (Portions of)	Northampton County

-and to-

The Authorities of the Township
of Lower Saucon and to
The Township of Upper Saucon, in the
Counties of Lehigh and Northampton for resale

ISSUED: July 31, 2020

EFFECTIVE: September 29, 2020

BY: Robert J. Donchez, Mayor
City of Bethlehem

NOTICE

This Tariff Makes Increases and Changes in Existing Rates
See Page 2

LIST OF CHANGES MADE BY THIS SUPPLEMENT

INCREASES

This supplement makes increases to existing rates, except for Public and Private Fire Protection, resulting in an increase in revenue of \$908,421 for outside city customers or by 10.9%.

CHANGES

This supplement eliminates the Lower Saucon Honor System Rate.

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PART I. SCHEDULE OF RATES**SECTIONS A AND B. RATES FOR METERED SERVICE AND FIRE PROTECTION.**Schedule AMeter Rates – General Residential Customer ServiceAPPLICATION

This schedule applies to all residential customer service.

CUSTOMER CHARGES

All metered residential customers shall pay the following customer charge based on the required size of meter to render adequate service.

Size of Meter	Customer Charge		Size of Meter	Customer Charge	
	Per Month	Per Quarter		Per Month	Per Quarter
5/8"	\$ 8.25	\$ 24.75	3"	\$ 174.80	\$524.40
3/4"	13.98	41.94	4"	273.56	820.68
1"	27.14	81.42	6"	547.11	1,641.33
1-1/2"	53.04	159.12	8" or Larger	1,098.37	3,295.11
2"	85.28	255.84			

CONSUMPTION CHARGES

In addition to the customer charge all water consumption will be billed at the following rates:

	Rate Per 1,000 Gallons	
For all usage monthly or quarterly	\$ 5.067	(I)

Customer water meter bills will be subject to a penalty of one and one-half percent (1.5%) interest per month on the full unpaid and overdue balance of the bill if not paid within twenty calendar days from the date the bill is mailed. All customers will be given the option of being billed monthly.

(I) Indicates Increase

SCHEDULE OF RATESSchedule BMeter Rates – General Commercial Customer ServiceAPPLICATION

This schedule applies to all commercial customer service.

CUSTOMER CHARGES

All metered Commercial customers shall pay the following customer charge based on the required size of meter to render adequate service.

<u>Size of Meter</u>	<u>Customer Charge</u>		<u>Size of Meter</u>	<u>Customer Charge</u>	
	<u>Per Month</u>	<u>Per Quarter</u>		<u>Per Month</u>	<u>Per Quarter</u>
5/8"	\$ 8.25	\$24.75	3"	\$ 174.80	\$524.40
3/4"	13.98	41.94	4"	273.56	820.68
1"	27.14	81.42	6"	547.11	1,641.33
1-1/2"	53.04	159.12	8" or Larger	1,098.37	3,295.11
2"	85.28	255.84			

CONSUMPTION CHARGES

In addition to the customer charge all water consumption will be billed at the following rates:

	<u>Rate Per 1,000 Gallons</u>	
For all usage monthly or quarterly	\$ 4.066	(I)

Customer water meter bills will be subject to a penalty of one and one-half percent (1.5%) interest per month on the full unpaid and overdue balance of the bill if not paid within twenty calendar days from the date the bill is mailed. All customers will be given the option of being billed monthly.

(I) Indicates Increase

SCHEDULE OF RATESSchedule CMeter Rates – General Industrial Customer ServiceAPPLICATION

This schedule applies to all Industrial customer service.

CUSTOMER CHARGES

All metered Industrial customers shall pay the following customer charge based on the required size of meter to render adequate service.

<u>Size of Meter</u>	<u>Customer Charge</u>		<u>Size of Meter</u>	<u>Customer Charge</u>	
	<u>Per Month</u>	<u>Per Quarter</u>		<u>Per Month</u>	<u>Per Quarter</u>
5/8"	\$ 8.25	\$ 24.75	3"	\$ 174.80	\$524.40
3/4"	13.98	41.94	4"	273.56	820.68
1"	27.14	81.42	6"	547.11	1,641.33
1-1/2"	53.04	159.12	8" or Larger	1,098.37	3,295.11
2"	85.28	255.84			

CONSUMPTION CHARGES

In addition to the customer charge all water consumption will be billed at the following rates:

	<u>Rate Per 1,000 Gallons</u>	
For all usage monthly or quarterly	\$ 4.066	(I)

Customer water meter bills will be subject to a penalty of one and one-half percent (1.5%) interest per month on the full unpaid and overdue balance of the bill if not paid within twenty calendar days from the date the bill is mailed. All customers will be given the option of being billed monthly.

(I) Indicates Increase

SCHEDULE OF RATESSchedule DMeter Rates – General Public Customer ServiceAPPLICATION

This schedule applies to all Public customer service.

CUSTOMER CHARGES

All metered Public customers shall pay the following customer charge based on the required size of meter to render adequate service.

<u>Size of Meter</u>	<u>Customer Charge</u>		<u>Size of Meter</u>	<u>Customer Charge</u>	
	<u>Per Month</u>	<u>Per Quarter</u>		<u>Per Month</u>	<u>Per Quarter</u>
5/8"	\$ 8.25	\$ 24.75	3"	\$ 174.80	\$524.40
3/4"	13.98	41.94	4"	273.56	820.68
1"	27.14	81.42	6"	547.11	1,641.33
1-1/2"	53.04	159.12	8" or Larger	1,098.37	3,295.11
2"	85.28	255.84			

CONSUMPTION CHARGES

In addition to the customer charge all water consumption will be billed at the following rates:

	<u>Rate Per 1,000 Gallons</u>	
For all usage monthly or quarterly	\$4.066	(I)

Customer water meter bills will be subject to a penalty of one and one-half percent (1.5%) interest per month on the full unpaid and overdue balance of the bill if not paid within twenty calendar days from the date the bill is mailed. All customers will be given the option of being billed monthly.

(I) Indicates Increase

SCHEDULE OF RATESSchedule GMeter Rates – Sales for ResaleAPPLICATION

This schedule applies to all sale of water to other water utilities or public authorities for resale.

CUSTOMER CHARGES

All metered sales for resale customers shall pay the following customer charge based on the required size of meter to render adequate service. Also applicable for unmetered sales in honor system areas until such time that meters are installed.

Size of Meter	Customer Charge		Size of Meter	Customer Charge	
	Per Month	Per Quarter		Per Month	Per Quarter
5/8"	\$ 8.25	\$ 24.75	3"	\$ 174.80	\$524.40
3/4"	13.98	41.94	4"	273.56	820.68
1"	27.14	81.42	6"	547.11	1,641.33
1-1/2"	53.04	159.12	8" or Larger	1,098.37	3,295.11
2"	85.28	255.84	~~Lower Saucon Honor Sys.~~	~~1,098.37~~	~~3,295.11~~ (C)

CONSUMPTION CHARGES

In addition to the customer charge all water consumption will be billed at the following rates:

	Rate Per 1,000 Gallons	
For all usage monthly or quarterly	\$ 4.029	(I)

Customer water meter bills will be subject to a penalty of one and one-half percent (1.5%) interest per month on the full unpaid and overdue balance of the bill if not paid within twenty calendar days from the date the bill is mailed. All customers will be given the option of being billed monthly.

- (I) Indicates Increase
(C) Indicates Change

SCHEDULE OF RATESSchedule HMeter Rates – Untreated Water ServiceAPPLICATION

This schedule applies to all sale of untreated water for non-potable use only.

CUSTOMER CHARGE

Size of Meter	Customer Charge		Size of Meter	Customer Charge	
	Per Month	Per Quarter		Per Month	Per Quarter
5/8"	\$ 8.25	\$ 24.75	3"	\$ 174.80	\$524.40
3/4"	13.98	41.94	4"	273.56	820.68
1"	27.14	81.42	6"	547.11	1,641.33
1-1/2"	53.04	159.12	8" or Larger	1,098.37	3,295.11
2"	85.28	255.84			

CONSUMPTION CHARGES

In addition to the customer charge all use of untreated water will be billed at the following rates:

	Rate Per <u>1,000 Gallons</u>	
For all usage monthly or quarterly	\$ 2.493	(I)

Customer water meter bills will be subject to a penalty of one and one-half percent (1.5%) interest per month on the full unpaid and overdue balance of the bill if not paid within twenty calendar days from the date the bill is mailed. All customers will be given the option of being billed monthly.

(I) Indicates Increase

**RATE STUDY AND DATA
IN SUPPORT OF
SUPPLEMENT NO. 15**

CITY OF BETHLEHEM – BUREAU OF WATER

BETHLEHEM, PENNSYLVANIA

RATE STUDY AND DATA IN SUPPORT OF PROPOSED SUPPLEMENT NO. 15 TO TARIFF WATER PA. P.U.C. NO. 6

Prepared by:



Gannett Fleming

*Excellence Delivered **As Promised***

CITY OF BETHLEHEM – BUREAU OF WATER

Bethlehem, Pennsylvania

RATE STUDY AND DATA
IN SUPPORT OF
PROPOSED SUPPLEMENT NO. 15 TO
TARIFF WATER PA. P.U.C. NO. 6

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

Camp Hill, Pennsylvania



Gannett Fleming

*Excellence Delivered **As Promised***

July 15, 2020

City of Bethlehem - Bureau of Water
10 East Church Street
Bethlehem, PA 18018

Attention: Edward J. Boscola, Director – Water and Sewer Resources

Ladies and Gentlemen:

Pursuant to your authorization, we have prepared a water rate study for the City of Bethlehem based on the level of operations of the Bureau of Water for the twelve-month periods ended December 31, 2019 and December 31, 2020. Appropriate ratemaking adjustments for known and measurable changes were made in order to reflect a more current level of cost of service.

On the basis of the supporting data presented in the following report, it is our opinion that the City of Bethlehem cannot continue to operate its water system without rate relief. An increase in water rates will afford the City an opportunity to achieve an adequate return on the original cost measure of value of its used and useful property that services outside-City customers.

We recommend that the City file with the Pennsylvania Public Utility Commission, Supplement No. 15 to Tariff Water-Pa. P.U.C. No. 6, which proposes an increase in water rates for all general classes of service outside the City by approximately 11.0 percent. The overall increase in annual operating revenue from outside-City customers is approximately 10.9 percent.

The following report presents our conclusions in appropriate form for filing with the Pennsylvania Public Utility Commission in response to the data required under Subchapter 53.52 of the Commission's Tariff Regulations at Chapter 53 of Title 52 Pa. Code.

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

CONSTANCE E. HEPPENSTALL
Senior Project Manager, Rate Studies

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Rate Analyst

CEH:mle

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Gannett Fleming Valuation and Rate Consultants, LLC

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CITY OF BETHLEHEM - BUREAU OF WATER

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CITY OF BETHLEHEM - BUREAU OF WATER

SPECIFIC REASONS FOR PROPOSED INCREASE IN WATER RATES

Pursuant to Subsection 53.52(a)(1) and (b)(1) of Tariff Regulations

The City of Bethlehem - Bureau of Water (Bethlehem or City) submits herewith the data required under 52 PA Code § 53.52 of the Pennsylvania Public Utility Commission Tariff Regulations in support of the proposed rates under Supplement No. 15 to Tariff Water-Pa. P.U.C. No. 6. The Tariff presents increased rates for outside-City customers' water service that produces an increase in revenue of \$908,421 per annum. The supporting data for the tariff revision is for the twelve-month periods ended December 31, 2019 and December 31, 2020, adjusted for ratemaking purposes. The last rate revision was effective in 2014, based on a future test year ended December 31, 2014.

Since the date of the last rate increase, the City has experienced higher levels of operation and maintenance expenses as a result of inflation and labor cost increases. The effect of these increases has reduced the rate of return on rate base to approximately 5.57%.

The specific reasons for Bethlehem's proposal to increase its rates for water service are as follows:

- (a) To provide sufficient revenues to enable it to continue to discharge, properly, its public duty to furnish adequate, safe, and reliable water service pursuant to the safe drinking water standards prescribed and enforced by the PA Department of Environmental Protection and the Federal Environmental Protection Agency;
- (b) To provide the cash flow necessary to continue to operate, maintain and renew its facilities properly and meet its financial obligations; and

- (c) To afford the opportunity to achieve an adequate rate of return on the original cost invested in the water property.

LEASE AGREEMENT

The City of Bethlehem leases the water system from the Bethlehem Authority pursuant to an Agreement and Lease dated January 1, 1992, as amended. Under the Lease, the City agrees to fix, charge and collect water rates and charges from the consumers located both inside and outside the City limits that are sufficient to provide for the following:

- (1) The estimated expenses of operation, maintenance and repair of the water system,
- (2) 105% of the principal and interest on the 1994 Bonds and subsequent issues,
- (3) The administrative expenses of the Bethlehem Authority,
- (4) Amounts required by the Indenture to be paid to the Trustee to maintain certain funds under the Indenture, and
- (5) Amounts to maintain certain balances in the Bond Redemption and Improvement Fund, the Debt Service Reserve Fund and the Maintenance Reserve Fund.

The City agrees to deposit such funds collected from water rates into the Water Revenue Fund. The City may not withdraw any funds from this account except for the purposes set forth above and to pay the guarantee fee on the bonds.

The City also agrees to operate the water system in an efficient and economical manner, maintain the facilities in good repair, working order and condition and make all necessary and proper repairs, renewals and replacements and all other ordinary improvements and extensions which may be necessary to provide adequate service.

UTILITY BASIS OF RATEMAKING

Pursuant to 52 PA Code § 53.52 of the Tariff Regulations, the supporting data are presented using the utility basis for ratemaking purposes. The utility basis includes, in addition to operating expenses, a provision for annual depreciation expense and a return on the depreciated original cost of the property (rate base) in place of debt service (lease rental) and renewals and replacements. The rate base and annual depreciation expense are calculated in Exhibit Nos. JJS-1 and JJS-2, as of December 31, 2019 and December 31, 2020, respectively.

RATE OF RETURN

Under present and proposed rates, the indicated rates of return for the inside-City, outside-City, and combined operations are presented below.

<u>Rate of Return</u>	<u>Under Present Rates</u>	<u>Under Proposed Rates</u>
Inside-City	6.47%	8.76%
Outside-City	5.57%	7.42%
Combined Operations	6.12%	8.24%

The outside-City rate of return of 5.57% under present rates is less than the 7.42% return that the City can justify contingent on an imputed capital structure of 45% debt, 55% equity, as set forth below. The capital structure weightings are based on comparable public utilities.

<u>Debt/Equity</u>	<u>Capital Structure</u>	<u>Cost Rates</u>	<u>Recommended Weighted Cost</u>	<u>14% Tax Adjusted Equity Cost Rate</u>	<u>Weighted Cost</u>
Debt	45.00%	5.77	2.6	--	2.6
Fund Equity	<u>55.00%</u>	10.2	<u>5.61</u>	8.77	<u>4.82</u>
Total	<u>100.00%</u>		<u>8.21</u>		<u>7.42</u>

PROPOSED RATES

Under Supplement No. 15 to Tariff Water-Pa. P.U.C. No. 6, general service water rates are increased by varying percentages by classification which would provide an overall 11.0% increase in revenues from outside-City customers. Rates for public and private fire protection remain unchanged. Refer to pages 14 and 15 for the increases by classification for inside-City and outside-City customers. The revenues under proposed rates are developed in Schedule 8. Support for the proposed rate design is provided in the cost of service allocation study in Exhibit No. CEH-1. Schedule H in Exhibit No. CEH-1 provides a comparison of present and proposed rates as well as a comparison of customers' bills at various consumption levels by classification.

Additional support for the cost allocation study and proposed rate design is presented in Exhibit No. CEH-2, Customer Class Demand Study. Pursuant to the Joint Petition for Settlement at Docket No. R-2013-2390244, approved by the Pennsylvania Public Utility Commission, the City was required to conduct a feasibility study on the costs of conducting a customer class demand study. The City decided to move forward with a demand study to submit with the proposed rates under Supplement No. 15 to Tariff Water-Pa. P.U.C. No. 6.

The Pennsylvania Public Utility Commission has jurisdiction and power under Section 1301 of the Public Utility Code to regulate rates for utility service furnished by a municipality to customers beyond its corporate boundaries. The requisite data and information in this report and related exhibits, in support of the proposed rates, include analyses of Bethlehem's entire water system property and its operation, as well as for inside-City and outside-City customers separately. Inasmuch as Bethlehem's previous rate schedules applied to both inside- and outside-City customers, Bethlehem proposes to maintain parity of rates by increasing water rates inside the City in the same manner as the rates for outside-City customers. The increase in revenues from water rates for inside-City customers is 13.3%.

The data presented in support of proposed Supplement No. 15 to Tariff Water-Pa. P.U.C. No. 6 clearly indicate that the level of revenues from Bethlehem's present water rates is inadequate, and immediate rate relief is necessary. It is essential that the rates proposed under Supplement No. 15 to Tariff Water-Pa. P.U.C. No. 6 become effective as soon as possible, in order that Bethlehem recovers the cost of rendering water service, including a return on the depreciated original cost of the water system's used or useful property, and continues to provide its customers with efficient, safe and reliable service.

CITY OF BETHLEHEM - BUREAU OF WATER

TOTAL NUMBER OF CUSTOMERS SERVED INSIDE AND OUTSIDE THE CITY

Pursuant To Subsection 53.52 (a)(2) of Tariff Regulations

Customer Classification (1)	As of 12/31/2018		As of 12/31/2019	
	Inside-City (2)	Outside-City (3)	Inside-City (4)	Outside-City (5)
Residential	21,875	12,802	21,856	12,807
Commercial	727	531	727	522
Industrial	69	51	70	52
Public	301	92	286	89
Other Water Utilities	0	22	0	21
Private Fire Protection	401	299	401	299
Public Fire Protection	1	10	1	10
Total	<u>23,374</u>	<u>13,807</u>	<u>23,341</u>	<u>13,800</u>

NUMBER OF CUSTOMERS WHOSE BILLS WILL INCREASE INSIDE AND OUTSIDE THE CITY

Pursuant To Subsection 53.52 (a)(3) and (b)(3) of Tariff Regulations

Customer Classification (1)	As of 12/31/2018		As of 12/31/2019	
	Inside-City (2)	Outside-City (3)	Inside-City (4)	Outside-City (5)
Residential	21,875	12,802	21,856	12,807
Commercial	727	531	727	522
Industrial	69	51	70	52
Public	301	92	286	89
Other Water Utilities	0	22	0	21
Private Fire Protection	0	0	0	0
Public Fire Protection	0	0	0	0
Total	<u>23,374</u>	<u>13,807</u>	<u>23,341</u>	<u>13,800</u>

STATEMENT OF THE EFFECT OF THE PROPOSED TARIFF CHANGES ON THE
UTILITY'S CUSTOMERS

Pursuant to Subsection 53.52(a)(4) through (a)(11) of Tariff Regulations

- (a)(4): The proposed tariff changes will increase all customers' rates for outside-City water service excluding public and private fire by 11.0 percent. The overall increase in revenues is approximately 10.9 percent.
- (a)(5): Refer to page 11 in response to Subsection 53.52(c)(1), for the effect of the proposed tariff changes on the City's revenues and expenses.
- (a)(6): The proposed tariff changes will not change the service rendered by the Bureau of Water.
- (a)(7): Not applicable.
- (a)(8): Not applicable.
- (a)(9): Customer polls were not taken to indicate customer acceptance and desire for the proposed tariff changes. The tariff changes are in the public interest as stated in response to Subsection 53.52(a)(1) of the tariff regulations.
- (a)(10): The City of Bethlehem will implement the proposed tariff changes upon the Commission's approval.
- (a)(11): Not applicable.

NUMBER OF CUSTOMERS WHOSE BILLS WILL BE DECREASED

Pursuant to Subsection 53.52(b)(5) of Tariff Regulations

Under the proposed rates, no customers' bills will be decreased for water service.

CALCULATION OF TOTAL REVENUE DECREASE
UNDER THE PROPOSED RATES PROJECTED TO AN ANNUAL BASIS

Pursuant to Subsection 53.52(b)(6) of Tariff Regulations

Under the proposed rates, operating revenues for water service will not decrease.

SUMMARY BY DETAILED PLANT ACCOUNTS OF THE
BOOK VALUE OF WATER UTILITY PLANT IN SERVICE AS OF
DECEMBER 31, 2019, AND DECEMBER 31, 2020

Pursuant to Subsection 53.52(c)(3) of Tariff Regulations

Refer to Exhibit Nos. JJS-1 and JJS-2 titled, "Depreciation Study - Calculated Annual Depreciation Accruals Related to Utility Plant at December 31, 2019" and "Depreciation Study - Calculated Annual Depreciation Accruals Related to Utility Plant at December 31, 2020," for the book value of water utility plant by plant account.

DEPRECIATION RESERVE PER BOOKS AS OF DECEMBER 31, 2019
AND DECEMBER 31, 2020, APPLICABLE TO WATER UTILITY PLANT IN SERVICE

Pursuant to Subsection 53.52(c)(4) of Tariff Regulations

Refer to Exhibit Nos. JJS-1 and JJS-2 titled, "Depreciation Study - Calculated Annual Depreciation Accruals Related to Utility Plant at December 31, 2019" and "Depreciation Study - Calculated Annual Depreciation Accruals Related to Utility Plant at December 31, 2020," for the depreciation reserve applicable to water utility plant in service.

CITY OF BETHLEHEM - BUREAU OF WATER
BALANCE SHEET AS OF DECEMBER 31, 2018

Pursuant To Subsection 53.52 (c)(2) of Tariff Regulations

	As of 12/31/2018
<u>ASSETS</u>	
Current Assets:	
Cash and Equivalents	\$ 4,970,571
Investments	-
Accounts Receivable, Net	4,368,204
Accrued Interest	8,042
Due from Other Funds	-
Inventories	202,634
Total Current Assets	<u>9,549,451</u>
Restricted Assets	15,965,947
Capital Assets, not being depreciated	1,351,198
Capital Assets, Net	68,451,060
Other Assets	159,064
Total Assets	<u>\$ 95,476,720</u>
Deferred Outflows of Resources	
Pensions	906,763
Other Post-Employment Benefits	123,667
Total Deferred Outflows of Resources	<u>1,030,430</u>
Total Assets and Deferred Outflows of Resources	<u><u>\$ 96,507,150</u></u>
<u>LIABILITIES AND FUND EQUITY</u>	
Current Liabilities:	
Current Portion of Long-term Debt	\$ 6,436,584
Accrued Vacation Benefits	360,549
Accrued Payroll	105,502
Accounts Payable and Other Accrued Expenses	133,152
Construction Accounts Payable	334,752
Interest Payable	262,897
Capital Lease Obligation	106,904
Other Post-Employment Benefits Liability	88,704
Due to Other Funds	-
Total Current Liabilities	<u>7,829,044</u>
Accrued Sick Pay	108,358
Long-term Debt, Net	79,900,682
Capital Lease Obligation	58,350
Net Pension Liability	310,608
Other Post-Employment Benefits Liability	1,471,533
Unearned Revenue	403,200
Total Liabilities	<u>\$ 90,081,775</u>
Deferred Outflows of Resources	
Pensions	1,716,836
Refunding	199,740
Total Deferred Outflows of Resources	<u>\$ 1,916,576</u>
Fund Equity:	
Invested in Capital Assets, Net of Related Debt	(1,109,743)
Unrestricted	5,618,542
Total Net Position	<u>4,508,799</u>
Total Liabilities and Fund Equity	<u><u>\$ 96,507,150</u></u>

CITY OF BETHLEHEM - BUREAU OF WATER

STATEMENT OF THE CALCULATION OF THE RATE OF RETURN UNDER PRESENT RATES FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2019
AND DECEMBER 31, 2020, AND THE ANTICIPATED RATE OF RETURN UNDER PROPOSED RATES
FOR INSIDE-CITY AND OUTSIDE-CITY CUSTOMERS

Pursuant To Subsection 53.53 Exhibit D I (2-4) of Tariff Regulations

Line No.	Description	12 Months Ended 31-Dec-19 (2)	Pro Forma Historic Test Year Adjustments		Pro Forma Present Rates, 31-Dec-19 (5)	Pro Forma Future Test Year Adjustments		Pro Forma Present Rates, 31-Dec-20 (8)	Under Proposed Rates, Supplement No.15 to Tariff Water Pa-PUC No. 6	
			Ref.	Amount		Ref.	Amount		Increase	Pro Forma 31-Dec-20 (10)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Operating Revenue	\$ 21,175,561	p.5	\$ 564,797	\$ 21,740,357	p.5	\$ 96,103	\$ 21,836,460	\$ 2,691,114	\$ 24,527,574
2										
3	Operating Revenue Deductions:									
4	Operation and Maintenance									
5	Expenses	22,097,084	p.9	\$ (10,786,476)	\$ 11,310,608	p.9	\$ 27,881	\$ 11,338,488	\$ -	\$ 11,338,488
6	Depreciation	-		2,613,365	2,613,365		62,204	2,675,569	-	2,675,569
7	Taxes, Other Than Income	47,584		-	47,584		-	47,584	-	47,584
8										
9	Total Operating									
10	Revenue Deductions	22,144,668		(8,173,111)	13,971,556		90,085	14,061,642	-	14,061,642
11										
12										
13	Net Operating Income									
14	Available for Return	\$ (969,107)		\$ 8,737,908	\$ 7,768,801		\$ 6,018	\$ 7,774,818	\$ 2,691,114	\$ 10,465,932
15										
16										
17	Original Cost Measure of Value	\$ 125,287,005		\$ -	\$ 125,287,005	p.10	\$ 1,716,210	\$ 127,003,215		\$ 127,003,215
18										
19	Rate of Return	-0.77%			6.20%			6.12%		8.24%

CITY OF BETHLEHEM - BUREAU OF WATER

**STATEMENT OF THE CALCULATION OF THE RATE OF RETURN UNDER PRESENT RATES FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2019
AND DECEMBER 31, 2020, AND THE ANTICIPATED RATE OF RETURN UNDER PROPOSED RATES
INSIDE-CITY CUSTOMERS**

Pursuant To Subsection 53.53 Exhibit D I (2-4) of Tariff Regulations

Line No.	Description	12 Months Ended 31-Dec-19	Pro Forma Historic Test Year Adjustments		Pro Forma Present Rates, 31-Dec-19	Pro Forma Future Test Year Adjustments		Pro Forma Present Rates, 31-Dec-20	Under Proposed Rates, Supplement No.15 to Tariff Water Pa-PUC No. 6	
			Ref.	Amount		Ref.	Amount		Increase	Pro Forma 31-Dec-20
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Operating Revenue	\$ 12,848,990	p.4	\$ 583,764	\$ 13,432,754	p.4	\$ 69,173	\$ 13,501,927	\$ 1,782,693	\$ 15,284,620
2										
3	Operating Revenue Deductions:									
4	Operation and Maintenance									
5	Expenses	\$ 13,231,766	*	\$ (6,458,958)	\$ 6,772,808	*	\$ 16,695	\$ 6,789,503	\$ -	\$ 6,789,503
6	Depreciation	-	*	1,600,593	1,600,593	*	38,097	1,638,690	-	1,638,690
7	Taxes, Other Than Income	30,016	*	-	30,016	*	(0)	30,016	-	30,016
8	Amortizations		*			*		-	-	-
9										
10	Total Operating									
11	Revenue Deductions	13,261,782		(4,858,365)	8,403,417		54,792	8,458,209	0	8,458,209
12										
13										
14	Net Operating Income									
15	Available for Return	\$ (412,792)		\$ 5,442,129	\$ 5,029,337		\$ 14,381	\$ 5,043,718	\$ 1,782,693	\$ 6,826,411
16										
17										
18	Original Cost Measure of Value	\$ 76,917,757	*	\$ -	\$ 76,917,757	*	\$ 1,053,637	\$ 77,971,394		\$ 77,971,394
19										
20	Rate of Return	-0.54%			6.54%			6.47%		8.76%

* Operating revenue deductions and measures of value were allocated to Inside-City and Outside-City service areas based on the cost of service allocation study

CITY OF BETHLEHEM - BUREAU OF WATER

STATEMENT OF THE CALCULATION OF THE RATE OF RETURN UNDER PRESENT RATES FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2019 AND DECEMBER 31, 2020, AND THE ANTICIPATED RATE OF RETURN UNDER PROPOSED RATES OUTSIDE-CITY CUSTOMERS

Pursuant To Subsection 53.53 Exhibit D I (2-4) of Tariff Regulations

Line No.	Description (1)	12 Months Ended 31-Dec-19 (2)	Pro Forma Historic Test Year Adjustments		Pro Forma Present Rates, 31-Dec-19 (5)	Pro Forma Future Test Year Adjustments		Pro Forma Present Rates, 31-Dec-20 (8)	Under Proposed Rates, Supplement No.15 to Tariff Water Pa-PUC No. 6	
			Ref. (3)	Amount (4)		Ref. (6)	Amount (7)		Increase (9)	Pro Forma 31-Dec-20 (10)
1	Operating Revenue	\$ 8,326,571	p. 5	\$ (18,968)	\$ 8,307,603	P. 5	\$ 26,930	\$ 8,334,533	\$ 908,421	\$ 9,242,954
2										
3	Operating Revenue Deductions:									
4	Operation and Maintenance									
5	Expenses	\$ 8,865,318	*	\$ (4,327,518)	\$ 4,537,800	*	\$ 11,185	\$ 4,548,985	\$ -	\$ 4,548,985
6	Depreciation	-	*	1,012,772	1,012,772	*	24,107	1,036,879	-	1,036,879
7	Taxes, Other Than Income	17,568	*	-	17,568	*	0	17,568	-	17,568
8	Amortizations		*			*			-	
9										
10	Total Operating									
11	Revenue Deductions	8,882,886		(3,314,746)	5,568,139		35,292	5,603,432	-	5,603,432
12										
13										
14	Net Operating Income									
15	Available for Return	\$ (556,315)		\$ 3,295,779	\$ 2,739,464		\$ (8,362)	\$ 2,731,101	\$ 908,421	\$ 3,639,523
16										
17										
18	Original Cost Measure of Value	\$ 48,369,248	*	\$ -	\$ 48,369,248	*	\$ 662,573	\$ 49,031,820		\$ 49,031,825
19										
20	Rate of Return	-1.15%			5.66%			5.57%		7.42%

* Operating revenue deductions and measures of value were allocated to Inside-City and Outside-City service areas based on the cost of service allocation study

CITY OF BETHLEHEM - BUREAU OF WATER

STATEMENT OF OPERATING REVENUES FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2019 AND DECEMBER 31, 2020
AND THE CALCULATION OF THE PROPOSED REVENUE INCREASE FROM INSIDE-CITY AND OUTSIDE-CITY CUSTOMERS BY CUSTOMER CLASSIFICATION

Pursuant To Subsection 53.53 D II(2) of Tariff Regulations

Customer Classification	Per Books Revenue 31-Dec-19	Historic Test Year Pro Forma		Pro Forma, Present Rates, 31-Dec-19	Future Test Year Pro Forma		Pro Forma, Present Rates 31-Dec-20	Under Proposed Rates, Supplement No.15 to Tariff Water Pa-PUC No. 6		
		Adjustments Under Present Rates*			Adjustments Under Present Rates*			Increase		Pro Forma, Proposed Rates 12/31/2020**
		Ref.	Amount		Ref.	Amount		Percent	Amount	
(1)	(2)	(3)	(4)	(5)=(2)+(4)	(6)	(7)	(8)=(5)+(7)	(9)	(10)	(11)
<u>INSIDE-CITY</u>										
Sales of Water										
Residential	\$ 8,314,761	R1	\$ (2,886)	\$ 8,311,875	R4	\$ 3,190	\$ 8,315,065	12.9%	\$ 1,070,381	\$ 9,385,446
Commercial	1,717,473	R1	-	1,717,473	R4	13,757	1,731,230	17.2%	297,023	2,028,253
Industrial	1,282,336	R1	10,811	1,293,146	R4	10,811	1,303,957	19.8%	258,826	1,562,783
Public	806,750	R1,R3	196,208	1,002,957	R4	27,738	1,030,695	15.2%	156,462	1,187,157
Private Fire Protection	589,178			589,178	R6	13,105	602,283	0.0%	-	602,283
Public Fire Protection	-	R3	379,632	379,632	R6	572	380,204	0.0%	-	380,204
Total Sales of Water	12,710,497		583,764	13,294,261		69,173	13,363,434	13.3%	1,782,693	15,146,127
Other Operating Revenues										
Penalties	60,353			60,353			60,353			60,353
Construction Water	9,425			9,425			9,425			9,425
Miscellaneous	68,715			68,715			68,715			68,715
Total Other Revenues	138,493		-	138,493		-	138,493		-	138,493
Total Inside City	\$ 12,848,990		\$ 583,764	\$ 13,432,754		\$ 69,173	\$ 13,501,927	13.2%	\$ 1,782,693	\$ 15,284,620

*See Schedule 5.

** See Schedule 7.

CITY OF BETHLEHEM - BUREAU OF WATER

STATEMENT OF OPERATING REVENUES FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2019 AND DECEMBER 31, 2020 AND THE CALCULATION OF THE PROPOSED REVENUE INCREASE FROM INSIDE-CITY AND OUTSIDE-CITY CUSTOMERS BY CUSTOMER CLASSIFICATION

Pursuant To Subsection 53.53 D II(2) of Tariff Regulations

Customer Classification (1)	Per Books Revenue 31-Dec-19 (2)	Historic Test Year Pro Forma		Pro Forma, Present Rates, 31-Dec-19 (5)	Future Test Year Pro Forma		Pro Forma, Present Rates 31-Dec-20 (8)	Under Proposed Rates, Supplement No.15 to Tariff Water Pa-PUC No. 6		
		Adjustments Under Present Rates*			Adjustments Under Present Rates*			Increase		Pro Forma, Proposed Rates
		Ref. (3)	Amount (4)		Ref. (6)	Amount (7)		Percent (9)	Amount (10)	12/31/2020** (11)
OUTSIDE-CITY										
Sales of Water										
Residential	\$ 4,336,864	R2	\$ 759	\$ 4,337,624	R5	\$ 8,506	\$ 4,346,130	12.7%	\$ 550,664	\$ 4,896,794
Commercial	1,362,355	R2	(16,304)	1,346,051	R5	(3,623)	1,342,428	15.3%	205,036	1,547,464
Industrial	382,119	R2	5,071	387,190	R5	5,071	392,261	18.2%	71,316	463,577
Public	449,621	R2	(8,494)	441,127	R5	(2,831)	438,296	16.1%	70,780	509,076
Other Water Utilities	802,841			802,841			802,841	1.3%	10,624	813,465
Private Fire Protection	577,316			577,316	R7	16,155	593,471	0.0%	-	593,471
Public Fire Protection	325,706			325,706	R7	3,652	329,358	0.0%	-	329,358
Total Sales of Water	8,236,822		(18,968)	8,217,855		26,930	8,244,785	11.0%	908,421	9,153,206
Other Operating Revenues										
Penalties	39,111			39,111			39,111			39,111
Construction Water	6,108			6,108			6,108			6,108
Miscellaneous	44,530			44,530			44,530			44,530
Total Other Revenues	89,748		-	89,748		-	89,748		-	89,748
Total Outside City	8,326,571		(18,968)	8,307,603		26,930	8,334,533	10.9%	908,421	9,242,954
Total Inside & Outside City	\$ 21,175,561		\$ 564,797	\$ 21,740,357		\$ 96,103	\$ 21,836,460	12.3%	\$ 2,691,114	\$ 24,527,574

*See Schedule 5.

** See Schedule 7.

CITY OF BETHLEHEM - BUREAU OF WATER

STATEMENT OF PRO FORMA OPERATING EXPENSES FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2019 AND DECEMBER 31, 2020

Pursuant To Subsection 53.53 D III(2) of Tariff Regulations

Line No.	Account	Per Books, 12 Months Ended	Historic Test Year Pro Forma Adjustments		Pro Forma, 31-Dec-19	Future Test Year Pro Forma Adjustments			Pro Forma, 31-Dec-20
		31-Dec-19	Appen. B	Amount	31-Dec-19	Appen. B	Amount	Rebuttal	31-Dec-20
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	OPERATION AND MAINTENANCE EXPENSES								
2									
3	Water Supply and Treatment								
4	Collection and Treatment:								
5	Salaries and Wages	\$ 409,246			\$ 409,246	E10	\$ 17,601		\$ 426,848
6	Purchased Water	-			-				-
7	Power	11,577			11,577				11,577
8	Departmental Contracts	49,882			49,882				49,882
9	Other	42,414			42,414				42,414
10	Subtotal	513,120		-	513,120		17,601	-	530,721
11									
12	Laboratory Services:								
13	Salaries and Wages	157,422			157,422	E10	11,155		168,576
14	Departmental Contracts	36,300			36,300				36,300
15	Other	15,687			15,687				15,687
16	Subtotal	209,409		-	209,409		11,155	-	220,564
17									
18	East Allen Twp:								
19	Purchased Water	-			-				-
20	Chemicals	2,539			2,539				2,539
21	Power	13,076			13,076				13,076
22	Departmental Contracts	44,410			44,410				44,410
23	Other	165,147			165,147				165,147
24	Subtotal	225,171		-	225,171		-	-	225,171
25									
26	Administration:								
27	Salaries and Wages	296,410			296,410	E10	83,117		379,527
28	Departmental Contracts	51,601			51,601				51,601
29	Other	74,908			74,908				74,908
30	Subtotal	422,919		-	422,919		83,117	-	506,036
31									

CITY OF BETHLEHEM - BUREAU OF WATER

STATEMENT OF PRO FORMA OPERATING EXPENSES FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2019 AND DECEMBER 31, 2020

Pursuant To Subsection 53.53 D III(2) of Tariff Regulations

Line No.	Account	Per Books, 12 Months Ended 31-Dec-19 (2)	Historic Test Year Pro Forma Adjustments		Pro Forma, 31-Dec-19 (5)	Future Test Year Pro Forma Adjustments			Pro Forma, 31-Dec-20 (9)
			Appen. B (3)	Amount (4)		Appen. B (6)	Amount (7)	Rebuttal (8)	
32	Water Filtration:								
33	Salaries and Wages	1,095,919			1,095,919	E10	97,258		1,193,178
34	Chemicals	192,052	E1	6,292	198,343				198,343
35	Power	64,579			64,579				64,579
36	Departmental Contracts	161,043			161,043	E12	35,370		196,413
37	Other	173,634			173,634				173,634
38	Subtotal	1,687,227		6,292	1,693,519		132,628	-	1,826,147
39									
40	Utility Billing:								
41	Salaries and Wages	75,696			75,696	E10	6,652		82,348
42	Other	139			139				139
43	Subtotal	75,835		-	75,835		6,652	-	82,487
44									
45	Water Engineering:								
46	Salaries and Wages	145,579			145,579	E10	1,999		147,579
47	Professional Services	64,890			64,890				64,890
48	Other	-			-				-
49	Subtotal	210,469		-	210,469		1,999	-	212,469
50									
51	Water Control:								
52	Salaries and Wages	338,128			338,128	E12	(338,128)		-
53	Departmental Contracts	34,599			34,599	E12	(34,599)		-
54	Other	3,226			3,226	E12	(3,226)		-
55	Subtotal	375,953		-	375,953		(375,953)	-	-
56									
57	Subtotal Water Supply and Treatment	\$ 3,720,103		\$ 6,292	\$ 3,726,395		\$ (122,801)	\$ -	\$ 3,603,594
58									
59									

CITY OF BETHLEHEM - BUREAU OF WATER

STATEMENT OF PRO FORMA OPERATING EXPENSES FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2019 AND DECEMBER 31, 2020

Pursuant To Subsection 53.53 D III(2) of Tariff Regulations

Line No.	Account	Per Books, 12 Months Ended	Historic Test Year Pro Forma Adjustments		Pro Forma, 31-Dec-19	Future Test Year Pro Forma Adjustments			Pro Forma, 31-Dec-20
		31-Dec-19	Appen. B	Amount	31-Dec-19	Appen. B	Amount	Rebuttal	31-Dec-20
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
60	Water Maintenance								
61	Maintenance Expenses:								
62	Salaries and Wages	\$ 1,113,537			\$ 1,113,537	E10	\$ 317,790		\$ 1,431,327
63	Power	\$ 95,665			95,665				95,665
64	Departmental Contracts	20,300			20,300				20,300
65	Other	134,639			134,639				134,639
66	Subtotal	1,364,141		-	1,364,141		317,790	-	1,681,931
67									
68	Meter Shop:								
69	Salaries and Wages	392,191			392,191	E10	(157,045)		235,146
70	Departmental Contracts	5,035			5,035				5,035
71	Other	20,133			20,133				20,133
72	Subtotal	417,359		-	417,359		(157,045)	-	260,313
73									
74	Subtotal Water Maintenance	\$ 1,781,499		\$ -	\$ 1,781,499		\$ 160,745	\$ -	\$ 1,942,244
75									
76									
77	Water General								
78	General Fund	\$ 1,065,832	E6	\$ 294,414	\$ 1,360,246				\$ 1,360,246
79	Bethlehem Authority	300,000			300,000				300,000
80	Professional Services	173,863	E3,E4	105,373	279,236				279,236
81	Postage/Bank Fees	5,117			5,117				5,117
82	Communication	24,253			24,253				24,253
83	Workers Comp	135,717	E9	(13,919)	121,798				121,798
84	Social Security	321,000			321,000	E10	(10,064)		310,936
85	City Insurance Package	140,000			140,000				140,000

CITY OF BETHLEHEM - BUREAU OF WATER

STATEMENT OF PRO FORMA OPERATING EXPENSES FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2019 AND DECEMBER 31, 2020

Pursuant To Subsection 53.53 D III(2) of Tariff Regulations

Line No.	Account	Per Books, 12 Months Ended	Historic Test Year Pro Forma Adjustments		Pro Forma, 31-Dec-19	Future Test Year Pro Forma Adjustments			Pro Forma, 31-Dec-20
		31-Dec-19	Appen. B	Amount	31-Dec-19	Appen. B	Amount	Rebuttal	31-Dec-20
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
86	Medical Insurance Reimbursement	1,580,500	E7	355,630	1,936,130				1,936,130
87	Pensions	929,750	E8	385,184	1,314,934				1,314,934
88	PennVest Loan - 1998	-			-				-
89	Lease Rental	8,600,350	E2	(8,600,350)	-				-
90	2007 G.O. Loan	65,646	E2	(65,646)	-				-
91	Unforeseen Contingency	-			-				-
92	Capital Appropriation	3,253,454	E2	(3,253,454)	-				-
93									
94	Subtotal Water General	<u>\$ 16,595,482</u>		<u>\$ (10,792,768)</u>	<u>\$ 5,802,713</u>		<u>\$ (10,064)</u>	<u>\$ -</u>	<u>\$ 5,792,650</u>
95									
96	Total Operation and Maintenance Expenses	\$ 22,097,084		\$ (10,786,476)	\$ 11,310,608		\$ 27,881	\$ -	\$ 11,338,488
97									
98									
99	Taxes, Other Than Income Taxes								
100	Payment in Lieu of Taxes	47,584			47,584				47,584
101									
102									
103	TOTAL OPERATING EXPENSES	<u><u>\$ 22,144,668</u></u>		<u><u>\$ (10,786,476)</u></u>	<u><u>\$ 11,358,191</u></u>		<u><u>\$ 27,881</u></u>	<u><u>\$ -</u></u>	<u><u>\$ 11,386,072</u></u>

CITY OF BETHLEHEM - BUREAU OF WATER

ORIGINAL COST MEASURE OF VALUE AS OF DECEMBER 31, 2019 AND 2020

	As of 31-Dec-19	As of 31-Dec-20
Original Cost of Utility Plant in Service	\$ 197,701,395	\$ 201,950,540
Less: Accumulated Depreciation	69,599,691	72,216,207
Subtotal	128,101,704	129,734,333
Deduct:		
Customers Advances for Construction	311,897	311,897
Less: Accrued Depreciation	92,416	95,410
Subtotal	219,481	216,487
Contributions in Aid of Construction	7,013,434	7,013,434
Less: Accrued Depreciation	2,998,216	3,075,803
Subtotal	4,015,218	3,937,631
Net Utility Plant	123,867,005	125,580,215
Add:		
Cash Working Capital	1,420,000	1,423,000
Total Original Cost Measure of Value	<u>\$ 125,287,005</u>	<u>\$ 127,003,215</u>

CITY OF BETHLEHEM - BUREAU OF WATER
HISTORIC TEST YEAR

PRO FORMA OPERATING REVENUE ADJUSTMENTS
UNDER PRESENT RATES

Adj. Ref.	Explanation	Adjustment Increase (Decrease)

R1 To annualize Inside-City Operating Revenues for the net gain or loss in the number of customers during the twelve months ended 12/31/2019

Customer Classification (1)	Number of Customers		Customer Gain/(Loss) (4)	Average Annual Bill, Present Rates (5)	Annualized Revenue Adjustment (Half Year) (6)	
	31-Dec-18 (2)	31-Dec-19 (3)				
Residential	21,875	21,856	(19)	\$ 303.77	(2,886)	\$ (2,886)
Commercial	727	727	-		-	-
Industrial	69	70	1	21,621.30	10,811	10,811
Public	301	286	(15)	4,623.00	(34,673)	(34,673)
Total	22,972	22,939	(33)		(26,748)	

R2 To annualize Outside-City Operating Revenues for the net gain or loss in the number of customers during the twelve months ended 12/31/2019

Customer Classification (1)	Number of Customers		Customer Gain/(Loss) (4)	Average Annual Bill, Proposed Rates (5)	Annualized Revenue Adjustment (Half Year) (6)	
	31-Dec-18 (2)	31-Dec-19 (3)				
Residential	12,802	12,807	5	\$ 303.77	\$ 759	\$ 759
Commercial	531	522	(9)	3,623.10	(16,304)	(16,304)
Industrial	51	52	1	10,142.45	5,071	5,071
Public	92	89	(3)	5,662.90	(8,494)	(8,494)
Total	13,476	13,470	(6)		(18,968)	

CITY OF BETHLEHEM - BUREAU OF WATER
HISTORIC TEST YEAR

PRO FORMA OPERATING REVENUE ADJUSTMENTS
UNDER PRESENT RATES

Adj. Ref.	Explanation	Adjustment Increase (Decrease)				
R3	To impute Inside-City operating revenues for City-owned properties and 1,438 City fire hydrants not billed by the Bureau of Water.					
		Customer Classification	Number of Bills	Usage, 1,000 Gals.	Present Rates	Revenue
		<u>INSIDE-CITY - Public</u>				
		5/8" Quarterly	54		\$ 24.75	\$ 1,337
		3/4" Quarterly	8		41.94	336
		1" Quarterly	20		81.42	1,628
		5/8" Monthly	40		8.25	330
		3/4" Monthly	21		13.98	294
		1" Monthly	31		27.14	841
		1-1/2" Monthly	48		53.04	2,546
		2" Monthly	122		85.28	10,404
		3" Monthly	12		174.80	2,098
		4" Monthly	36		273.56	9,848
		6" Monthly	26		547.11	14,225
		8" Monthly	24		1,098.37	26,361
		Consumption		48,194	\$ 3.33	160,632
		Total	442	48,194		\$ 230,880
		<u>INSIDE-CITY -</u>				
		Public Fire Protection				
		Number of Hydrants	1,438		\$ 66.00	\$ 379,632
	Total Historic Test Year, Pro Forma Operating Revenue Adjustments Under Present Rates					\$ 564,797

CITY OF BETHLEHEM - BUREAU OF WATER
HISTORIC TEST YEAR

PRO FORMA OPERATING REVENUE ADJUSTMENTS
UNDER PROPOSED RATES

Adj. Ref.	Explanation	Adjustment Increase (Decrease)

R8 To annualize Inside-City Operating Revenues for the net gain or loss in the number of customers during the twelve months ended 12/31/2019

Customer Classification (1)	Number of Customers		Customer Gain/(Loss) (4)	Average Annual Bill, Proposed Rates (5)	Annualized Revenue Adjustment (Half Year) (6)	
	31-Dec-18 (2)	31-Dec-19 (3)				
Residential	21,875	21,856	(19)	\$ 342.22	(3,251)	\$ (3,251)
Commercial	727	727	-		-	-
Industrial	69	70	1	26,151.24	13,076	13,076
Public	301	286	(15)	5,414.64	(40,610)	(40,610)
Total	22,972	22,939	(33)		(30,785)	

R9 To annualize Outside-City Operating Revenues for the net gain or loss in the number of customers during the twelve months ended 12/31/2019

Customer Classification (1)	Number of Customers		Customer Gain/(Loss) (4)	Average Annual Bill, Proposed Rates (5)	Annualized Revenue Adjustment (Half Year) (6)	
	31-Dec-18 (2)	31-Dec-19 (3)				
Residential	12,802	12,807	5	\$ 342.22	\$ 856	\$ 856
Commercial	531	522	(9)	4,194.84	(18,877)	(18,877)
Industrial	51	52	1	12,147.94	6,074	6,074
Public	92	89	(3)	6,683.23	(10,025)	(10,025)
Total	13,476	13,470	(6)		(21,972)	

CITY OF BETHLEHEM - BUREAU OF WATER
HISTORIC TEST YEAR

PRO FORMA OPERATING REVENUE ADJUSTMENTS
UNDER PROPOSED RATES

Adj. Ref.	Explanation	Adjustment Increase (Decrease)			
R10	To impute Inside-City operating revenues for City-owned properties and 1,438 City fire hydrants not billed by the Bureau of Water.				
	Customer Classification	Number of Bills	Usage, 1,000 Gals.	Proposed Rates	Revenue
	<u>INSIDE-CITY - Public</u>				
	5/8" Quarterly	54		\$ 24.75	\$ 1,337
	3/4" Quarterly	8		41.94	336
	1" Quarterly	20		81.42	1,628
	5/8" Monthly	40		8.25	330
	3/4" Monthly	21		13.98	294
	1" Monthly	31		27.14	841
	1-1/2" Monthly	48		53.04	2,546
	2" Monthly	122		85.28	10,404
	3" Monthly	12		174.80	2,098
	4" Monthly	36		273.56	9,848
	6" Monthly	26		547.11	14,225
	8" Monthly	24		1,098.37	26,361
	Consumption		48,194	\$ 4.07	195,958
	Total	442	48,194		\$ 266,206
					\$ 266,206
	<u>INSIDE-CITY -</u>				
	Public Fire Protection				
	Number of Hydrants	1,438		\$ 66.00	\$ 379,632
					\$ 379,632
	Total Historic Test Year, Pro Forma Operating Revenue Adjustments Under Proposed Rates				<u>\$ 593,081</u>

CITY OF BETHLEHEM - BUREAU OF WATER
FUTURE TEST YEAR

PRO FORMA OPERATING REVENUE ADJUSTMENTS
UNDER PRESENT RATES

Adj. Ref.	Explanation					Adjustment Increase (Decrease)
R4	To adjust Inside-City Operating Revenues for the projected gain in the number of customers during the twelve months ended 12/31/2020					
	Customer Classification	Gain/Loss in Number of Customers, 12 Months Ended		Average Gain/Loss in Customers	Average Annual Bill, Present Rates	Annualized Revenue Adjustment
		31-Dec-18	31-Dec-19			
	Residential	40	(19)	10.5	\$ 303.77	\$ 3,190
	Commercial	5	-	2.5	5,502.91	13,757
	Industrial	-	1	0.5	21,621.30	10,811
	Public	27	(15)	6.0	4,623.00	27,738
	Total	72	(33)	19.5		55,496
R5	To adjust Outside-City Operating Revenues for the projected gain in the number of customers during the twelve months ended 12/31/2020					
	Customer Classification	Gain/Loss in Number of Customers, 12 Months Ended		Average Gain/Loss in Customers	Average Annual Bill, Present Rates	Annualized Revenue Adjustment
		31-Dec-18	31-Dec-19			
	Residential	51	5	28.0	\$ 303.77	\$ 8,506
	Commercial	7	(9)	(1.0)	3,623.10	(3,623)
	Industrial	-	1	0.5	10,142.45	5,071
	Public	2	(3)	(0.5)	5,662.90	(2,831)
	Total	60	(6)	27.0		7,123

CITY OF BETHLEHEM - BUREAU OF WATER
FUTURE TEST YEAR

PRO FORMA OPERATING REVENUE ADJUSTMENTS
UNDER PRESENT RATES

Adj. Ref.	Explanation					Adjustment Increase (Decrease)
R6	To adjust Inside-City Operating Revenues for projected gain in the number of private fire lines, private fire hydrants, thousand square feet of protected area and the number of public fire hydrants for the future test year, based on average gain in units over the last six years.					
	<u>INSIDE-CITY - Private Fire Protection:</u>					
	Size	Number of Units,		Average Annual Gain in Units	Present Rates	Revenue
		31-Dec-13	31-Dec-19			
	Less than 6"	125	133	1.3	112.50	\$ 600
	6-Inch	169	183	2.3	140.55	1,312
	8-Inch	58	69	1.8	168.27	1,234
	10-Inch	2	5	0.5	195.99	392
	12-Inch	8	11	0.5	252.06	504
	Sq. Ft. of Area	17,325	22,198	812.1	2.79	9,063
	Hydrants	378	378	-	78.27	-
	Total					13,105
						\$ 13,105
	<u>INSIDE-CITY - Public Fire Protection:</u>					
		31-Dec-13	31-Dec-19			
	Hydrants	1,425	1,438	2.2	66.00	572
						572
R7	To adjust Outside-City Operating Revenues for projected gain in the number of private fire lines, private fire hydrants, thousand square feet of protected area and the number of public fire hydrants for the future test year, based on average gain in units over the last six years.					
	<u>OUTSIDE-CITY - Private Fire Protection:</u>					
	Size	Number of Units,		Average Annual Gain in Units	Present Rates	Revenue
		31-Dec-13	31-Dec-19			
	Less than 6"	44	41	(0.5)	112.50	\$ (225)
	6-Inch	80	123	7.2	140.55	4,029
	8-Inch	110	112	0.3	168.27	224
	10-Inch	7	7	-	195.99	-
	12-Inch	9	16	1.2	252.06	1,176
	Sq. Ft. of Area	17,137	21,285	691.4	2.79	7,716
	Hydrants	437	499	10.3	78.27	3,235
	Total					16,155
						\$ 16,155
	<u>OUTSIDE-CITY - Public Fire Protection:</u>					
		31-Dec-13	31-Dec-19			
	Hydrants	1,153	1,236	13.8	66.00	3,652
						3,652
	Total Future Test Year, Pro Forma Operating Revenue Adjustments Under Present Rates					\$ 96,103

CITY OF BETHLEHEM - BUREAU OF WATER
FUTURE TEST YEAR

PRO FORMA OPERATING REVENUE ADJUSTMENTS
UNDER PROPOSED RATES

Adj. Ref.	Explanation					Adjustment Increase (Decrease)
R11	To adjust Inside-City Operating Revenues for the projected gain in the number of customers during the twelve months ended 12/31/2020					
	Customer Classification	Gain/Loss in Number of Customers, 12 Months Ended		Average Gain/Loss in Customers	Average Annual Bill, Proposed Rates	Annualized Revenue Adjustment
		31-Dec-18	31-Dec-19			
	Residential	40	(19)	10.5	\$ 342.22	\$ 3,593
	Commercial	5	-	2.5	6,488.06	16,220
	Industrial	-	1	0.5	26,151.24	13,076
	Public	27	(15)	6.0	5,414.64	32,488
	Total	72	(33)	19.5		65,377
R12	To adjust Outside-City Operating Revenues for the projected gain in the number of customers during the twelve months ended 12/31/2020					
	Customer Classification	Gain/Loss in Number of Customers, 12 Months Ended		Average Gain/Loss in Customers	Average Annual Bill, Proposed Rates	Annualized Revenue Adjustment
		31-Dec-18	31-Dec-19			
	Residential	51	5	28.0	\$ 342.22	\$ 9,582
	Commercial	7	(9)	(1.0)	4,194.84	(4,195)
	Industrial	-	1	0.5	12,147.94	6,074
	Public	2	(3)	(0.5)	6,683.23	(3,342)
	Total	60	(6)	27.0		8,119

CITY OF BETHLEHEM - BUREAU OF WATER
FUTURE TEST YEAR

PRO FORMA OPERATING REVENUE ADJUSTMENTS
UNDER PROPOSED RATES

Adj. Ref.	Explanation					Adjustment Increase (Decrease)
R13	To adjust Inside-City Operating Revenues for projected gain in the number of private fire lines, private fire hydrants, thousand square feet of protected area and the number of public fire hydrants for the future test year, based on average gain in units over the last six years.					
	<u>INSIDE-CITY - Private Fire Protection:</u>					
	Size	Number of Units,		Average Annual Gain in Units	Proposed Rates	Revenue
		31-Dec-13	31-Dec-19			
	Less than 6"	125	133	1.3	112.50	\$ 600
	6-Inch	169	183	2.3	140.55	1,312
	8-Inch	58	69	1.8	168.27	1,234
	10-Inch	2	5	0.5	195.99	392
	12-Inch	8	11	0.5	252.06	504
	Sq. Ft. of Area	17,325	22,198	812.1	2.79	9,063
	Hydrants	378	378	-	78.27	-
	Total					13,105
						\$ 13,105
	<u>INSIDE-CITY - Public Fire Protection:</u>					
		31-Dec-13	31-Dec-19			
	Hydrants	1,425	1,438	2.2	66.00	572
						572
R14	To adjust Outside-City Operating Revenues for projected gain in the number of private fire lines, private fire hydrants, thousand square feet of protected area and the number of public fire hydrants for the future test year, based on average gain in units over the last six years.					
	<u>OUTSIDE-CITY - Private Fire Protection:</u>					
	Size	Number of Units,		Average Annual Gain in Units	Proposed Rates	Revenue
		31-Dec-13	31-Dec-19			
	Less than 6"	44	41	(0.5)	112.50	\$ (225)
	6-Inch	80	123	7.2	140.55	4,029
	8-Inch	110	112	0.3	168.27	224
	10-Inch	7	7	-	195.99	0
	12-Inch	9	16	1.2	252.06	1,176
	Sq. Ft. of Area	17,137	21,285	691.4	2.79	7,716
	Hydrants	437	499	10.3	78.27	3,235
	Total					16,155
						\$ 16,155
	<u>OUTSIDE-CITY - Public Fire Protection</u>					
		31-Dec-13	31-Dec-19			
	Hydrants	1,153	1,236	13.8	66.00	3,652
						3,652
	Total Future Test Year, Pro Forma Operating Revenue Adjustments Under Proposed Rates					\$ 106,980

CITY OF BETHLEHEM - BUREAU OF WATER
HISTORIC TEST YEAR
PRO FORMA OPERATING EXPENSE ADJUSTMENTS
UNDER PRESENT RATES

Adj. Ref.	Explanation				Adjustment Increase (Decrease)
E1	To adjust chemical expense to reflect the annual usage of chemicals required at the treatment plant and current unit prices.				
	Chemical	Quantity	Units	Unit Cost	Pro Forma Cost
	Aluminum Sulfate	108.9	Tons	\$ 311.59	\$ 33,920
	Zinc Orthophosphate	66,824.0	Wet lbs.	0.41	27,364
	Chlorine	42.0	Per Ton	490.00	20,590
	Fluoride	43.3	Wet Tons	330.00	14,273
	Hydrated Lime	29.3	Tons	181.85	5,323
	Caustic Soda	137.0	Tons	677.90	92,893
	Sodium Hypochlorite	360.0	Gallons	4.18	1,505
	Aquamag	72.0	Gallons	34.40	2,477
	Total				198,343
	Less: Test Year Chemical Expense				192,052
	Adjustment				6,292
E2	To eliminate the following for rate making purposes.				
	Description		Test Year Amount		
	Lease Rental		8,600,350		(8,600,350)
	2007 General Obligation Loan		65,646		(65,646)
	Capital Appropriation		3,253,454		(3,253,454)

CITY OF BETHLEHEM - BUREAU OF WATER
HISTORIC TEST YEAR
PRO FORMA OPERATING EXPENSE ADJUSTMENTS
UNDER PRESENT RATES

Adj. Ref.	Explanation			Adjustment Increase (Decrease)
E3	To normalize operating expenses for the estimated cost of this rate case over three years.			
	Revenue Requirement, Rate Base, Depreciation, Rate of Return, Rate Design and Application	\$ 234,000		
	Legal	\$ 175,000		
	Customer Notice and Postage	5,560		
	Total	414,560		
	Normalized Amount over 3 years		138,187	
	Less: Test Year Rate Case Expense		7,373	
	Adjustment			130,814
E4	To normalize operating expenses for the Customer Demand Study over ten years.			
	Customer Demand Study 2019 Expense	\$ 31,398		
	Total Expense of Demand Study	59,560		
	Normalized Amount over 10 years		5,956	
	Adjustment		(25,442)	(25,442)
E5	To adjust depreciation expense as of December 31, 2019			
	Annual Depreciation Expense as of December 31, 2019	\$ 2,613,365		
	Less: Depreciation Expense Per Books	-		
	Adjustment			2,613,365
E6	To Adjust the transfer to the General Fund for City Services to reflect 2019 Full Cost Allocation* less Pension Expense, Personnel Insurance and Workers' Compensation, as these items are accounted for separately.			
	2019 Full Cost Allocation Less Pension, Medical Insurance and Workers Compensation	\$ 1,360,246		
	Less Per Books General Fund Transfer	1,065,832		
	Adjustment			294,414

* 2019 Full Cost Allocation analysis prepared by Maximus.

CITY OF BETHLEHEM - BUREAU OF WATER
HISTORIC TEST YEAR
PRO FORMA OPERATING EXPENSE ADJUSTMENTS
UNDER PRESENT RATES

Adj. Ref.	Explanation		Adjustment Increase (Decrease)
E7	To Adjust Medical Insurance based on 2019 Full Cost Allocation of Personnel Insurance		
	2019 Full Cost Allocation of Personnel Insurance	\$ 1,936,130	
	Less Per Books Medical Insurance	<u>1,580,500</u>	
	Adjustment		355,630
E8	To Adjust Pension Expense based on 2019 Full Cost Allocation of Pension		
	2019 Full Cost Allocation of Pension Expense	\$ 1,314,934	
	Less Per Books Pension Expense	<u>929,750</u>	
	Adjustment		385,184
E9	To Adjust Workers' Compensation based on 2019 Full Cost Allocation of Pension		
	2019 Full Cost Allocation of Workers' Compensation	\$ 121,798	
	Less Per Books Workers' Compensation	<u>135,717</u>	
	Adjustment		<u>(13,919)</u>
	Total Historic Test Year, Pro Forma Operating Expense Adjustments		<u>\$ (8,173,111)</u>

CITY OF BETHLEHEM - BUREAU OF WATER
FUTURE TEST YEAR
PRO FORMA OPERATING EXPENSE ADJUSTMENTS
UNDER PRESENT RATES

Adj. Ref.	Explanation				Adjustment Increase (Decrease)
E10	To adjust pro forma salaries and wages to reflect pro forma labor expense at wage rates effective January 1, 2020 and January 1, 2021, and the total number of employees.				
	Account	Per Books Test Year 2019	Pro Forma 2020*	Pro Forma 2021	2019-2021 Increase (Decrease)
	<u>Supply and Treatment</u>				
	Collection and Treatment	\$ 409,246	\$ 418,478	\$ 426,848	\$ 17,601
	Laboratory Services	157,422	165,271	168,576	11,155
	Administration	296,410	372,085	379,527	83,117
	Water Filtration	1,095,919	1,169,782	1,193,178	97,258
	Utility Billing	75,696	80,733	82,348	6,652
	Water Engineering	145,579	144,685	147,579	1,999
	Subtotal	2,180,272	2,351,034	2,398,055	217,782
	<u>Water Maintenance</u>				
	Maintenance	\$ 1,113,537	\$ 1,403,262	1,431,327	317,790
	Meter Shop	392,191	230,535	235,146	(157,045)
	Subtotal	1,505,728	1,633,797	1,666,473	160,745
	Total	\$ 3,686,000	\$ 3,984,831	\$ 4,064,528	\$ 378,527
	Social Security and Medicare	\$ 321,000	\$ 305,000	\$ 310,936	\$ (10,064)
E11	To adjust depreciation expense as of December 31, 2020				
	Annual Depreciation Expense as of December 31, 2020				\$ 2,675,569
	Less: Depreciation Expense as of December 31, 2019 (E5) Adjustment				2,613,365
					62,204
E12	To adjust for the elimination of the Water Control Bureau in 2020 due to department consolidation, and the associated transfer of Departmental Contracts to Water Filtration.				
	Account				
	<u>Water Control</u>				
	Salaries and Wages 2019 Expense		\$ 338,128		\$ (338,128)
	Departmental Contracts 2019 Expense		34,599		(34,599)
	Other 2019 Expense		3,226		(3,226)
	<u>Water Filtration</u>				
	Departmental Contracts Transfer (2020)		\$ 35,370		\$ 35,370
	Total Future Test Year, Pro Forma Operating Expense Adjustments				\$ 90,085

* Per 2020 Budget.

CITY OF BETHLEHEM - BUREAU OF WATER

SUMMARY OF APPLICATION OF PRESENT AND PROPOSED RATES TO CONSUMPTION ANALYSIS AS OF 12/31/2019
AND PRO FORMA REVENUES UNDER PROPOSED RATES AS OF 12/31/2020

Customer Classification (1)	Revenues Per Books, 12/31/2019 (2)	Bill Analysis, Revenues, Present Rates (3)	Adjustment Factor (4)=(2)/(3)	Bill Analysis, Revenues, Proposed Rates (5)	Pro Forma Revenues Proposed Rates (6)=(5)X(4)	Pro Forma Historic and Future Test Yr. Adjustments, Proposed Rates (7)	Ref. (8)	Pro Forma Revenues Under Proposed Rates (9)=(6)+(7)
INSIDE-CITY								
Residential	\$ 8,314,761	\$ 8,354,343	0.995262	\$ 9,429,782	\$ 9,385,104	\$ 342	R8,R11	\$ 9,385,446
Commercial	1,717,473	1,717,837	0.999788	2,012,460	2,012,033	16,220	R8,R11	2,028,253
Industrial	1,282,336	1,267,198	1.011946	1,518,492	1,536,632	26,152	R8,R11	1,562,783
Public	806,750	793,525	1.016666	913,843	929,073	258,084	R8,R10,R11	1,187,157
Private Fire	589,178	590,260	0.998168	590,260	589,178	13,105	R13	602,283
Public Fire	-	-	-	-	-	380,204	R10,R13	380,204
Total Inside	12,710,497	12,723,163	0.999005	14,464,837	14,452,020	694,107		15,146,127
OUTSIDE-CITY								
Residential	\$ 4,336,864	\$ 4,357,510	0.995262	\$ 4,909,618	\$ 4,886,357	\$ 10,438	R9,R12	\$ 4,896,794
Commercial	1,362,355	1,362,644	0.999788	1,570,869	1,570,536	(23,072)	R9,R12	1,547,464
Industrial	382,119	377,608	1.011946	446,100	451,430	12,148	R9,R12	463,577
Public	449,621	442,251	1.016666	513,879	522,443	(13,367)	R9,R12	509,076
Other Water Utilities	802,841	797,666	1.006488	808,222	813,465	-		813,465
Private Fire	577,316	578,375	0.998169	578,375	577,316	16,155	R14	593,471
Public Fire	325,706	326,304	0.998167	326,304	325,706	3,652	R14	329,358
Total Outside	8,236,822	8,242,358		9,153,368	9,147,252	5,954		9,153,206
Total	\$ 20,947,319	\$ 20,965,521	0.999132	\$ 23,618,204	\$ 23,599,272	\$ 700,061		\$ 24,299,333

CITY OF BETHLEHEM - BUREAU OF WATER
INSIDE CITY

APPLICATION OF PRESENT RATES AND PROPOSED RATES TO CONSUMPTION ANALYSIS
YEAR ENDED DECEMBER 31, 2019

Rate Block 1000 Gallons	Number Of Bills	Total Consumption	Present Rate	Revenue	Proposed Rate	Proposed Revenue
(1)	(2)	(3)	(4)	(5)	(6)	(7)
<u>Residential - Quarterly</u>						
Customer Charge						
5/8	81,668	0	24.75	2,021,283	24.75	2,021,283
3/4	1,359	0	41.94	56,996	41.94	56,996
1	1,008	0	81.42	82,071	81.42	82,071
1 1/2	12	0	159.12	1,909	159.12	1,909
Subtotal	84,047	0		2,162,259		2,162,259
First Block	0	1,012,305	4.2660	4,318,495	5.0670	5,129,352
Subtotal	0	1,012,305		4,318,495		5,129,352
Total	84,047	1,012,305		6,480,754		7,291,611
<u>Residential - Monthly</u>						
Customer Charge						
5/8	6,116	0	8.25	50,457	8.25	50,457
3/4	108	0	13.98	1,510	13.98	1,510
1	1,604	0	27.14	43,533	27.14	43,533
1 1/2	3,484	0	53.04	184,791	53.04	184,791
2	1,180	0	85.28	100,630	85.28	100,630
3	298	0	174.80	52,090	174.80	52,090
4	115	0	273.56	31,459	273.56	31,459
Subtotal	12,905	0		464,470		464,470
First Block	0	330,314	4.2660	1,409,119	5.0670	1,673,701
Subtotal	0	330,314		1,409,119		1,673,701
Total	12,905	330,314		1,873,589		2,138,171
Total Class	96,952	1,342,619		8,354,343		9,429,782
<u>Commercial - Quarterly</u>						
Customer Charge						
5/8	1,191	0	24.75	29,477	24.75	29,477
3/4	251	0	41.94	10,527	41.94	10,527
1	309	0	81.42	25,159	81.42	25,159
1 1/2	17	0	159.12	2,705	159.12	2,705
3		0	524.40	0	524.40	0
12		0	3,295.11	0	3,295.11	0
Subtotal	1,768	0		67,868		67,868
First Block	0	36,026	3.3330	120,076	4.0660	146,483
Subtotal	0	36,026		120,076		146,483
Total	1,768	36,026		187,944		214,351

CITY OF BETHLEHEM - BUREAU OF WATER
INSIDE CITY

APPLICATION OF PRESENT RATES AND PROPOSED RATES TO CONSUMPTION ANALYSIS
YEAR ENDED DECEMBER 31, 2019

Rate Block 1000 Gallons (1)	Number Of Bills (2)	Total Consumption (3)	Present Rate (4)	Revenue (5)	Proposed Rate (6)	Proposed Revenue (7)
<u>Commercial - Monthly</u>						
Customer Charge						
5/8	36	0	8.25	297	8.25	297
3/4	36	0	13.98	503	13.98	503
1	228	0	27.14	6,188	27.14	6,188
1 1/2	1,171	0	53.04	62,110	53.04	62,110
2	1,264	0	85.28	107,794	85.28	107,794
3	325	0	174.80	56,810	174.80	56,810
4	116	0	273.56	31,733	273.56	31,733
6	82	0	547.11	44,863	547.11	44,863
12	0	0	1,098.37		1,098.37	
Subtotal	3,258	0		310,298		310,298
First Block	0	365,915	3.3330	1,219,595	4.0660	1,487,811
Subtotal	0	365,915		1,219,595		1,487,811
Total	3,258	365,915		1,529,893		1,798,109
Total Class	5,026	401,941		1,717,837		2,012,460
<u>Industrial - Quarterly</u>						
Customer Charge						
5/8	8	0	24.75	198	24.75	198
3/4	4	0	41.94	168	41.94	168
1	40	0	81.42	3,257	81.42	3,257
1 1/2	0	0	159.12	0	159.12	0
12	0	0	3,295.11	0	3,295.11	0
Subtotal	52	0		3,623		3,623
First Block	0	1,791	3.3330	5,970	4.0660	7,283
Subtotal	0	1,791		5,970		7,283
Total	52	1,791		9,593		10,906
<u>Industrial - Monthly</u>						
Customer Charge						
1	24	0	27.14	651	27.14	651
1 1/2	168	0	53.04	8,911	53.04	8,911
2	188	0	85.28	16,033	85.28	16,033
3	116	0	174.80	20,277	174.80	20,277
4	106	0	273.56	28,997	273.56	28,997
6	36	0	547.11	19,696	547.11	19,696
8	24	0	1,098.37	26,361	1,098.37	26,361
Subtotal	662	0		120,926		120,926
First Block	0	341,038	3.3330	1,136,679	4.0660	1,386,660
Subtotal	0	341,038		1,136,679		1,386,660
Total	662	341,038		1,257,605		1,507,586
Total Class	714	342,829		1,267,198		1,518,492

CITY OF BETHLEHEM - BUREAU OF WATER
INSIDE CITY

APPLICATION OF PRESENT RATES AND PROPOSED RATES TO CONSUMPTION ANALYSIS
YEAR ENDED DECEMBER 31, 2019

Rate Block 1000 Gallons	Number Of Bills	Total Consumption	Present Rate	Revenue	Proposed Rate	Proposed Revenue
(1)	(2)	(3)	(4)	(5)	(6)	(7)
<u>Public - Quarterly</u>						
Customer Charge						
5/8	245	0	24.75	6,064	24.75	6,064
3/4	32	0	41.94	1,342	41.94	1,342
1	115	0	81.42	9,363	81.42	9,363
1 1/2	0	0	159.12	0	159.12	0
Subtotal	392	0		16,769		16,769
First Block	0	6,703	3.3330	22,341	4.0660	27,254
Subtotal	0	6,703		22,341		27,254
Total	392	6,703		39,110		44,023
<u>Public - Monthly</u>						
Customer Charge						
5/8	0	0	8.25	0	8.25	0
3/4	0	0	13.98	0	13.98	0
1	34	0	27.14	923	27.14	923
1 1/2	364	0	53.04	19,307	53.04	19,307
2	688	0	85.28	58,673	85.28	58,673
3	418	0	174.80	73,066	174.80	73,066
4	212	0	273.56	57,995	273.56	57,995
6	36	0	547.11	19,696	547.11	19,696
8	0	0	1,098.37	0	1,098.37	0
Subtotal	1,752	0		229,660		229,660
First Block	0	157,442	3.3330	524,755	4.0660	640,160
Subtotal	0	157,442		524,755		640,160
Total	1,752	157,442		754,415		869,820
Total Class	2,144	164,145		793,525		913,843
<u>Private Fire - Quarterly</u>						
Less than 6"	532		\$ 112.50	59,850	\$ 112.50	59,850
6-Inch	732		140.55	102,882	140.55	102,882
8-Inch	276		168.27	46,443	168.27	46,443
10-Inch	20		195.99	3,920	195.99	3,920
12-Inch	44		252.06	11,091	252.06	11,091
Protected Area	88,792		2.79	247,730	2.79	247,730
Private Hydrants	1,512		78.27	118,344	78.27	118,344
	91,908			590,260		590,260
<u>Public Fire - Quarterly</u>						
Hydrants	5,752		\$ 66.00	379,632	\$ 66.00	379,632
Total Inside City	202,496	2,251,535		13,102,795		14,844,469

CITY OF BETHLEHEM - BUREAU OF WATER
OUTSIDE CITY

APPLICATION OF PRESENT RATES AND PROPOSED RATES TO CONSUMPTION ANALYSIS
YEAR ENDED DECEMBER 31, 2019

Rate Block 1000 Gallons (1)	Number Of Bills (2)	Total Consumption (3)	Present Rate (4)	Revenue (5)	Proposed Rate (6)	Proposed Revenue (7)
<u>Residential - Quarterly</u>						
Customer Charge						
5/8	50,749	0	24.75	1,256,038	24.75	1,256,038
3/4	881	0	41.94	36,949	41.94	36,949
1	363	0	81.42	29,555	81.42	29,555
1 1/2	29	0	159.12	4,614	159.12	4,614
Subtotal	52,022	0		1,327,156		1,327,156
First Block	0	625,963	4.2660	2,670,358	5.0670	3,171,754
Subtotal	0	625,963		2,670,358		3,171,754
Total	52,022	625,963		3,997,514		4,498,910
<u>Residential - Monthly</u>						
Customer Charge						
5/8	92	0	8.25	759	8.25	759
3/4	12	0	13.98	168	13.98	168
1	12	0	27.14	326	27.14	326
1 1/2	368	0	53.04	19,519	53.04	19,519
2	365	0	85.28	31,127	85.28	31,127
3	48	0	174.80	8,390	174.80	8,390
6	18	0	547.11	9,848	547.11	9,848
8	18	0	1,098.37	19,771	1,098.37	19,771
Subtotal	933	0		89,908		89,908
First Block	0	63,312	4.2660	270,088	5.0670	320,800
Subtotal	0	63,312		270,088		320,800
Total	933	63,312		359,996		410,708
Total Class	52,955	689,275		4,357,510		4,909,618
<u>Commercial - Quarterly</u>						
Customer Charge						
5/8	501	0	24.75	12,400	24.75	12,400
3/4	156	0	41.94	6,543	41.94	6,543
1	199	0	81.42	16,203	81.42	16,203
1 1/2	32	0	159.12	5,092	159.12	5,092
2	13	0	255.84	3,326	255.84	3,326
3	4	0	524.40	2,098	524.40	2,098
4	0	0	820.68	0	820.68	0
6	4	0	1,641.33	6,565	1,641.33	6,565
8	9	0	3,295.11	29,656	3,295.11	29,656
Subtotal	918	0		81,883		81,883
First Block	0	41,466	3.3330	138,207	4.0660	168,602
Subtotal	0	41,466		138,207		168,602
Total	918	41,466		220,090		250,485

CITY OF BETHLEHEM - BUREAU OF WATER
OUTSIDE CITY

APPLICATION OF PRESENT RATES AND PROPOSED RATES TO CONSUMPTION ANALYSIS
YEAR ENDED DECEMBER 31, 2019

Rate Block 1000 Gallons (1)	Number Of Bills (2)	Total Consumption (3)	Present Rate (4)	Revenue (5)	Proposed Rate (6)	Proposed Revenue (7)
<u>Commercial - Monthly</u>						
Customer Charge						
5/8	58	0	8.25	479	8.25	479
3/4	47	0	13.98	657	13.98	657
1	282	0	27.14	7,653	27.14	7,653
1 1/2	1,045	0	53.04	55,427	53.04	55,427
2	1,706	0	85.28	145,488	85.28	145,488
3	415	0	174.80	72,542	174.80	72,542
4	117	0	273.56	32,007	273.56	32,007
6	36	0	547.11	19,696	547.11	19,696
Subtotal	3,706	0		333,949		333,949
First Block	0	242,606	3.3330	808,605	4.0660	986,435
Subtotal	0	242,606		808,605		986,435
Total	3,706	242,606		1,142,554		1,320,384
Total Class	4,624	284,072		1,362,644		1,570,869
<u>Industrial - Quarterly</u>						
Customer Charge						
5/8	16	0	24.75	396	24.75	396
3/4	16	0	41.94	671	41.94	671
1	32	0	81.42	2,605	81.42	2,605
2		0	255.84	0	255.84	0
Subtotal	64	0		3,672		3,672
First Block	0	1,718	3.3330	5,726	4.0660	6,985
Subtotal	0	1,718		5,726		6,985
Total	64	1,718		9,398		10,657
<u>Industrial - Monthly</u>						
Customer Charge						
1	8	0	27.14	217	27.14	217
1 1/2	108	0	53.04	5,728	53.04	5,728
2	106	0	85.28	9,040	85.28	9,040
3	84	0	174.80	14,683	174.80	14,683
4	72	0	273.56	19,696	273.56	19,696
6	24	0	547.11	13,131	547.11	13,131
8	0	0	1,098.37	0	1,098.37	0
Subtotal	402	0		62,495		62,495
First Block	0	91,724	3.3330	305,715	4.0660	372,949
Subtotal	0	91,724		305,715		372,949
Total	402	91,724		368,210		435,444
Total Class	466	93,442		377,608		446,100

CITY OF BETHLEHEM - BUREAU OF WATER
OUTSIDE CITY

APPLICATION OF PRESENT RATES AND PROPOSED RATES TO CONSUMPTION ANALYSIS
YEAR ENDED DECEMBER 31, 2019

Rate Block 1000 Gallons (1)	Number Of Bills (2)	Total Consumption (3)	Present Rate (4)	Revenue (5)	Proposed Rate (6)	Proposed Revenue (7)
<u>Public - Quarterly</u>						
Customer Charge						
5/8	44	0	24.75	1,089	24.75	1,089
3/4	6	0	41.94	252	41.94	252
1	29	0	81.42	2,361	81.42	2,361
1 1/2	0	0	159.12	0	159.12	0
6	4	0	1,641.33	6,565	1,641.33	6,565
Subtotal	83	0		10,267		10,267
First Block	0	1,340	3.3330	4,466	4.0660	5,448
Subtotal	0	1,340		4,466		5,448
Total	83	1,340		14,733		15,715
<u>Public - Monthly</u>						
Customer Charge						
5/8	36	0	8.25	297	8.25	297
3/4	0	0	13.98	0	13.98	0
1	29	0	27.14	787	27.14	787
1 1/2	179	0	53.04	9,494	53.04	9,494
2	288	0	85.28	24,561	85.28	24,561
3	166	0	174.80	29,017	174.80	29,017
4	106	0	273.56	28,997	273.56	28,997
6	24	0	547.11	13,131	547.11	13,131
Subtotal	828	0		106,284		106,284
First Block	0	96,380	3.3330	321,234	4.0660	391,880
Subtotal	0	96,380		321,234		391,880
Total	828	96,380		427,518		498,164
Total Class	911	97,720		442,251		513,879

CITY OF BETHLEHEM - BUREAU OF WATER
OUTSIDE CITY

APPLICATION OF PRESENT RATES AND PROPOSED RATES TO CONSUMPTION ANALYSIS
YEAR ENDED DECEMBER 31, 2019

Rate Block 1000 Gallons (1)	Number Of Bills (2)	Total Consumption (3)	Present Rate (4)	Revenue (5)	Proposed Rate (6)	Proposed Revenue (7)
<u>Other Water Utilities - Quarterly</u>						
Customer Charge						
2	0	0	255.84	0	255.84	0
8	0	0	3,295.11	0	3,295.11	0
Subtotal	0	0		0		0
First Block	0	0	3.9690	0	4.0290	0
Subtotal	0	0		0		0
Total	0	0		0		0
<u>Other Water Utilities - Monthly</u>						
Customer Charge						
5/8		0	8.25	0	8.25	0
3/4		0	13.98	0	13.98	0
1	12	0	27.14	326	27.14	326
1 1/2	12	0	53.04	636	53.04	636
2	36	0	85.28	3,070	85.28	3,070
3	12	0	174.80	2,098	174.80	2,098
4	36	0	273.56	9,848	273.56	9,848
6	36	0	547.11	19,696	547.11	19,696
8	48	0	1,098.37	52,722	1,098.37	52,722
10	10	0	1,098.37	10,984	1,098.37	10,984
Subtotal	202	0		99,380		99,380
First Block	0	175,935	3.9690	698,286	4.0290	708,842
Subtotal	0	175,935		698,286		708,842
Total	202	175,935		797,666		808,222
Total Class	202	175,935		797,666		808,222
<u>Private Fire - Quarterly</u>						
Less than 6"	164		\$ 112.50	18,450	\$ 112.50	18,450
6-Inch	492		140.55	69,151	140.55	69,151
8-Inch	448		168.27	75,385	168.27	75,385
10-Inch	28		195.99	5,488	195.99	5,488
12-Inch	64		252.06	16,132	252.06	16,132
Protected Area	85,141		2.79	237,543	2.79	237,543
Private Hydrants	1,996		78.27	156,227	78.27	156,227
	88,333			578,375		578,375
<u>Public Fire - Quarterly</u>						
Hydrants	4,944		\$ 66.00	326,304	\$ 66.00	326,304
Total Outside City	152,435	1,340,443		8,242,358		9,153,368

CITY OF BETHLEHEM - BUREAU OF WATER
COMPARISON OF 2014 PROJECTED VS. ACTUAL CAPITAL ADDITIONS

ACCOUNT		2014 PROJECTED	2014 ACTUAL	COMMENTS
Depreciable Plant				
312.11	Collecting and Impounding Reservoirs			
	77013 - Stop Log	1.00		
	77033 - WC Spillway	113,067.00	0.00	Completed 6/22/2016, \$34,309.04 in 2016 & \$2,681.00 in 2017.
	Total Collecting and Impounding Reservoirs	113,068.00	0.00	
312.12	Lake, River and Other Intakes			
	77033 - WC Spillway	5,951.00	0.00	
312.13	Wells and Springs	0.00	0.00	
312.2	Power and Pumping Structures			
	77017 - East Allen Shady Lane Wellhouse	294,000.00	13,298.65	Completed 5/17/2017, \$226,255.63 in 2016 & \$62,750.17 in 2017.
	77023 - SE Tank Pump Station	1.00	0.00	
	77025 - 5th & William Street Pump Station	406,650.00	64,921.15	Completed 9/22/2015, \$49,910.03 in 2016 & \$26,579.86 in 2017.
	Total Power and Pumping Structures	700,651.00	78,219.80	
312.3	Purification Buildings	0.00	0.00	
312.5	Distribution Reservoirs and Standpipes			
	770016 - 5 MG NE Standpipe Engineering	85,991.20	85,991.20	
	77012 - 12MG Reservoir Cover	1.00	0.00	
	77015 - 0.5 MG SE Tank Engineering	76,277.00	76,276.50	
	77041 - 5MG SE Storage Tank Modifications	85,100.00	14,202.00	Completed in 2015. No expenditures in '14, '15, '16, '17, '18, '19. Project on hold pending detailed hydraulic investigations into replacement, reservoir sizing, type of structure, refurbishment versus
	77042 -New 2 MG Reservoir Engineering Design	216,500.00	0.00	
	Total Distribution Reservoirs and Standpipes	463,869.20	176,469.70	
312.62	Stores, Shop and Garage Buildings	0.00	0.00	
312.63	Miscellaneous Structures and Improvements	0.00	0.00	
316	Electric Pumping Equipment	0.00	0.00	
317	Oil Engine Pumping Equipment	0.00	0.00	
319	Gas Engine Pumping Equipment	0.00	0.00	
320	Purification System			
	770996 - Filtration	36,113.00	28,591.41	Difference due to items not needed or did not purchase.
321	Laboratory Equipment			
	770992 - Equipment Laboratory Services	14,200.00	10,149.41	Difference due to lower actual cost to purchase pH Meter & Autoclave, while still purchasing a Benchtop pH Meter.

CITY OF BETHLEHEM - BUREAU OF WATER
COMPARISON OF 2014 PROJECTED VS. ACTUAL CAPITAL ADDITIONS

	ACCOUNT	2014 PROJECTED	2014 ACTUAL	COMMENTS
322	Mains and Accessories			
	77002- Distribution System Extension	120,000.00	28,789.51	
	77005- Replace, Relocate, Rehabilitate Distribution System	100,000.00	14,762.66	
	77016 - Transmission Main Appurtenances Upgrades	10,000.00	108,715.30	
	77019- Freemansburg Bridge Lining	1,686.25	0.00	
	77020 - Birchwood Farms-Pinel&Rutland in '13. Birch&Norfolk in '14	205,000.00	9,000.00	
	77021- North Street Road Reconstruction	150,000.00	110,347.39	
	77027- Delaware Avenue Main & Service Line Replacement	407,058.00	636,882.15	
	77029 - Route 412 Improvements	2.00	0.00	
	77029- Route 412 Main Replacement	1.00	0.00	
	77043- DSIC Comprehensive Planning Study Long Term Improvement Plan	25,000.00	23,400.00	
	77084 - Security Program (1)	1.00	0.00	
	Total Mains and Accessories	1,018,748.25	931,897.01	
323	Services			
	77003 - Service Lines New and Renewal	100,000.00	143,833.10	
	77027- Delaware Avenue Main & Service Line Replacement	55,508.00	636,882.15	
	Total Services	155,508.00	780,715.25	
324	Meters			
	77004- Metering	45,000.00	56,601.00	
	77036 - Metering	80,000.00	65,211.00	
	77039 - Master Meters	1.00	0.00	
	Total Meters	125,001.00	121,812.00	
325	Fire Hydrants			
	77006 - Fire Hydrant New/Renewal	70,000.00	65,005.78	
328	Office Furniture and Equipment			
	77061 - Computer Upgrade Software	7,300.00	1,685.94	Purchase on as needed basis.
	77097 - Computer Model Update	27,500.00	8,000.00	Contract lower than estimated amount.
	Total Office Furniture and Equipment	34,800.00	9,685.94	

CITY OF BETHLEHEM - BUREAU OF WATER
COMPARISON OF 2014 PROJECTED VS. ACTUAL CAPITAL ADDITIONS

	ACCOUNT	2014 PROJECTED	2014 ACTUAL	COMMENTS
329	Transportation Equipment			
	77030 - Rolling Stock	1.00	0.00	
332	Tools and Work Equipment			
	77099 Equipment - Utility Maintenance	39,969.00	34,044.00	Mobile Generator not purchased.
	770991 - Equipment Collection & Treatment	7,000.00	5,003.08	Chart Recorder for Tunk BP Chamber not purchased.
	770999 - Technical Support Equipment	3,090.00	3,930.01	Control Room Server not purchased.
	Total Tools and Work Equipment	50,059.00	42,977.09	
333	Communication Equipment			
	77032- SCADA System Upgrade	170,045.00	85,016.30	
	77096 - PF Dam SCADA Upgrade	144,800.00	9,500.00	\$5,925.44 in '16, \$130,098.02 in '17, \$35,129.54 in '18
	770999 - Technical Support Equipment	17,683.00	8,405.69	6 radio kits, brackets/cables, pwr sply, UPS
	Total Communication Equipment	332,528.00	102,921.99	
334	Miscellaneous Equipment	0.00	0.00	
	Total Depreciable Plant	3,120,497.45	2,348,445.38	

CITY OF BETHLEHEM - BUREAU OF WATER

STATEMENT OF PRO FORMA OPERATING EXPENSES FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2012 AND DECEMBER 31, 2014
COMPARED TO ACTUAL EXPENSES AS OF DECEMBER 31, 2014

Line No.	Account	Per Books, 12 Months Ended 31-Dec-12 (2)	Historic Test Year Pro Forma Adjustments Appen. B (3)	Amount (4)	Pro Forma, 31-Dec-12 (5)	Future Test Year Pro Forma Adjustments Appen. B (6)	Amount (7)	Rebuttal (8)	Pro Forma, 31-Dec-14 (9)	Per Books, 12 Months Ended 31-Dec-14 (10)	Difference (11)=(10)-(9)	Percentage Difference	Comments
(1)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)=(10)-(9)		
1	OPERATION AND MAINTENANCE EXPENSES												
2													
3	Water Supply and Treatment												
4	Collection and Treatment:												
5	Salaries and Wages	\$ 346,715			\$ 346,715	E12	\$ 19,312		\$ 366,027	\$ 360,994	* \$ (5,034)	-1.38%	
6	Purchased Water				-				-		0		
7	Departmental Contracts	42,857	E1	29,643	72,500				72,500	56,458	(16,042)	* -22.13%	*Can vary due to amnt paid for prior yr Dam Instrumentation Report & current yr
8	Other	53,956			53,956				53,956	57,308	* 3,352	6.21%	
9	Subtotal	443,528		29,643	473,171		19,312	0	492,483	474,760	(17,724)	-3.60%	*Operating, Heating Oil increased.
10													
11	Laboratory Services:												
12	Salaries and Wages	115,198			115,198	E12	6,417		121,614	116,512	* (5,102)	-4.20%	
13	Departmental Contracts	11,716			11,716				11,716	11,394	(322)	-2.75%	
14	Other	16,009			16,009				16,009	8,803	* (7,206)	-45.01%	
15	Subtotal	142,922		0	142,922		6,417	0	149,339	136,709	(12,630)	-8.46%	
16													
17	East Allen Twp:												
18	Purchased Water		E10	71,500	71,500			21,500	93,000	0	(93,000)	-100.00%	
19	Chemicals		E10	3,000	3,000			(3,000)	0	1,830	1,830		
20	Power		E10	10,700	10,700			(3,049)	7,651	12,330	* 4,679	61.16%	*Large increase in Electric. In 2013 only paid bills from 5/31/13 to years end
21	Departmental Contracts		E10	40,900	40,900			(8,423)	32,477	68,009	* 35,532	109.41%	
22	Other		E10	33,562	33,562			(30,010)	3,552	105,285	* 101,733	2864.10%	
23	Subtotal			159,662	159,662		0	(22,982)	136,680	187,454	50,774	37.15%	*Paid \$94,785 in 2014 and \$53,323 in 2013 for Purchased water. *Paid \$8,648 in 2014 and \$925 in 2013 for Equip Maint.
24													
25	Administration:												
26	Salaries and Wages	229,131			229,131	E12	12,763		241,894	229,065	* (12,828)	-5.30%	
27	Departmental Contracts	50,786	E1	25,314	76,100		(1,500)		74,600	50,967	* (23,633)	-31.68%	
28	Other	26,363			26,363				26,363	19,269	* (7,094)	-26.91%	
29	Subtotal	306,280		25,314	331,594		12,763	(1,500)	342,857	299,302	(43,555)	-12.70%	
30													
31	Water Filtration:												
32	Salaries and Wages	942,746			942,746	E12	52,511		995,257	929,066	* (66,192)	-6.65%	
33	Chemicals	193,125	E2	24,035	217,160		(27,657)		189,503	204,211	* 14,708	7.76%	
34	Power	81,251			81,251				81,251	75,813	* (5,438)	-6.69%	
35	Departmental Contracts	165,087	E1	24,933	190,020		(25,325)		164,695	183,156	* 18,461	11.21%	*Correct-Dept Contracts
36	Other	129,656			129,656				129,656	140,891	* 11,235	8.67%	
37	Subtotal	1,511,864		48,969	1,560,833		52,511	(52,982)	1,560,362	1,533,136	(27,226)	-1.74%	
38													
39	Utility Billing:												
40	Salaries and Wages	85,985			85,985	E12	4,789	(20,291)	70,483	69,512	* (971)	-1.38%	
41	Other	0			0				0	0	0		
42	Subtotal	85,985		0	85,985		4,789	(20,291)	70,483	69,512	(971)	-1.38%	
43													
44	Water Engineering:												
45	Salaries and Wages	153,580	E11	(38,035)	115,545	E12	6,436		121,981	121,704	* (277)	-0.23%	
46	Departmental Contracts	0	E11	64,000	64,000		5,153		69,153	92,860	23,707	34.28%	*2014 amount is Professional Services, not Dept. contracts
47	Other	0			0				0	0	0		
48	Subtotal	153,580		25,965	179,545		6,436	5,153	191,134	214,564	23,430	12.26%	
49													
50	Water Control:												
51	Salaries and Wages	511,437			511,437	E12	28,487		539,924	356,707	* (183,216)	-33.93%	
52	Power	132,076			132,076				132,076	0	* (132,076)	-100.00%	*Power that was in Control is now in Water Maintenance *Res Veg control, Electric PM, Gas Detectors, Flow Meter/Tank Level Calibs,Clean
53	Departmental Contracts	61,617			61,617				61,617	37,872	* (23,745)	-38.54%	out AST from Control now in Water Maint.
54	Other	26,327			26,327				26,327	9,545	* (16,782)	-63.74%	
55	Subtotal	731,457		0	731,457		28,487	0	759,944	404,125	(355,819)	-46.82%	
56													
57	Subtotal Water Supply and Treatment	\$ 3,375,617		\$ 289,553	\$ 3,665,170		\$ 130,714	\$ (92,602)	\$ 3,703,282	\$ 3,319,562	\$ (383,720)	-10.36%	
58													
59													

CITY OF BETHLEHEM - BUREAU OF WATER

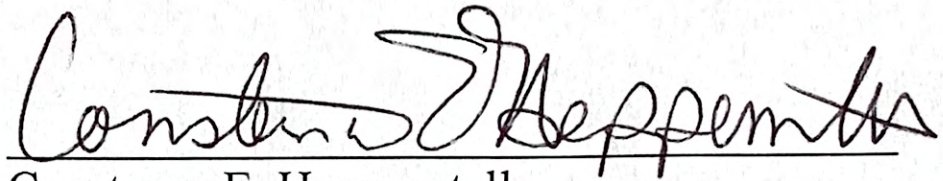
STATEMENT OF PRO FORMA OPERATING EXPENSES FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2012 AND DECEMBER 31, 2014
COMPARED TO ACTUAL EXPENSES AS OF DECEMBER 31, 2014

Line No.	Account	Per Books, 12 Months Ended 31-Dec-12 (2)	Historic Test Year Pro Forma Adjustments Appen. B (3)	Amount (4)	Pro Forma, 31-Dec-12 (5)	Future Test Year Pro Forma Adjustments Appen. B (6)	Amount (7)	Rebuttal (8)	Pro Forma, 31-Dec-14 (9)	Per Books, 12 Months Ended 31-Dec-14 (10)	Difference (11)=(10)-(9)	Percentage Difference	Comments
60	Water Maintenance												
61	Maintenance Expenses:												
62	Salaries and Wages	\$ 1,218,371			\$ 1,218,371	E12	\$ 67,863		\$ 1,286,234	\$ 1,062,163	\$ (224,071)	-17.42%	
63	Power	0			0				0	122,853	* 122,853		*Power that was in Control is now in Water Maintenance
64	Departmental Contracts	0			0				0	12,544	* 12,544		*Department Contracts that was in Cptrol is now in Water Maintenance.
65	Other	94,675	E4	116,805	211,480				211,480	119,702	(91,778)	-43.40%	
66	Subtotal	1,313,046		116,805	1,429,851		67,863	0	1,497,714	1,317,262	(180,452)	-12.05%	*From '13 to '14 Meals increased by \$1589, Operating by \$2781, Chems by \$4638 - NOT DECREASING
67													
68	Meter Shop:												
69	Salaries and Wages	389,051			389,051	E12	21,670		410,721	353,952	* (56,769)	-13.82%	*Meter Repairman was reduced from 3 to 2.
70	Departmental Contracts	6,823			6,823				6,823	8,686	* 1,863	27.31%	*\$750 decrease in Meter Calib.
71	Other	17,721			17,721				17,721	12,285	(5,436)	-30.68%	
72	Subtotal	413,595		0	413,595		21,670	0	435,265	374,923	(60,342)	-13.86%	
73													
74	Subtotal Water Maintenance	\$ 1,726,640		\$ 116,805	\$ 1,843,445		\$ 89,533	\$ -	\$ 1,932,979	\$ 1,692,185	\$ (240,794)	-12.46%	
75													
76													
77	Water General												
78	General Fund	\$ 1,065,832	E7	\$ 20,623	1,086,455				\$ 1,086,455	\$ 1,065,832	\$ (20,623)	-1.90%	
79	Bethlehem Authority	275,139			275,139			(15,139)	260,000	237,400	(22,600)	-8.69%	
80	Professional Services	194,658	E5	205,000	399,658			(25,192)	374,466	341,253	(33,213)	-8.87%	
81	Postage/Bank Fees	45,565			45,565				45,565	3,176	* (42,389)	-93.03%	*Postage decreased due to water bills being mailed by Level One in 2014.
82	Miscellaneous	9,478			9,478				9,478	9,914	436	4.59%	
83	Workers Comp	158,517			158,517			(22,800)	135,717	135,717	0	0.00%	
84	Social Security	315,602			315,602	E12	17,579	(15,390)	317,791	274,400	(43,391)	-13.65%	
85	City Insurance Package	140,000			140,000				140,000	140,000	0	0.00%	
86	Medical Insurance Reimbursement	1,595,000	E8	103,000	1,698,000				1,698,000	1,580,500	(117,500)	-6.92%	
87	Pensions	997,420	E9	129,361	1,126,781				1,126,781	1,178,955	52,174	4.63%	
88	PennVest Loan - 1998	1,393,767	E3	(1,393,767)	0				0	0	0		
89	Lease Rental	6,349,192	E3	(6,349,192)	0				0	0	0		
90	2007 GO Note	71,397	E3	(71,397)	0				0	0	0		
91	Notes Payable	1,174,000	E3	(1,174,000)	0				0	0	0		
92	LOC Interest Expense	73,709	E3	(73,709)	0				0	0	0		
93	Loan Amortizations of Acquisitions				0				0	0	0		
94	Unforeseen Contingency				0				0	0	0		
95													
96	Subtotal Water General	\$ 13,859,276		\$ (8,604,081)	\$ 5,255,195		\$ 17,579	\$ (78,521)	\$ 5,194,253	\$ 4,967,147	\$ (227,107)	-4.37%	
97													
98	Total Operation and Maintenance Expenses	\$ 18,961,534		\$ (8,197,723)	\$ 10,763,810		\$ 237,827	\$ (171,123)	\$ 10,830,514	\$ 9,978,894	\$ (851,621)	-7.86%	
99													
100													
101	Taxes, Other Than Income Taxes												
102	Payment in Lieu of Taxes	46,453		0	46,453				46,453	47,018	565	1.22%	
103													
104													
105	TOTAL OPERATING EXPENSES	\$ 19,007,986		\$ (8,197,723)	\$ 10,810,263		\$ 237,827	\$ (171,123)	\$ 10,876,967	\$ 10,025,911	\$ (851,056)	-7.82%	

* Power previously in Water Control is included in Water Maintenance per 2014 books.

VERIFICATION

I, Constance E. Heppenstall, Senior Project Manager, Rate Studies, of Gannett Fleming Valuation and Rate Consultants, LLC, hereby state, as Rate Consultant for the City of Bethlehem, that the facts set forth in the foregoing Rate Study filed with the Public Utility Commission on July 31, 2020 and docketed at PaPUC Docket No. R-2020-3020256 are true and correct to the best of my knowledge, information and belief and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

A handwritten signature in black ink, appearing to read "Constance E. Heppenstall", written over a horizontal line.

Constance E. Heppenstall

Gannett Fleming Valuation and Rate Consultants, LLC

Dated: July 31, 2020

**EXHIBIT CEH-1 –
COST OF SERVICE ALLOCATION STUDY
FOR THE TEST YEAR ENDED
DECEMBER 31, 2020**

CITY OF BETHLEHEM – BUREAU OF WATER

BETHLEHEM, PENNSYLVANIA

COST OF SERVICE ALLOCATION STUDY FOR THE TEST YEAR ENDED DECEMBER 31, 2020

Prepared by:



Gannett Fleming

*Excellence Delivered **As Promised***

CITY OF BETHLEHEM – BUREAU OF WATER
Bethlehem, Pennsylvania

COST OF SERVICE ALLOCATION STUDY
FOR THE TEST YEAR ENDED
DECEMBER 31, 2020

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC
Camp Hill, Pennsylvania



Gannett Fleming

*Excellence Delivered **As Promised***

July 15, 2020

City of Bethlehem - Bureau of Water
10 East Church Street
Bethlehem, PA 18018

Attention: Edward J. Boscola, Director – Water and Sewer Resources

Ladies and Gentlemen:

Pursuant to your request, we have conducted a Cost of Service Allocation Study of the City of Bethlehem – Bureau of Water based on the revenue requirements estimated for the test year ended December 31, 2020.

The attached report presents the results of the cost allocation study, as well as supporting schedules which set forth the detailed cost allocation calculations. Schedule A presents a comparison of the cost of service by customer classification with the pro forma revenues produced by each classification under present and proposed rates.

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

CONSTANCE E. HEPPENSTALL
Senior Project Manager, Rate Studies

GREGORY R. HERBERT
Rate Analyst

CEH:mle

066869.200

Gannett Fleming Valuation and Rate Consultants, LLC

207 Senate Avenue • Camp Hill, PA 17011-2316

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PART I. INTRODUCTION

CITY OF BETHLEHEM - BUREAU OF WATER
COST OF SERVICE ALLOCATION STUDY
FOR THE TEST YEAR ENDED DECEMBER 31, 2020

PART I. INTRODUCTION

PLAN OF REPORT

The report sets forth the results of the cost of service allocation study based on the estimated revenue requirements as of December 31, 2020, for the City of Bethlehem - Bureau of Water. Part I, Introduction, contains statements with respect to the basis of the study, the procedures employed, and a summary of the results of the study. Part II, Cost of Service by Customer Classification, presents detailed schedules of the allocation of costs to specific customer classifications, as well as the bases for the allocations. Schedule A in Part II summarizes the cost allocation and the revenues produced under present and proposed rates.

BASIS OF STUDY

The purpose of the cost allocation study was to determine the relative cost of service responsibilities of the several customer classifications for Inside-City and Outside-City service areas based on considerations of quantity of water consumed, variability of rate of consumption, and costs associated with customer metering, billing and accounting. The allocation studies incorporated generally accepted principles and procedures for allocating the several categories of cost to customer classifications in proportion to each classification's use of facilities, commodities and services required in providing water service.

ALLOCATION PROCEDURES

The allocation studies were based on the Base-Extra Capacity Method for allocating costs to customer classifications. The method is described in the 2017 and prior editions of the Water Rates Manual published by the American Water Works Association. The four basic categories of cost responsibility are base, extra capacity, customer, and fire protection costs. The following discussion presents a brief description of these costs and the manner in which they were allocated.

Base Costs are costs that tend to vary with the quantity of water used, plus costs associated with supplying, treating, pumping, and distributing water to customers under average load conditions, without the elements necessary to meet peak demands. Base costs were allocated to customer classifications on the basis of average daily usage.

Extra Capacity Costs are costs associated with meeting usage requirements in excess of the average. They include operating and capital costs for additional plant and system capacity beyond that required for average use. The extra capacity costs in this study are subdivided into costs necessary to meet maximum day extra demand and costs to meet maximum hour extra demand. The extra capacity costs were allocated to customer classifications on the bases of each classification's maximum day and hour usage in excess of average usage.

Customer Costs are costs associated with serving customers regardless of their usage or demand characteristics. Customer costs include the operating and capital costs related to meters and services, meter reading costs, and billing and collecting costs. The customer costs were allocated on the bases of the capital cost of meters and services, and the number of customers.

Fire Protection Costs are costs associated with providing the facilities to meet the potential peak demand of fire protection service. Fire Protection costs are subdivided into costs to meet Public Fire Protection and Private Fire Protection demands. The extra capacity costs assigned to fire protection service were allocated to Public and Private Fire Protection on the basis of the total relative demands of the hydrants and fire service lines, sized to provide fire protection.

RESULTS OF STUDY

The results of the cost of service allocation study are set forth in Part II. The data summarized in Schedule A, Comparison of Cost of Service with Revenues Under Present and Proposed Rates for the Test Year Ended December 31, 2020, constitute the principal results of the cost allocation study and subsequent rate design.

The cost of service by customer classification shown in column 2 of Schedule A is developed in Schedule D, Projected Cost of Service for the Twelve Months Ended December 31, 2020, Allocated to Customer Classifications. The allocation of the total cost of service to the several customer classifications for Inside-City and Outside-City service areas was performed by applying the allocation factors referenced in column 2 of Schedule B to the cost of service set forth in column 3. The bases for the allocation factors are presented in Schedule E.

Schedule F presents the basis for allocating demand related costs of fire service to private and public fire protection classifications.

PART II. COST OF SERVICE BY CUSTOMER CLASSIFICATIONS

CITY OF BETHLEHEM
BUREAU OF WATER

COMPARISON OF COST OF SERVICE WITH REVENUES UNDER PRESENT AND PROPOSED RATES
FOR THE TEST YEAR ENDED DECEMBER 31, 2020

Customer Classification (1)	Cost of Service		Revenues, Present Rates		Revenues, Proposed Rates		Proposed Increase	
	Amount (2)	Percent (3)	Amount (4)	Percent (5)	Amount (6)	Percent (7)	Amount (8)	Percent Increase (9)
<u>Inside the City</u>								
Residential	\$ 8,997,633	36.9%	\$ 8,315,065	38.6%	\$ 9,385,446	38.6%	\$ 1,070,381	12.9%
Commercial/Public	3,330,686	13.7%	2,761,925	12.8%	3,215,410	13.2%	453,485	16.4%
Industrial	1,988,790	8.2%	1,303,957	6.0%	1,562,783	6.4%	258,826	19.8%
Private Fire	448,813	1.8%	602,283	2.8%	602,283	2.5%	-	0.0%
Public Fire Service	<u>380,204</u>	<u>1.6%</u>	<u>380,204</u>	<u>1.8%</u>	<u>380,204</u>	<u>1.6%</u>	<u>-</u>	<u>0.0%</u>
Total - Inside City	15,146,127	62.2%	13,363,434	62.0%	15,146,126	62.3%	1,782,692	13.3%
<u>Outside the City</u>								
Residential	4,923,309	20.3%	4,346,130	20.1%	4,896,794	20.2%	550,664	12.7%
Commercial/Public	2,086,586	8.6%	1,780,724	8.2%	2,056,540	8.5%	275,816	15.5%
Industrial	548,691	2.3%	392,261	1.8%	463,577	1.9%	71,316	18.2%
Other Water Utilities	813,213	3.3%	802,841	3.7%	813,465	3.3%	10,624	1.3%
Private Fire	452,049	1.9%	593,471	2.7%	593,471	2.4%	-	0.0%
Public Fire Service	<u>329,358</u>	<u>1.4%</u>	<u>329,358</u>	<u>1.5%</u>	<u>329,358</u>	<u>1.4%</u>	<u>-</u>	<u>0.0%</u>
Total - Outside City	<u>9,153,206</u>	<u>37.8%</u>	<u>8,244,785</u>	<u>38.0%</u>	<u>9,153,205</u>	<u>37.7%</u>	<u>908,421</u>	<u>11.0%</u>
Total Sales	24,299,333	<u>100.0%</u>	21,608,219	<u>100.0%</u>	24,299,331	<u>100.0%</u>	2,691,113	12.5%
Other Revenues - Inside-City	138,493		138,493		138,493		-	
Other Revenues - Outside-City	<u>89,748</u>		<u>89,748</u>		<u>89,748</u>		<u>-</u>	
Total	<u>\$ 24,527,574</u>		<u>\$ 21,836,460</u>		<u>\$ 24,527,573</u>		<u>\$ 2,691,113</u>	12.3%

CITY OF BETHLEHEM - BUREAU OF WATER
DEVELOPMENT OF RATE OF RETURN BY CUSTOMER CLASSIFICATION
UNDER PRESENT RATES

ITEM (1)	COST OF SERVICE (2)	INSIDE-CITY					OUTSIDE - CITY					
		RESIDENTIAL (4)	COMMERCIAL/ PUBLIC (5)	INDUSTRIAL (6)	PRIVATE FIRE (7)	PUBLIC FIRE (8)	RESIDENTIAL (9)	COMMERCIAL/ PUBLIC (10)	INDUSTRIAL (11)	OTHER UTILITIES (12)	PRIVATE FIRE (13)	PUBLIC FIRE (14)
1. REVENUES FROM SALES	21,608,219	8,315,065	2,761,925	1,303,957	602,283	380,204	4,346,130	1,780,724	392,261	802,841	593,471	329,358
2. OTHER REVENUES	228,241	77,293	29,402	18,004	4,099	9,695	44,219	19,332	5,232	7,970	4,434	8,562
3. TOTAL OPERATING REVENUES	21,836,460	8,392,358	2,791,327	1,321,962	606,383	389,899	4,390,349	1,800,056	397,493	810,811	597,904	337,920
4. LESS: OPERATING EXPENSES (INCLUDES REALLOCATION OF FIRE)	14,061,641	5,340,879	1,810,493	1,066,115	220,132	20,590	3,225,652	1,277,199	327,545	461,598	241,023	70,415
5. RETURN	7,774,819	3,051,479	980,834	255,846	386,250	369,309	1,164,697	522,857	69,949	349,213	356,882	267,505
6. ORIGINAL COSTS MEASURE OF VALUE	127,003,219	42,648,195	17,702,734	10,746,467	2,656,120	4,217,877	23,467,963	11,165,339	3,047,464	4,844,468	2,900,393	3,606,199
7. RATE OF RETURN, PERCENT	6.12	7.16	5.54	2.38	14.54	8.76	4.96	4.68	2.30	7.21	12.30	7.42
8. RELATIVE RATE OF RETURN	1.00	1.17	0.91	0.39	2.38	1.43	0.81	0.76	0.37	1.18	2.01	1.21

CITY OF BETHLEHEM - BUREAU OF WATER
DEVELOPMENT OF RATE OF RETURN BY CUSTOMER CLASSIFICATION
UNDER PROPOSED RATES

ITEM (1)	COST OF SERVICE (2)	INSIDE-CITY					OUTSIDE - CITY					
		RESIDENTIAL (4)	COMMERCIAL/ PUBLIC (5)	INDUSTRIAL (6)	PRIVATE FIRE (7)	PUBLIC FIRE (8)	RESIDENTIAL (9)	COMMERCIAL/ PUBLIC (10)	INDUSTRIAL (11)	OTHER UTILITIES (12)	PRIVATE FIRE (13)	PUBLIC FIRE (14)
1. REVENUES FROM SALES	24,299,331	9,385,446	3,215,410	1,562,783	602,283	380,204	4,896,794	2,056,540	463,577	813,465	593,471	329,358
2. OTHER REVENUES	228,241	77,293	29,402	18,004	4,099	9,695	44,219	19,332	5,232	7,970	4,434	8,562
3. TOTAL OPERATING REVENUES	24,527,573	9,462,739	3,244,812	1,580,787	606,383	389,899	4,941,013	2,075,872	468,809	821,435	597,904	337,920
4. LESS: OPERATING EXPENSES (INCLUDES REALLOCATION OF FIRE)	14,061,641	5,340,879	1,810,493	1,066,115	220,132	20,590	3,225,652	1,277,199	327,545	461,598	241,023	70,415
5. RETURN	10,465,932	4,121,860	1,434,319	514,672	386,250	369,309	1,715,361	798,673	141,264	359,837	356,882	267,505
6. ORIGINAL COSTS MEASURE OF VALUE	127,003,219	42,648,195	17,702,734	10,746,467	2,656,120	4,217,877	23,467,963	11,165,339	3,047,464	4,844,468	2,900,393	3,606,199
7. RATE OF RETURN, PERCENT	8.24	9.66	8.10	4.79	14.54	8.76	7.31	7.15	4.64	7.43	12.30	7.42
8. RELATIVE RATE OF RETURN	1.00	1.17	0.98	0.58	1.76	1.06	0.89	0.87	0.56	0.90	1.49	0.90

CITY OF BETHLEHEM - BUREAU OF WATER
 PROJECTED COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2020
 ALLOCATED TO RESIDENTIAL, COMMERCIAL, INDUSTRIAL, OTHER WATER UTILITIES AND FIRE SERVICE CUSTOMER CLASSIFICATIONS

ACCOUNT	FACTOR REF	COST OF SERVICE	INSIDE-CITY					OUTSIDE - CITY					
			RESIDENTIAL	COMMERCIAL & PUBLIC	INDUSTRIAL	PRIVATE FIRE	PUBLIC FIRE	RESIDENTIAL	COMMERCIAL & PUBLIC	INDUSTRIAL	OTHER UTILITIES	PRIVATE FIRE	PUBLIC FIRE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(8)	(9)	(10)	(11)	(12)	(13)
OPERATION AND MAINTENANCE EXPENSES													
SOURCE OF SUPPLY EXPENSES													
OPERATION SUPERVISION AND													
ENGINEERING	1	26,114	9,443	4,332	2,455	110	133	4,857	2,635	676	1,238	123	112
PURCHASED WATER	1	-	-	-	-	-	-	-	-	-	-	-	-
OPERATION LABOR	1	569,980	206,105	94,560	53,578	2,394	2,907	106,016	57,511	14,762	27,017	2,679	2,451
OPERATION SUPPLIES AND EXPENSES	1	43,519	15,736	7,220	4,091	183	222	8,094	4,391	1,127	2,063	205	187
DEPARTMENTAL CONTRACTS	1	49,882	18,037	8,275	4,689	210	254	9,278	5,033	1,292	2,364	234	214
MAINTENANCE OF SOURCE OF SUPPLY PLANT	1	10,472	3,787	1,737	984	44	53	1,948	1,057	271	496	49	45
TOTAL SOURCE OF SUPPLY EXPENSES		699,968	253,108	116,125	65,797	2,940	3,570	130,194	70,627	18,129	33,178	3,290	3,010
POWER AND PUMPING EXPENSES													
POWER PURCHASED	1	77,655	28,080	12,883	7,300	326	396	14,444	7,835	2,011	3,681	365	334
TOTAL POWER AND PUMPING EXPENSES		77,655	28,080	12,883	7,300	326	396	14,444	7,835	2,011	3,681	365	334
PURIFICATION AND LABORATORY EXPENSES													
OPERATION													
SUPERVISION AND ENGINEERING	2	55,464	19,035	8,198	5,868	166	200	11,614	5,974	1,703	2,346	189	172
PURIFICATION AND LABORATORY LABOR	2	1,361,754	467,354	201,267	144,074	4,085	4,902	285,151	146,661	41,806	57,602	4,630	4,221
SUPPLIES AND EXPENSES	2	579,604	198,920	85,665	61,322	1,739	2,087	121,369	62,423	17,794	24,517	1,971	1,797
CHEMICALS	1	200,882	72,639	33,326	18,883	844	1,024	37,364	20,269	5,203	9,522	944	864
LABORATORY SUPPLIES AND EPENSE	2	51,987	17,842	7,684	5,500	156	187	10,886	5,599	1,596	2,199	177	161
TOTAL OPERATION		2,249,691	775,790	336,140	235,647	6,990	8,400	466,385	240,926	68,101	96,186	7,910	7,215
MAINTENANCE													
PURIFICATION AND LABORATORY EQUIPMENT	2	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL MAINTENANCE		-	-	-	-	-	-	-	-	-	-	-	-
TOTAL PURIFICATION AND LABORATORY EXPENSES		2,249,691	775,790	336,140	235,647	6,990	8,400	466,385	240,926	68,101	96,186	7,910	7,215
TRANSMISSION AND DISTRIBUTION EXPENSE													
OPERATION													
SUPERVISION AND ENGINEERING	10	-	-	-	-	-	-	-	-	-	-	-	-
LINES, HYDRANTS AND STORAGE FACILITIES	6	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL OPERATION		-	-	-	-	-	-	-	-	-	-	-	-

CITY OF BETHLEHEM - BUREAU OF WATER
PROJECTED COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2020
ALLOCATED TO RESIDENTIAL, COMMERCIAL, INDUSTRIAL, OTHER WATER UTILITIES AND FIRE SERVICE CUSTOMER CLASSIFICATIONS

ACCOUNT	FACTOR REF	COST OF SERVICE	INSIDE-CITY					OUTSIDE - CITY					
			RESIDENTIAL	COMMERCIAL & PUBLIC	INDUSTRIAL	PRIVATE FIRE	PUBLIC FIRE	RESIDENTIAL	COMMERCIAL & PUBLIC	INDUSTRIAL	OTHER UTILITIES	PRIVATE FIRE	PUBLIC FIRE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(8)	(9)	(10)	(11)	(12)	(13)
MAINTENANCE													
LABOR	10	102,210	30,581	7,420	3,864	3,567	15,137	17,519	4,610	1,186	1,594	3,751	12,981
ELECTRICITY	1	95,665	34,593	15,871	8,993	402	488	17,794	9,653	2,478	4,535	450	411
MAINS - LABOR	6	400,772	103,559	44,686	28,335	28,495	34,266	56,829	24,728	8,056	11,101	31,461	29,256
STORAGE TANKS - LABOR	5	57,253	18,894	8,164	4,907	1,878	2,267	9,928	3,939	1,380	1,895	2,073	1,929
PUMP STATIONS - LABOR	3	171,759	46,444	20,010	14,325	8,811	10,615	28,323	14,565	4,157	5,720	9,722	9,069
SERVICES - LABOR	9	286,265	159,793	9,304	887	8,244	-	94,525	6,012	601	286	6,613	-
METERS - LABOR	8	140,707	70,058	14,831	2,589	-	-	38,976	10,877	1,421	1,956	-	-
METERS	8	15,060	7,498	1,587	277	-	-	4,172	1,164	152	209	-	-
FIRE HYDRANTS - LABOR	7	286,265	-	-	-	-	154,039	-	-	-	-	-	132,226
OTHER MAINTENANCE	10	154,939	46,358	11,249	5,857	5,407	22,946	26,556	6,988	1,797	2,417	5,686	19,677
TOTAL MAINTENANCE		1,710,896	517,778	133,122	70,032	56,805	239,759	294,622	82,534	21,227	29,714	59,754	205,550
TOTAL TRANSMISSION AND DISTRIBUTION EXPENSES		1,710,896	517,778	133,122	70,032	56,805	239,759	294,622	82,534	21,227	29,714	59,754	205,550
CUSTOMERS' ACCOUNTING AND COLLECTING EXPENSES													
SUPERVISION	11	56,848	32,932	2,587	244	551	6	18,026	1,848	165	68	415	6
METER READING - LABOR	12	94,438	55,671	4,372	416	-	-	30,466	3,126	274	113	-	-
METER READING	12	10,108	5,959	468	44	-	-	3,261	335	29	12	-	-
COLLECTING BILLING AND ACCOUNTING LABOR	11	82,348	47,704	3,747	354	799	8	26,112	2,676	239	99	601	8
CUSTOMERS' BILLING AND ACCOUNTING	11	5,256	3,045	239	23	51	1	1,667	171	15	6	38	1
TOTAL CUSTOMERS' ACCOUNTING AND COLLECTING EXPENSES		248,998	145,311	11,413	1,081	1,401	14	79,532	8,155	722	299	1,054	14
ADMINISTRATIVE AND GENERAL EXPENSES													
GENERAL OFFICE SALARIES	13	372,349	127,939	44,198	27,814	5,399	20,181	73,911	30,049	8,117	11,729	5,697	17,314
GENERAL OFFICE SUPPLIES AND EXP.	13	331,399	113,869	39,337	24,755	4,805	17,962	65,783	26,744	7,224	10,439	5,070	15,410
MANAGEMENT AND SUPERVISION FEES													
EMPLOYEE - MEDICAL INSURANCE	14	1,936,130	664,286	222,849	138,046	30,784	116,555	382,386	150,244	40,272	58,471	32,333	99,904
OTHER LABOR RELATED ITEMS	14	432,734	148,471	49,808	30,854	6,880	26,051	85,465	33,580	9,001	13,069	7,227	22,329
GENERAL	13	1,684,499	578,794	199,950	125,832	24,425	91,300	334,373	135,939	36,722	53,062	25,773	78,329
PROFESSIONAL SERVICES	13	135,093	46,418	16,036	10,091	1,959	7,322	26,816	10,902	2,945	4,255	2,067	6,282
REGULATORY COMMISSION EXPENSE	17	138,187	-	-	-	-	-	68,085	29,765	8,056	12,271	6,826	13,183
DEMAND STUDY	17	5,956	-	-	-	-	-	2,935	1,283	347	529	294	568
PENSIONS	14	1,314,934	451,154	151,349	93,755	20,907	79,159	259,699	102,039	27,351	39,711	21,959	67,851
TOTAL ADMINISTRATIVE AND GENERAL EXPENSES		6,351,280	2,130,931	723,526	451,148	95,161	358,530	1,299,452	520,545	140,035	203,536	107,247	321,170
TOTAL OPERATION AND MAINTENANCE EXPENSES		11,338,488	3,850,998	1,333,208	831,005	163,623	610,669	2,284,629	930,622	250,226	366,594	179,621	537,294
DEPRECIATION EXPENSE													
COLLECTING & IMPOUNDING RESERVOIRS	1	750,689	271,449	124,539	70,565	3,153	3,829	139,628	75,745	19,443	35,583	3,528	3,228
LAKE, RIVER AND OTHER INTAKES	2	7,482	2,568	1,106	792	22	27	1,567	806	230	316	25	23
WELLS AND SPRINGS	2	10,284	3,529	1,520	1,088	31	37	2,153	1,108	316	435	35	32
POWER AND PUMPING STRUCTURES	4	26,599	6,753	2,915	1,750	2,091	2,514	3,540	1,407	492	678	2,309	2,149
PURIFICATION BUILDINGS	2	272,687	93,586	40,303	28,850	818	982	57,101	29,368	8,371	11,535	927	845
DISTR. RESERVOIRS AND STANDPIPE	5	192,013	63,364	27,381	16,456	6,298	7,604	33,295	13,210	4,628	6,356	6,951	6,471
STORES, SHOP AND GARAGE BLDGS.	13	2,153	740	256	161	31	117	427	174	47	68	33	100

CITY OF BETHLEHEM - BUREAU OF WATER
 PROJECTED COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2020
 ALLOCATED TO RESIDENTIAL, COMMERCIAL, INDUSTRIAL, OTHER WATER UTILITIES AND FIRE SERVICE CUSTOMER CLASSIFICATIONS

ACCOUNT (1)	FACTOR REF (2)	COST OF SERVICE (3)	INSIDE-CITY					OUTSIDE - CITY					
			RESIDENTIAL (4)	COMMERCIAL & PUBLIC (5)	INDUSTRIAL (6)	PRIVATE FIRE (7)	PUBLIC FIRE (8)	RESIDENTIAL (8)	COMMERCIAL & PUBLIC (9)	INDUSTRIAL (10)	OTHER UTILITIES (11)	PRIVATE FIRE (12)	PUBLIC FIRE (13)
MISC. STRUCTURES AND IMPROV.	13	2,116	727	251	158	31	115	420	171	46	67	32	98
ELECTRIC PUMPING EQUIPMENT	3	34,109	9,223	3,974	2,845	1,750	2,108	5,625	2,892	825	1,136	1,931	1,801
OIL ENGINE PUMPING EQUIPMENT	4	141	36	15	9	11	13	19	7	3	4	12	11
GAS ENGINE PUMPING EQUIPMENT	4	450	114	49	30	35	43	60	24	8	11	39	36
PURIFICATION SYSTEM	2	309,291	106,149	45,713	32,723	928	1,113	64,766	33,311	9,495	13,083	1,052	959
LABORATORY EQUIPMENT	2	2,162	742	320	229	6	8	453	233	66	91	7	7
MAINS AND ACCESSORIES													
OVER 12 - INCH	3	240,682	65,081	28,040	20,073	12,347	14,874	39,689	20,410	5,825	8,015	13,623	12,708
12 - INCH AND UNDER	4	261,158	66,308	28,623	17,184	20,527	24,679	34,760	13,815	4,831	6,660	22,668	21,102
TELEMETERING	4	37,699	9,572	4,132	2,481	2,963	3,563	5,018	1,994	697	961	3,272	3,046
SERVICES	9	113,058	63,109	3,674	350	3,256	-	37,332	2,374	237	113	2,612	-
METERS	8	235,215	117,114	24,792	4,328	-	-	65,155	18,182	2,376	3,269	-	-
FIRE HYDRANTS	7	38,912	-	-	-	-	20,939	-	-	-	-	-	17,973
OFFICE FURNITURE AND EQUIPMENT	13	3,559	1,223	422	266	52	193	706	287	78	112	54	165
TRANSPORTATION EQUIPMENT	13	55,916	19,213	6,637	4,177	811	3,031	11,099	4,512	1,219	1,761	856	2,600
TOOLS AND WORK EQUIP. - GENERAL	13	40,949	14,070	4,861	3,059	594	2,219	8,128	3,305	893	1,290	627	1,904
COMMUNICATION EQUIPMENT	13	26,156	8,987	3,105	1,954	379	1,418	5,192	2,111	570	824	400	1,216
MISCELLANEOUS EQUIPMENT	13	12,089	4,154	1,435	903	175	655	2,400	976	264	381	185	562
TOTAL DEPRECIATION EXPENSE		2,675,569	927,810	354,063	210,429	56,309	90,078	518,532	226,422	60,960	92,749	61,178	77,038
TAXES OTHER THAN INCOME	1	47,584	17,206	7,894	4,473	200	243	8,851	4,801	1,232	2,255	224	205
UTILITY OPERATING INCOME AVAILABLE FOR RETURN													
INSIDE CITY	15A	6,826,411	3,734,047	1,549,595	940,679	232,781	369,309	-	-	-	-	-	-
OUTSIDE CITY	15B	3,639,523	-	-	-	-	-	1,741,876	828,719	226,378	359,585	215,460	267,505
TOTAL COST OF SERVICE		<u>24,527,574</u>	<u>8,530,061</u>	<u>3,244,760</u>	<u>1,986,587</u>	<u>452,913</u>	<u>1,070,299</u>	<u>4,553,886</u>	<u>1,990,564</u>	<u>538,797</u>	<u>821,183</u>	<u>456,483</u>	<u>882,042</u>
LESS INSIDE OTHER WATER REVENUES	16	138,493	77,293	29,402	18,004	4,099	9,695	-	-	-	-	-	-
LESS OUTSIDE OTHER WATER REVENUES	17	<u>89,748</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>44,219</u>	<u>19,332</u>	<u>5,232</u>	<u>7,970</u>	<u>4,434</u>	<u>8,562</u>
TOTAL COST OF SERVICE RELATED TO SALES OF WATER		<u>24,299,333</u>	<u>8,452,768</u>	<u>3,215,358</u>	<u>1,968,582</u>	<u>448,813</u>	<u>1,060,605</u>	<u>4,509,667</u>	<u>1,971,232</u>	<u>533,564</u>	<u>813,213</u>	<u>452,049</u>	<u>873,480</u>
REALLOCATION OF PUBLIC FIRE - INSIDE	18		544,865	115,328	20,208	-	(680,401)						
REALLOCATION OF PUBLIC FIRE - OUTSIDE	19							413,641	115,354	15,127	-	-	(544,122)
TOTAL		<u><u>24,299,333</u></u>	<u><u>8,997,633</u></u>	<u><u>3,330,686</u></u>	<u><u>1,988,790</u></u>	<u><u>448,813</u></u>	<u><u>380,204</u></u>	<u><u>4,923,309</u></u>	<u><u>2,086,586</u></u>	<u><u>548,691</u></u>	<u><u>813,213</u></u>	<u><u>452,049</u></u>	<u><u>329,358</u></u>

CITY OF BETHLEHEM - BUREAU OF WATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS

FACTOR 1. ALLOCATION OF COSTS WHICH VARY WITH THE AMOUNT OF WATER CONSUMED.

Factors are based on the pro forma future test year average daily consumption for each customer classification.

Customer Classification (1)	Average Daily Consumption, 1000 Gallons (2)	Factor 1 Allocation Factor (3)
<u>Inside - City</u>		
Residential	3,679	0.3616
Commercial/Public	1,688	0.1659
Industrial	956	0.0940
Private Fire Protection	43	0.0042
Public Fire Protection	52	0.0051
<u>Outside - City</u>		
Residential	1,892	0.1860
Commercial/Public	1,027	0.1009
Industrial	264	0.0259
Other Water Utilities	482	0.0474
Private Fire Protection	47	0.0047
Public Fire Protection	44	0.0043
Total	10,173	1.0000

FACTOR 2. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE AND MAXIMUM DAY EXTRA CAPACITY FUNCTIONS.

Factors are based on the weighting of the factors for average daily consumption (Factor 1) and the factors derived from maximum day extra capacity demand for each customer classification, as follows:

Customer Classification (1)	Average Daily Consumption		Maximum Day Extra Capacity		Allocation Factor (6)=(3)+(5)
	Allocation Factor 1 (2)	Weighted Factor (3)=(2)x 0.7143	Allocation Factor (4)	Weighted Factor (5)=(4)x 0.2857	
<u>Inside - City</u>					
Residential	0.3616	0.2582	0.2977	0.0850	0.3432
Commercial/Public	0.1659	0.1185	0.1024	0.0293	0.1478
Industrial	0.0940	0.0671	0.1354	0.0387	0.1058
Private Fire Protection	0.0042	0.0030			0.0030
Public Fire Protection	0.0051	0.0036			0.0036
<u>Outside - City</u>					
Residential	0.1860	0.1329	0.2680	0.0765	0.2094
Commercial/Public	0.1009	0.0721	0.1246	0.0356	0.1077
Industrial	0.0259	0.0185	0.0426	0.0122	0.0307
Other Water Utilities	0.0474	0.0339	0.0293	0.0084	0.0423
Private Fire Protection	0.0047	0.0034			0.0034
Public Fire Protection	0.0043	0.0031			0.0031
Total	1.0000	0.7143	1.0000	0.2857	1.0000

The derivation of the maximum day extra capacity factors in column 4 and the basis for the column 3 and column 5 weightings are presented on the following page.

CITY OF BETHLEHEM - BUREAU OF WATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 2. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE AND
MAXIMUM DAY EXTRA CAPACITY FUNCTIONS, cont.

Customer Classification (1)	Average Daily Consumption, 1000 Gallons (2)	Factor* (3)	Maximum Day Extra Capacity	
			Rate of Flow, 1000 Gallons Per Day (4)=(2)x(3)	Allocation Factor (5)
<u>Inside - City</u>				
Residential	3,679	0.40	1,471.4	0.2977
Commercial	1,688	0.30	506.3	0.1024
Industrial	956	0.70	669.2	0.1354
<u>Outside - City</u>				
Residential	1,892	0.70	1,324.7	0.2680
Commercial	1,027	0.60	616.0	0.1246
Industrial	264	0.80	210.8	0.0426
Other Water Utilities	482	0.30	144.6	0.0293
Total	9,987		4,943.0	1.0000

The weighting of the factors is based on the maximum day ratio of 1.40, based on a review of maximum day ratios.

	Maximum Day Ratio	Weight
Average Day	1.00	0.7143
Maximum Day Extra Capacity	0.40	0.2857
Total	1.40	1.0000

* Ratio of maximum day to average day minus 1.0.

CITY OF BETHLEHEM - BUREAU OF WATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 3. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE, MAXIMUM DAY EXTRA CAPACITY AND FIRE PROTECTION FUNCTIONS.

Factors are based on the weighting of the average daily consumption, the maximum day extra capacity demand, and the fire protection demand for each customer classification.

Customer Classification (1)	Average Daily Consumption			Max Day Extra Capacity		Fire Protection		Allocation Factor (9)=(4)+ (6)+(8)
	1000 Gals. (2)	Allocation Factor (3)	Weighted Factor (4)=(3)x 0.5627	Allocation Factor (5)	Weighted Factor (6)=(5)x 0.2251	Allocation Factor (7)	Weighted Factor (8)=(7)x 0.2122	
<u>Inside - City</u>								
Residential	3,679	0.3616	0.2034	0.2977	0.0670			0.2704
Commercial/Public	1,688	0.1659	0.0934	0.1024	0.0231			0.1165
Industrial	956	0.0940	0.0529	0.1354	0.0305			0.0834
Private Fire Protection	43	0.0042	0.0024			0.2306	0.0489	0.0513
Public Fire Protection	52	0.0051	0.0029			0.2774	0.0589	0.0618
<u>Outside - City</u>								
Residential	1,892	0.1860	0.1046	0.2680	0.0603			0.1649
Commercial/Public	1,027	0.1009	0.0568	0.1246	0.0280			0.0848
Industrial	264	0.0259	0.0146	0.0426	0.0096			0.0242
Other Water Utilities	482	0.0474	0.0267	0.0293	0.0066			0.0333
Private Fire Protection	47	0.0047	0.0026			0.2547	0.0540	0.0566
Public Fire Protection	44	0.0043	0.0024			0.2373	0.0504	0.0528
	10,173	1.0000	0.5627	1.0000	0.2251	1.0000	0.2122	1.0000

CITY OF BETHLEHEM - BUREAU OF WATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 3. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE AND
MAXIMUM DAY EXTRA CAPACITY AND FIRE PROTECTION FUNCTIONS, cont.

The weighting of the factors is based on the potential demand of general and fire protection service. The bases for the potential demand of general service are a maximum day to average day of 1.40 and the average daily send-out during the test year ending 12/31/19 of 13.6 mgd. The system demand for the fire protection is 9,500 gpm for 9 hours.

	Ratio	Rate of Flow, (GPD)	Weight
Average Day	1.00	13,602,110	0.5627
Maximum Day Extra Capacity	<u>0.40</u>	<u>5,440,844</u>	<u>0.2251</u>
Subtotal	1.40	19,042,954	0.7878
Fire Protection		<u>5,130,000</u>	<u>0.2122</u>
Total		<u><u>24,172,954</u></u>	<u><u>1.0000</u></u>

The public and private fire protection allocation factors in column 7 on the previous page are based on relative potential demands. (See Schedule F).

CITY OF BETHLEHEM - BUREAU OF WATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 4. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE AND MAXIMUM HOUR EXTRA CAPACITY FUNCTIONS.

Factors are based on the weighting of the average hourly consumption, the maximum hour extra capacity demand, and the fire protection demand for each customer classification.

Customer Classification (1)	Average Hourly Consumption			Max Hour Extra Capacity		Fire Protection		Allocation Factor (9)=(4) + (6)+(8)
	1000 Gals. (2)	Allocation Factor (3)	Weighted Factor (4)=(3)x 0.3327	Allocation Factor (5)	Weighted Factor (6)=(5)x 0.3327	Allocation Factor (7)	Weighted Factor (8)=(7)x 0.3346	
<u>Inside - City</u>								
Residential	153.3	0.3616	0.1203	0.4012	0.1336			0.2539
Commercial/Public	70.3	0.1658	0.0552	0.1635	0.0544			0.1096
Industrial	39.8	0.0939	0.0312	0.1041	0.0346			0.0658
Private Fire Protection	1.8	0.0042	0.0014			0.2306	0.0772	0.0786
Public Fire Protection	2.2	0.0052	0.0017			0.2774	0.0928	0.0945
<u>Outside - City</u>								
Residential	78.9	0.1862	0.0619	0.2141	0.0712			0.1331
Commercial/Public	42.8	0.1009	0.0336	0.0581	0.0193			0.0529
Industrial	11.0	0.0259	0.0086	0.0298	0.0099			0.0185
Other Water Utilities	20.1	0.0474	0.0158	0.0292	0.0097			0.0255
Private Fire Protection	2.0	0.0047	0.0016			0.2547	0.0852	0.0868
Public Fire Protection	1.8	0.0042	0.0014			0.2373	0.0794	0.0808
	424.0	1.0000	0.3327	1.0000	0.3327	1.0000	0.3346	1.0000

The maximum hour extra capacity factors in column 5 are determined on the following page:

The public and private fire protection allocation factors in column 7 are based on relative potential demands.(See Schedule F)

CITY OF BETHLEHEM - BUREAU OF WATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 4. ALLOCATION OF COSTS ASSOCIATED WITH FACILITIES SERVING BASE AND
MAXIMUM HOUR EXTRA CAPACITY FUNCTIONS, cont.

The weighting of the factors is based on the potential demand of general and fire protection service. The bases for the potential demand of general service are a maximum hour to average hour of 2.00 and the average daily send-out during the test year ending 12/31/19 of 13.6 mgd. The system demand for the fire protection is 9,500 gpm.

	Ratio	Rate of Flow, (GPM)	Weight
Average Hour	1.00	9,446	0.3327
Maximum Hour			
Extra Capacity	1.00	9,446	0.3327
Subtotal	2.00	18,892	0.6654
Fire Protection		9,500	0.3346
Total		28,392	1.0000

Customer Classification	Average Hourly Consumption 1000 Gals	Maximum Hour Extra Capacity		
		Factor	Rate, 1000 gal/hr	Allocation Factor
(1)	(2)	(3)	(4)=(2)x(3)	(5)
<u>Inside - City</u>				
Residential	153.3	2.7	413.9	0.4012
Commercial/Public	70.3	2.4	168.7	0.1635
Industrial	39.8	2.7	107.5	0.1041
<u>Outside - City</u>				
Residential	78.9	2.8	220.9	0.2141
Commercial/Public	42.8	1.4	59.9	0.0581
Industrial	11.0	2.8	30.8	0.0298
Other Water Utilities	20.1	1.5	30.2	0.0292
Total	416.2		1,031.9	1.0000

The public and private fire protection allocation factors in column 7 on the previous page are based on relative potential demands. (See Schedule F).

CITY OF BETHLEHEM - BUREAU OF WATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 5. ALLOCATION OF COSTS ASSOCIATED WITH STORAGE FACILITIES.

Factors are based on the weighting of the average hourly consumption, the maximum hour extra capacity demand, and the fire protection demand for each customer classification.

Customer Classification (1)	Average Hourly Consumption			Maximum Hour Extra Capacity		Fire Protection		Allocation Factor (9)=(4) +(6)+(8)
	1000 Gals. (2)	Allocation Factor (3)	Weighted Factor (4)=(3)x 0.4328	Allocation Factor (5)	Weighted Factor (6)=(5)x 0.4328	Allocation Factor (7)	Weighted Factor (8)=(7)x 0.1344	
<u>Inside - City</u>								
Residential	153.3	0.3616	0.1564	0.4012	0.1736			0.3300
Commercial/Public	70.3	0.1658	0.0718	0.1635	0.0708			0.1426
Industrial	39.8	0.0939	0.0406	0.1041	0.0451			0.0857
Private Fire Protection	1.8	0.0042	0.0018			0.2306	0.0310	0.0328
Public Fire Protection	2.2	0.0052	0.0023			0.2774	0.0373	0.0396
<u>Outside - City</u>								
Residential	78.9	0.1862	0.0807	0.2141	0.0927			0.1734
Commercial/Public	42.8	0.1009	0.0437	0.0581	0.0251			0.0688
Industrial	11.0	0.0259	0.0112	0.0298	0.0129			0.0241
Other Water Utilities	20.1	0.0474	0.0205	0.0292	0.0126			0.0331
Private Fire Protection	2.0	0.0047	0.0020			0.2547	0.0342	0.0362
Public Fire Protection	1.8	0.0042	0.0018			0.2373	0.0319	0.0337
Total	424.0	1.0000	0.4328	1.0000	0.4328	1.0000	0.1344	1.0000

The weighting of the factors is based on the ratio of the capacity required for a 9-hour demand of fire flow, as related to total storage capacity. The calculation is shown on the following page.

CITY OF BETHLEHEM - BUREAU OF WATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont

FACTOR 5. ALLOCATION OF COSTS ASSOCIATED WITH STORAGE FACILITIES.

The weighting of the factors is based on the ratio of the capacity required for a 9-hour demand of fire flow, as related to total storage capacity.

$$\text{Fire Protection Weight} = \frac{9,500 \text{ GPM} \times 60 \text{ Min.} \times 9 \text{ Hours}}{38,160,000 \text{ Gallons}} = 0.1344$$

$$\text{General Service Weight} = 1.0000 - 0.1344 = 0.8656$$

The weighting of the average hourly consumption and maximum hour extra demand for general service is based on the maximum hour ratio, as follows.

	Maximum Hour Ratio	Percent	Weight
Average Hour	1.00	50.00	0.4328
Extra Capacity Maximum Hour	1.00	50.00	0.4328
Total	2.00	100.00	0.8656

CITY OF BETHLEHEM - BUREAU OF WATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 6. ALLOCATION OF COSTS ASSOCIATED WITH MAINS.

Factors are based on the weighting of the maximum daily consumption, Factor 3, and the maximum hour consumption, Factor 4, for each customer classification, as follows:

Customer Classification (1)	Over 12-inch		12-inch and Under		Allocation Factor (6)=(5)+(3)
	Allocation Factor 3 (2)	Weighted Factor (3)=(2)x 0.2754	Allocation Factor 4 (4)	Weighted Factor (5)=(4)x 0.7246	
<u>Inside - City</u>					
Residential	0.2704	0.0744	0.2539	0.1840	0.2584
Commercial/Public	0.1165	0.0321	0.1096	0.0794	0.1115
Industrial	0.0834	0.0230	0.0658	0.0477	0.0707
Private Fire Protection	0.0513	0.0141	0.0786	0.0570	0.0711
Public Fire Protection	0.0618	0.0170	0.0945	0.0685	0.0855
<u>Outside - City</u>					
Residential	0.1649	0.0454	0.1331	0.0964	0.1418
Commercial/Public	0.0848	0.0234	0.0529	0.0383	0.0617
Industrial	0.0242	0.0067	0.0185	0.0134	0.0201
Other Water Utilities	0.0333	0.0092	0.0255	0.0185	0.0277
Private Fire Protection	0.0566	0.0156	0.0868	0.0629	0.0785
Public Fire Protection	0.0528	0.0145	0.0808	0.0585	0.0730
Total	1.0000	0.2754	1.0000	0.7246	1.0000

The weighting of the factors is based on the length of transmission mains and distribution mains, as follows:

	Length of Mains (Feet)	Weight
12-inch and Over	861,009	0.2754
Under 12-inch	2,265,650	0.7246
	3,126,659	1.0000

CITY OF BETHLEHEM - BUREAU OF WATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 7. ALLOCATION OF COSTS ASSOCIATED WITH FIRE HYDRANTS.

Fire hydrant costs are assigned directly to public fire protection, in each service area based on the number of hydrants.

Customer Classification <u>(1)</u>	Number of Hydrants <u>(2)</u>	Allocation Factor <u>(3)</u>
<u>Inside - City</u>		
Public Fire Protection	1,440	0.5381
<u>Outside - City</u>		
Public Fire Protection	1,236	0.4619
Total	<u>2,676</u>	<u>1.0000</u>

FACTOR 8. ALLOCATION OF COSTS ASSOCIATED WITH METERS.

Factors are based on the relative cost of meters by size and customer classification, as developed on the following pages and summarized below.

Customer Classification <u>(1)</u>	5/8" Dollar Equivalents <u>(2)</u>	Allocation Factor <u>(3)</u>
<u>Inside - City</u>		
Residential	25,292	0.4979
Commercial/Public	5,352	0.1054
Industrial	937	0.0184
<u>Outside - City</u>		
Residential	14,068	0.2770
Commercial/Public	3,924	0.0773
Industrial	515	0.0101
Other Water Utilities	707	0.0139
Total	<u>50,795</u>	<u>1.0000</u>

CITY OF BETHLEHEM - BUREAU OF WATER

BASIS FOR ALLOCATING METER COSTS TO CUSTOMER CLASSIFICATIONS

INSIDE - CITY

Meter Size (1)	5/8" Equivalent (2)	Residential		Commercial/Public		Industrial		Total	
		Number of Meters (3)	Weighting (4)=(2)x(3)	Number of Meters (5)	Weighting (6)=(2)x(5)	Number of Meters (7)	Weighting (8)=(2)x(7)	Number of Meters (9)	Weighting (10)=(9)x(2)
5/8"x3/4"	1.00	20,929	20,929	382	382	2	2	21,313	21,313
3/4"	1.50	349	524	78	117	1	2	428	643
1"	2.50	386	965	135	338	12	30	533	1,333
1-1/2"	5.00	293	1,465	136	680	14	70	443	2,215
2"	8.00	98	784	173	1,380	19	148	289	2,312
3"	15.00	25	375	63	945	10	150	98	1,470
4"	25.00	10	250	30	750	9	225	49	1,225
6"	50.00		0	12	600	3	150	15	750
8"	80.00		0	2	160	2	160	4	320
10" & 12"	115.00		0	0	0	0	0	0	0
Total		<u>22,090</u>	<u>25,292</u>	<u>1,010</u>	<u>5,352</u>	<u>72</u>	<u>937</u>	<u>23,172</u>	<u>31,581</u>

CITY OF BETHLEHEM - BUREAU OF WATER
BASIS FOR ALLOCATING METER COSTS TO CUSTOMER CLASSIFICATIONS

OUTSIDE - CITY

Meter Size (1)	5/8" Dollar Equiv. (2)	Residential		Commercial/Public		Industrial		Other Water Utilities		Total	
		Number of Meters (3)	Weighting (4)=(2)x(3)	Number of Meters (5)	Weighting (6)=(2)x(5)	Number of Meters (7)	Weighting (8)=(2)x(7)	Number of Meters (9)	Weighting (10)=(2)x(9)	Number of Meters (11)	Weighting (12)=(2)x(11)
5/8"x3/4"	1.00	12,756	12,756	144	144	4	4	0	0	12,904	12,904
3/4"	1.50	221	332	44	66	4	6	0	0	269	404
1"	2.50	92	230	83	208	10	25	1	3	186	465
1-1/2"	5.00	38	190	110	550	9	45	1	5	158	790
2"	8.00	30	240	155	1,236	10	80	3	24	198	1,580
3"	15.00	4	60	49	735	7	105	1	15	61	915
4"	25.00	0	0	19	475	6	150	3	75	28	700
6"	50.00	2	100	7	350	2	100	3	150	14	700
8"	80.00	2	160	2	160	0	0	4	320	8	640
10" & 12"	115.00							1	115	1	115
Total		<u>13,145</u>	<u>14,068</u>	<u>613</u>	<u>3,924</u>	<u>52</u>	<u>515</u>	<u>17</u>	<u>707</u>	<u>13,826</u>	<u>19,213</u>

CITY OF BETHLEHEM - BUREAU OF WATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 9. ALLOCATION OF COSTS ASSOCIATED WITH SERVICES.

Factors are based on the relative cost of services by size and customer classification, as developed on the following pages and summarized below.

Customer Classification (1)	3/4" Dollar Equivalents (2)	Allocation Factor (3)
<u>Inside - City</u>		
Residential	22,293	0.5582
Commercial/Public	1,299	0.0325
Industrial	123	0.0031
Fire Protection	1,149	0.0288
<u>Outside - City</u>		
Residential	13,190	0.3302
Commercial/Public	839	0.0210
Industrial	85	0.0021
Other Water Utilities	41	0.0010
Private Fire Protection	922	0.0231
Total	39,941	1.0000

CITY OF BETHLEHEM - BUREAU OF WATER

BASIS FOR ALLOCATING SERVICE COSTS TO CUSTOMER CLASSIFICATIONS

INSIDE - CITY

Service Size (1)	3/4" Dollar Equivalent (2)	Residential		Commercial/Public		Industrial		Fire Protection		Total	
		Number of Services (3)	Weighting (4)=(2)x(3)	Number of Services (5)	Weighting (6)=(2)x(5)	Number of Services (7)	Weighting (8)=(2)x(7)	Number of Services (9)	Weighting (10)=(2)x(9)	Number of Services (11)	Weighting (12)=(2)x(11)
3/4"	1.00	21,278	21,278	460	460	3	3	0	0	21,741	21,741
1"	1.06	386	409	135	143	12	13	0	0	533	565
1-1/2"	1.28	293	375	136	174	14	18	0	0	443	567
2"	1.50	98	147	173	259	19	28	0	0	289	434
3"	2.37	25	59	63	149	10	24	0	0	98	232
4"	2.50	10	25	30	75	9	23	134	336	183	458
6"	2.79	0	0	12	33	3	8	185	517	200	559
8"	3.11	0	0	2	6	2	6	71	220	75	233
10"	4.12	0	0	0	0	0	0	6	23	6	23
12"	4.65	0	0	0	0	0	0	12	53	12	53
Total		<u>22,090</u>	<u>22,293</u>	<u>1,010</u>	<u>1,299</u>	<u>72</u>	<u>123</u>	<u>407</u>	<u>1,149</u>	<u>23,579</u>	<u>24,865</u>

CITY OF BETHLEHEM - BUREAU OF WATER

BASIS FOR ALLOCATING SERVICE COSTS TO CUSTOMER CLASSIFICATIONS

OUTSIDE - CITY

Service Size (1)	3/4" Dollar Equiv. (2)	Residential		Commercial/Public		Industrial		Other Water Utilities		Fire Protection		Total	
		Number of Services (3)	Weighting (4)=(2)x(3)	Number of Services (5)	Weighting (6)=(2)x(5)	Number of Services (7)	Weighting (8)=(2)x(7)	Number of Services (9)	Weighting (10)=(2)x(9)	Number of Services (11)	Weighting (12)=(2)x(11)	Number of Services (11)	Weighting (12)=(2)x(11)
3/4"	1.00	12,977	12,977	188	188	8	8	0	0	0	0	13,173	13,173
1"	1.06	92	98	83	88	10	11	1	1	0	0	186	197
1-1/2"	1.28	38	49	110	141	9	12	1	1	0	0	158	202
2"	1.50	30	45	155	232	10	16	3	5	0	0	198	296
3"	2.37	4	9	49	116	7	17	1	2	0	0	61	145
4"	2.50	0	0	19	48	6	15	3	8	41	101	69	171
6"	2.79	2	6	7	20	2	6	3	8	130	363	144	402
8"	3.11	2	6	2	6	0	0	4	12	112	349	120	374
10"	4.12	0	0	0	0	0	0	1	4	7	29	8	33
12"	4.65	0	0	0	0	0	0	0	0	17	80	17	80
Total		<u>13,145</u>	<u>13,190</u>	<u>613</u>	<u>839</u>	<u>52</u>	<u>85</u>	<u>17</u>	<u>41</u>	<u>307</u>	<u>922</u>	<u>14,133</u>	<u>15,073</u>

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CITY OF BETHLEHEM - BUREAU OF WATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 10. ALLOCATION OF TRANSMISSION AND DISTRIBUTION SUPERVISION AND
ENGINEERING AND OTHER DEPARTMENTAL EXPENSES.

Factors are based on transmission and distribution expenses other than those
being allocated, as follows:

<u>Customer Classification</u>	<u>Transmission and Distribution Expenses</u>	<u>Allocation Factor</u>
(1)	(2)	(3)
<u>Inside - City</u>		
Residential	\$ 406,247	0.2992
Commercial/Public	98,582	0.0726
Industrial	51,319	0.0378
Private Fire Protection	47,428	0.0349
Public Fire Protection	201,187	0.1481
<u>Outside - City</u>		
Residential	232,753	0.1714
Commercial/Public	61,284	0.0451
Industrial	15,766	0.0116
Other Water Utilities	21,167	0.0156
Private Fire Protection	49,867	0.0367
Public Fire Protection	172,481	0.1270
Total	<u>\$ 1,358,082</u>	<u>1.0000</u>

CITY OF BETHLEHEM - BUREAU OF WATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 11. ALLOCATION OF BILLING AND COLLECTING COSTS.

Factors are based on the pro forma number of bills.

<u>Customer Classification</u> (1)	<u>Pro Forma Number of Bills</u> (2)	<u>Allocation Factor</u> (3)
<u>Inside - City</u>		
Residential	96,956	0.5793
Commercial/Public	7,624	0.0455
Industrial	726	0.0043
Private Fire Protection	1,630	0.0097
Public Fire Protection	1	0.0001
<u>Outside - City</u>		
Residential	53,077	0.3171
Commercial/Public	5,445	0.0325
Industrial	478	0.0029
Other Water Utilities	202	0.0012
Private Fire Protection	1,229	0.0073
Public Fire Protection	10	0.0001
Total	<u>167,378</u>	<u>1.0000</u>

FACTOR 12. ALLOCATION OF METER READING COSTS.

Factors are based on the pro forma number of meter readings by customer classification,
as follows:

<u>Customer Classification</u> (1)	<u>Pro Forma Number of Readings</u> (2)	<u>Allocation Factor</u> (3)
<u>Inside - City</u>		
Residential	96,956	0.5895
Commercial/Public	7,624	0.0463
Industrial	726	0.0044
<u>Outside - City</u>		
Residential	53,077	0.3226
Commercial/Public	5,445	0.0331
Industrial	478	0.0029
Other Water Utilities	202	0.0012
Total	<u>164,508</u>	<u>1.0000</u>

CITY OF BETHLEHEM - BUREAU OF WATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 13. ALLOCATION OF ADMINISTRATIVE AND GENERAL EXPENSES.

Factors are based on the allocation of all other operation and maintenance expenses excluding power purchased and chemicals.

<u>Customer Classification</u> (1)	<u>Operation & Maintenance Expenses</u> (2)	<u>Allocation Factor</u> (3)
<u>Inside - City</u>		
Residential	\$ 1,584,756	0.3436
Commercial/Public	547,603	0.1187
Industrial	344,682	0.0747
Private Fire Protection	66,890	0.0145
Public Fire Protection	250,231	0.0542
<u>Outside - City</u>		
Residential	915,575	0.1985
Commercial/Public	372,320	0.0807
Industrial	100,499	0.0218
Other Water Utilities	145,321	0.0315
Private Fire Protection	70,615	0.0153
Public Fire Protection	214,514	0.0465
Total	\$ 4,613,006	1.0000

CITY OF BETHLEHEM - BUREAU OF WATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 14. ALLOCATION OF LABOR RELATED TAXES AND BENEFITS.

Factors are based on the allocation of operation and maintenance direct labor expense to customer classifications as developed on the following page and summarized below.

<u>Customer Classification</u> (1)	<u>Direct Labor Expense</u> (2)	<u>Allocation Factor</u> (3)
<u>Inside - City</u>		
Residential	\$ 1,395,513	0.3431
Commercial/Public	467,676	0.1151
Industrial	289,709	0.0713
Private Fire Protection	64,500	0.0159
Public Fire Protection	244,662	0.0602
<u>Outside - City</u>		
Residential	802,255	0.1975
Commercial/Public	315,208	0.0776
Industrial	84,542	0.0208
Other Water Utilities	122,765	0.0302
Private Fire Protection	67,952	0.0167
Public Fire Protection	<u>209,746</u>	<u>0.0516</u>
Total	<u>\$ 4,064,528</u>	<u>1.0000</u>

CITY OF BETHLEHEM - BUREAU OF WATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 15A AND 15B. ALLOCATION OF INCOME AVAILABLE FOR RETURN.

The factors are based on the allocation of the original cost measure of value rate base Inside an Outside-City as shown on the following pages and summarized below:

<u>Customer Classification</u> (1)	<u>Original Cost Measure of Value</u> (2)	<u>Allocation Factor</u> (3)
<u>Inside - City</u>		<u>Factor 15A</u>
Residential	\$ 42,648,195	0.5470
Commercial/Public	17,702,734	0.2270
Industrial	10,746,467	0.1378
Private Fire Protection	2,656,120	0.0341
Public Fire Protection	4,217,877	0.0541
Total Inside-City	<u>77,971,394</u>	<u>1.0000</u>
<u>Outside - City</u>		<u>Factor 15B</u>
Residential	\$ 23,467,963	0.4786
Commercial/Public	11,165,339	0.2277
Industrial	3,047,464	0.0622
Other Water Utilities	4,844,468	0.0988
Private Fire Protection	2,900,393	0.0592
Public Fire Protection	3,606,199	0.0735
Total Outside-City	<u>49,031,825</u>	
Total	<u>127,003,219</u>	<u>1.0000</u>

FACTOR 16. ALLOCATION OF INSIDE - CITY OTHER WATER REVENUES.

The factors are based on the allocation of the total inside - city cost of service, excluding those items being allocated.

<u>Customer Classification</u> (1)	<u>Inside - City Total Cost of Service</u> (2)	<u>Allocation Factor</u> (3)
<u>Inside - City</u>		
Residential	\$ 8,530,061	0.5581
Commercial/Public	3,244,760	0.2123
Industrial	1,986,587	0.1300
Private Fire Protection	452,913	0.0296
Public Fire Protection	1,070,299	0.0700
Total	<u>\$ 15,284,620</u>	<u>1.0000</u>

CITY OF BETHLEHEM - BUREAU OF WATER
PROJECTED COST OF SERVICE FOR THE TWELVE MONTHS ENDING DECEMBER 31, 2020
ALLOCATED TO RESIDENTIAL, COMMERCIAL, INDUSTRIAL, OTHER WATER UTILITIES AND FIRE SERVICE CUSTOMER CLASSIFICATIONS

ACCOUNT	FACTOR REF	COST OF SERVICE (3)	INSIDE-CITY					OUTSIDE - CITY						
			RESIDENTIAL (4)	COMMERCIAL & PUBLIC (5)	INDUSTRIAL (6)	PRIVATE FIRE (7)	PUBLIC FIRE (8)	RESIDENTIAL (9)	COMMERCIAL & PUBLIC (10)	INDUSTRIAL (11)	OTHER UTILITIES (12)	PRIVATE FIRE (13)	PUBLIC FIRE (14)	
RATE BASE														
311.12 RESERVOIR LAND	1	633,687	229,141	105,129	59,567	2,661	3,232	117,866	63,939	16,412	30,037	2,978	2,725	
311.2 POWER AND PUMPING LAND	4	13,100	3,326	1,436	862	1,030	1,238	1,744	693	242	334	1,137	1,058	
311.3 PURIFICATION LAND	2	744,178	255,402	109,990	78,734	2,233	2,679	155,831	80,148	22,846	31,479	2,530	2,307	
311.4 TRANSMISSION AND DISTRIBUTION LAND AND RIGHTS OF WAY	6	532,211	137,523	59,342	37,627	37,840	45,504	75,468	32,837	10,697	14,742	41,779	38,851	
311.5 DISTR. RESERVOIRS AND STANDPIPE LAND	5	8,185	2,701	1,167	701	268	324	1,419	563	197	271	296	276	
312.11 COLLECTING & IMPOUNDING RESERVOIRS	1	54,899,607	19,851,698	9,107,845	5,160,563	230,578	279,988	10,211,327	5,539,370	1,421,900	2,602,241	258,028	236,068	
312.12 LAKE, RIVER AND OTHER INTAKES	2	102,453	35,162	15,143	10,840	307	369	21,454	11,034	3,145	4,334	348	318	
312.13 WELLS AND SPRINGS	2	396,520	136,086	58,606	41,952	1,190	1,427	83,031	42,705	12,173	16,773	1,348	1,229	
312.2 POWER AND PUMPING STRUCTURES	4	956,315	242,808	104,812	62,926	75,166	90,372	127,286	50,589	17,692	24,386	83,008	77,270	
312.3 PURIFICATION BUILDINGS	2	12,797,395	4,392,066	1,891,455	1,353,964	38,392	46,071	2,679,775	1,378,279	392,880	541,330	43,511	39,672	
312.5 DISTR. RESERVOIRS AND STANDPIPE	5	4,434,463	1,463,373	632,354	380,033	145,450	175,605	768,936	305,091	106,871	146,781	160,528	149,441	
312.62 STORES, SHOP AND GARAGE BLDGS.	13	42,998	14,774	5,104	3,212	623	2,330	8,535	3,470	937	1,354	658	1,999	
312.63 MISC. STRUCTURES AND IMPROV.	13	20,422	7,017	2,424	1,526	296	1,107	4,054	1,648	445	643	312	950	
316 ELECTRIC PUMPING EQUIPMENT	3	1,047,930	283,360	122,084	87,397	53,759	64,762	172,804	88,864	25,360	34,896	59,313	55,331	
317 OIL ENGINE PUMPING EQUIPMENT	4	2,988	759	327	197	235	282	398	158	55	76	259	241	
319 GAS POWER PUMPING EQUIPMENT	4	6,691	1,699	733	440	526	632	891	354	124	171	581	541	
320 PURIFICATION SYSTEM	2	10,269,890	3,524,626	1,517,890	1,086,554	30,810	36,972	2,150,515	1,106,067	315,286	434,416	34,918	31,837	
321 LABORATORY EQUIPMENT	2	20,024	6,872	2,960	2,119	60	72	4,193	2,157	615	847	68	62	
322 MAINS AND ACCESSORIES OVER 12 - INCH	3	13,599,656	3,677,347	1,584,360	1,134,211	697,662	840,459	2,242,583	1,153,251	329,112	452,869	769,741	718,062	
12 - INCH AND UNDER TELEMETERING	4	14,756,590	3,746,698	1,617,322	970,984	1,159,868	1,394,498	1,964,102	780,624	272,997	376,293	1,280,872	1,192,333	
323 SERVICES	9	4,097,927	2,287,463	133,183	12,704	118,020	-	1,353,135	86,056	8,606	4,098	94,662	-	
324 METERS	8	2,829,504	1,408,810	298,230	52,063	-	-	783,773	218,721	28,578	39,330	-	-	
325 FIRE HYDRANTS	7	1,981,268	-	-	-	-	1,066,120	-	-	-	-	-	915,148	
328 OFFICE FURNITURE AND EQUIPMENT	13	26,742	9,189	3,174	1,998	388	1,449	5,308	2,158	583	842	409	1,244	
329 TRANSPORTATION EQUIPMENT	13	446,051	153,263	52,946	33,320	6,468	24,176	88,541	35,996	9,724	14,051	6,825	20,741	
332 TOOLS AND WORK EQUIP. - GENERAL	13	382,865	131,552	45,446	28,600	5,552	20,751	75,999	30,897	8,346	12,060	5,858	17,803	
333 COMMUNICATION EQUIPMENT	13	142,249	48,877	16,885	10,626	2,063	7,710	28,236	11,479	3,101	4,481	2,176	6,615	
334 MISCELLANEOUS EQUIPMENT	13	101,095	34,736	12,000	7,552	1,466	5,479	20,067	8,158	2,204	3,184	1,547	4,701	
TOTAL PLANT IN SERVICE		125,580,219	42,159,252	17,533,824	10,640,169	2,635,487	4,140,751	23,185,497	11,050,503	3,016,442	4,799,643	2,878,621	3,540,029	
CASH WORKING CAPITAL		13	1,423,000	488,943	168,910	106,298	20,634	77,127	282,466	114,836	31,021	44,825	21,772	66,170
TOTAL RATE BASE			127,003,219	42,648,195	17,702,734	10,746,467	2,656,120	4,217,877	23,467,963	11,165,339	3,047,464	4,844,468	2,900,393	3,606,199

CITY OF BETHLEHEM - BUREAU OF WATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 17. ALLOCATION OF REGULATORY COMMISSION EXPENSES AND OUTSIDE - CITY
OTHER WATER REVENUES.

The factors are based on the allocation of the total outside - city cost of service, excluding those items being allocated.

Customer Classification (1)	Outside - City Total Cost of Service (2)	Allocation Factor (3)
<u>Outside - City</u>		
Residential	\$ 4,485,802	0.4927
Commercial/Public	1,960,799	0.2154
Industrial	530,740	0.0583
Other Water Utilities	808,912	0.0888
Private Fire Protection	449,656	0.0494
Public Fire Protection	868,859	0.0954
Total	<u>\$ 9,104,768</u>	<u>1.0000</u>

CITY OF BETHLEHEM - BUREAU OF WATER

FACTORS FOR ALLOCATING COST OF SERVICE TO CUSTOMER CLASSIFICATIONS, cont.

FACTOR 18. ALLOCATION OF REALLOCATED PUBLIC FIRE TO
INSIDE-CITY CUSTOMERS

The factors are based on the allocation of inside - city meter equivalents

<u>Customer Classification</u> (1)	<u>5/8" Dollar Equivalents</u> (2)	<u>Allocation Factor</u> (3)
<u>Inside - City</u>		
Residential	25,292	0.8008
Commercial/Public	5,352	0.1695
Industrial	937	0.0297
	<u>31,581</u>	<u>1.0000</u>
Total		

FACTOR 19. ALLOCATION OF REALLOCATED PUBLIC FIRE TO
OUTSIDE-CITY CUSTOMERS

The factors are based on the allocation of outside - city meter equivalents

<u>Customer Classification</u> (1)	<u>5/8" Dollar Equivalents</u> (2)	<u>Allocation Factor</u> (3)
<u>Outside-City</u>		
Residential	14,068	0.7602
Commercial/Public	3,924	0.2120
Industrial	515	0.0278
	<u>18,507</u>	<u>1.0000</u>
Total		

CITY OF BETHLEHEM - BUREAU OF WATER

BASIS FOR ALLOCATION OF DEMAND-RELATED COSTS OF
FIRE SERVICE TO PRIVATE AND PUBLIC FIRE PROTECTION

Description (1)	Restrictive Diameter(s) Squared (2)	Number of Units (3)	Relative Demand (4)	Percent of Total Fire Protection (5)
<u>INSIDE CITY</u>				
<u>Private Fire Protection</u>				
5 1/4 2-2 1/2",1-4 1/2"	27.56	70	1,929	
4" 2-2 1/2",1-4 1/2"	16.00	308	4,928	
4 -Inch Fire Line	16.00	134	2,149	
6 -Inch Fire Line	36.00	185	6,672	
8 -Inch Fire Line	64.00	71	4,533	
10 -Inch Fire Line	100.00	6	550	
12 -Inch Fire Line	144.00	12	1,656	
Total Private Fire Protection		785	22,417	0.2306
<u>Public Fire Protection</u>				
<u>Service</u> <u>Nozzles</u>				
5 1/4 2-2 1/2",1-4 1/2"	27.56	340	9,371	
4" 2-2 1/2",1-4 1/2"	16.00	1,100	17,603	
Total Public Fire Protection		1,440	26,974	0.2774
Total Inside City Fire Protection		2,226	49,391	0.5080

CITY OF BETHLEHEM - BUREAU OF WATER

BASIS FOR ALLOCATION OF DEMAND-RELATED COSTS OF
FIRE SERVICE TO PRIVATE AND PUBLIC FIRE PROTECTION

Description (1)	Restrictive Diameter(s) Squared (2)	Number of Units (3)	Relative Demand (4)	Percent of Total Fire Protection (5)
<u>OUTSIDE CITY</u>				
<u>Private Fire Protection</u>				
5 1/4 2-2 1/2",1-4 1/2"	27.56	80	2,205	
4" 2-2 1/2",1-4 1/2"	16.00	429	6,869	
4 -Inch Fire Line	16.00	41	648	
6 -Inch Fire Line	36.00	130	4,686	
8 -Inch Fire Line	64.00	112	7,189	
10 -Inch Fire Line	100.00	7	700	
12 -Inch Fire Line	144.00	17	2,472	
Total Private Fire Protection		817	24,769	0.2547
<u>Public Fire Protection</u>				
<u>Service</u> <u>Nozzles</u>				
5 1/4 2-2 1/2",1-4 1/2"	27.56	266	7,332	
4" 2-2 1/2",1-4 1/2"	16.00	984	15,741	
Total Public Fire Protection		1,250	23,073	0.2373
Total Outside City Fire Protection		2,066	47,842	0.4920
Total Fire Protection		4,292	97,233	1.0000

CITY OF BETHLEHEM - BUREAU OF WATER

SUMMARY OF AVERAGE DAILY SEND OUT AND MAXIMUM DAILY USAGE
FOR THE YEARS 2004-2019

Year	Average Daily Send out (MGD)	Maximum Daily Use		
		MGD	Ratio to Average	Highest Use Day
(1)	(2)	(3)	(4)	(5)
2004	14.14	16.72	1.18	5/13/2004
2005	14.21	19.06	1.34	8/4/2005
2006	13.94	17.64	1.27	5/31/2006
2007	13.82	17.49	1.27	5/25/2007
2008	12.92	15.89	1.23	6/9/2008
2009	12.26	15.61	1.27	4/27/2009
2010	12.66	18.10	1.43	7/7/2010
2011	13.00	18.32	1.41	7/22/2011
2012	12.85	16.64	1.29	7/12/2012
2013	12.23	15.95	1.30	7/19/2013
2014	12.39	15.64	1.26	8/27/2014
2015	13.00	16.01	1.23	5/12/2015
2016	12.92	15.98	1.24	9/23/2016
2017	12.41	15.52	1.25	7/18/2017
2018	13.40	16.68	1.24	7/11/2018
2019	13.60	16.11	1.18	9/11/2019

CITY OF BETHLEHEM - BUREAU OF WATER

COMPARISON OF PRESENT AND PROPOSED RATES

CUSTOMER CHARGES:

Meter Size	Present Customer Charges		Proposed Customer Charges		Quarterly Increase	
	Per Month	Per Quarter	Per Month	Per Quarter	Amount	Percent
5/8	\$ 8.25	\$ 24.75	\$ 8.25	\$ 24.75	\$ -	0.0%
3/4	13.98	41.94	13.98	41.94	-	0.0%
1	27.14	81.42	27.14	81.42	-	0.0%
1-1/2	53.04	159.12	53.04	159.12	-	0.0%
2	85.28	255.84	85.28	255.84	-	0.0%
3	174.80	524.40	174.80	524.40	-	0.0%
4	273.56	820.68	273.56	820.68	-	0.0%
6	547.11	1,641.33	547.11	1,641.33	-	0.0%
8	1,098.37	3,295.11	1,098.37	3,295.11	-	0.0%
10	1,098.37	3,295.11	1,098.37	3,295.11	-	0.0%
12	1,098.37	3,295.11	1,098.37	3,295.11	-	0.0%

CONSUMPTION CHARGES:

Customer Classification	Rate Per Thousand For All Usage	Proposed Rate Per Thousand For All Usage	Increase	
			Amount	Percent
Residential	\$ 4.266	\$ 5.067	\$ 0.801	18.78%
Commercial, Industrial, Public	3.333	4.066	0.733	21.99%
Sales for Resale	3.969	4.029	0.060	1.51%

PRIVATE FIRE LINES:

Size	Present Quarterly Rate	Proposed Rates		Quarterly Increase	
		Monthly	Quarterly	Amount	Percent
Less Than 6-inch	\$ 112.50	\$ 37.50	\$ 112.50	\$ -	0.00%
6-inch	140.55	\$ 46.85	140.55	-	0.00%
8-inch	168.27	\$ 56.09	168.27	-	0.00%
10-inch	195.99	\$ 65.33	195.99	-	0.00%
12-inch	252.06	\$ 84.02	252.06	-	0.00%
Per Thousand Sq. Ft. of Protected Area	2.79	\$ 0.93	2.79	-	0.00%
Per Private Fire Hydrant	78.27	\$ 26.09	78.27	-	0.00%

PUBLIC FIRE HYDRANTS:

Per Public Fire Hydrant	\$ 66.00	\$ 22.00	\$ 66.00	\$ -	0.00%

CITY OF BETHLEHEM - BUREAU OF WATER
INSIDE AND OUTSIDE THE CITY

COMPARISON OF BILLS UNDER PRESENT AND PROPOSED RATES

RESIDENTIAL - QUARTERLY

5/8 INCH METER

CONSUMPTION 1000 GALLONS	BILLS UNDER PRESENT RATES	BILLS UNDER PROPOSED RATES	AMOUNT OF INCREASE	PERCENTAGE OF INCREASE
(1)	(2)	(3)	(4)	(5)
0	\$ 24.75	\$ 24.75	\$ -	0.0%
1	29.02	29.82	0.80	2.8%
2	33.28	34.88	1.60	4.8%
3	37.55	39.95	2.40	6.4%
4	41.81	45.02	3.21	7.7%
5	46.08	50.09	4.01	8.7%
6	50.35	55.15	4.80	9.5%
7	54.61	60.22	5.61	10.3%
8	58.88	65.29	6.41	10.9%
9	63.14	70.35	7.21	11.4%
10	67.41	75.42	8.01	11.9%
11	71.68	80.49	8.81	12.3%
12	* 75.94	85.55	9.61	12.7%
13	80.21	90.62	10.41	13.0%
14	84.47	95.69	11.22	13.3%
15	88.74	100.76	12.02	13.5%
16	93.01	105.82	12.81	13.8%
17	97.27	110.89	13.62	14.0%
18	101.54	115.96	14.42	14.2%
19	105.80	121.02	15.22	14.4%
20	110.07	126.09	16.02	14.6%
25	131.40	151.43	20.03	15.2%
30	152.73	176.76	24.03	15.7%
35	174.06	202.10	28.04	16.1%
40	195.39	227.43	32.04	16.4%
45	216.72	252.77	36.05	16.6%
50	238.05	278.10	40.05	16.8%
60	280.71	328.77	48.06	17.1%
70	323.37	379.44	56.07	17.3%
80	366.03	430.11	64.08	17.5%
90	408.69	480.78	72.09	17.6%
100	451.35	531.45	80.10	17.7%
200	877.95	1,038.15	160.20	18.2%
300	1,304.55	1,544.85	240.30	18.4%
400	1,731.15	2,051.55	320.40	18.5%
500	2,157.75	2,558.25	400.50	18.6%

*Average Residential Quarterly Usage.

CITY OF BETHLEHEM - BUREAU OF WATER
INSIDE AND OUTSIDE THE CITY

COMPARISON OF BILLS UNDER PRESENT AND PROPOSED RATES

COMMERCIAL - MONTHLY

2 INCH METER

CONSUMPTION 1000 GALLONS	BILLS UNDER PRESENT RATES	BILLS UNDER PROPOSED RATES	AMOUNT OF INCREASE	PERCENTAGE OF INCREASE
(1)	(2)	(3)	(4)	(5)
0	\$ 85.28	\$ 85.28	\$ -	0.0%
1	88.61	89.35	0.74	0.8%
2	91.95	93.41	1.46	1.6%
3	95.28	97.48	2.20	2.3%
4	98.61	101.54	2.93	3.0%
5	101.95	105.61	3.66	3.6%
6	105.28	109.68	4.40	4.2%
7	108.61	113.74	5.13	4.7%
8	111.94	117.81	5.87	5.2%
9	115.28	121.87	6.59	5.7%
10	118.61	125.94	7.33	6.2%
11	121.94	130.01	8.07	6.6%
12	125.28	134.07	8.79	7.0%
13	128.61	138.14	9.53	7.4%
14	131.94	142.20	10.26	7.8%
15	135.28	146.27	10.99	8.1%
16	138.61	150.34	11.73	8.5%
17	141.94	154.40	12.46	8.8%
18	145.27	158.47	13.20	9.1%
19	148.61	162.53	13.92	9.4%
20	151.94	166.60	14.66	9.6%
25	168.61	186.93	18.32	10.9%
30	185.27	207.26	21.99	11.9%
32	191.94	215.39	23.45	12.2%
35	201.94	227.59	25.65	12.7%
40	218.60	247.92	29.32	13.4%
45	235.27	268.25	32.98	14.0%
50	251.93	288.58	36.65	14.5%
60	285.26	329.24	43.98	15.4%
65	*	349.57	47.64	15.8%
80	351.92	410.56	58.64	16.7%
90	385.25	451.22	65.97	17.1%
100	418.58	491.88	73.30	17.5%
200	751.88	898.48	146.60	19.5%
300	1,085.18	1,305.08	219.90	20.3%
400	1,418.48	1,711.68	293.20	20.7%
500	1,751.78	2,118.28	366.50	20.9%
600	2,085.08	2,524.88	439.80	21.1%
700	2,418.38	2,931.48	513.10	21.2%
800	2,751.68	3,338.08	586.40	21.3%
900	3,084.98	3,744.68	659.70	21.4%
1000	3,418.28	4,151.28	733.00	21.4%

*Average Commercial Monthly Usage.

CITY OF BETHLEHEM - BUREAU OF WATER
INSIDE AND OUTSIDE THE CITY

COMPARISON OF BILLS UNDER PRESENT AND PROPOSED RATES

INDUSTRIAL - MONTHLY

1 1/2 INCH METER

CONSUMPTION 1000 GALLONS	BILLS UNDER PRESENT RATES	BILLS UNDER PROPOSED RATES	AMOUNT OF INCREASE	PERCENTAGE OF INCREASE
(1)	(2)	(3)	(4)	(5)
0	\$ 53.04	\$ 53.04	\$ -	0.0%
10	86.37	93.70	7.33	8.5%
50	219.69	256.34	36.65	16.7%
100	386.34	459.64	73.30	19.0%
149	549.66	658.87	109.21	19.9%
150	552.99	662.94	109.95	19.9%
200	719.64	866.24	146.60	20.4%
228	* 812.96	980.09	167.13	20.6%
300	1,052.94	1,272.84	219.90	20.9%
400	1,386.24	1,679.44	293.20	21.2%
500	1,719.54	2,086.04	366.50	21.3%
600	2,052.84	2,492.64	439.80	21.4%
700	2,386.14	2,899.24	513.10	21.5%
800	2,719.44	3,305.84	586.40	21.6%
900	3,052.74	3,712.44	659.70	21.6%
1,000	3,386.04	4,119.04	733.00	21.6%
2,000	6,719.04	8,185.04	1,466.00	21.8%
3,000	10,052.04	12,251.04	2,199.00	21.9%
4,000	13,385.04	16,317.04	2,932.00	21.9%
5,000	16,718.04	20,383.04	3,665.00	21.9%
6,000	20,051.04	24,449.04	4,398.00	21.9%
7,000	23,384.04	28,515.04	5,131.00	21.9%
8,000	26,717.04	32,581.04	5,864.00	21.9%
9,000	30,050.04	36,647.04	6,597.00	22.0%
10,000	33,383.04	40,713.04	7,330.00	22.0%
20,000	66,713.04	81,373.04	14,660.00	22.0%
30,000	100,043.04	122,033.04	21,990.00	22.0%

*Average Industrial Monthly Usage.

CITY OF BETHLEHEM - BUREAU OF WATER
INSIDE AND OUTSIDE THE CITY

COMPARISON OF BILLS UNDER PRESENT AND PROPOSED RATES

OTHER WATER UTILITIES - MONTHLY

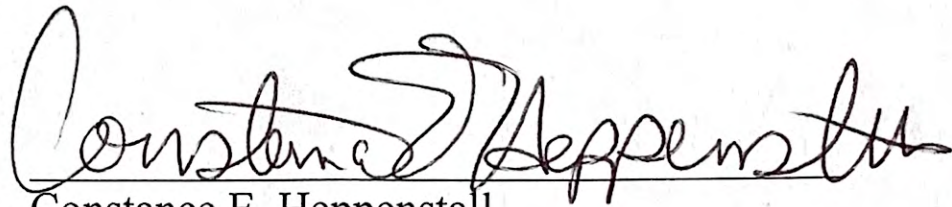
6 INCH METER

CONSUMPTION 1000 GALLONS	BILLS UNDER PRESENT RATES	BILLS UNDER PROPOSED RATES	AMOUNT OF INCREASE	PERCENTAGE OF INCREASE
(1)	(2)	(3)	(4)	(5)
0	\$ 547.11	\$ 547.11	\$ -	0.0%
100	944.01	950.01	6.00	0.6%
200	1,340.91	1,352.91	12.00	0.9%
300	1,737.81	1,755.81	18.00	1.0%
400	2,134.71	2,158.71	24.00	1.1%
500	2,531.61	2,561.61	30.00	1.2%
600	2,928.51	2,964.51	36.00	1.2%
620	3,007.89	3,045.09	37.20	1.2%
700	3,325.41	3,367.41	42.00	1.3%
871	* 4,004.11	4,056.37	52.26	1.3%
900	4,119.21	4,173.21	54.00	1.3%
1,000	4,516.11	4,576.11	60.00	1.3%
1,100	4,913.01	4,979.01	66.00	1.3%
1,200	5,309.91	5,381.91	72.00	1.4%
1,300	5,706.81	5,784.81	78.00	1.4%
1,400	6,103.71	6,187.71	84.00	1.4%
1,500	6,500.61	6,590.61	90.00	1.4%
1,600	6,897.51	6,993.51	96.00	1.4%
1,700	7,294.41	7,396.41	102.00	1.4%
1,800	7,691.31	7,799.31	108.00	1.4%
1,900	8,088.21	8,202.21	114.00	1.4%
2,000	8,485.11	8,605.11	120.00	1.4%
3,000	12,454.11	12,634.11	180.00	1.4%
4,000	16,423.11	16,663.11	240.00	1.5%
5,000	20,392.11	20,692.11	300.00	1.5%
10,000	40,237.11	40,837.11	600.00	1.5%
15,000	60,082.11	60,982.11	900.00	1.5%

*Average Other Water Utilities Monthly Usage.

VERIFICATION

I, Constance E. Heppenstall, Senior Project Manager, Rate Studies, of Gannett Fleming Valuation and Rate Consultants, LLC, hereby state, as Rate Consultant for the City of Bethlehem, that the facts set forth in the foregoing Cost of Service Study, Exhibit CEH-1 filed with the Public Utility Commission on July 31, 2020 and docketed at PaPUC Docket No. R-2020-3020256 are true and correct to the best of my knowledge, information and belief and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

A handwritten signature in black ink, appearing to read "Constance E. Heppenstall", written over a horizontal line.

Constance E. Heppenstall

Gannett Fleming Valuation and Rate Consultants, LLC

Dated: July 31, 2020

**EXHIBIT CEH-2 –
CUSTOMER CLASS DEMAND STUDY**

CITY OF BETHLEHEM
Bethlehem, Pennsylvania

CUSTOMER CLASS
DEMAND STUDY

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC
Camp Hill, Pennsylvania



Gannett Fleming

*Excellence Delivered **As Promised***

April 22, 2020

City of Bethlehem
10 East Church Street
Bethlehem, PA 18018

Attention Jeffrey A. Andrews
Superintendent, Water Supply & Treatment

Ladies and Gentlemen:

Pursuant to your request, we have prepared a customer class demand study for the City of Bethlehem. The study was conducted to provide a basis for the selection of class maximum day and hour demand ratios for use in the cost of service allocation study as part of the City's next rate case.

The attached report presents a description of the methods and procedures used, the usage data for each monitored customer, and the detailed calculations of maximum day and hour ratios by classification. The results of the study are presented on page I-7 of the report.

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

CONSTANCE E. HEPPENSTALL
Senior Project Manager, Rate Studies

GREGORY R. HERBERT
Rate Analyst

CEH:mle

Attachment

Gannett Fleming Valuation and Rate Consultants, LLC

207 Senate Avenue • Camp Hill, PA 17011-2316

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www.gfvrc.com

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PART I. INTRODUCTION

PART I. INTRODUCTION

PLAN OF REPORT

The report sets forth the results of the customer class demand study conducted during the period of January 2019 through December 2019 for the City of Bethlehem – Bureau of Water (City). The study is organized into three parts. Part I, Introduction, contains statements with respect to the basis and purpose of the study, a description of the methods and procedures used, and a summary of the study results. Part II, Maximum Day and Hour Ratios describes the calculations of the maximum day and maximum hour ratios for each customer class using the observed demand data. Part III, Daily Usage Data, provides the daily usage for each monitored location. Unless noted otherwise, all customer class units are in gallons.

BASIS OF STUDY

Pursuant to the Joint Petition for Settlement at Docket No. R-2013-2390244, approved by the Pennsylvania Public Utility Commission's (PUC or Commission) Final Order entered July 9, 2014, the Joint Petitioners agreed that the City would prepare and submit a study on the feasibility and costs of conducting a customer class demand study including the timetable required to complete such a study. In January 2018, the City submitted the required Feasibility Study to the Joint Petitioners for their review and comment. The Feasibility Study outlined the scope of the proposed demand study, the facilities and equipment that would be required, and an estimate of the total costs. Subsequent to a meeting of the Joint Petitioners to discuss the Feasibility Study, the parties decided to move forward with the Demand Study.

PURPOSE OF STUDY

In the Base Extra-Capacity method of cost allocation, as described in AWWA Manual M1 - Principles of Water Rates, Fees, and Charges, the extra capacity portion of the water system is allocated to customer classifications based on the non-coincident demands of each classification. The non-coincident demand is the sum of the peaks for each class regardless of the day or hour

such peaks may occur. The purpose of a customer class demand study is to establish a basis for selecting maximum day and maximum hour ratios for each customer classification.

The City provides water service to customers living inside its municipality and to customers living outside of the city limits. The PUC has jurisdiction and power under Section 1301 of the Public Utility Code to regulate rates for utility service furnished by a municipality to customers beyond its corporate boundaries. For the demand study to produce meaningful results, the maximum day and hour ratios for each customer classification is broken down by Inside City and Outside City. The ratios will be used for allocating maximum day and hour extra capacity costs in the cost of service allocation study prepared for the City's rate case. The results of the cost of service allocation study are used as a guide for designing the proposed rate structure.

METHOD AND PROCEDURES

Overview

The customers were selected for the study with the objective of obtaining a representative sample of customers in each class. The customer data is derived from meter reads from each customer selected for the study which recorded hourly meter readings each day over the twelve months of 2019.

Residential Sample

The customers selected in the residential sample include Inside and Outside City customers in single family homes, an apartment complex, and condominiums throughout the City and its surrounding areas.

In order for the results of the customer demand study to be representative, residential customers are categorized by housing density to ensure that each type of residential user is included. The Inside City sample group consists of high and medium density housing and the Outside City sample group consists of high, medium and low density housing. Residential peak demands are primarily influenced by income, lawn size and the amount of precipitation and

evapotranspiration. Housing density is used to categorize monitoring points because it represents a measure of both income level and lawn size.

The Residential Inside City sample includes 54 service locations. Three of the service locations are at the Buchanan Park housing complex. These three high density service locations serve 28, 26 and 39 rental units. The remaining 51 customers that make up the Residential Inside City sample are in 51 medium density residential areas.

The Residential Outside City sample includes 107 service locations. Two of the locations serve 45 and 47 housing units, respectively, at the Southland Condominiums. The remaining customers that make up the Residential Outside City sample are 52 customers in medium density areas and 53 customers in low density areas.

Table I-1		
System	Housing Density	Residential Customers
Inside City		
Buchanan Park Housing	High	3 (93 units)
Northeastern Part of City	Medium	51
Subtotal Inside		<u>54</u>
Outside City		
Southland Condominium	High	2 (92 units)
Various Locations	Medium	52
Various Locations	Low	53
Subtotal Outside		<u>107</u>
Total		161

Commercial and Public Sample

The Inside Commercial and Public customer class is represented by 14 customers which consist of a hotel, schools, fast food restaurant, healthcare center, medical office, home improvement store, bank, hair salon, pharmacy, daycare center, grocery market, auto repair shop, and a real estate office.

The Outside City Commercial and Public customer class is represented by 16 sampled customers. The metered sites are a bank, diner, hair salon, bar and grill restaurant, car washes, grocery store, retail store, mail distribution center, daycare center, car dealerships, hotel, hospital, laundromat and a municipal building.

Industrial Sample

The sampled group of Industrial customers includes 16 monitored sites. The Inside and Outside City sample customers' consumption total makes up about 80% of the total Industrial class consumption per year.

Nine of the meters that were monitored are Inside the City and consist of a gas production/distribution plant, a spray drying facility, metal manufacturers, a candy manufacturer, a pharmaceutical company, and a clothing manufacturer.

The Outside City sample customers include seven monitored sites. The types of industries in the group are a pharmaceutical company, a bottled water manufacturer, a produce wholesaler, a candy manufacturer, and chemicals manufacturers.

Sales for Resale Sample

The study included all 17 sales for resale meter sites which encompass the following water utilities and service areas: Utilities Inc. – Westgate, Lower Saucon Township, Upper Saucon Township, and Salisbury. The resale customers are located Outside of the City.

Data Collection and Processing Procedures

The source of the usage data for the demand study includes Inside and Outside City customers' hourly meter readings that were monitored over the 12 months of 2019. Each customer selected for the sample groups had a radio read data logging device installed, or an MXU unit that monitors hourly usage and transmits the meter readings to a radio tower. The readings are transmitted from the radio tower to cloud storage where the meter readings were

downloaded by City staff each month. The City staff converts the readings into hourly consumption amounts by the gallon.

Radio read data logging devices keep approximately 31 days of data, and City personnel were on a monthly schedule to download the monitoring data. If the City staff noticed interruptions to any meters during the hourly monitoring each month, the City would send out its Meter Reader staff to log data at the affected meters for a second meter read, in order to try and capture any missing hourly reads.

The daily (hourly) monitoring data for each location and customer are summarized in spreadsheet format for each customer class, where each sampled customer's data is in a column, with each day (hour) on a different row. Part III of this report contains the spreadsheets with the daily monitoring data. The hourly data is available upon request.

For each day, a consumption per sampled customer is shown. The amount per average customer is the sum of each customer's consumption divided by the number of customers reporting that day.

Identifying Peaks and Calculating Maximum Day and Hour Ratios

The maximum day (hour) is the highest day (hour) of consumption in the class for the year. It is the peak that occurs in the calculated average usage per customer in the class. The maximum day ratios were calculated for each customer and for the class by dividing the peak day consumption by the annual average consumption per day. Maximum hour ratios were calculated similarly, using hourly peaks and annual hourly averages. For the all the customers selected for the demand study, the annual average usages were determined from the billing records over the twelve-month period of 2019.

RESULTS OF STUDY

A description and results of the calculations of the maximum day and hour ratios for each customer classification are provided in Part II of the report. Part III contains the detailed tables of monitoring data for each customer. The selected ratios for use in the City's future cost of service allocation study are summarized in Table 1-2 below.

**Table I-2
Summary of Maximum Day and Hour Ratios**

Customer Classification	Maximum Day Ratio	Maximum Hour Ratio	Customer Classification	Maximum Day Ratio	Maximum Hour Ratio
Inside City			Outside City		
Residential	1.4	3.7	Residential	1.7	3.8
Commercial	1.3	3.4	Commercial	1.6	2.4
Industrial	1.7	3.7	Industrial	1.8	3.8
			Sales for Resale	1.3	2.5

PART II. MAXIMUM DAY AND HOUR RATIOS

PART II. MAXIMUM DAY AND HOUR RATIOS FOR SAMPLED CUSTOMERS

RESIDENTIAL CUSTOMER CLASS

The maximum day and hour ratios for the residential class are based on the analysis of data from the meter readings. The summary data with average and maximum consumption and ratios for the Inside City and Outside City residential sample customers are presented in Tables II-1 through II-2.

Inside City Results

The sampled customers max day and max hour ratios were calculated by combining all of the residential Inside City monitoring data that were collected over the year. Based on the demand study results, the maximum day ratio for the Inside City Residential class is estimated as 1.4, and the maximum hour ratio is estimated as 3.7. A summary of the resulting calculated max day and max hour ratios for the Inside City Residential class is shown on Table II-1. Figure II-1 is a graphical analysis of the Inside City Residential daily usage per average sampled customer.

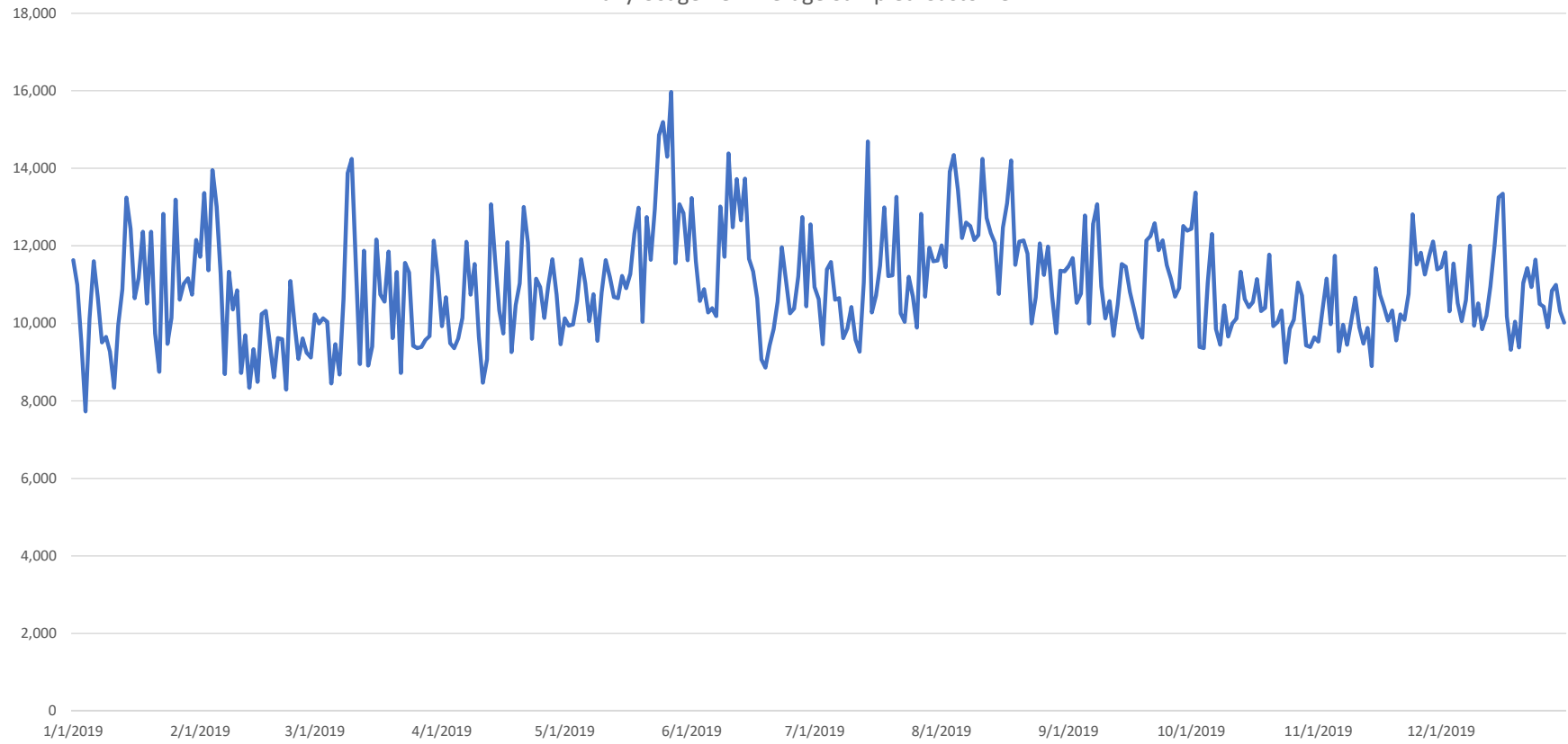
Outside City Results

The sampled customers max day and max hour ratios were calculated by combining all of the residential Outside City monitoring data that were collected over the year. Based on the demand study results, the maximum day ratio for the Outside City Residential class is estimated as 1.7, and the maximum hour ratio is estimated as 3.8. A summary of the resulting max day and max hour ratios for the Outside City Residential class is shown on Table II-2. Figure II-2 is a graphical analysis of the Outside City Residential class daily usage per average sampled customer.

City of Bethlehem
Customer Class Demand Study
Table II-1
Residential Inside City Customer Data
2019 Average and Maximum Consumption (in gallons)

Type	Daily				Hourly			
	Annual Average	Maximum	Ratio	Date of Maximum	Annual Average	Maximum	Ratio	Date and Time of Maximum
Apartment 1	1,591	5,380	3.38	2/4/2019	63	1,000	15.86	1/9/19 1:00 AM
Apartment 2	797	1,930	2.42	5/24/2019	33	1,000	29.96	1/8/19 4:00 PM
Apartment 3	2,099	5,590	2.66	7/18/2019	87	460	5.27	10/2/19 7:00 AM
Resident 1	128	330	2.58	1/20/2019	5	70	13.38	1/26/19 4:00 PM
Resident 2	196	1,540	7.87	6/8/2019	8	450	56.05	6/8/19 7:00 PM
Resident 3	135	1,730	12.81	12/16/2019	5	330	61.14	4/13/19 5:00 PM
Resident 4	241	1,530	6.36	6/1/2019	10	210	21.51	5/31/19 11:00 PM
Resident 5	156	410	2.63	3/10/2019	6	80	12.47	5/1/19 4:00 PM
Resident 6	111	2,770	24.88	7/14/2019	5	350	77.18	7/14/19 6:00 PM
Resident 7	50	1,510	30.08	10/16/2019	2	230	107.39	5/21/19 10:00 AM
Resident 8	266	1,300	4.90	1/20/2019	11	210	19.49	2/4/19 10:00 PM
Resident 9	95	1,220	12.82	7/27/2019	4	450	115.35	6/14/19 7:00 PM
Resident 10	76	1,220	16.00	5/29/2019	3	270	86.88	5/29/19 6:00 PM
Resident 11	107	470	4.41	12/25/2019	4	170	40.18	4/28/19 4:00 PM
Resident 12	143	780	5.44	10/22/2019	6	180	29.90	4/23/19 8:00 PM
Resident 13	168	1,630	9.71	4/8/2019	7	160	23.16	2/21/19 6:00 PM
Resident 14	186	600	3.23	11/19/2019	7	120	16.11	1/0/00 12:00 AM
Resident 15	475	2,440	5.14	8/8/2019	19	170	8.72	5/26/19 6:00 PM
Resident 16	109	270	2.48	10/23/2019	4	70	15.85	7/22/19 9:00 AM
Resident 17	44	230	5.28	10/14/2019	2	80	45.56	7/22/19 12:00 PM
Resident 18	186	320	1.72	3/29/2019	8	110	14.47	10/30/19 9:00 AM
Resident 19	44	460	10.45	2/2/2019	2	150	80.31	2/2/19 5:00 PM
Resident 20	97	260	2.69	12/14/2019	4	120	30.91	7/18/19 3:00 AM
Resident 21	126	1,380	10.99	8/14/2019	5	240	46.75	8/14/19 8:00 PM
Resident 22	82	330	4.02	12/25/2019	3	220	66.63	12/25/19 7:00 PM
Resident 23	58	140	2.40	11/24/2019	2	50	21.35	9/25/19 12:00 PM
Resident 24	81	300	3.73	7/6/2019	3	110	33.75	7/21/19 2:00 PM
Resident 25	91	270	2.97	4/28/2019	4	100	26.80	4/28/19 8:00 PM
Resident 26	131	430	3.28	3/30/2019	5	110	20.33	6/30/19 8:00 PM
Resident 27	71	260	3.66	7/24/2019	3	160	54.76	7/24/19 11:00 AM
Resident 28	29	120	4.20	5/19/2019	1	60	51.32	1/5/19 2:00 PM
Resident 29	94	370	3.93	10/28/2019	4	180	47.18	4/25/19 4:00 PM
Resident 30	115	270	2.34	12/15/2019	5	70	14.85	1/8/19 12:00 PM
Resident 31	163	420	2.57	12/29/2019	7	80	12.04	11/2/19 2:00 PM
Resident 32	99	550	5.53	1/2/2019	4	160	38.49	1/2/19 1:00 PM
Resident 33	178	550	3.10	1/30/2019	7	220	29.53	1/18/19 4:00 PM
Resident 34	109	2,040	18.73	7/5/2019	4	250	56.02	7/5/19 6:00 AM
Resident 35	126	270	2.15	4/7/2019	5	100	19.44	4/11/19 10:00 AM
Resident 36	126	700	5.55	10/13/2019	5	290	55.80	10/13/19 3:00 PM
Resident 37	19	140	7.54	8/10/2019	1	70	91.61	4/13/19 4:00 PM
Resident 38	49	660	13.41	7/16/2019	2	280	138.54	7/16/19 10:00 PM
Resident 39	127	1,640	12.91	5/15/2019	5	240	45.64	5/17/19 11:00 AM
Resident 40	173	850	4.92	9/21/2019	7	190	26.96	9/21/19 6:00 PM
Resident 41	30	190	6.34	3/5/2019	1	60	49.39	3/24/19 10:00 PM
Resident 42	150	1,560	10.43	9/5/2019	6	310	50.78	8/21/19 7:00 PM
Resident 43	508	1,230	2.42	6/10/2019	21	200	9.61	1/6/19 10:00 PM
Resident 44	110	660	6.02	12/6/2019	4	350	81.30	8/20/19 8:00 PM
Resident 45	157	430	2.74	6/26/2019	7	140	21.08	7/3/19 8:00 AM
Resident 46	24	180	7.41	1/2/2019	1	60	56.09	1/10/19 10:00 AM
Resident 47	153	1,960	12.81	4/17/2019	6	470	74.99	4/17/19 4:00 PM
Resident 48	58	1,120	19.26	4/2/2019	2	140	58.45	4/2/19 6:00 AM
Resident 49	106	520	4.89	6/23/2019	4	210	47.02	6/23/19 4:00 PM
Resident 50	216	630	2.92	5/28/2019	9	160	18.22	5/31/19 7:00 AM
Resident 51	86	290	3.37	12/25/2019	4	70	19.83	3/18/19 1:00 PM
Class Average of Sampled Customers	5,571	7,985	1.43	1/0/1900	456	1,700	3.73	1/1/19 11:00 AM

Figure II-1
Residential Inside City Customers
Daily Usage Per Average Sampled Customer



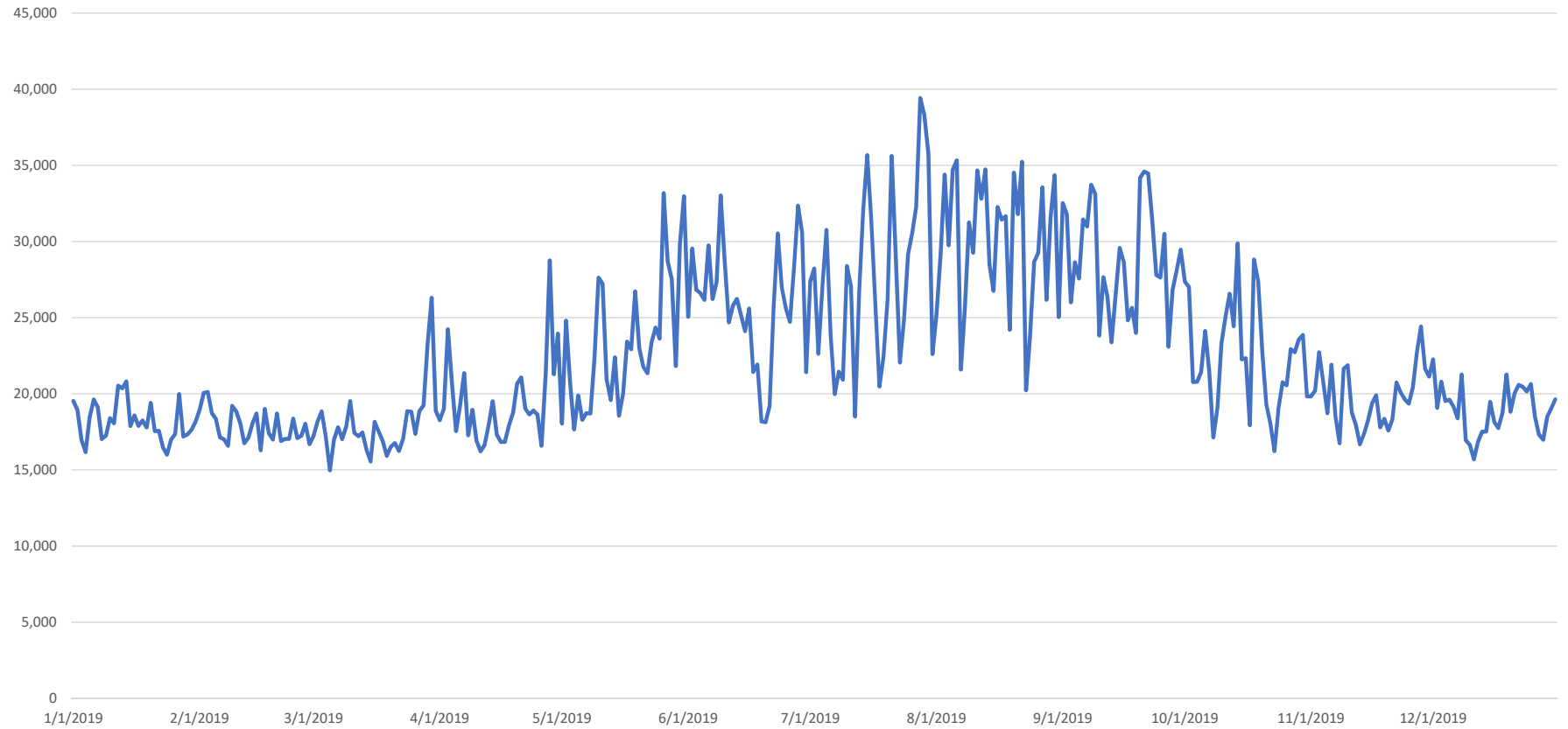
City of Bethlehem
Customer Class Demand Study
Table II-2
Residential Outside City Customer Data
2019 Average and Maximum Consumption (in gallons)

Type	Daily				Hourly			
	Annual Average	Maximum	Ratio	Date of Maximum	Annual Average	Maximum	Ratio	Date and Time of Maximum
Apartment 1	1,818	5,880	3.23	10/31/2019	76	490	6.48	9/9/19 10:00 AM
Apartment 2	1,688	2,770	1.64	9/13/2019	71	410	5.80	4/21/19 9:00 AM
Resident 1	74	320	4.30	11/15/1900	3	60	20.77	1/18/19 5:00 PM
Resident 2	106	360	3.38	12/25/1900	5	190	42.11	7/20/19 11:00 PM
Resident 3	199	710	3.57	12/10/1901	8	360	44.75	5/7/19 3:00 PM
Resident 4	106	300	2.82	10/26/1900	4	90	23.12	5/17/19 1:00 PM
Resident 5	105	230	2.19	8/17/1900	4	70	16.54	4/25/19 6:00 PM
Resident 6	62	240	3.88	8/27/1900	3	100	39.07	4/22/19 1:00 PM
Resident 7	135	1,320	9.75	8/12/1903	6	270	46.85	6/30/19 10:00 AM
Resident 8	126	990	7.83	9/16/1902	5	130	27.35	3/14/19 11:00 AM
Resident 9	211	1,000	4.73	9/26/1902	9	130	15.13	10/30/19 7:00 PM
Resident 10	162	500	3.09	5/14/1901	8	100	12.85	7/21/19 10:00 AM
Resident 11	113	1,330	11.74	8/22/1903	4	310	73.53	9/26/19 10:00 AM
Resident 12	206	2,380	11.53	7/7/1906	9	550	63.99	6/23/19 5:00 PM
Resident 13	80	870	10.87	5/19/1902	3	230	67.06	8/10/19 5:00 PM
Resident 14	131	580	4.43	8/2/1901	6	160	28.79	4/24/19 11:00 AM
Resident 15	54	1,060	19.72	11/25/1902	2	470	214.52	5/3/19 5:00 PM
Resident 16	169	620	3.67	9/11/1901	7	230	33.75	7/5/19 4:00 PM
Resident 17	78	220	2.81	8/7/1900	3	50	15.66	9/21/19 1:00 PM
Resident 18	109	1,160	10.61	3/5/1903	4	260	58.24	3/27/19 5:00 PM
Resident 19	281	1,120	3.98	1/24/1903	11	480	42.02	6/15/19 12:00 PM
Resident 20	140	610	4.36	9/1/1901	6	190	32.49	9/11/19 11:00 AM
Resident 21	78	290	3.71	10/16/1900	3	90	27.99	4/13/19 7:00 PM
Resident 22	234	1,910	8.18	3/24/1905	11	260	24.48	8/13/19 10:00 PM
Resident 23	126	1,670	13.20	7/27/1904	5	220	42.42	8/14/19 8:00 PM
Resident 24	74	330	4.47	11/25/1900	3	110	36.55	7/5/19 2:00 PM
Resident 25	145	620	4.28	9/11/1901	6	140	23.65	12/26/19 3:00 PM
Resident 26	203	430	2.11	3/5/1901	8	120	14.60	10/8/19 11:00 PM
Resident 27	222	590	2.66	8/12/1901	9	280	30.04	6/27/19 5:00 PM
Resident 28	224	1,080	4.83	12/15/1902	9	370	42.40	6/1/19 2:00 PM
Resident 29	116	260	2.24	9/16/1900	5	70	14.60	4/13/19 9:00 AM
Resident 30	221	1,480	6.69	1/19/1904	10	460	47.85	7/26/19 4:00 AM
Resident 31	156	690	4.42	11/20/1901	6	340	56.78	9/15/19 4:00 PM
Resident 32	132	730	5.52	12/30/1901	5	140	26.33	3/15/19 1:00 PM
Resident 33	215	1,000	4.65	9/26/1902	9	1,000	113.12	1/9/19 10:00 PM
Resident 34	99	1,000	10.07	9/26/1902	4	1,000	246.73	1/7/19 6:00 PM
Resident 35	97	280	2.89	10/6/1900	4	60	15.12	4/21/19 2:00 PM
Resident 36	112	380	3.40	1/14/1901	5	100	19.21	7/27/19 10:00 AM
Resident 37	282	1,540	5.46	3/19/1904	11	330	29.03	5/8/19 8:00 PM
Resident 38	246	440	1.79	3/15/1901	10	140	13.96	9/14/19 4:00 PM
Resident 39	108	440	4.08	3/15/1901	4	150	35.63	7/13/19 11:00 AM
Resident 40	46	2,160	47.44	11/29/1905	2	280	147.56	10/28/19 4:00 PM
Resident 41	128	440	3.45	3/15/1901	5	270	52.58	9/18/19 7:00 AM
Resident 42	82	280	3.43	10/6/1900	3	90	27.31	3/13/19 2:00 PM
Resident 43	114	430	3.78	3/5/1901	5	100	21.51	9/11/19 2:00 AM
Resident 44	136	1,910	14.02	3/24/1905	6	200	34.00	9/29/19 10:00 PM
Resident 45	111	1,180	10.60	3/25/1903	5	170	37.40	1/0/00 12:00 AM
Resident 46	206	940	4.56	7/28/1902	8	410	49.62	5/25/19 12:00 PM
Resident 47	195	1,840	9.44	1/13/1905	8	370	46.40	5/11/19 7:00 PM
Resident 48	64	360	5.61	12/25/1900	3	150	58.15	10/14/19 2:00 PM
Resident 49	170	550	3.23	7/3/1901	7	200	29.08	8/19/19 6:00 PM
Resident 50	383	670	1.75	10/31/1901	16	230	14.81	9/30/19 10:00 AM
Resident 51	135	600	4.46	8/22/1901	5	140	25.48	5/26/19 3:00 PM
Resident 52	119	350	2.94	12/15/1900	5	80	16.57	3/31/19 9:00 PM
Resident 53	356	1,660	4.67	7/17/1904	14	570	39.71	5/3/19 11:00 AM
Resident 54	119	800	6.72	3/10/1902	5	290	58.20	9/20/19 3:00 PM
Resident 55	164	500	3.05	5/14/1901	7	140	21.18	5/26/19 5:00 PM
Resident 56	70	1,210	17.27	4/24/1903	3	340	117.11	9/11/19 5:00 PM
Resident 57	133	9,100	68.64	11/29/1924	5	420	81.07	6/14/19 3:00 PM
Resident 58	163	2,010	12.31	7/2/1905	7	510	76.54	1/0/00 12:00 AM
Resident 59	207	1,060	5.13	11/25/1902	8	340	41.83	4/29/19 2:00 PM
Resident 60	53	1,030	19.52	10/26/1902	2	110	50.21	1/0/00 12:00 AM
Resident 61	205	870	4.25	5/19/1902	8	270	32.46	4/9/19 11:00 AM
Resident 62	67	280	4.19	10/6/1900	3	120	43.43	6/22/19 2:00 PM

City of Bethlehem
Customer Class Demand Study
Table II-2
Residential Outside City Customer Data
2019 Average and Maximum Consumption (in gallons)

Type	Daily				Hourly			
	Annual Average	Maximum	Ratio	Date of Maximum	Annual Average	Maximum	Ratio	Date and Time of Maximum
Resident 63	180	8,840	49.07	3/14/1924	8	460	60.34	4/28/19 9:00 AM
Resident 64	192	1,190	6.20	4/4/1903	8	350	45.46	6/6/19 5:00 PM
Resident 65	266	1,890	7.11	3/4/1905	10	320	30.61	8/31/19 6:00 PM
Resident 66	190	1,280	6.73	7/3/1903	8	410	53.72	5/25/19 10:00 AM
Resident 67	313	13,050	41.70	9/23/1935	13	1,040	80.39	5/30/19 11:00 PM
Resident 68	176	1,150	6.54	2/23/1903	7	480	66.64	9/7/19 12:00 PM
Resident 69	96	2,940	30.77	1/18/1908	4	150	38.72	5/13/19 8:00 PM
Resident 70	181	2,290	12.64	4/8/1906	8	430	56.00	1/14/19 11:00 PM
Resident 71	143	1,280	8.96	7/3/1903	6	400	69.10	9/9/19 9:00 PM
Resident 72	171	1,010	5.90	10/6/1902	7	270	38.75	3/29/19 3:00 AM
Resident 73	194	540	2.79	6/23/1901	8	90	11.12	4/23/19 3:00 PM
Resident 74	352	920	2.61	7/8/1902	14	350	24.32	12/23/19 4:00 PM
Resident 75	285	4,540	15.94	6/5/1912	11	240	22.12	9/28/19 2:00 PM
Resident 76	158	1,570	9.95	4/18/1904	6	360	57.34	6/9/19 7:00 PM
Resident 77	165	3,280	19.84	12/23/1908	7	340	50.10	9/30/19 6:00 AM
Resident 78	177	1,650	9.32	7/7/1904	7	470	64.01	10/13/19 12:00 PM
Resident 79	218	2,760	12.64	7/22/1907	9	460	51.29	5/19/19 6:00 PM
Resident 80	104	540	5.21	6/23/1901	4	240	57.12	5/3/19 10:00 PM
Resident 81	98	490	5.01	5/4/1901	4	260	65.12	9/12/19 8:00 AM
Resident 82	192	3,340	17.42	2/21/1909	8	1,080	135.41	9/8/19 6:00 PM
Resident 83	271	7,150	26.38	7/29/1919	11	410	36.75	2/2/19 1:00 PM
Resident 84	102	2,470	24.23	10/5/1906	4	780	182.92	12/3/19 2:00 PM
Resident 85	633	4,100	6.48	3/23/1911	26	900	34.14	6/23/19 4:00 AM
Resident 86	162	590	3.65	8/12/1901	7	230	34.34	9/2/19 8:00 AM
Resident 87	174	630	3.62	9/21/1901	7	140	19.66	2/4/19 7:00 PM
Resident 88	246	1,340	5.45	9/1/1903	10	360	35.56	9/21/19 7:00 PM
Resident 89	182	7,070	38.79	5/10/1919	7	480	64.17	12/6/19 7:00 PM
Resident 90	790	4,400	5.57	1/17/1912	33	870	26.55	8/29/19 3:00 PM
Resident 91	135	560	4.16	7/13/1901	6	90	16.12	3/24/19 1:00 AM
Resident 92	70	2,230	31.65	2/7/1906	3	760	258.32	6/11/19 9:00 AM
Resident 93	110	870	7.89	5/19/1902	5	320	70.19	8/27/19 12:00 PM
Resident 94	119	880	7.42	5/29/1902	5	260	52.90	7/10/19 7:00 AM
Resident 95	44	560	12.80	7/13/1901	2	500	268.35	7/15/19 1:00 PM
Resident 96	930	6,000	6.45	6/4/1916	38	2,060	54.06	7/29/19 5:00 PM
Resident 97	145	560	3.87	7/13/1901	6	220	37.10	6/6/19 4:00 PM
Resident 98	83	2,090	25.13	9/20/1905	3	270	78.10	8/4/19 6:00 PM
Resident 99	271	5,450	20.12	12/2/1914	11	590	52.41	4/30/19 12:00 AM
Resident 100	214	570	2.67	7/23/1901	8	120	14.63	1/19/19 11:00 AM
Resident 101	109	310	2.84	11/5/1900	5	100	22.12	6/14/19 5:00 AM
Resident 102	47	230	4.93	8/17/1900	2	80	37.21	1/22/19 4:00 AM
Resident 103	1,190	4,670	3.93	10/13/1912	48	880	18.27	8/18/19 4:00 AM
Resident 104	174	1,130	6.48	2/3/1903	7	340	47.31	6/29/19 1:00 PM
Resident 105	167	1,720	10.27	9/15/1904	7	510	72.88	5/22/19 5:00 PM
Class Average of Sampled Customers	7,629	13,140	1.72	3/20/1923	313	1,183	3.78	7/29/19 5:00 PM

Figure-II-2
Residential Outside City
Average Usage Per Sampled Customer



COMMERCIAL AND PUBLIC CUSTOMER CLASS

Inside City Results

The resulting maximum day and hour ratios for the Inside city commercial class are presented in Table II-3. A graphical analysis of the Inside City commercial class daily usage per sampled customer is shown on Figure II-3. Based on these observed sample ratios, the maximum day ratio for the commercial and public class is estimated at 1.3. The maximum hour ratio for the Inside City commercial class based on these observed sample ratios is estimated at 3.4.

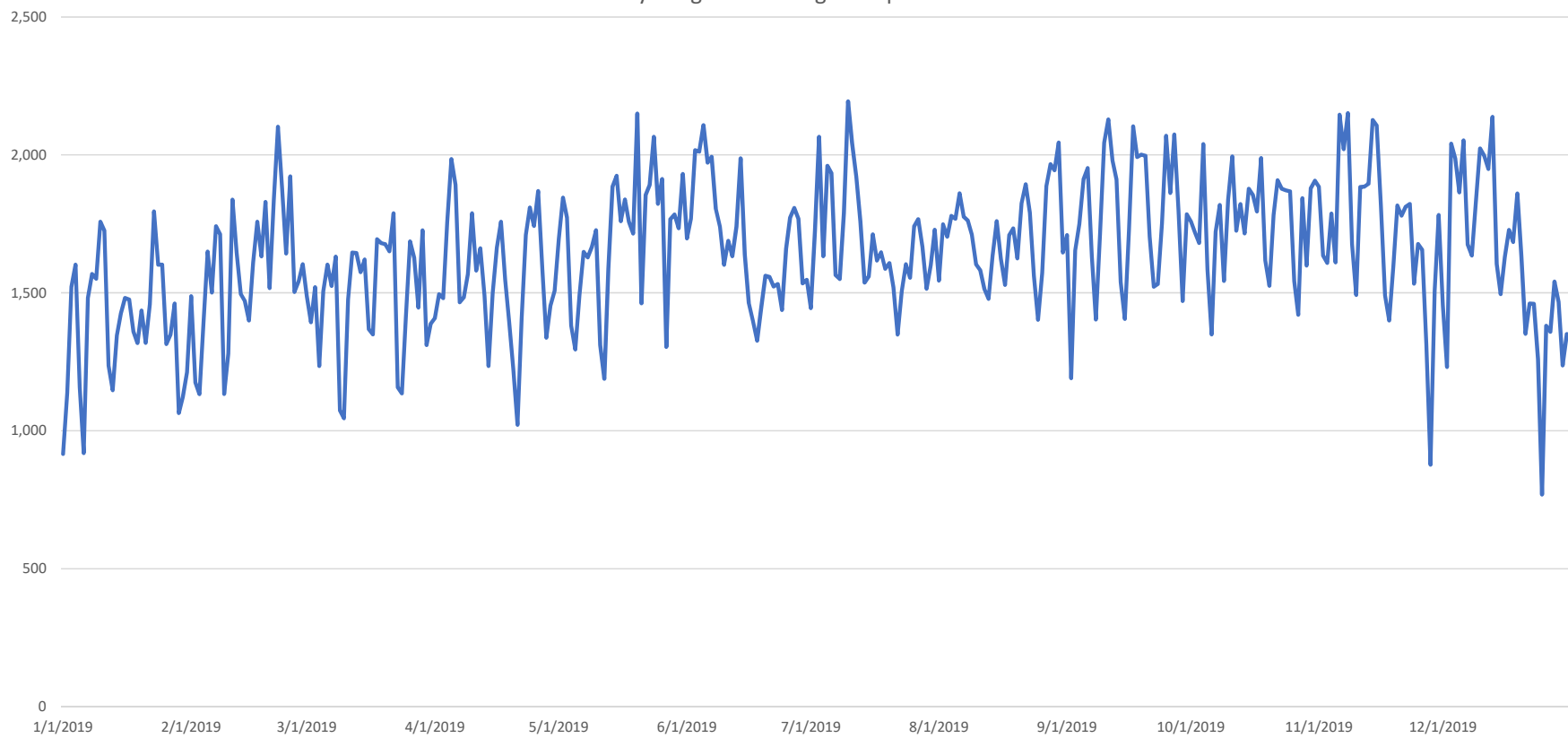
Outside City Results

The resulting maximum day and hour ratios for the Outside City commercial class are presented in Table II-4. A graphical analysis of the Outside City commercial class daily usage per sampled customer is shown on Figure II-4. Based on these observed sample ratios, the maximum day ratio for the commercial and public class is estimated at 1.6. The maximum hour ratio for the Inside city commercial class based on these observed sample ratios is estimated at 2.4.

City of Bethlehem
Customer Class Demand Study
Table II-3
Commercial Inside City Customer Data
2019 Average and Maximum Consumption (in gallons)

Type	Daily				Hourly			
	Annual Average	Maximum	Ratio	Date of Maximum	Annual Average	Maximum	Ratio	Date and Time of Maximum
Hotel	11,778	20,770	1.76	7/10/2019	490	2,640	5.39	5/20/19 8:00 AM
Grocery	2,962	4,540	1.53	6/29/2019	123	450	3.65	11/14/19 10:00 AM
Healthcare	1,452	7,750	5.34	2/24/2019	61	680	11.21	7/11/19 7:00 PM
Home Improvement Retail	944	2,990	3.17	6/9/2019	39	980	24.88	6/9/19 10:00 PM
School	2,215	6,100	2.75	9/5/2019	92	1,310	14.19	6/5/19 12:00 PM
School	724	2,120	2.93	5/24/2019	30	500	16.58	4/18/19 2:00 PM
Bank	49	2,510	51.35	3/26/2019	2	210	103.21	3/26/19 11:00 AM
Real Estate Office	21	60	2.80	3/23/2019	1	20	18.22	6/6/19 11:00 AM
Fast Food	1,130	3,310	2.93	9/28/2019	47	500	10.64	12/14/19 1:00 AM
Hair Salon	414	730	1.76	3/8/2019	17	120	7.19	1/8/19 5:00 PM
Childcare	888	3,220	3.62	6/27/2019	36	470	12.92	8/12/19 11:00 AM
Pharmacy	52	120	2.31	7/11/2019	2	40	18.54	1/5/19 7:00 PM
Medical Offices	275	590	2.15	1/8/2019	11	160	13.99	4/5/19 9:00 AM
Auto Repair	110	740	6.72	10/19/2019	5	160	34.72	7/27/19 1:00 PM
Class Average of Sampled Customers	1,644	2,194	1.33	7/10/2019	68	234	3.41	5/20/19 8:00 AM

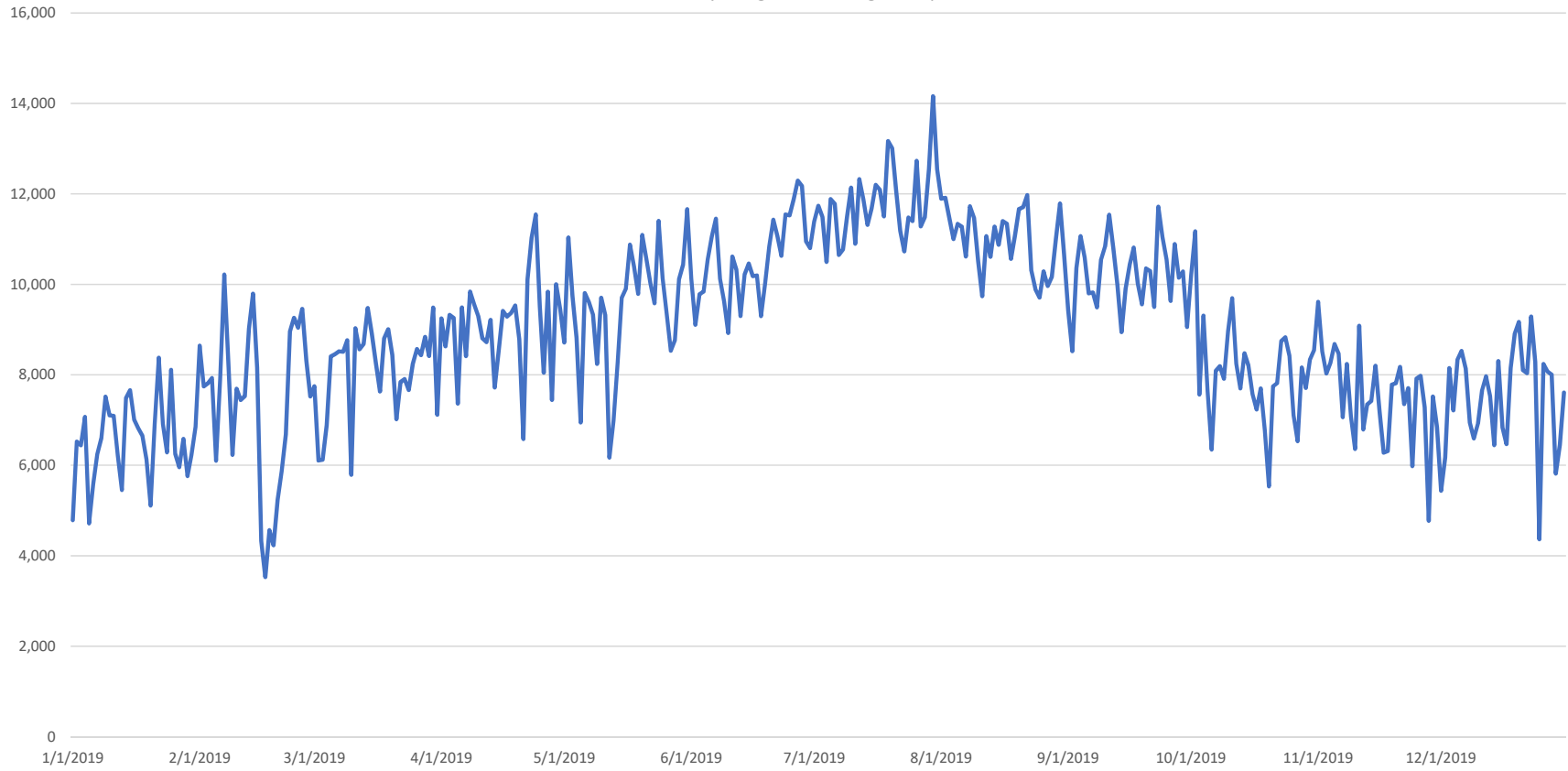
Figure II-3
Commercial Inside City
Daily Usage Per Average Sampled Customer



City of Bethlehem
Customer Class Demand Study
Table II-4
Commercial Outside City Customer Data
2019 Average and Maximum Consumption (in gallons)

Type	Daily				Hourly			
	Annual Average	Maximum	Ratio	Date of Maximum	Annual Average	Maximum	Ratio	Date and Time of Maximum
Bank	57	250	4.38	10/18/2019	2	110	46.83	10/18/19 9:00 AM
Diner	2,322	6,500	2.80	2/18/2019	95	480	5.07	3/10/19 3:00 PM
Salon	412	1,510	3.67	8/24/2019	17	160	9.25	2/6/19 1:00 PM
Municipal Bldg	163	1,320	8.12	4/30/2019	7	300	44.30	4/30/19 7:00 PM
Dining	2,928	5,360	1.83	3/16/2019	122	650	5.34	4/25/19 11:00 AM
Car Wash	7,408	22,340	3.02	12/23/2019	309	2,700	8.75	12/23/19 3:00 PM
Retail	3,273	11,190	3.42	4/28/2019	137	800	5.86	8/26/19 4:00 AM
Grocery	1,877	3,050	1.62	5/26/2019	79	490	6.24	10/28/19 9:00 PM
Mail Distribution	8,734	17,880	2.05	7/26/2019	347	3,200	9.22	5/17/19 6:00 PM
Car Wash	10,930	52,370	4.79	2/26/2019	455	5,730	12.58	2/7/19 12:00 PM
Daycare	1,393	3,940	2.83	4/16/2019	54	1,000	18.58	1/7/19 4:00 PM
Car Dealer	316	8,720	27.56	10/25/2019	13	1,520	115.42	10/24/19 8:00 PM
Car Dealer	4,409	9,620	2.18	3/11/2019	183	1,150	6.27	5/18/19 12:00 PM
Hotel	10,395	24,850	2.39	6/23/2019	433	2,610	6.03	1/21/19 9:00 AM
Hospital	86,821	140,920	1.62	7/19/2019	3,613	10,650	2.95	3/18/19 9:00 AM
Laundromat	2,461	7,260	2.95	3/13/2019	103	860	8.36	1/19/19 12:00 PM
Class Average of Sampled Customers	8,994	14,161	1.57	7/30/2019	375	899	2.40	8/30/19 2:00 PM

Figure-II-4
Commercial Outside City
Daily Usage Per Average Sampled Customer



INDUSTRIAL CUSTOMER CLASS

Inside City Results

The average and maximum usage data for the monitored Inside city industrial customers are presented in Table II-5 and displays the customers' maximum day and hour ratios along with the dates on which the maximum days and hours occurred. The summary shows that the peaks all occurred in the summer and the individual customer peaks occurred throughout the year and the customer ratios, particularly the hourly ratios, had a wide range. Figure II-5 is a graphical analysis of the Inside City Industrial class daily usage per average sampled customer.

Table II-5 displays the Inside City industrial class ratios. Based on these observed sample ratios, the maximum day ratio for the industrial class is estimated at 1.7. The maximum hour ratio based on the observed sample ratios is estimated at 3.7.

Outside City Results

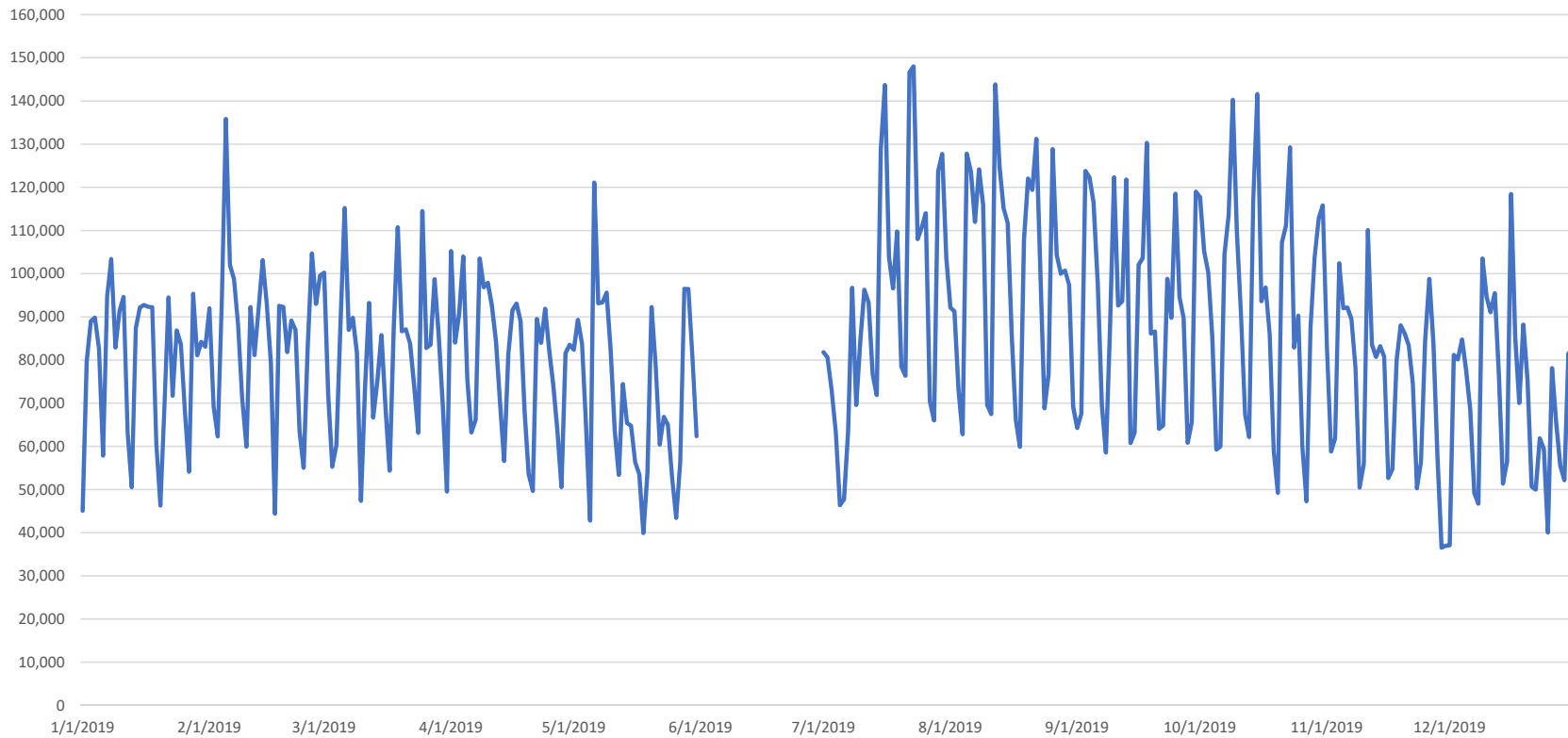
The average and maximum usage data for the monitored Outside City industrial customers are presented in Tables II-6 and displays the customers' maximum day and hour ratios along with the dates on which the maximum days and hours occurred. The summary displays that the peaks occurred in the September and February, while the customer peaks occurred throughout the year. Figure II-6 is a graphical analysis of the Outside City Industrial class daily usage per average sampled customer.

Table II-6 displays the Outside City industrial class ratios. Based on these observed sample ratios, the maximum day ratio for the Outside City industrial class is estimated at 1.8. The maximum hour ratio based on the observed sample ratios is estimated at 3.8.

City of Bethlehem
Customer Class Demand Study
Table II-5
Industrial Inside City Customer Data
2019 Average and Maximum Consumption (in gallons)

Type	Daily				Hourly			
	Average	Maximum	Ratio	Date of Maximum	Average	Maximum	Ratio	Date and Time of Maximum
Industrial 1	271,020	416,070	1.54	7/21/2019	11,277	32,240	2.86	5/19/19 12:00 PM
Industrial 2	160,895	207,610	1.29	2/8/2019	5,386	11,540	2.14	5/15/19 2:00 PM
Industrial 3	80,684	161,150	2.00	8/2/2019	3,363	7,590	2.26	8/3/19 7:00 AM
Industrial 4	54,014	246,570	4.56	10/30/2019	2,251	25,800	11.46	3/28/19 10:00 AM
Industrial 5	50,732	538,850	10.62	1/0/1900	2,037	65,990	32.39	6/11/19 6:00 AM
Industrial 6	38,576	58,720	1.52	11/10/2019	1,607	4,160	2.59	6/22/19 5:00 AM
Industrial 7	46,701	82,280	1.76	7/3/2019	1,943	5,230	2.69	9/1/19 6:00 AM
Industrial 8	4,756	9,750	2.05	10/2/2019	198	1,210	6.10	9/24/19 1:00 PM
Industrial 9	76,939	135,440	1.76	12/11/2019	3,203	15,000	4.68	1/31/19 4:00 AM
Class Average of Sampled Customers	87,146	147,993	1.70	7/23/2019	3,631	13,263	3.65	9/10/19 8:00 AM

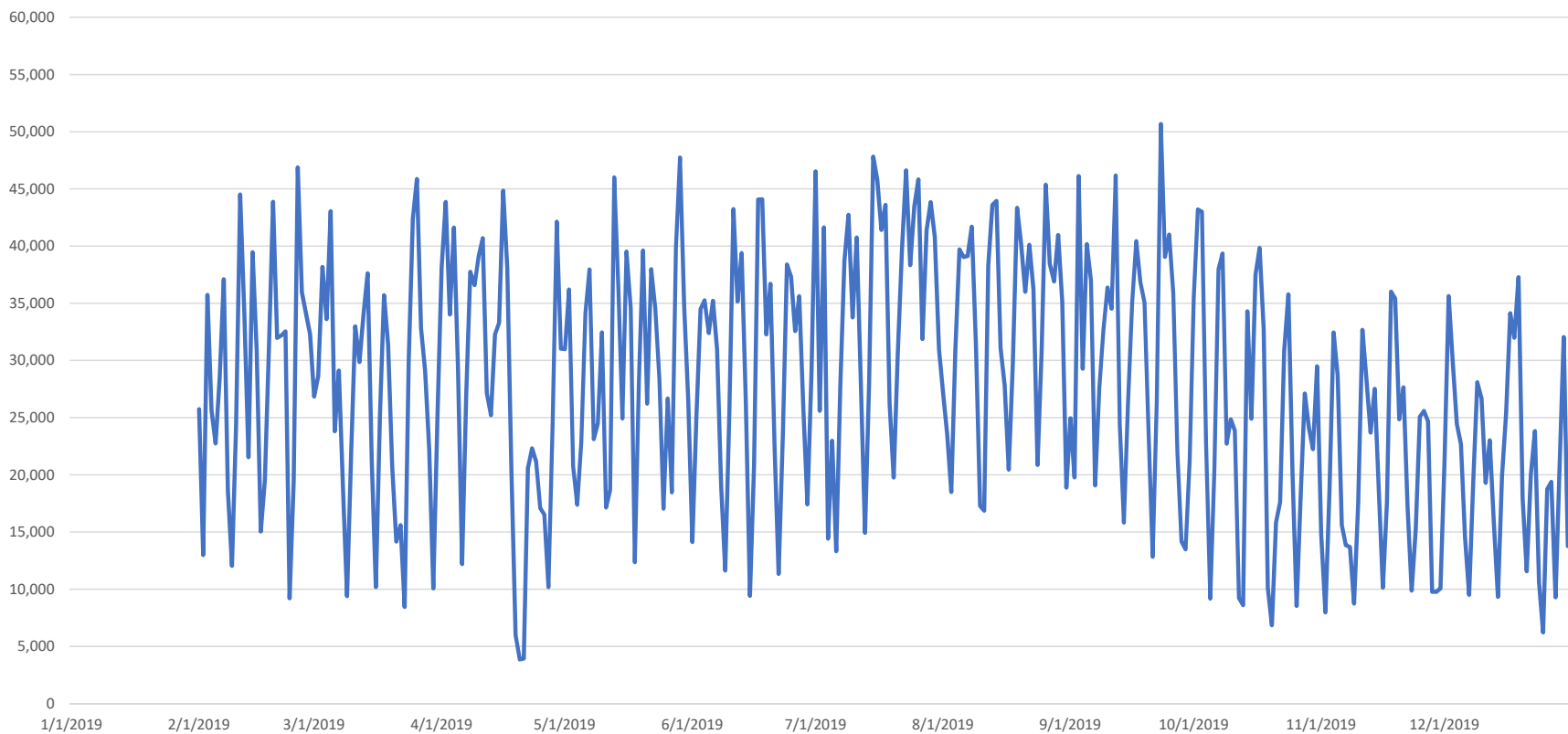
Figure II-5
Total Inside City Industrial
Daily Usage Per Average Sampled Customer



City of Bethlehem
Customer Class Demand Study
Table II-6
Industrial Outside City Customer Data
2019 Average and Maximum Consumption (in gallons)

Type	Daily				Hourly			
	Annual Average	Maximum	Ratio	Date of Maximum	Annual Average	Maximum	Ratio	Date and Time of Maximum
Industrial 1	2,692	7,310	2.72	3/19/2019	112	980	8.71	7/3/19 1:00 AM
Industrial 2	56,579	102,910	1.82	8/20/2019	2,331	10,000	4.29	2/26/19 9:00 AM
Industrial 3	42,686	167,760	3.93	3/2/2019	1,779	23,860	13.41	2/26/19 1:00 PM
Industrial 4	55,911	145,220	2.60	3/26/2019	2,329	9,350	4.01	7/26/19 3:00 AM
Industrial 5	1,963	11,360	5.79	4/6/2019	84	1,030	12.27	4/2/19 10:00 AM
Industrial 6	33,454	73,890	2.21	10/17/2019	1,393	5,750	4.13	7/16/19 8:00 AM
Industrial 7	3,033	12,510	4.12	7/19/2019	126	4,320	34.19	7/12/19 8:00 PM
Class Average of Sampled Customers	28,045	50,676	1.81	9/23/2019	1,169	4,380	3.75	2/26/19 1:00 PM

Figure II-6
Total Outside City Industrial
Daily Usage Per Average Sampled Customer



SALES FOR RESALE CUSTOMER CLASS

The average and maximum usage data for the sales for resale customers is shown in Table II-7 and displays the maximum day and hour ratios and the dates on which the maximums occur. Figure II-7 is a graphical analysis of the Sales for Resale class daily usage per average sampled customer.

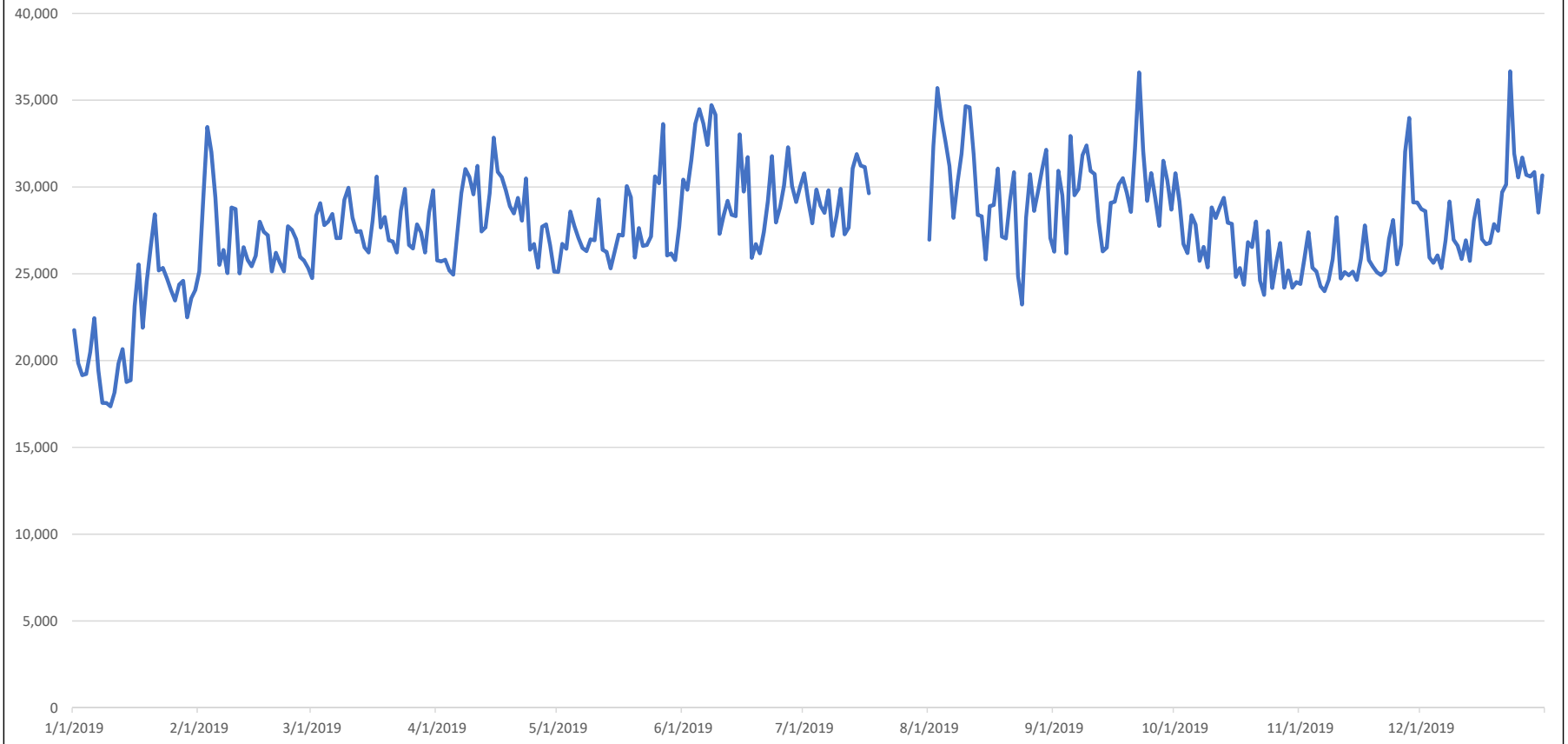
Table II-7 displays the maximum day and hour ratios for the sales for resale customers for each of the service areas. Based on these results, the maximum day ratio for the sales for resale customer class is estimated at 1.3. The maximum hour ratio for the sales for resale class is estimated at 2.5.

**City of Bethlehem
Customer Class Demand Study
Table II-7**

**Resale Customer Data
2019 Average and Maximum Consumption (in gallons)**

Type/Area/Street	Daily				Hourly			
	Annual Average	Maximum	Ratio	Date of Maximum	Annual Average	Maximum	Ratio	Date and Time of Maximum
Schoenersville	707	5,380	7.61	7/27/2019	29	1,790	61.19	7/27/19 4:00 AM
Blair Road	87,813	162,950	1.86	6/4/2019	3,380	34,760	10.28	9/5/19 12:00 PM
Bridal Path Rd	55,940	88,140	1.58	10/1/2019	2,158	10,270	4.76	1/19/19 10:00 AM
Total Westgate Utilities	144,460	232,130	1.61	6/4/2019	5,567	36,860	6.62	9/5/19 12:00 PM
Kohler	752	2,880	3.83	5/18/2019	31	250	8.00	2/7/19 9:00 PM
University Heights	15,275	60,130	3.94	4/23/2019	636	18,470	29.06	4/23/19 1:00 PM
Stonesthrow	9,167	35,920	3.92	4/8/2019	381	17,710	46.44	4/8/19 9:00 AM
Steel City	26,930	79,100	2.94	4/15/2019	1,123	8,850	7.88	4/15/19 12:00 PM
Friedensville	72,067	136,740	1.90	4/18/2019	2,989	28,460	9.52	4/17/19 3:00 PM
Commerce	9,996	38,620	3.86	2/4/2019	387	8,640	22.31	2/5/19 2:00 AM
Saucon Meadow	810	3,600	4.44	11/28/2019	34	390	11.58	11/24/19 6:00 PM
Seidersville	1,003	9,580	9.56	2/6/2019	42	2,960	70.92	4/23/19 2:00 PM
Clauser Dr	80,899	235,640	2.91	12/24/2019	3,371	22,120	6.56	12/23/19 8:00 AM
Black River	108,891	265,890	2.44	8/3/2019	4,246	27,060	6.37	4/16/19 10:00 AM
Total Lower Saucon Township	325,788	461,660	1.42	12/23/2019	13,210	40,490	3.07	4/8/19 9:00 AM
Promenade	56	2,380	42.56	9/17/2019	3	2,380	862.66	9/17/19 7:00 AM
Zinc Blending	11,055	58,430	5.29	10/21/2019	460	10,580	23.00	1/6/19 4:00 PM
Augusta Dr	162	18,000	111.36	9/23/2019	7	7,000	1,039.20	9/22/19 11:00 PM
Total Upper Saucon Township	11,272	58,540	5.19	10/21/2019	469	10,580	22.55	1/6/19 4:00 PM
Alex Court	514	2,980	5.80	4/23/2019	22	390	17.94	7/13/19 5:00 PM
Total Salisbury Township	514	2,980	5.80	4/23/2019	22	390	18.38	7/13/19 5:00 PM
Class Average of Sampled Customers	28,355	36,664	1.29	12/23/2019	1,181	2,969	2.51	9/5/19 12:00 PM

Figure II-7
Sales for Resale
Daily Usage Per Average Sampled Customer



PART III. ANNUAL DAILY USAGE PER CUSTOMER

City of Bethlehem
Table III-1
Residential Inside City
Annual Daily Usage Per Customer (in gallons)

Residential Inside City - Daily Avg	Day of Week	Date	Total Residential Inside City	Total High Density	Total Medium Density	Max Hour
5,815	3	1/1/2019	11,630	4,110	7,520	1,700
5,495	4	1/2/2019	10,990	4,710	6,280	1,520
4,760	5	1/3/2019	9,520	3,780	5,740	1,450
3,865	6	1/4/2019	7,730	2,890	4,840	1,600
5,060	7	1/5/2019	10,120	4,690	5,430	1,470
5,800	1	1/6/2019	11,600	4,000	7,600	1,690
5,340	2	1/7/2019	10,680	4,600	6,080	1,630
4,755	3	1/8/2019	9,510	3,670	5,840	1,400
4,825	4	1/9/2019	9,650	3,770	5,880	1,130
4,630	5	1/10/2019	9,260	3,490	5,770	700
4,170	6	1/11/2019	8,340	3,310	5,030	630
4,975	7	1/12/2019	9,950	3,880	6,070	880
5,440	1	1/13/2019	10,880	4,110	6,770	800
6,620	2	1/14/2019	13,240	7,340	5,900	860
6,220	3	1/15/2019	12,440	6,870	5,570	840
5,325	4	1/16/2019	10,650	4,880	5,770	780
5,585	5	1/17/2019	11,170	5,680	5,490	710
6,180	6	1/18/2019	12,360	7,180	5,180	840
5,255	7	1/19/2019	10,510	4,720	5,790	800
6,180	1	1/20/2019	12,360	4,480	7,880	940
4,870	2	1/21/2019	9,740	3,930	5,810	770
4,375	3	1/22/2019	8,750	3,260	5,490	640
6,410	4	1/23/2019	12,820	6,370	6,450	810
4,735	5	1/24/2019	9,470	3,880	5,590	750
5,070	6	1/25/2019	10,140	4,540	5,600	860
6,595	7	1/26/2019	13,190	6,270	6,920	880
5,305	1	1/27/2019	10,610	3,860	6,750	770
5,510	2	1/28/2019	11,020	5,780	5,240	760
5,580	3	1/29/2019	11,160	5,080	6,080	760
5,370	4	1/30/2019	10,740	3,930	6,810	760
6,075	5	1/31/2019	12,150	6,610	5,540	790
5,860	6	2/1/2019	11,720	5,290	6,430	780
6,680	7	2/2/2019	13,360	6,450	6,910	1,080
5,685	1	2/3/2019	11,370	4,480	6,890	860
6,975	2	2/4/2019	13,950	7,650	6,300	830
6,505	3	2/5/2019	13,010	6,770	6,240	860
5,640	4	2/6/2019	11,280	5,890	5,390	710
4,345	5	2/7/2019	8,690	3,070	5,620	660
5,665	6	2/8/2019	11,330	5,660	5,670	820
5,180	7	2/9/2019	10,360	4,800	5,560	870
5,425	1	2/10/2019	10,850	4,080	6,770	890
4,360	2	2/11/2019	8,720	3,430	5,290	910
4,845	3	2/12/2019	9,690	3,750	5,940	650
4,170	4	2/13/2019	8,340	3,500	4,840	560
4,665	5	2/14/2019	9,330	3,300	6,030	770
4,245	6	2/15/2019	8,490	3,430	5,060	590
5,120	7	2/16/2019	10,240	3,740	6,500	800
5,160	1	2/17/2019	10,320	3,230	7,090	880
4,745	2	2/18/2019	9,490	3,380	6,110	810
4,305	3	2/19/2019	8,610	3,020	5,590	790
4,810	4	2/20/2019	9,620	3,600	6,020	620
4,795	5	2/21/2019	9,590	3,300	6,290	710

City of Bethlehem
Table III-1
Residential Inside City
Annual Daily Usage Per Customer (in gallons)

Residential Inside City - Daily Avg	Day of Week	Date	Total Residential Inside City	Total High Density	Total Medium Density	Max Hour
4,145	6	2/22/2019	8,290	3,360	4,930	650
5,545	7	2/23/2019	11,090	4,390	6,700	790
5,010	1	2/24/2019	10,020	4,210	5,810	800
4,540	2	2/25/2019	9,080	3,500	5,580	590
4,805	3	2/26/2019	9,610	3,690	5,920	760
4,620	4	2/27/2019	9,240	3,130	6,110	690
4,560	5	2/28/2019	9,120	3,250	5,870	600
5,115	6	3/1/2019	10,230	4,060	6,170	670
5,000	7	3/2/2019	10,000	3,220	6,780	790
5,065	1	3/3/2019	10,130	3,430	6,700	740
5,020	2	3/4/2019	10,040	3,420	6,620	760
4,225	3	3/5/2019	8,450	2,750	5,700	740
4,730	4	3/6/2019	9,460	2,790	6,670	840
4,340	5	3/7/2019	8,680	2,930	5,750	680
5,310	6	3/8/2019	10,620	4,710	5,910	780
6,940	7	3/9/2019	13,880	7,570	6,310	1,080
7,120	1	3/10/2019	14,240	7,440	6,800	940
5,740	2	3/11/2019	11,480	5,940	5,540	780
4,475	3	3/12/2019	8,950	2,970	5,980	870
5,935	4	3/13/2019	11,870	5,620	6,250	950
4,455	5	3/14/2019	8,910	3,290	5,620	780
4,705	6	3/15/2019	9,410	3,550	5,860	670
6,080	7	3/16/2019	12,160	4,780	7,380	1,020
5,370	1	3/17/2019	10,740	3,550	7,190	840
5,280	2	3/18/2019	10,560	4,300	6,260	1,040
5,925	3	3/19/2019	11,850	4,900	6,950	850
4,810	4	3/20/2019	9,620	3,480	6,140	780
5,660	5	3/21/2019	11,320	4,790	6,530	760
4,360	6	3/22/2019	8,720	3,500	5,220	700
5,780	7	3/23/2019	11,560	4,930	6,630	900
5,655	1	3/24/2019	11,310	4,190	7,120	820
4,710	2	3/25/2019	9,420	3,820	5,600	610
4,680	3	3/26/2019	9,360	3,420	5,940	650
4,695	4	3/27/2019	9,390	3,390	6,000	800
4,785	5	3/28/2019	9,570	3,430	6,140	740
4,835	6	3/29/2019	9,670	3,700	5,970	800
6,065	7	3/30/2019	12,130	5,450	6,680	900
5,605	1	3/31/2019	11,210	3,530	7,680	840
4,965	2	4/1/2019	9,930	3,140	6,790	820
5,335	3	4/2/2019	10,670	3,380	7,290	720
4,745	4	4/3/2019	9,490	3,610	5,880	690
4,680	5	4/4/2019	9,360	3,680	5,680	710
4,805	6	4/5/2019	9,610	3,980	5,630	730
5,070	7	4/6/2019	10,140	3,520	6,620	970
6,050	1	4/7/2019	12,100	5,440	6,660	1,160
5,370	2	4/8/2019	10,740	3,210	7,530	710
5,765	3	4/9/2019	11,530	5,280	6,250	960
4,830	4	4/10/2019	9,660	3,600	6,060	730
4,235	5	4/11/2019	8,470	3,150	5,320	620
4,535	6	4/12/2019	9,070	3,380	5,690	720
6,535	7	4/13/2019	13,070	5,620	7,450	1,050
5,825	1	4/14/2019	11,650	4,260	7,390	970

City of Bethlehem
Table III-1
Residential Inside City
Annual Daily Usage Per Customer (in gallons)

Residential Inside City - Daily Avg	Day of Week	Date	Total Residential Inside City	Total High Density	Total Medium Density	Max Hour
5,165	2	4/15/2019	10,330	4,500	5,830	680
4,870	3	4/16/2019	9,740	3,130	6,610	810
6,045	4	4/17/2019	12,090	3,100	8,990	880
4,630	5	4/18/2019	9,260	3,190	6,070	630
5,235	6	4/19/2019	10,470	4,000	6,470	960
5,515	7	4/20/2019	11,030	3,940	7,090	1,060
6,500	1	4/21/2019	13,000	5,100	7,900	1,230
6,040	2	4/22/2019	12,080	4,250	7,830	830
4,800	3	4/23/2019	9,600	3,260	6,340	740
5,575	4	4/24/2019	11,150	4,170	6,980	770
5,465	5	4/25/2019	10,930	3,870	7,060	670
5,070	6	4/26/2019	10,140	3,720	6,420	740
5,500	7	4/27/2019	11,000	3,820	7,180	780
5,825	1	4/28/2019	11,650	3,840	7,810	920
5,370	2	4/29/2019	10,740	3,760	6,980	770
4,730	3	4/30/2019	9,460	3,470	5,990	850
5,065	4	5/1/2019	10,130	3,690	6,440	830
4,970	5	5/2/2019	9,940	3,440	6,500	760
4,985	6	5/3/2019	9,970	4,000	5,970	720
5,285	7	5/4/2019	10,570	4,330	6,240	850
5,825	1	5/5/2019	11,650	4,290	7,360	920
5,515	2	5/6/2019	11,030	3,960	7,070	750
5,030	3	5/7/2019	10,060	3,630	6,430	760
5,375	4	5/8/2019	10,750	4,640	6,110	890
4,775	5	5/9/2019	9,550	2,970	6,580	720
5,400	6	5/10/2019	10,800	3,390	7,410	740
5,815	7	5/11/2019	11,630	4,460	7,170	1,040
5,595	1	5/12/2019	11,190	3,720	7,470	860
5,340	2	5/13/2019	10,680	3,410	7,270	760
5,325	3	5/14/2019	10,650	3,680	6,970	790
5,610	4	5/15/2019	11,220	3,160	8,060	820
5,455	5	5/16/2019	10,910	3,830	7,080	730
5,640	6	5/17/2019	11,280	3,760	7,520	970
6,155	7	5/18/2019	12,310	4,070	8,240	940
6,490	1	5/19/2019	12,980	4,150	8,830	980
5,020	2	5/20/2019	10,040	3,750	6,290	730
6,370	3	5/21/2019	12,740	4,350	8,390	950
5,820	4	5/22/2019	11,640	4,570	7,070	970
6,470	5	5/23/2019	12,940	5,940	7,000	870
7,425	6	5/24/2019	14,850	7,280	7,570	1,070
7,595	7	5/25/2019	15,190	6,030	9,160	1,020
7,150	1	5/26/2019	14,300	4,960	9,340	1,000
7,985	2	5/27/2019	15,970	6,600	9,370	1,270
5,775	3	5/28/2019	11,550	4,190	7,360	760
6,535	4	5/29/2019	13,070	3,960	9,110	830
6,420	5	5/30/2019	12,840	4,100	8,740	890
5,815	6	5/31/2019	11,630	4,030	7,600	1,030
6,615	7	6/1/2019	13,230	4,220	9,010	930
5,800	1	6/2/2019	11,600	4,550	7,050	950
5,290	2	6/3/2019	10,580	3,700	6,880	710
5,440	3	6/4/2019	10,880	4,000	6,880	710
5,140	4	6/5/2019	10,280	3,250	7,030	780

City of Bethlehem
Table III-1
Residential Inside City
Annual Daily Usage Per Customer (in gallons)

Residential Inside City - Daily Avg	Day of Week	Date	Total Residential Inside City	Total High Density	Total Medium Density	Max Hour
5,195	5	6/6/2019	10,390	3,710	6,680	850
5,095	6	6/7/2019	10,190	3,810	6,380	770
6,505	7	6/8/2019	13,010	4,330	8,680	1,010
5,860	1	6/9/2019	11,720	3,770	7,950	810
7,190	2	6/10/2019	14,380	7,990	6,390	1,130
6,240	3	6/11/2019	12,480	6,560	5,920	780
6,860	4	6/12/2019	13,720	6,970	6,750	940
6,330	5	6/13/2019	12,660	6,040	6,620	750
6,865	6	6/14/2019	13,730	6,040	7,690	1,070
5,830	7	6/15/2019	11,660	5,580	6,080	1,050
5,665	1	6/16/2019	11,330	4,690	6,640	880
5,320	2	6/17/2019	10,640	4,820	5,820	740
4,535	3	6/18/2019	9,070	4,000	5,070	620
4,430	4	6/19/2019	8,860	3,470	5,390	580
4,715	5	6/20/2019	9,430	3,960	5,470	590
4,925	6	6/21/2019	9,850	3,900	5,950	790
5,280	7	6/22/2019	10,560	4,610	5,950	740
5,980	1	6/23/2019	11,960	4,580	7,380	880
5,565	2	6/24/2019	11,130	4,400	6,730	830
5,130	3	6/25/2019	10,260	4,180	6,080	700
5,190	4	6/26/2019	10,380	3,680	6,700	740
5,605	5	6/27/2019	11,210	4,600	6,610	910
6,370	6	6/28/2019	12,740	5,730	7,010	750
5,220	7	6/29/2019	10,440	4,340	6,100	680
6,275	1	6/30/2019	12,550	4,840	7,710	1,030
5,465	2	7/1/2019	10,930	4,540	6,390	730
5,310	3	7/2/2019	10,620	4,780	5,840	750
4,730	4	7/3/2019	9,460	3,840	5,620	660
5,695	5	7/4/2019	11,390	4,390	7,000	930
5,790	6	7/5/2019	11,580	4,080	7,500	710
5,305	7	7/6/2019	10,610	4,070	6,540	850
5,325	1	7/7/2019	10,650	4,270	6,380	640
4,810	2	7/8/2019	9,620	3,580	6,040	680
4,935	3	7/9/2019	9,870	3,940	5,930	700
5,210	4	7/10/2019	10,420	3,630	6,790	700
4,785	5	7/11/2019	9,570	3,910	5,660	620
4,635	6	7/12/2019	9,270	3,870	5,400	710
5,525	7	7/13/2019	11,050	3,910	7,140	780
7,345	1	7/14/2019	14,690	4,590	10,100	1,100
5,140	2	7/15/2019	10,280	4,000	6,280	690
5,360	3	7/16/2019	10,720	3,920	6,800	780
5,745	4	7/17/2019	11,490	5,520	5,970	790
6,495	5	7/18/2019	12,990	7,380	5,610	800
5,610	6	7/19/2019	11,220	5,480	5,740	750
5,620	7	7/20/2019	11,240	4,200	7,040	730
6,630	1	7/21/2019	13,260	4,910	8,350	1,130
5,130	2	7/22/2019	10,260	4,250	6,010	710
5,020	3	7/23/2019	10,040	4,220	5,820	630
5,600	4	7/24/2019	11,200	4,100	7,100	720
5,345	5	7/25/2019	10,690	3,950	6,740	890
4,945	6	7/26/2019	9,890	3,710	6,180	850
6,410	7	7/27/2019	12,820	3,850	8,970	980

City of Bethlehem
Table III-1
Residential Inside City
Annual Daily Usage Per Customer (in gallons)

Residential Inside City - Daily Avg	Day of Week	Date	Total Residential Inside City	Total High Density	Total Medium Density	Max Hour
5,345	1	7/28/2019	10,690	3,730	6,960	790
5,975	2	7/29/2019	11,950	4,360	7,590	1,020
5,800	3	7/30/2019	11,600	4,030	7,570	930
5,810	4	7/31/2019	11,620	4,270	7,350	870
6,005	5	8/1/2019	12,010	3,830	8,180	860
5,725	6	8/2/2019	11,450	3,860	7,590	760
6,955	7	8/3/2019	13,910	4,530	9,380	980
7,170	1	8/4/2019	14,340	4,760	9,580	1,210
6,715	2	8/5/2019	13,430	4,470	8,960	1,000
6,100	3	8/6/2019	12,200	4,310	7,890	1,010
6,300	4	8/7/2019	12,600	4,290	8,310	740
6,255	5	8/8/2019	12,510	4,720	7,790	870
6,075	6	8/9/2019	12,150	4,380	7,770	900
6,140	7	8/10/2019	12,280	3,820	8,460	930
7,120	1	8/11/2019	14,240	4,050	10,190	1,280
6,355	2	8/12/2019	12,710	4,320	8,390	890
6,165	3	8/13/2019	12,330	4,820	7,510	850
6,040	4	8/14/2019	12,080	4,570	7,510	820
5,380	5	8/15/2019	10,760	4,130	6,630	670
6,235	6	8/16/2019	12,470	4,140	8,330	990
6,550	7	8/17/2019	13,100	4,300	8,800	770
7,100	1	8/18/2019	14,200	5,230	8,970	960
5,755	2	8/19/2019	11,510	4,350	7,160	850
6,055	3	8/20/2019	12,110	4,320	7,790	1,150
6,070	4	8/21/2019	12,140	4,490	7,650	910
5,895	5	8/22/2019	11,790	4,370	7,420	810
5,000	6	8/23/2019	10,000	4,420	5,580	660
5,335	7	8/24/2019	10,670	4,690	5,980	810
6,030	1	8/25/2019	12,060	4,570	7,490	870
5,625	2	8/26/2019	11,250	4,650	6,600	990
5,990	3	8/27/2019	11,980	5,200	6,780	900
5,335	4	8/28/2019	10,670	4,260	6,410	750
4,875	5	8/29/2019	9,750	3,980	5,770	760
5,680	6	8/30/2019	11,360	5,020	6,340	800
5,670	7	8/31/2019	11,340	4,800	6,540	870
5,735	1	9/1/2019	11,470	5,210	6,260	870
5,840	2	9/2/2019	11,680	5,640	6,040	780
5,265	3	9/3/2019	10,530	4,910	5,620	810
5,380	4	9/4/2019	10,760	4,450	6,310	760
6,390	5	9/5/2019	12,780	5,490	7,290	860
5,000	6	9/6/2019	10,000	4,590	5,410	830
6,285	7	9/7/2019	12,570	4,930	7,640	890
6,535	1	9/8/2019	13,070	5,100	7,970	950
5,475	2	9/9/2019	10,950	4,000	6,950	930
5,065	3	9/10/2019	10,130	3,960	6,170	770
5,285	4	9/11/2019	10,570	4,020	6,550	930
4,840	5	9/12/2019	9,680	4,310	5,370	660
5,240	6	9/13/2019	10,480	4,500	5,980	710
5,765	7	9/14/2019	11,530	4,980	6,550	930
5,730	1	9/15/2019	11,460	4,750	6,710	800
5,405	2	9/16/2019	10,810	5,220	5,590	930
5,180	3	9/17/2019	10,360	4,680	5,680	790

City of Bethlehem
Table III-1
Residential Inside City
Annual Daily Usage Per Customer (in gallons)

Residential Inside City - Daily Avg	Day of Week	Date	Total Residential Inside City	Total High Density	Total Medium Density	Max Hour
4,940	4	9/18/2019	9,880	4,200	5,680	730
4,815	5	9/19/2019	9,630	3,970	5,660	740
6,070	6	9/20/2019	12,140	5,710	6,430	970
6,125	7	9/21/2019	12,250	5,690	6,560	930
6,290	1	9/22/2019	12,580	5,610	6,970	960
5,945	2	9/23/2019	11,890	5,190	6,700	760
6,070	3	9/24/2019	12,140	5,280	6,860	940
5,750	4	9/25/2019	11,500	4,980	6,520	880
5,575	5	9/26/2019	11,150	4,660	6,490	950
5,345	6	9/27/2019	10,690	4,960	5,730	810
5,455	7	9/28/2019	10,910	5,090	5,820	900
6,255	1	9/29/2019	12,510	5,450	7,060	860
6,195	2	9/30/2019	12,390	6,370	6,020	910
6,220	3	10/1/2019	12,440	6,220	6,220	910
6,685	4	10/2/2019	13,370	7,100	6,270	1,270
4,695	5	10/3/2019	9,390	4,500	4,890	750
4,680	6	10/4/2019	9,360	4,140	5,220	730
5,525	7	10/5/2019	11,050	5,160	5,890	900
6,150	1	10/6/2019	12,300	5,670	6,630	1,070
4,925	2	10/7/2019	9,850	4,740	5,110	740
4,725	3	10/8/2019	9,450	4,060	5,390	660
5,230	4	10/9/2019	10,460	4,330	6,130	720
4,830	5	10/10/2019	9,660	4,210	5,450	830
5,000	6	10/11/2019	10,000	4,860	5,140	850
5,060	7	10/12/2019	10,120	4,320	5,800	690
5,665	1	10/13/2019	11,330	4,870	6,460	1,050
5,315	2	10/14/2019	10,630	4,640	5,990	820
5,210	3	10/15/2019	10,420	4,250	6,170	670
5,275	4	10/16/2019	10,550	3,700	6,850	780
5,570	5	10/17/2019	11,140	4,040	7,100	780
5,160	6	10/18/2019	10,320	4,150	6,170	730
5,200	7	10/19/2019	10,400	4,330	6,070	840
5,885	1	10/20/2019	11,770	5,200	6,570	1,000
4,965	2	10/21/2019	9,930	4,540	5,390	700
5,015	3	10/22/2019	10,030	3,900	6,130	690
5,165	4	10/23/2019	10,330	4,390	5,940	660
4,495	5	10/24/2019	8,990	3,960	5,030	700
4,930	6	10/25/2019	9,860	4,010	5,850	740
5,045	7	10/26/2019	10,090	4,090	6,000	900
5,525	1	10/27/2019	11,050	4,550	6,500	800
5,360	2	10/28/2019	10,720	4,270	6,450	780
4,715	3	10/29/2019	9,430	3,940	5,490	700
4,695	4	10/30/2019	9,390	3,780	5,610	700
4,820	5	10/31/2019	9,640	4,140	5,500	750
4,765	6	11/1/2019	9,530	3,960	5,570	650
5,170	7	11/2/2019	10,340	4,420	5,920	830
5,575	1	11/3/2019	11,150	4,760	6,390	810
4,990	2	11/4/2019	9,980	4,160	5,820	710
5,870	3	11/5/2019	11,740	5,660	6,080	810
4,640	4	11/6/2019	9,280	3,940	5,340	810
4,980	5	11/7/2019	9,960	3,920	6,040	760
4,725	6	11/8/2019	9,450	3,940	5,510	670

City of Bethlehem
Table III-1
Residential Inside City
Annual Daily Usage Per Customer (in gallons)

Residential Inside City - Daily Avg	Day of Week	Date	Total Residential Inside City	Total High Density	Total Medium Density	Max Hour
5,020	7	11/9/2019	10,040	3,870	6,170	720
5,330	1	11/10/2019	10,660	4,190	6,470	760
4,945	2	11/11/2019	9,890	3,890	6,000	810
4,740	3	11/12/2019	9,480	3,880	5,600	780
4,940	4	11/13/2019	9,880	3,780	6,100	780
4,450	5	11/14/2019	8,900	3,430	5,470	770
5,710	6	11/15/2019	11,420	6,040	5,380	890
5,375	7	11/16/2019	10,750	4,300	6,450	900
5,215	1	11/17/2019	10,430	4,010	6,420	750
5,035	2	11/18/2019	10,070	4,330	5,740	750
5,165	3	11/19/2019	10,330	4,290	6,040	770
4,780	4	11/20/2019	9,560	4,180	5,380	730
5,115	5	11/21/2019	10,230	4,490	5,740	840
5,045	6	11/22/2019	10,090	4,110	5,980	740
5,380	7	11/23/2019	10,760	4,720	6,040	880
6,405	1	11/24/2019	12,810	4,640	8,170	920
5,760	2	11/25/2019	11,520	4,720	6,800	760
5,910	3	11/26/2019	11,820	5,460	6,360	830
5,630	4	11/27/2019	11,260	4,850	6,410	760
5,865	5	11/28/2019	11,730	5,120	6,610	1,100
6,055	6	11/29/2019	12,110	5,360	6,750	860
5,695	7	11/30/2019	11,390	5,180	6,210	840
5,725	1	12/1/2019	11,450	5,050	6,400	900
5,915	2	12/2/2019	11,830	4,990	6,840	700
5,155	3	12/3/2019	10,310	4,440	5,870	800
5,770	4	12/4/2019	11,540	5,080	6,460	850
5,260	5	12/5/2019	10,520	4,810	5,710	690
5,030	6	12/6/2019	10,060	4,050	6,010	690
5,300	7	12/7/2019	10,600	4,540	6,060	800
6,000	1	12/8/2019	12,000	4,900	7,100	880
4,970	2	12/9/2019	9,940	3,890	6,050	670
5,255	3	12/10/2019	10,510	4,270	6,240	710
4,925	4	12/11/2019	9,850	3,860	5,990	640
5,095	5	12/12/2019	10,190	3,660	6,530	770
5,475	6	12/13/2019	10,950	4,530	6,420	800
6,005	7	12/14/2019	12,010	4,380	7,630	820
6,625	1	12/15/2019	13,250	4,920	8,330	1,110
6,670	2	12/16/2019	13,340	5,630	7,710	920
5,090	3	12/17/2019	10,180	4,310	5,870	770
4,660	4	12/18/2019	9,320	3,800	5,520	760
5,020	5	12/19/2019	10,040	4,120	5,920	730
4,690	6	12/20/2019	9,380	4,200	5,180	670
5,520	7	12/21/2019	11,040	4,830	6,210	730
5,710	1	12/22/2019	11,420	4,670	6,750	830
5,470	2	12/23/2019	10,940	4,140	6,800	790
5,820	3	12/24/2019	11,640	4,340	7,300	930
5,250	4	12/25/2019	10,500	3,860	6,640	730
5,215	5	12/26/2019	10,430	4,480	5,950	800
4,950	6	12/27/2019	9,900	3,960	5,940	680
5,420	7	12/28/2019	10,840	4,610	6,230	840
5,495	1	12/29/2019	10,990	3,730	7,260	870
5,155	2	12/30/2019	10,310	4,060	6,250	770

City of Bethlehem
Table III-1
Residential Inside City
Annual Daily Usage Per Customer (in gallons)

Residential Inside City - Daily Avg	Day of Week	Date	Total Residential Inside City	Total High Density	Total Medium Density	Max Hour
5,010	3	12/31/2019	10,020	4,320	5,700	710

City of Bethlehem
Table III-2
Residential Outside City
Annual Daily Usage Per Customer (in gallons)

Residential Outside - Daily Average	Day of Week	Date	Total Residential Outside	Total High Density	Total Medium Density	Total Low Density	Max Hour
6,510	3	1/1/2019	19,530	3,860	8,230	7,440	1,630
6,313	4	1/2/2019	18,940	3,800	7,860	7,280	2,170
5,657	5	1/3/2019	16,970	3,400	6,730	6,840	1,310
5,390	6	1/4/2019	16,170	4,000	6,640	5,530	1,320
6,143	7	1/5/2019	18,430	3,670	7,790	6,970	1,890
6,543	1	1/6/2019	19,630	3,440	9,190	7,000	2,150
6,370	2	1/7/2019	19,110	3,580	7,880	7,650	1,990
5,677	3	1/8/2019	17,030	3,190	7,410	6,430	1,410
5,750	4	1/9/2019	17,250	3,250	8,000	6,000	1,830
6,133	5	1/10/2019	18,400	3,210	7,270	7,920	1,420
6,023	6	1/11/2019	18,070	3,400	7,030	7,640	1,400
6,843	7	1/12/2019	20,530	3,460	7,020	10,050	1,480
6,787	1	1/13/2019	20,360	3,700	8,030	8,630	1,570
6,940	2	1/14/2019	20,820	3,780	8,010	9,030	1,330
5,960	3	1/15/2019	17,880	3,350	6,770	7,760	1,560
6,193	4	1/16/2019	18,580	3,550	7,630	7,400	1,260
5,963	5	1/17/2019	17,890	3,560	7,200	7,130	1,260
6,083	6	1/18/2019	18,250	4,020	7,120	7,110	1,390
5,930	7	1/19/2019	17,790	3,000	7,880	6,910	1,590
6,470	1	1/20/2019	19,410	3,250	8,640	7,520	1,650
5,850	2	1/21/2019	17,550	3,390	7,080	7,080	1,320
5,857	3	1/22/2019	17,570	3,280	6,650	7,640	1,240
5,493	4	1/23/2019	16,480	2,980	7,470	6,030	1,230
5,337	5	1/24/2019	16,010	3,030	6,410	6,570	1,090
5,663	6	1/25/2019	16,990	3,600	6,650	6,740	1,270
5,787	7	1/26/2019	17,360	3,380	7,080	6,900	1,360
6,663	1	1/27/2019	19,990	3,590	8,430	7,970	1,640
5,730	2	1/28/2019	17,190	3,460	6,610	7,120	1,350
5,777	3	1/29/2019	17,330	3,290	7,210	6,830	1,220
5,880	4	1/30/2019	17,640	3,470	7,010	7,160	1,220
6,053	5	1/31/2019	18,160	3,820	6,920	7,420	1,520
6,317	6	2/1/2019	18,950	3,620	7,090	8,240	1,380
6,683	7	2/2/2019	20,050	3,510	8,180	8,360	1,600
6,707	1	2/3/2019	20,120	3,260	8,750	8,110	1,450
6,247	2	2/4/2019	18,740	3,270	8,170	7,300	1,200
6,117	3	2/5/2019	18,350	3,840	7,020	7,490	1,400
5,713	4	2/6/2019	17,140	3,690	7,410	6,040	1,420
5,670	5	2/7/2019	17,010	3,820	6,510	6,680	1,450
5,530	6	2/8/2019	16,590	3,180	6,820	6,590	1,360
6,403	7	2/9/2019	19,210	4,120	7,880	7,210	1,610
6,287	1	2/10/2019	18,860	3,660	8,040	7,160	1,490
6,023	2	2/11/2019	18,070	3,990	7,090	6,990	1,380
5,583	3	2/12/2019	16,750	3,480	7,430	5,840	1,270
5,707	4	2/13/2019	17,120	3,700	6,930	6,490	1,160
6,017	5	2/14/2019	18,050	3,000	7,510	7,540	1,310
6,237	6	2/15/2019	18,710	3,570	6,980	8,160	1,490
5,430	7	2/16/2019	16,290	3,180	7,250	5,860	1,350
6,333	1	2/17/2019	19,000	3,110	8,290	7,600	1,370
5,800	2	2/18/2019	17,400	3,370	7,430	6,600	1,620
5,663	3	2/19/2019	16,990	2,810	7,270	6,910	1,310
6,237	4	2/20/2019	18,710	4,130	7,360	7,220	1,290

City of Bethlehem
Table III-2
Residential Outside City
Annual Daily Usage Per Customer (in gallons)

Residential Outside - Daily Average	Day of Week	Date	Total Residential Outside	Total High Density	Total Medium Density	Total Low Density	Max Hour
5,633	5	2/21/2019	16,900	3,000	7,340	6,560	1,430
5,680	6	2/22/2019	17,040	3,510	6,280	7,250	1,400
5,683	7	2/23/2019	17,050	3,120	7,020	6,910	1,470
6,123	1	2/24/2019	18,370	3,310	8,130	6,930	1,360
5,697	2	2/25/2019	17,090	3,880	6,410	6,800	1,350
5,747	3	2/26/2019	17,240	3,330	6,510	7,400	1,330
6,010	4	2/27/2019	18,030	3,460	6,160	8,410	1,670
5,563	5	2/28/2019	16,690	2,930	6,660	7,100	1,190
5,743	6	3/1/2019	17,230	3,230	7,250	6,750	1,300
6,063	7	3/2/2019	18,190	3,480	7,770	6,940	1,690
6,283	1	3/3/2019	18,850	3,610	7,770	7,470	1,480
5,737	2	3/4/2019	17,210	3,540	6,850	6,820	1,410
4,990	3	3/5/2019	14,970	2,680	6,100	6,190	1,190
5,660	4	3/6/2019	16,980	3,190	7,430	6,360	1,390
5,933	5	3/7/2019	17,800	2,740	7,310	7,750	1,430
5,677	6	3/8/2019	17,030	3,390	6,730	6,910	1,340
5,947	7	3/9/2019	17,840	3,390	7,580	6,870	1,380
6,507	1	3/10/2019	19,520	3,230	8,520	7,770	1,650
5,810	2	3/11/2019	17,430	2,760	7,480	7,190	1,300
5,737	3	3/12/2019	17,210	2,970	7,360	6,880	1,420
5,820	4	3/13/2019	17,460	3,030	7,390	7,040	1,330
5,447	5	3/14/2019	16,340	2,670	7,190	6,480	1,330
5,187	6	3/15/2019	15,560	3,220	6,680	5,660	1,140
6,053	7	3/16/2019	18,160	3,240	8,430	6,490	1,470
5,840	1	3/17/2019	17,520	3,190	7,420	6,910	1,480
5,627	2	3/18/2019	16,880	3,270	6,320	7,290	1,350
5,307	3	3/19/2019	15,920	2,640	6,330	6,950	1,250
5,507	4	3/20/2019	16,520	3,010	6,300	7,210	1,280
5,587	5	3/21/2019	16,760	3,340	6,710	6,710	1,300
5,417	6	3/22/2019	16,250	3,130	7,080	6,040	1,300
5,690	7	3/23/2019	17,070	3,530	6,730	6,810	1,630
6,287	1	3/24/2019	18,860	3,390	7,370	8,100	1,530
6,277	2	3/25/2019	18,830	3,430	7,580	7,820	1,450
5,790	3	3/26/2019	17,370	3,060	6,210	8,100	1,330
6,293	4	3/27/2019	18,880	3,100	7,660	8,120	1,530
6,410	5	3/28/2019	19,230	3,230	7,050	8,950	1,270
7,763	6	3/29/2019	23,290	3,590	6,780	12,920	1,360
8,770	7	3/30/2019	26,310	3,660	7,840	14,810	1,980
6,297	1	3/31/2019	18,890	3,880	7,940	7,070	1,270
6,090	2	4/1/2019	18,270	3,230	6,780	8,260	1,450
6,337	3	4/2/2019	19,010	3,450	7,800	7,760	1,310
8,080	4	4/3/2019	24,240	3,100	6,910	14,230	1,820
6,887	5	4/4/2019	20,660	3,010	6,870	10,780	1,470
5,850	6	4/5/2019	17,550	3,320	6,630	7,600	1,280
6,417	7	4/6/2019	19,250	3,170	8,140	7,940	1,580
7,120	1	4/7/2019	21,360	3,360	10,100	7,900	1,670
5,760	2	4/8/2019	17,280	2,870	7,280	7,130	1,310
6,317	3	4/9/2019	18,950	3,230	7,150	8,570	1,350
5,640	4	4/10/2019	16,920	2,700	7,030	7,190	1,520
5,410	5	4/11/2019	16,230	3,070	6,340	6,820	1,380
5,547	6	4/12/2019	16,640	3,070	6,900	6,670	1,530

City of Bethlehem
Table III-2
Residential Outside City
Annual Daily Usage Per Customer (in gallons)

Residential Outside - Daily Average	Day of Week	Date	Total Residential Outside	Total High Density	Total Medium Density	Total Low Density	Max Hour
5,980	7	4/13/2019	17,940	3,560	7,710	6,670	1,620
6,503	1	4/14/2019	19,510	3,590	8,210	7,710	1,430
5,770	2	4/15/2019	17,310	3,370	7,410	6,530	1,480
5,613	3	4/16/2019	16,840	2,980	7,270	6,590	1,350
5,613	4	4/17/2019	16,840	3,090	7,070	6,680	1,350
5,973	5	4/18/2019	17,920	3,100	8,350	6,470	1,260
6,253	6	4/19/2019	18,760	3,710	7,110	7,940	1,660
6,890	7	4/20/2019	20,670	3,770	8,750	8,150	1,770
7,023	1	4/21/2019	21,070	4,140	8,190	8,740	1,730
6,347	2	4/22/2019	19,040	3,400	8,270	7,370	1,390
6,217	3	4/23/2019	18,650	3,110	7,850	7,690	1,550
6,300	4	4/24/2019	18,900	3,360	6,580	8,960	1,600
6,217	5	4/25/2019	18,650	3,250	7,100	8,300	1,360
5,530	6	4/26/2019	16,590	3,090	7,170	6,330	1,290
7,097	7	4/27/2019	21,290	3,660	7,660	9,970	1,630
9,587	1	4/28/2019	28,760	4,050	9,000	15,710	1,810
7,093	2	4/29/2019	21,280	3,850	6,850	10,580	1,510
7,983	3	4/30/2019	23,950	3,100	7,850	13,000	1,740
6,017	4	5/1/2019	18,050	2,800	6,810	8,440	1,380
8,270	5	5/2/2019	24,810	2,950	7,330	14,530	1,850
6,920	6	5/3/2019	20,760	3,140	7,540	10,080	1,620
5,887	7	5/4/2019	17,660	3,100	7,270	7,290	1,400
6,630	1	5/5/2019	19,890	3,920	8,280	7,690	1,510
6,097	2	5/6/2019	18,290	3,310	7,460	7,520	1,350
6,243	3	5/7/2019	18,730	3,110	8,010	7,610	1,400
6,233	4	5/8/2019	18,700	2,980	7,040	8,680	1,490
7,437	5	5/9/2019	22,310	3,030	6,580	12,700	1,490
9,210	6	5/10/2019	27,630	3,280	6,910	17,440	1,720
9,073	7	5/11/2019	27,220	3,710	9,170	14,340	1,790
6,967	1	5/12/2019	20,900	4,040	9,250	7,610	1,880
6,527	2	5/13/2019	19,580	3,280	7,770	8,530	1,480
7,467	3	5/14/2019	22,400	3,350	8,310	10,740	1,470
6,187	4	5/15/2019	18,560	3,270	6,990	8,300	1,330
6,670	5	5/16/2019	20,010	3,120	8,570	8,320	1,470
7,810	6	5/17/2019	23,430	3,570	7,890	11,970	1,560
7,640	7	5/18/2019	22,920	3,690	9,030	10,200	1,860
8,910	1	5/19/2019	26,730	3,790	8,440	14,500	2,490
7,667	2	5/20/2019	23,000	2,840	7,290	12,870	1,520
7,250	3	5/21/2019	21,750	3,500	7,230	11,020	1,600
7,117	4	5/22/2019	21,350	3,100	6,940	11,310	1,460
7,783	5	5/23/2019	23,350	3,120	7,240	12,990	1,540
8,117	6	5/24/2019	24,350	2,970	7,380	14,000	1,970
7,873	7	5/25/2019	23,620	2,910	9,740	10,970	1,820
11,060	1	5/26/2019	33,180	3,360	11,050	18,770	2,920
9,557	2	5/27/2019	28,670	3,520	9,910	15,240	2,100
9,170	3	5/28/2019	27,510	3,060	7,770	16,680	1,960
7,273	4	5/29/2019	21,820	3,080	7,460	11,280	1,410
9,937	5	5/30/2019	29,810	3,280	6,850	19,680	2,110
10,990	6	5/31/2019	32,970	2,890	6,970	23,110	2,300
8,353	7	6/1/2019	25,060	3,750	9,080	12,230	1,860
9,843	1	6/2/2019	29,530	3,920	8,630	16,980	1,950

City of Bethlehem
Table III-2
Residential Outside City
Annual Daily Usage Per Customer (in gallons)

Residential Outside - Daily Average	Day of Week	Date	Total Residential Outside	Total High Density	Total Medium Density	Total Low Density	Max Hour
8,940	2	6/3/2019	26,820	3,600	8,530	14,690	1,950
8,870	3	6/4/2019	26,610	3,110	7,500	16,000	1,840
8,723	4	6/5/2019	26,170	3,400	7,440	15,330	1,920
9,913	5	6/6/2019	29,740	3,210	7,550	18,980	1,780
8,740	6	6/7/2019	26,220	3,540	7,150	15,530	1,700
9,120	7	6/8/2019	27,360	3,420	9,120	14,820	2,420
11,007	1	6/9/2019	33,020	4,430	9,170	19,420	2,600
9,553	2	6/10/2019	28,660	3,300	6,510	18,850	1,840
8,230	3	6/11/2019	24,690	3,090	7,830	13,770	2,100
8,593	4	6/12/2019	25,780	3,350	8,050	14,380	1,680
8,743	5	6/13/2019	26,230	3,240	7,230	15,760	1,900
8,387	6	6/14/2019	25,160	3,530	7,070	14,560	1,650
8,037	7	6/15/2019	24,110	3,510	7,760	12,840	1,620
8,533	1	6/16/2019	25,600	3,420	7,470	14,710	1,640
7,143	2	6/17/2019	21,430	3,090	6,660	11,680	1,460
7,307	3	6/18/2019	21,920	3,300	7,910	10,710	1,300
6,060	4	6/19/2019	18,180	2,850	6,880	8,450	1,490
6,043	5	6/20/2019	18,130	3,250	6,820	8,060	1,330
6,400	6	6/21/2019	19,200	3,380	6,670	9,150	1,510
8,590	7	6/22/2019	25,770	3,620	7,270	14,880	2,130
10,177	1	6/23/2019	30,530	3,700	10,930	15,900	2,010
8,990	2	6/24/2019	26,970	3,060	9,490	14,420	2,450
8,537	3	6/25/2019	25,610	3,160	7,510	14,940	1,740
8,240	4	6/26/2019	24,720	2,900	9,010	12,810	1,700
9,420	5	6/27/2019	28,260	3,840	9,370	15,050	1,920
10,783	6	6/28/2019	32,350	3,810	9,330	19,210	2,820
10,187	7	6/29/2019	30,560	4,460	9,540	16,560	2,310
7,137	1	6/30/2019	21,410	4,300	8,630	8,480	1,620
9,123	2	7/1/2019	27,370	4,200	8,900	14,270	2,670
9,410	3	7/2/2019	28,230	3,720	7,860	16,650	2,390
7,543	4	7/3/2019	22,630	3,260	7,760	11,610	1,470
9,020	5	7/4/2019	27,060	3,300	7,910	15,850	1,780
10,253	6	7/5/2019	30,760	3,510	9,270	17,980	2,710
7,927	7	7/6/2019	23,780	4,200	7,330	12,250	2,040
6,660	1	7/7/2019	19,980	3,560	8,640	7,780	1,370
7,150	2	7/8/2019	21,450	3,120	8,160	10,170	1,250
6,977	3	7/9/2019	20,930	2,940	6,850	11,140	1,510
9,463	4	7/10/2019	28,390	3,160	8,490	16,740	1,690
9,013	5	7/11/2019	27,040	3,540	6,820	16,680	1,980
6,170	6	7/12/2019	18,510	3,760	6,940	7,810	1,230
8,873	7	7/13/2019	26,620	3,610	7,550	15,460	2,220
10,687	1	7/14/2019	32,060	3,950	8,420	19,690	2,310
11,890	2	7/15/2019	35,670	3,520	8,160	23,990	2,880
10,450	3	7/16/2019	31,350	3,340	7,620	20,390	2,250
8,610	4	7/17/2019	25,830	3,280	7,140	15,410	1,920
6,827	5	7/18/2019	20,480	3,850	6,510	10,120	1,530
7,477	6	7/19/2019	22,430	3,310	7,850	11,270	1,560
8,723	7	7/20/2019	26,170	4,120	7,850	14,200	1,860
11,870	1	7/21/2019	35,610	3,860	8,020	23,730	2,650
9,670	2	7/22/2019	29,010	3,280	8,800	16,930	1,900
7,350	3	7/23/2019	22,050	3,590	8,330	10,130	1,600

City of Bethlehem
Table III-2
Residential Outside City
Annual Daily Usage Per Customer (in gallons)

Residential Outside - Daily Average	Day of Week	Date	Total Residential Outside	Total High Density	Total Medium Density	Total Low Density	Max Hour
8,273	4	7/24/2019	24,820	3,050	6,270	15,500	1,520
9,727	5	7/25/2019	29,180	3,700	7,190	18,290	1,770
10,170	6	7/26/2019	30,510	3,370	7,970	19,170	2,330
10,750	7	7/27/2019	32,250	3,520	8,320	20,410	2,330
13,140	1	7/28/2019	39,420	3,740	8,480	27,200	2,890
12,777	2	7/29/2019	38,330	3,760	10,280	24,290	3,550
11,927	3	7/30/2019	35,780	3,330	8,260	24,190	2,720
7,537	4	7/31/2019	22,610	3,260	5,970	13,380	2,320
8,413	5	8/1/2019	25,240	3,280	6,660	15,300	1,520
9,703	6	8/2/2019	29,110	3,620	8,600	16,890	2,100
11,463	7	8/3/2019	34,390	3,860	9,870	20,660	2,590
9,917	1	8/4/2019	29,750	3,850	9,560	16,340	2,110
11,570	2	8/5/2019	34,710	3,250	9,460	22,000	2,330
11,777	3	8/6/2019	35,330	3,130	7,120	25,080	3,470
7,197	4	8/7/2019	21,590	3,250	6,890	11,450	1,750
8,577	5	8/8/2019	25,730	2,990	6,920	15,820	1,750
10,417	6	8/9/2019	31,250	3,310	8,090	19,850	2,450
9,753	7	8/10/2019	29,260	3,630	7,620	18,010	2,100
11,557	1	8/11/2019	34,670	3,010	8,230	23,430	2,200
10,937	2	8/12/2019	32,810	2,940	9,560	20,310	2,880
11,577	3	8/13/2019	34,730	3,530	7,730	23,470	3,200
9,497	4	8/14/2019	28,490	3,030	7,520	17,940	1,830
8,920	5	8/15/2019	26,760	3,130	7,790	15,840	1,830
10,757	6	8/16/2019	32,270	3,090	7,330	21,850	2,830
10,480	7	8/17/2019	31,440	3,580	8,130	19,730	2,430
10,553	1	8/18/2019	31,660	4,010	8,020	19,630	2,380
8,067	2	8/19/2019	24,200	3,980	9,070	11,150	1,720
11,507	3	8/20/2019	34,520	3,580	10,440	20,500	3,060
10,600	4	8/21/2019	31,800	3,240	7,910	20,650	2,080
11,747	5	8/22/2019	35,240	3,090	7,830	24,320	3,150
6,743	6	8/23/2019	20,230	3,220	6,850	10,160	1,490
7,960	7	8/24/2019	23,880	3,680	6,730	13,470	1,790
9,553	1	8/25/2019	28,660	3,660	8,070	16,930	1,770
9,743	2	8/26/2019	29,230	3,580	8,640	17,010	2,080
11,183	3	8/27/2019	33,550	3,090	5,790	24,670	2,720
8,723	4	8/28/2019	26,170	3,180	6,170	16,820	1,640
10,520	5	8/29/2019	31,560	3,500	6,920	21,140	2,520
11,450	6	8/30/2019	34,350	2,950	6,880	24,520	2,730
8,347	7	8/31/2019	25,040	3,730	7,610	13,700	1,810
10,840	1	9/1/2019	32,520	3,080	6,890	22,550	2,850
10,600	2	9/2/2019	31,800	4,040	7,270	20,490	2,670
8,667	3	9/3/2019	26,000	2,900	6,860	16,240	2,040
9,543	4	9/4/2019	28,630	3,780	6,620	18,230	1,670
9,190	5	9/5/2019	27,570	3,460	6,400	17,710	2,040
10,483	6	9/6/2019	31,450	3,940	6,180	21,330	2,510
10,330	7	9/7/2019	30,990	3,440	6,980	20,570	2,390
11,243	1	9/8/2019	33,730	3,610	7,790	22,330	2,790
11,043	2	9/9/2019	33,130	7,260	7,500	18,370	2,770
7,940	3	9/10/2019	23,820	3,650	6,070	14,100	1,630
9,220	4	9/11/2019	27,660	3,090	7,480	17,090	1,870
8,793	5	9/12/2019	26,380	3,030	6,800	16,550	1,680

City of Bethlehem
Table III-2
Residential Outside City
Annual Daily Usage Per Customer (in gallons)

Residential Outside - Daily Average	Day of Week	Date	Total Residential Outside	Total High Density	Total Medium Density	Total Low Density	Max Hour
7,793	6	9/13/2019	23,380	4,690	6,680	12,010	1,470
8,843	7	9/14/2019	26,530	3,790	7,640	15,100	1,860
9,860	1	9/15/2019	29,580	3,520	8,910	17,150	2,510
9,547	2	9/16/2019	28,640	3,200	6,940	18,500	1,830
8,277	3	9/17/2019	24,830	2,990	6,860	14,980	1,760
8,547	4	9/18/2019	25,640	2,940	6,810	15,890	1,840
8,000	5	9/19/2019	24,000	2,850	7,120	14,030	2,550
11,393	6	9/20/2019	34,180	3,410	6,530	24,240	2,470
11,530	7	9/21/2019	34,590	3,430	7,580	23,580	2,630
11,490	1	9/22/2019	34,470	3,740	8,870	21,860	2,180
10,460	2	9/23/2019	31,380	3,390	7,900	20,090	2,440
9,267	3	9/24/2019	27,800	3,910	6,300	17,590	2,220
9,210	4	9/25/2019	27,630	3,460	7,150	17,020	2,330
10,167	5	9/26/2019	30,500	3,010	8,080	19,410	2,420
7,697	6	9/27/2019	23,090	2,950	6,780	13,360	2,260
8,937	7	9/28/2019	26,810	4,030	7,800	14,980	1,800
9,373	1	9/29/2019	28,120	4,010	9,010	15,100	1,680
9,820	2	9/30/2019	29,460	3,260	7,390	18,810	2,540
9,120	3	10/1/2019	27,360	3,720	7,050	16,590	2,120
9,003	4	10/2/2019	27,010	3,400	6,960	16,650	1,660
6,923	5	10/3/2019	20,770	3,280	6,830	10,660	1,870
6,927	6	10/4/2019	20,780	4,020	6,190	10,570	1,460
7,143	7	10/5/2019	21,430	3,660	6,870	10,900	1,650
8,043	1	10/6/2019	24,130	3,830	7,460	12,840	1,540
7,150	2	10/7/2019	21,450	3,740	6,940	10,770	1,480
5,713	3	10/8/2019	17,140	3,290	6,650	7,200	1,420
6,360	4	10/9/2019	19,080	3,710	6,690	8,680	1,330
7,770	5	10/10/2019	23,310	3,500	6,560	13,250	1,850
8,360	6	10/11/2019	25,080	3,740	6,940	14,400	2,070
8,857	7	10/12/2019	26,570	3,830	8,150	14,590	2,160
8,143	1	10/13/2019	24,430	4,160	7,570	12,700	1,930
9,957	2	10/14/2019	29,870	3,940	8,480	17,450	1,830
7,420	3	10/15/2019	22,260	3,960	6,990	11,310	1,540
7,443	4	10/16/2019	22,330	4,020	6,480	11,830	1,550
5,980	5	10/17/2019	17,940	3,530	6,510	7,900	1,320
9,607	6	10/18/2019	28,820	3,880	6,740	18,200	1,760
9,130	7	10/19/2019	27,390	4,680	7,660	15,050	2,110
7,610	1	10/20/2019	22,830	3,790	7,230	11,810	1,550
6,433	2	10/21/2019	19,300	3,640	7,660	8,000	1,400
6,013	3	10/22/2019	18,040	3,080	6,320	8,640	1,160
5,413	4	10/23/2019	16,240	3,490	6,220	6,530	1,140
6,353	5	10/24/2019	19,060	3,250	6,350	9,460	1,270
6,920	6	10/25/2019	20,760	2,970	5,800	11,990	1,600
6,853	7	10/26/2019	20,560	3,910	6,600	10,050	1,520
7,643	1	10/27/2019	22,930	3,480	8,280	11,170	1,630
7,577	2	10/28/2019	22,730	5,830	7,990	8,910	1,470
7,857	3	10/29/2019	23,570	7,270	6,560	9,740	1,690
7,953	4	10/30/2019	23,860	7,760	7,020	9,080	1,410
6,610	5	10/31/2019	19,830	7,510	6,860	5,460	1,230
6,610	6	11/1/2019	19,830	5,270	5,900	8,660	1,410
6,737	7	11/2/2019	20,210	3,730	7,690	8,790	1,640

City of Bethlehem
Table III-2
Residential Outside City
Annual Daily Usage Per Customer (in gallons)

Residential Outside - Daily Average	Day of Week	Date	Total Residential Outside	Total High Density	Total Medium Density	Total Low Density	Max Hour
7,577	1	11/3/2019	22,730	4,590	7,710	10,430	1,580
6,927	2	11/4/2019	20,780	3,500	7,300	9,980	1,270
6,243	3	11/5/2019	18,730	3,600	6,940	8,190	1,590
7,303	4	11/6/2019	21,910	3,660	7,180	11,070	1,430
6,157	5	11/7/2019	18,470	3,230	6,900	8,340	1,440
5,583	6	11/8/2019	16,750	3,250	6,880	6,620	1,380
7,217	7	11/9/2019	21,650	3,460	9,450	8,740	1,500
7,290	1	11/10/2019	21,870	3,980	8,060	9,830	1,470
6,257	2	11/11/2019	18,770	3,430	7,200	8,140	1,420
5,987	3	11/12/2019	17,960	3,880	6,960	7,120	1,310
5,563	4	11/13/2019	16,690	3,620	6,060	7,010	1,230
5,790	5	11/14/2019	17,370	2,970	6,590	7,810	1,260
6,083	6	11/15/2019	18,250	3,400	6,810	8,040	1,400
6,460	7	11/16/2019	19,380	3,870	8,070	7,440	1,580
6,633	1	11/17/2019	19,900	3,840	8,010	8,050	1,550
5,930	2	11/18/2019	17,790	3,530	6,630	7,630	1,350
6,120	3	11/19/2019	18,360	3,410	6,700	8,250	1,400
5,863	4	11/20/2019	17,590	3,260	6,080	8,250	1,900
6,113	5	11/21/2019	18,340	3,370	6,230	8,740	1,830
6,913	6	11/22/2019	20,740	4,270	7,520	8,950	1,820
6,697	7	11/23/2019	20,090	3,560	7,730	8,800	2,090
6,547	1	11/24/2019	19,640	3,700	8,130	7,810	1,620
6,450	2	11/25/2019	19,350	3,360	7,120	8,870	1,780
6,807	3	11/26/2019	20,420	3,600	7,430	9,390	1,820
7,580	4	11/27/2019	22,740	3,530	9,410	9,800	1,860
8,140	5	11/28/2019	24,420	3,990	9,770	10,660	2,230
7,217	6	11/29/2019	21,650	3,590	7,890	10,170	1,960
7,043	7	11/30/2019	21,130	3,580	8,050	9,500	1,780
7,420	1	12/1/2019	22,260	4,320	8,870	9,070	1,830
6,360	2	12/2/2019	19,080	3,990	7,430	7,660	1,400
6,933	3	12/3/2019	20,800	3,610	6,590	10,600	1,510
6,510	4	12/4/2019	19,530	3,540	6,870	9,120	1,400
6,537	5	12/5/2019	19,610	3,220	6,450	9,940	1,610
6,383	6	12/6/2019	19,150	3,280	6,630	9,240	1,440
6,130	7	12/7/2019	18,390	3,340	7,310	7,740	1,310
7,090	1	12/8/2019	21,270	4,280	8,170	8,820	1,430
5,653	2	12/9/2019	16,960	3,640	6,150	7,170	1,540
5,547	3	12/10/2019	16,640	3,260	6,140	7,240	1,140
5,233	4	12/11/2019	15,700	3,320	6,030	6,350	1,180
5,620	5	12/12/2019	16,860	3,300	6,170	7,390	1,310
5,837	6	12/13/2019	17,510	3,250	6,780	7,480	1,200
5,840	7	12/14/2019	17,520	3,290	7,330	6,900	1,560
6,490	1	12/15/2019	19,470	3,920	7,560	7,990	1,500
6,053	2	12/16/2019	18,160	3,890	6,730	7,540	1,400
5,913	3	12/17/2019	17,740	3,350	6,410	7,980	1,320
6,240	4	12/18/2019	18,720	3,580	7,440	7,700	1,460
7,090	5	12/19/2019	21,270	3,310	9,100	8,860	1,680
6,273	6	12/20/2019	18,820	3,160	7,830	7,830	1,420
6,677	7	12/21/2019	20,030	3,910	7,960	8,160	1,900
6,863	1	12/22/2019	20,590	3,870	8,200	8,520	1,560
6,820	2	12/23/2019	20,460	3,840	8,230	8,390	1,590

City of Bethlehem
Table III-2
Residential Outside City
Annual Daily Usage Per Customer (in gallons)

Residential Outside - Daily Average	Day of Week	Date	Total Residential Outside	Total High Density	Total Medium Density	Total Low Density	Max Hour
6,717	3	12/24/2019	20,150	3,980	7,910	8,260	1,520
6,880	4	12/25/2019	20,640	3,090	8,020	9,530	1,490
6,170	5	12/26/2019	18,510	3,460	7,580	7,470	1,450
5,773	6	12/27/2019	17,320	3,640	7,400	6,280	1,410
5,660	7	12/28/2019	16,980	3,870	6,920	6,190	1,440
6,167	1	12/29/2019	18,500	3,520	7,730	7,250	1,550
6,347	2	12/30/2019	19,040	3,760	8,270	7,010	1,310
6,547	3	12/31/2019	19,640	3,940	7,640	8,060	1,270

City of Bethlehem
Table III-3
Commercial Inside City
Annual Daily Usage Per Customer (in gallons)

Commercial Inside City				Home															Real Estate										Medical			
Daily Avg	Day of Week	Date	Total Commercial Inside	Hotel	Grocery	Healthcare	Improvement	School	School	Bank	Office	Fast Food	Hair Salon	Childcare	Pharmacy	Medical	Auto Repair	Max Hour														
916	3	1/1/2019	12,820	10,810	480	640	300	0	0	10	0	490	0	30	30	30	0	1,500														
1,137	4	1/2/2019	15,920	7,710	3,080	890	590	420	70	20	30	930	390	1,190	60	360	180	1,450														
1,521	5	1/3/2019	21,300	7,760	3,200	1,070	670	3,930	1,400	30	40	820	460	1,190	80	450	200	1,950														
1,602	6	1/4/2019	22,430	8,560	3,180	880	590	3,960	1,470	30	30	1,460	560	1,170	60	320	160	2,130														
1,159	7	1/5/2019	16,220	9,030	3,080	780	650	30	0	20	40	1,690	670	30	80	0	120	1,240														
919	1	1/6/2019	12,870	7,040	2,600	670	440	290	0	10	0	1,530	270	0	20	0	0	1,250														
1,481	2	1/7/2019	20,740	7,170	2,700	1,080	640	4,200	1,360	10	40	1,640	170	1,030	60	440	200	2,210														
1,569	3	1/8/2019	21,960	8,320	2,360	1,200	700	4,290	1,290	20	30	1,390	530	1,050	50	590	140	2,270														
1,551	4	1/9/2019	21,720	8,760	2,680	790	670	4,440	1,470	10	30	990	340	1,030	40	410	60	2,170														
1,758	5	1/10/2019	24,610	10,820	2,860	1,000	700	4,530	1,430	140	30	990	510	990	60	440	110	2,160														
1,726	6	1/11/2019	24,160	10,920	2,990	1,000	590	4,100	1,260	20	30	1,170	600	970	60	250	200	2,320														
1,236	7	1/12/2019	17,310	11,390	2,810	840	480	0	0	10	20	1,050	550	40	30	20	70	2,100														
1,147	1	1/13/2019	16,060	11,560	2,180	760	410	270	0	0	0	620	230	0	30	0	0	2,010														
1,346	2	1/14/2019	18,840	6,430	2,560	880	610	4,060	1,370	40	30	860	340	1,040	70	440	110	2,030														
1,426	3	1/15/2019	19,960	7,270	2,470	970	580	4,230	1,420	10	30	710	440	1,160	40	410	220	2,010														
1,481	4	1/16/2019	20,740	7,680	2,730	990	610	4,560	1,390	20	30	810	320	1,000	30	480	90	2,170														
1,476	5	1/17/2019	20,660	7,310	2,760	1,030	640	4,460	1,410	20	30	750	410	1,030	50	520	240	1,830														
1,361	6	1/18/2019	19,060	7,900	2,900	1,040	560	2,710	1,070	20	20	820	500	940	70	350	160	2,140														
1,318	7	1/19/2019	18,450	12,940	2,770	870	460	0	0	10	20	690	430	50	70	0	140	1,430														
1,436	1	1/20/2019	20,100	15,830	2,180	810	340	60	10	20	10	700	130	0	10	0	0	1,700														
1,319	2	1/21/2019	18,460	11,330	2,670	990	660	300	50	10	20	580	220	960	70	420	180	1,530														
1,459	3	1/22/2019	20,430	8,210	2,460	950	720	3,840	1,270	10	20	830	430	1,150	50	410	80	2,000														
1,795	4	1/23/2019	25,130	11,620	3,090	1,170	720	4,280	1,460	10	30	720	310	1,170	40	430	80	2,250														
1,602	5	1/24/2019	22,430	9,330	2,960	930	630	4,350	1,360	40	40	690	400	1,140	60	430	70	2,000														
1,602	6	1/25/2019	22,430	8,630	3,050	1,130	610	4,330	1,700	20	20	660	600	1,060	40	360	220	2,150														
1,314	7	1/26/2019	18,400	12,070	3,060	960	550	0	0	20	40	800	640	90	40	0	130	1,460														
1,349	1	1/27/2019	18,880	13,610	2,240	1,300	460	240	0	0	0	770	230	10	20	0	0	1,670														
1,461	2	1/28/2019	20,460	7,580	2,740	1,120	710	4,080	1,390	20	30	710	340	1,110	50	430	150	1,950														
1,064	3	1/29/2019	14,900	7,730	2,620	1,170	550	450	70	20	0	780	90	1,000	60	310	50	1,450														
1,123	4	1/30/2019	15,720	8,440	2,500	1,040	530	410	100	10	20	650	280	1,080	70	380	210	1,200														
1,212	5	1/31/2019	16,970	6,450	2,410	1,250	620	2,420	1,110	40	30	660	440	1,010	60	380	90	1,770														
1,488	6	2/1/2019	20,830	7,560	3,180	870	620	4,090	1,320	20	20	850	670	1,070	50	300	210	2,330														
1,176	7	2/2/2019	16,470	9,750	3,010	1,260	580	90	0	70	20	850	690	60	50	0	40	1,320														
1,133	1	2/3/2019	15,860	9,990	2,700	1,250	510	240	0	60	0	810	270	0	30	0	0	1,490														
1,392	2	2/4/2019	19,490	6,930	2,680	890	720	3,890	1,370	20	30	920	300	1,190	70	380	100	1,840														
1,649	3	2/5/2019	23,090	9,650	2,840	1,420	640	4,090	1,330	30	30	880	480	1,250	30	350	70	2,220														
1,501	4	2/6/2019	21,020	8,220	2,840	1,220	580	3,990	1,380	10	30	810	290	1,200	50	310	90	1,970														
1,741	5	2/7/2019	24,380	10,400	3,390	1,110	630	4,210	1,390	20	20	740	640	1,150	50	430	200	2,050														
1,712	6	2/8/2019	23,970	8,890	4,030	1,020	570	4,700	1,500	10	30	920	600	1,220	70	300	110	2,250														
1,134	7	2/9/2019	15,870	9,520	2,810	1,270	580	0	0	60	40	800	630	40	40	10	70	1,250														
1,280	1	2/10/2019	17,920	12,300	2,680	1,070	540	230	0	10	0	800	240	20	20	0	10	1,250														
1,838	2	2/11/2019	25,730	12,340	2,830	1,030	620	4,410	1,330	30	30	830	420	1,150	40	440	230	2,930														
1,646	3	2/12/2019	23,040	17,590	2,160	1,160	320	110	40	30	20	650	0	560	60	140	200	1,790														
1,496	4	2/13/2019	20,940	12,970	2,870	1,140	600	460	20	20	20	670	340	1,180	40	380	230	1,810														
1,471	5	2/14/2019	20,590	9,820	2,890	1,040	610	2,250	700	20	20	930	480	1,160	60	500	110	1,710														
1,400	6	2/15/2019	19,600	10,560	3,090	1,020	680	560	220	20	30	900	540	1,310	80	380	210	1,440														
1,610	7	2/16/2019	22,540	16,490	2,870	1,050	600	10	0	10	30	770	590	20	40	0	60	1,540														
1,758	1	2/17/2019	24,610	19,720	2,210	900	580	200	0	10	0	660	280	10	30	0	10	2,180														
1,632	2	2/18/2019	22,850	15,910	2,690	1,020	740	310	0	120	30	1,100	300	10	50	300	270	1,890														
1,829	3	2/19/2019	25,610	11,920	2,560	1,250	730	4,460	1,450	10	30	860	480	1,170	90	440	160	2,240														
1,517	4	2/20/2019	21,240	15,040	2,250	1,070	420	320	30	10	10	770	0	920	60	230	110	1,610														
1,836	5	2/21/2019	25,700	13,580	2,870	1,090	500	3,370	1,170	20	40	860	400	1,190	50	440	120	2,270														
2,102	6	2/22/2019	29,430	13,540	3,140	3,130	660	4,280	1,340	30	20	850	600	1,360	60	340	80	2,200														
1,879	7	2/23/2019	26,300	14,060	2,700	7,310	650	0	0	60	30	810	570	30	50	0	30	1,990														
1,643	1	2/24/2019	23,000	10,860	2,390	7,750	390	280	0	10	0	930	330	10	30	10	10	1,630														
1,922	2	2/25/2019	26,910	11,450	2,420	3,830	590	4,140	1,380	20	30	820	240	1,160	70	500	260	2,510														
1,504	3	2/26/2019	21,050	7,490	2,720	1,100	710	4,610	1,370	10	40	720	500	1,120	50	470	140	2,310														
1,541	4	2/27/2019	21,580	7,480	3,140	1,210	610	4,430	1,370	20	20	780	380	1,280	50	590	220	1,820														
1,604	5	2/28/2019	22,450																													

City of Bethlehem
Table III-3
Commercial Inside City
Annual Daily Usage Per Customer (in gallons)

Commercial Inside City			Home												Real Estate				Medical			
Daily Avg	Day of Week	Date	Total Commercial Inside	Hotel	Grocery	Healthcare	Improvement	School	School	Bank	Office	Fast Food	Hair Salon	Childcare	Pharmacy	Offices	Auto Repair	Max Hour				
1,369	7	3/16/2019	19,160	12,820	2,910	1,060	660	0	0	10	50	960	630	10	20	0	30	1,530				
1,349	1	3/17/2019	18,890	13,460	2,370	1,270	470	230	0	10	0	760	250	10	50	0	10	1,550				
1,694	2	3/18/2019	23,720	10,070	2,730	1,430	680	4,010	1,350	70	50	970	300	1,370	50	420	220	2,050				
1,680	3	3/19/2019	23,520	8,860	2,560	1,540	710	4,590	1,450	20	20	1,100	540	1,190	60	470	410	2,260				
1,676	4	3/20/2019	23,470	9,370	3,270	1,160	660	4,350	1,470	20	20	1,020	290	1,180	60	450	150	2,310				
1,651	5	3/21/2019	23,110	8,720	3,100	1,330	620	4,750	1,360	30	40	1,110	390	1,080	60	460	60	2,230				
1,789	6	3/22/2019	25,040	10,500	3,340	1,320	690	4,480	1,650	10	20	700	470	1,120	70	470	200	2,270				
1,158	7	3/23/2019	16,210	9,370	3,110	1,150	580	0	0	20	60	1,180	580	80	30	0	50	1,440				
1,136	1	3/24/2019	15,900	10,090	2,310	1,240	520	300	0	330	0	720	330	20	40	0	0	1,510				
1,414	2	3/25/2019	19,800	6,560	2,670	1,240	790	4,240	1,140	230	50	950	290	1,160	60	370	50	1,950				
1,686	3	3/26/2019	23,610	7,790	2,640	1,110	750	4,070	1,420	2,510	40	1,100	460	1,200	40	410	70	2,080				
1,626	4	3/27/2019	22,770	8,700	2,980	1,330	610	4,420	1,440	20	50	1,010	260	1,290	50	440	170	2,000				
1,446	5	3/28/2019	20,250	6,110	2,910	1,230	920	4,380	1,410	30	30	910	440	1,310	60	430	80	2,070				
1,726	6	3/29/2019	24,170	10,240	3,120	1,270	790	3,970	1,370	30	30	1,040	650	1,130	60	410	60	2,090				
1,311	7	3/30/2019	18,350	11,650	3,220	1,060	760	0	0	30	40	860	500	50	50	20	110	1,560				
1,389	1	3/31/2019	19,440	13,640	2,520	1,370	680	50	0	10	0	880	220	50	20	0	0	1,850				
1,409	2	4/1/2019	19,720	6,500	2,850	1,090	760	4,090	1,250	30	50	920	320	1,270	40	380	170	2,040				
1,495	3	4/2/2019	20,930	7,620	2,620	960	860	4,060	1,380	10	40	780	390	1,370	30	470	340	2,120				
1,481	4	4/3/2019	20,730	7,300	2,800	1,170	790	4,360	1,360	20	30	730	370	1,290	70	390	50	2,010				
1,756	5	4/4/2019	24,590	10,210	2,880	1,210	990	4,610	1,490	40	40	880	310	1,340	40	390	160	2,130				
1,985	6	4/5/2019	27,790	13,650	3,200	1,200	730	4,170	1,320	30	20	1,100	620	1,110	50	520	70	2,300				
1,891	7	4/6/2019	26,480	18,760	3,370	1,330	1,160	150	0	110	40	760	510	20	60	0	210	2,730				
1,466	1	4/7/2019	20,520	14,970	2,850	990	680	50	0	10	0	720	230	0	20	0	0	2,100				
1,484	2	4/8/2019	20,780	7,830	2,540	1,180	730	4,090	1,340	20	60	860	320	1,250	80	370	110	1,910				
1,568	3	4/9/2019	21,950	7,340	2,690	1,070	720	4,660	1,520	20	40	890	580	1,890	30	420	80	2,140				
1,789	4	4/10/2019	25,040	11,160	2,850	1,200	1,160	4,090	1,410	20	30	750	400	1,450	50	410	60	2,270				
1,581	5	4/11/2019	22,130	7,510	3,020	1,330	680	4,660	1,350	30	30	1,080	400	1,430	60	470	80	2,280				
1,661	6	4/12/2019	23,260	9,410	3,300	1,200	780	3,890	1,440	70	30	940	490	1,190	60	380	80	2,240				
1,490	7	4/13/2019	20,860	13,200	2,840	1,470	1,170	290	0	20	30	970	620	130	40	0	80	1,970				
1,235	1	4/14/2019	17,290	10,790	2,560	1,310	730	300	0	10	0	1,220	340	0	30	0	0	1,730				
1,499	2	4/15/2019	20,990	6,830	2,690	1,510	890	4,870	1,470	20	50	730	280	1,150	60	380	60	2,060				
1,664	3	4/16/2019	23,300	8,530	2,760	1,280	740	5,150	1,500	10	40	850	320	1,370	60	410	280	2,160				
1,758	4	4/17/2019	24,610	9,830	3,030	1,180	1,450	4,480	1,580	60	40	570	360	1,310	60	410	250	2,410				
1,548	5	4/18/2019	21,670	9,730	3,060	930	760	2,260	1,490	70	30	800	520	1,430	90	410	90	1,870				
1,394	6	4/19/2019	19,520	10,910	3,740	1,170	1,060	470	0	10	20	820	610	0	80	430	200	1,760				
1,222	7	4/20/2019	17,110	9,980	3,240	1,270	1,100	0	0	30	50	630	700	0	50	10	50	1,250				
1,021	1	4/21/2019	14,300	10,060	1,430	1,210	640	200	0	0	0	720	0	0	40	0	0	1,280				
1,408	2	4/22/2019	19,710	7,090	2,670	1,090	810	3,800	1,380	30	60	630	310	1,270	70	410	90	1,880				
1,710	3	4/23/2019	23,940	9,810	2,770	1,220	780	4,470	1,710	20	30	740	370	1,360	40	470	150	2,350				
1,809	4	4/24/2019	25,330	10,960	2,980	1,150	1,220	4,660	1,510	0	30	540	360	1,370	70	400	80	2,290				
1,743	5	4/25/2019	24,400	9,900	2,840	970	1,480	4,570	1,250	10	40	760	560	1,430	90	420	80	2,200				
1,869	6	4/26/2019	26,170	12,240	3,280	1,160	840	4,160	1,480	30	30	820	490	1,180	70	270	120	2,220				
1,589	7	4/27/2019	22,240	15,310	2,920	1,200	1,010	140	0	10	30	740	400	0	60	20	400	1,780				
1,337	1	4/28/2019	18,720	13,010	2,310	1,030	1,130	200	0	10	0	690	300	10	30	0	0	1,760				
1,455	2	4/29/2019	20,370	5,940	2,930	1,230	930	4,750	1,580	20	40	780	260	1,290	70	410	140	2,170				
1,509	3	4/30/2019	21,120	7,500	2,620	1,200	660	4,280	1,520	10	50	730	410	1,530	60	420	130	2,000				
1,696	4	5/1/2019	23,740	8,350	3,040	1,290	1,880	4,600	1,370	20	40	840	270	1,450	60	430	100	2,170				
1,845	5	5/2/2019	25,830	11,230	2,800	1,180	1,320	4,760	1,390	40	30	880	460	1,170	50	450	70	2,270				
1,773	6	5/3/2019	24,820	10,190	3,120	1,230	1,210	3,910	1,650	50	30	1,090	560	1,180	110	370	120	2,330				
1,381	7	5/4/2019	19,340	11,620	3,160	1,150	1,160	690	0	60	40	730	450	30	70	0	180	1,480				
1,295	1	5/5/2019	16,830	11,800	2,530	1,160	280	0	0	10	0	790	230	10	20	0	0	1,710				
1,492	2	5/6/2019	19,390	6,770	2,920	1,140	4,290	1,440	20	40	800	190	1,250	70	370	90	2,000					
1,648	3	5/7/2019	21,430	8,400	2,670	1,370	3,700	4,500	1,520	20	30	760	340	1,370	50	310	90	2,070				
1,628	4	5/8/2019	21,170	7,340	3,210	1,250	4,630	1,420	20	20	750	420	1,560	70	410	70	2,180					
1,667	5	5/9/2019	21,670	8,090	3,000	1,300	4,420	1,370	30	30	990	580	1,310	70	420	60	1,970					
1,727	6	5/10/2019	22,450	9,400	3,170	1,140	4,410	1,240	20	30	810	510	1,230	70	330	90	2,080					
1,311	7	5/11/2019	18,350	11,290	2,970	1,280	980	20	0	20	40	990	670	10	50	0	30	1,530				
1,189	1	5/12/2019	16,640	10,530	2,770	1,150	830	180	0	10												

City of Bethlehem
Table III-3
Commercial Inside City
Annual Daily Usage Per Customer (in gallons)

Commercial Inside City							Home				Real Estate					Medical		
Daily Avg	Day of Week	Date	Total Commercial Inside	Hotel	Grocery	Healthcare	Improvement	School	School	Bank	Office	Fast Food	Hair Salon	Childcare	Pharmacy	Offices	Auto Repair	Max Hour
1,784	4	5/29/2019	24,980	11,020	2,870	1,060	1,580	3,750	1,440	20	50	770	480	1,350	60	460	70	2,420
1,734	5	5/30/2019	24,280	10,960	3,040	870	1,120	3,660	1,430	30	30	830	450	1,350	60	380	70	2,040
1,931	6	5/31/2019	27,030	12,630	3,310	1,020	1,310	3,900	1,530	30	30	810	560	1,460	30	310	100	2,260
1,697	7	6/1/2019	23,760	15,100	4,090	940	1,750	60	0	30	30	1,140	480	20	50	10	60	1,640
1,769	1	6/2/2019	24,770	15,900	3,420	1,120	2,530	340	0	0	0	850	320	10	20	0	260	2,320
2,017	2	6/3/2019	28,240	14,600	2,970	940	1,380	3,840	1,510	20	50	710	350	1,370	90	330	80	2,380
2,012	3	6/4/2019	28,170	13,610	2,880	920	1,650	4,450	1,380	20	40	820	310	1,450	50	350	240	2,330
2,108	4	6/5/2019	29,510	14,150	2,920	1,080	1,370	5,460	1,320	20	30	850	360	1,370	70	400	110	2,700
1,972	5	6/6/2019	27,610	12,620	3,080	1,210	1,800	4,200	1,400	30	40	890	540	1,210	80	350	160	2,310
1,994	6	6/7/2019	27,910	14,910	3,510	1,370	1,380	2,720	640	30	40	940	570	1,340	50	320	90	2,360
1,804	7	6/8/2019	25,260	17,210	3,160	1,160	1,960	0	0	10	30	1,090	430	10	60	100	40	1,960
1,739	1	6/9/2019	24,350	16,050	2,770	1,090	2,990	360	0	10	0	810	220	10	30	0	10	2,100
1,601	2	6/10/2019	22,420	11,370	2,790	1,360	2,520	1,170	310	40	40	740	250	1,350	60	380	40	1,950
1,689	3	6/11/2019	23,640	13,110	3,060	1,450	1,120	1,390	230	20	30	770	420	1,490	60	430	60	2,270
1,633	4	6/12/2019	22,860	11,370	3,250	1,830	2,050	710	240	10	40	860	330	1,540	70	500	60	2,140
1,740	5	6/13/2019	24,360	14,220	3,030	1,390	1,400	630	320	40	50	1,000	440	1,240	60	460	80	1,610
1,988	6	6/14/2019	27,830	17,370	3,450	1,450	1,340	770	70	20	30	850	480	1,350	70	330	250	2,270
1,639	7	6/15/2019	22,950	15,770	3,400	1,010	1,350	0	0	10	40	980	310	10	40	0	30	2,070
1,463	1	6/16/2019	20,480	13,580	2,690	1,310	1,650	240	0	0	0	790	180	20	20	0	0	1,890
1,398	2	6/17/2019	19,570	9,690	2,610	1,370	1,410	1,070	10	20	50	1,000	430	1,410	80	350	70	1,930
1,326	3	6/18/2019	18,570	8,570	2,980	1,320	1,090	1,130	110	10	30	830	460	1,520	50	390	80	2,210
1,448	4	6/19/2019	20,270	10,440	3,090	1,250	1,020	1,090	20	30	40	820	370	1,480	70	490	60	1,660
1,562	5	6/20/2019	21,870	10,830	3,060	1,970	1,020	1,220	90	20	20	940	400	1,610	80	400	210	1,810
1,558	6	6/21/2019	21,810	10,360	3,350	2,670	900	930	190	30	30	800	730	1,370	60	330	60	1,750
1,523	7	6/22/2019	21,320	12,220	3,450	2,480	1,700	0	0	20	40	740	590	20	40	0	20	1,600
1,532	1	6/23/2019	21,450	14,630	2,840	880	1,390	320	0	0	0	620	250	10	40	0	470	2,300
1,438	2	6/24/2019	20,130	10,260	2,770	1,050	1,570	1,010	110	20	30	1,050	260	1,410	50	470	70	1,770
1,660	3	6/25/2019	23,240	12,090	3,040	1,230	1,350	1,710	70	20	40	780	370	1,930	60	460	90	2,100
1,773	4	6/26/2019	24,820	13,010	3,870	1,160	2,070	910	60	10	40	900	360	1,800	70	500	60	2,140
1,808	5	6/27/2019	25,310	11,940	4,250	1,180	1,530	1,010	280	30	30	830	410	3,220	50	450	100	2,040
1,769	6	6/28/2019	24,760	12,920	4,350	1,220	1,310	910	40	20	40	930	680	1,930	40	280	90	2,250
1,534	7	6/29/2019	21,480	13,390	4,540	1,010	1,170	0	0	10	40	770	430	40	50	0	30	1,510
1,547	1	6/30/2019	21,660	14,770	3,450	1,120	1,430	30	0	10	0	570	240	10	20	10	0	2,390
1,444	2	7/1/2019	20,220	10,380	2,770	1,380	1,150	1,140	30	60	40	840	370	1,580	60	410	10	1,580
1,722	3	7/2/2019	24,110	13,640	3,100	1,450	1,400	1,180	80	10	40	900	370	1,510	50	380	0	1,910
2,066	4	7/3/2019	28,920	18,740	3,540	1,150	1,240	800	0	20	20	980	520	1,440	80	390	0	2,210
1,633	5	7/4/2019	22,860	16,250	3,180	1,240	1,320	0	0	0	30	760	0	10	40	30	0	1,780
1,961	6	7/5/2019	27,450	17,770	3,370	1,570	1,440	190	0	90	20	870	630	1,150	60	290	0	2,400
1,934	7	7/6/2019	27,080	19,850	3,240	970	1,690	10	0	20	30	740	470	30	30	0	0	2,010
1,564	1	7/7/2019	21,900	15,470	2,860	990	1,310	270	0	0	0	750	220	0	30	0	0	2,130
1,550	2	7/8/2019	21,700	12,930	2,870	940	1,200	790	30	30	50	670	310	1,420	50	310	100	1,890
1,789	3	7/9/2019	25,050	15,200	2,990	1,430	1,010	960	80	20	40	950	350	1,510	80	360	70	1,880
2,194	4	7/10/2019	30,720	20,770	3,080	1,160	1,690	820	50	10	20	780	290	1,450	50	460	70	2,080
2,044	5	7/11/2019	28,610	16,240	2,820	4,010	1,510	780	110	30	40	750	460	1,300	120	380	60	1,920
1,921	6	7/12/2019	26,890	17,230	3,520	990	790	790	100	30	20	730	710	1,310	80	320	90	2,190
1,759	7	7/13/2019	24,620	17,610	3,160	720	1,690	0	0	20	30	820	490	0	40	10	30	2,360
1,537	1	7/14/2019	21,520	15,050	2,840	920	1,470	340	0	10	0	640	190	30	30	0	0	2,220
1,560	2	7/15/2019	21,840	11,930	2,920	1,190	1,790	830	70	30	40	770	320	1,410	60	400	80	1,470
1,712	3	7/16/2019	23,970	14,120	2,940	1,460	1,200	780	60	20	20	880	470	1,500	50	420	50	2,140
1,617	4	7/17/2019	22,640	13,410	2,950	860	1,450	730	70	20	20	900	300	1,380	60	420	70	1,970
1,647	5	7/18/2019	23,060	12,710	3,420	1,070	1,220	870	70	20	30	800	430	1,890	60	370	100	1,740
1,587	6	7/19/2019	22,220	11,730	3,660	740	1,450	940	540	20	30	790	610	1,270	60	280	100	1,970
1,608	7	7/20/2019	22,510	15,440	3,260	750	1,710	70	0	10	40	610	490	50	50	0	30	1,870
1,519	1	7/21/2019	21,270	15,260	2,950	730	1,160	220	0	20	0	670	180	10	10	50	10	2,180
1,349	2	7/22/2019	18,880	10,190	2,970	900	1,000	860	20	30	40	800	320	1,150	60	470	70	1,740
1,506	3	7/23/2019	21,090	11,590	2,720	860	1,020	1,070	90	10	40	790	410	1,850	90	490	60	1,680
1,604	4	7/24/2019	22,450	12,680	3,230	930	1,290	1,090	90	30	20	720	290	1,590	50	390	50	1,660
1,555	5	7/25/2019	21,770	12,410	3,130	850	1,030	800	20	30	40	920	300	1,610	50	500	80	1,870
1,741	6	7/26/2019	24,370	13,900	3,230	1,420	1,350	1,050	60	20	30	760	540	1,460	50	330	170	2,160
1,767	7	7/27/2019	24,740	15,210	3,170	2,670	1,460	10	0	10	30	940	360	190	30	20	640	1,970
1,666	1	7/28/2019	23,330	16,670	2,510	1,240	1,380	240	0	10	0	830	250	180	20	0	0	2,290
1,515	2	7/29/2019	21,210	10,720	2,610	2,820	1,230	570	40	40	40	840	340	1,370	50	390	150	1,710
1,601	3	7/30/2019	22,410	11,410	4,340	1,290	1,200	750	50	30	40	1,060	390	1,280	70	430	70	1,730
1,729	4	7/31/2019	24,200	13,350	4,270	1,070	1,150	690	330	20	30	910	550	1,270	50	420	90	1,530
1,544	5	8/1/2019	21,620	12,440	3,040	1,120	730	760	80	40	40	910	350	1,540	70	430	70	1,610
1,749	6	8/2/2019	24,480	15,030	3,370	1,150	1,030	350	80	20	40	930	470	1,580	80	270	80	2,000
1,704	7	8/3/2019	23,850	16,330	3,340	1,120	1,500	0	0	50	30	920	480	10	30	10	30	1,950
1,779	1	8/4/2019	24,910	18,830	2,610	1,270	1,110	30	0	10	0	780	220	0	40	10	0	2,290
1,769	2	8/5/2019	24,760	15,580	2,950	1,180	870	740	60	20	40	830	320	1,720	50	330	70	2,280
1,861	3	8/6/2019	26,050	17,110	2,870	1,010	1,130	470	30	10	50	890	350	1,540	90	440	60	2,240
1,776	4	8																

City of Bethlehem
Table III-3
Commercial Inside City
Annual Daily Usage Per Customer (in gallons)

Commercial Inside City			Home				Real Estate				Medical							
Daily Avg	Day of Week	Date	Total Commercial Inside	Hotel	Grocery	Healthcare	Improvement	School	School	Bank	Office	Fast Food	Hair Salon	Childcare	Pharmacy	Offices	Auto Repair	Max Hour
1,582	1	8/11/2019	22,150	15,470	2,740	1,260	1,190	300	0	10	0	900	240	10	30	0	0	2,690
1,514	2	8/12/2019	21,190	11,800	2,730	730	1,170	470	70	20	50	940	290	2,300	60	410	150	2,140
1,479	3	8/13/2019	20,700	11,180	2,970	1,070	1,020	550	70	20	50	1,200	460	1,560	100	380	70	1,460
1,634	4	8/14/2019	22,880	13,030	3,210	1,290	1,210	470	80	20	30	910	450	1,680	50	360	90	2,050
1,760	5	8/15/2019	24,640	15,200	3,080	950	870	730	200	90	40	740	430	1,710	60	350	190	2,110
1,623	6	8/16/2019	22,720	12,710	3,300	1,060	960	690	100	20	40	1,220	660	1,480	60	300	120	1,910
1,529	7	8/17/2019	21,400	14,520	2,940	1,010	1,000	0	0	20	40	1,140	630	40	30	20	10	1,700
1,709	1	8/18/2019	23,930	16,230	2,640	2,330	1,040	360	0	10	0	990	300	0	30	0	0	2,240
1,734	2	8/19/2019	24,270	14,190	2,630	2,130	1,050	790	160	20	30	930	350	1,530	50	350	60	1,960
1,625	3	8/20/2019	22,750	14,090	2,670	800	1,050	550	110	20	40	1,060	480	1,400	80	330	70	1,910
1,825	4	8/21/2019	25,550	14,950	3,410	710	1,080	1,190	300	20	40	990	500	1,440	60	360	500	2,250
1,894	5	8/22/2019	26,510	16,190	3,120	1,080	1,190	840	190	20	40	980	540	1,690	80	470	80	2,390
1,791	6	8/23/2019	25,070	15,170	3,160	690	830	1,130	370	20	30	1,050	710	1,460	50	310	90	2,020
1,562	7	8/24/2019	21,870	15,480	2,980	630	690	50	0	10	40	1,120	670	10	30	20	140	1,950
1,402	1	8/25/2019	19,630	13,500	2,500	630	1,040	460	0	10	0	900	380	10	20	0	180	2,170
1,572	2	8/26/2019	22,010	9,580	2,830	650	740	3,720	1,430	20	60	900	380	1,200	70	340	90	2,270
1,887	3	8/27/2019	26,420	12,320	2,860	840	1,120	4,100	1,720	20	40	1,010	390	1,320	50	370	260	2,300
1,966	4	8/28/2019	27,530	12,760	3,020	840	1,290	4,330	1,970	20	30	1,020	380	1,180	50	420	220	2,140
1,944	5	8/29/2019	27,220	12,710	3,270	770	1,240	4,340	1,560	20	30	1,030	380	1,290	50	420	110	2,410
2,045	6	8/30/2019	28,630	14,000	3,530	1,010	1,060	4,210	1,530	30	30	830	640	1,100	40	350	270	2,300
1,646	7	8/31/2019	23,050	15,730	3,590	960	820	0	0	20	40	970	590	0	30	30	270	1,790
1,709	1	9/1/2019	23,930	16,940	3,040	730	1,320	390	0	0	0	860	280	200	30	0	140	2,570
1,191	2	9/2/2019	16,670	11,100	2,630	870	1,010	0	0	10	20	700	280	20	30	0	0	1,640
1,654	3	9/3/2019	23,150	9,960	2,830	800	760	4,160	1,520	20	30	970	340	1,210	90	340	120	2,100
1,750	4	9/4/2019	24,500	9,740	2,920	880	1,280	4,470	1,540	20	40	1,190	500	1,020	60	510	330	2,330
1,911	5	9/5/2019	26,750	10,740	3,230	450	1,040	6,100	1,780	30	40	1,150	420	1,200	60	370	140	2,400
1,952	6	9/6/2019	27,330	12,890	3,310	840	1,260	4,440	1,570	10	20	910	530	1,080	60	310	100	2,200
1,632	7	9/7/2019	22,850	16,270	3,460	530	660	20	0	10	50	1,020	530	40	40	10	210	1,690
1,404	1	9/8/2019	19,650	13,350	2,530	980	1,250	360	0	10	0	960	190	10	10	0	0	2,060
1,711	2	9/9/2019	23,960	10,090	2,900	870	1,250	4,310	1,420	30	60	920	300	1,290	50	400	70	2,520
2,044	3	9/10/2019	28,620	13,830	3,100	1,400	1,150	4,290	1,610	20	30	930	470	1,270	60	360	100	2,530
2,129	4	9/11/2019	29,800	15,580	3,120	810	1,180	4,490	1,520	20	40	1,030	290	1,200	80	370	70	2,210
1,980	5	9/12/2019	27,720	13,070	3,260	760	990	4,750	1,590	30	30	980	370	1,210	50	460	170	2,370
1,911	6	9/13/2019	26,750	11,710	3,640	1,090	860	4,250	1,690	20	20	1,070	530	1,200	60	370	240	2,340
1,540	7	9/14/2019	21,560	14,990	3,190	450	980	30	0	10	40	1,030	400	50	50	20	320	1,760
1,406	1	9/15/2019	19,680	14,240	2,710	630	510	260	0	10	10	1,040	230	0	40	0	0	1,740
1,728	2	9/16/2019	24,190	9,390	2,710	1,280	1,180	4,490	1,640	20	40	1,260	310	1,310	40	410	110	2,160
2,104	3	9/17/2019	29,450	11,640	2,990	1,240	1,210	4,630	1,880	20	40	3,230	410	1,560	70	450	80	2,500
1,992	4	9/18/2019	27,890	11,080	3,100	820	960	4,840	1,670	10	40	3,070	350	1,100	70	460	320	2,260
2,001	5	9/19/2019	28,020	10,950	3,290	890	1,520	4,640	1,580	30	10	2,450	450	1,410	60	470	270	2,350
1,997	6	9/20/2019	27,960	12,100	3,350	680	950	4,200	1,640	20	20	3,000	420	1,150	40	250	140	2,610
1,704	7	9/21/2019	23,860	14,810	3,280	850	1,110	40	0	20	30	2,930	580	20	80	30	80	1,860
1,522	1	9/22/2019	21,310	13,980	2,760	740	1,260	390	0	10	0	1,880	250	10	30	0	0	2,190
1,532	2	9/23/2019	21,450	9,690	2,870	680	920	2,170	900	110	30	1,710	320	1,490	60	400	100	2,120
1,751	3	9/24/2019	24,520	9,690	2,990	900	790	4,180	1,470	30	30	2,280	440	1,230	40	360	90	2,040
2,069	4	9/25/2019	28,970	13,320	2,930	1,100	1,390	4,300	1,690	10	20	1,980	460	1,190	70	420	90	2,620
1,862	5	9/26/2019	26,070	11,250	3,250	1,020	810	4,450	1,630	110	40	1,190	530	1,170	70	460	90	2,200
2,074	6	9/27/2019	29,040	13,150	3,490	1,100	1,470	4,310	1,660	30	30	1,320	610	1,180	60	270	360	2,620
1,800	7	9/28/2019	25,200	16,200	3,280	810	600	0	0	190	30	3,310	430	40	40	0	270	2,270
1,471	1	9/29/2019	20,590	13,790	2,500	1,150	460	30	0	0	0	2,450	160	10	40	0	0	2,450
1,785	2	9/30/2019	24,990	9,680	2,760	1,460	1,240	3,840	1,530	20	40	1,710	240	1,860	60	350	200	2,270
1,759	3	10/1/2019	24,620	8,680	2,850	1,380	870	4,530	1,640	20	40	2,450	330	1,310	50	390	80	2,060
1,719	4	10/2/2019	24,060	8,730	3,040	990	960	4,280	1,610	10	30	2,100	470	1,260	80	430	70	2,060
1,681	5	10/3/2019	23,530	8,750	2,950	960	670	4,470	1,690	120	40	1,770	500	1,050	50	440	70	1,980
2,039	6	10/4/2019	28,550	13,280	3,170	1,130	740	4,200	1,780	20	20	2,140	530	1,090	60	270	120	2,320
1,584	7	10/5/2019	22,180	14,520	2,850	740	1,120	80	0	20	50	1,760	510	70	60	20	380	2,380
1,349	1	10/6/2019	18,890	12,490	2,570	770	570	10	0	0	0	2,120	300	20	20	0	20	1,900
1,721	2	10/7/2019	24,100	9,550	2,990	950	730	4,140	1,630	20	40	2,050	300	1,200	30	400	70	2,390
1,819	3	10/8/2019	25,460	9,400	3,090	1,190	690	4,300	1,760	10	40	2,560	390	1,360	50	430	190	2,440
1,544	4	10/9/2019	21,610	11,930	2,950	1,090	730	380	40	20	30	2,390	310	1,180	70	430	60	1,660
1,839	5	10/10/2019	25,740	10,460	3,000	1,080	680	4,380	1,600	30	30	2,140	460	1,270	70	480	60	2,380
1,994	6	10/11/2019	27,920	12,050	3,510	1,130	670	4,070	1,570	20	20	2,840	520	960	60	390	110	2,530
1,726	7	10/12/2019	24,160	14,500	3,260	3,000	840	0	0	10	40	1,710	490	110	60	0	140	1,810
1,822	1	10/13/2019	23,680	16,100	2,580	1,920	2,450	290	0	0	0	250	70	20	20	0	0	1,950
1,716	2	10/14/2019	24,020	13,000	3,240	2,770	710	600	90	10	40	2,300	330	400	30	360	140	2,070
1,877	3	10/15/2019	26,280	9,490	2,910	3,200	1,430	4,000	1,580	20	50	1,240	310	1,400	50	410	190	2,290
1,854	4	10/16/2019	25,960	10,170	3,570	1,350	610	4,490	1,570	10	30	2,060	330	1,180	50	400	140	2,280
1,795	5	10/17/2019	25,130	10,090	3,170	1,280	660	4,410	1,720	30	30	1,360	440	1,220	80	380	260	2,160
1,989	6	10/18/2019	27,840	13,430	3,490	1,210	650	4,140	1,520	10	40	1,320						

City of Bethlehem
Table III-3
Commercial Inside City
Annual Daily Usage Per Customer (in gallons)

Commercial Inside City			Home				Real Estate										Medical		Auto Repair	Max Hour
Daily Avg	Day of Week	Date	Total Commercial Inside	Hotel	Grocery	Healthcare	Improvement	School	School	Bank	Office	Fast Food	Hair Salon	Childcare	Pharmacy	Offices				
1,871	5	10/24/2019	26,200	9,680	3,180	2,750	570	4,840	1,560	30	50	1,290	460	1,210	50	440	90	2,330		
1,868	6	10/25/2019	26,150	10,340	3,590	2,480	660	3,880	1,070	10	30	2,010	610	970	60	370	70	2,340		
1,542	7	10/26/2019	21,590	13,530	2,950	2,270	710	20	0	20	40	1,450	490	40	30	0	40	2,240		
1,421	1	10/27/2019	19,890	12,950	2,540	2,030	420	280	0	0	0	1,460	170	10	30	0	0	2,240		
1,843	2	10/28/2019	25,800	9,640	3,180	2,400	720	4,010	1,620	20	40	2,310	360	990	60	360	90	2,480		
1,599	3	10/29/2019	22,390	9,980	2,630	2,450	820	2,340	720	20	50	1,360	430	1,070	40	410	70	1,690		
1,879	4	10/30/2019	26,310	10,170	2,960	2,320	970	4,420	1,570	10	30	1,930	330	1,020	60	450	70	2,270		
1,906	5	10/31/2019	26,690	10,450	3,120	2,390	900	4,160	1,650	20	40	1,980	410	1,030	40	400	100	2,270		
1,884	6	11/1/2019	26,380	9,860	3,440	2,480	950	4,110	1,410	20	30	1,990	480	970	50	340	250	2,450		
1,635	7	11/2/2019	22,890	13,630	3,210	2,800	850	0	0	70	50	1,710	450	30	60	0	30	2,330		
1,609	1	11/3/2019	22,520	14,250	2,560	2,490	650	400	0	10	0	1,900	230	0	30	0	0	2,310		
1,787	2	11/4/2019	25,020	9,510	2,850	2,380	810	4,180	1,580	10	50	1,720	250	1,120	70	420	70	2,170		
1,611	3	11/5/2019	22,550	11,120	2,730	2,530	810	650	80	10	40	2,250	420	1,340	50	450	70	1,610		
2,146	4	11/6/2019	30,040	13,010	3,300	2,580	720	4,430	1,470	30	30	2,420	290	1,160	50	460	90	2,350		
2,021	5	11/7/2019	28,290	11,990	3,040	2,340	740	4,520	1,580	10	30	2,010	420	1,010	70	450	80	2,320		
2,151	6	11/8/2019	30,120	14,240	3,290	2,580	840	4,050	1,540	20	20	1,680	470	840	80	370	100	2,520		
1,676	7	11/9/2019	23,470	14,380	3,140	2,170	780	60	0	10	60	2,060	520	30	30	0	230	1,670		
1,492	1	11/10/2019	20,890	13,560	2,440	2,330	590	280	0	0	0	1,400	280	0	10	0	0	1,880		
1,884	2	11/11/2019	26,370	9,250	2,900	2,740	810	4,150	1,400	1,170	40	2,060	280	970	60	420	120	2,290		
1,885	3	11/12/2019	26,390	9,690	2,780	2,420	830	4,180	1,400	1,700	40	1,250	380	1,040	40	410	230	2,180		
1,896	4	11/13/2019	26,540	10,890	2,960	2,530	780	3,970	1,530	20	30	1,480	380	1,120	60	440	350	2,270		
2,126	5	11/14/2019	29,770	12,600	3,310	2,470	900	4,380	1,430	20	30	2,300	500	1,050	70	420	290	2,340		
2,106	6	11/15/2019	29,490	12,940	3,360	2,320	770	4,040	1,820	10	40	2,110	560	900	60	390	170	2,340		
1,818	7	11/16/2019	25,450	16,760	3,180	2,180	900	0	0	10	30	1,660	550	60	50	0	70	2,400		
1,491	1	11/17/2019	20,870	12,790	2,450	2,220	650	320	0	10	0	2,160	260	0	10	0	0	2,140		
1,400	2	11/18/2019	19,600	6,970	2,810	2,140	870	2,370	910	20	40	1,430	350	1,130	40	400	120	1,800		
1,597	3	11/19/2019	22,360	9,060	2,720	2,180	1,140	2,370	840	10	40	1,270	390	1,620	40	410	270	1,890		
1,816	4	11/20/2019	25,430	10,530	2,930	2,390	770	4,290	1,500	20	30	960	250	1,140	60	470	90	2,160		
1,780	5	11/21/2019	24,920	8,690	3,120	2,370	850	4,530	1,530	120	30	1,320	490	1,300	50	420	100	2,330		
1,812	6	11/22/2019	25,370	10,280	3,200	2,190	840	4,070	1,510	20	20	1,160	630	1,030	50	310	60	2,160		
1,822	7	11/23/2019	25,510	16,630	3,150	2,100	840	20	0	10	30	2,020	620	40	30	0	20	2,810		
1,534	1	11/24/2019	21,470	13,970	3,040	2,040	590	330	0	0	0	1,180	280	0	40	0	0	2,360		
1,677	2	11/25/2019	23,480	7,580	3,240	2,520	890	4,570	1,500	20	0	1,110	480	1,020	50	430	70	2,270		
1,656	3	11/26/2019	23,180	7,370	3,420	2,390	800	3,890	1,420	20	10	1,520	580	1,230	60	390	80	2,180		
1,312	4	11/27/2019	18,370	7,900	3,250	2,370	920	520	50	10	0	1,230	460	1,140	60	390	70	1,580		
877	5	11/28/2019	12,280	8,920	500	2,260	10	0	0	0	0	550	0	0	40	0	0	1,220		
1,508	6	11/29/2019	21,110	13,540	2,700	2,130	1,230	0	0	20	0	820	340	60	50	220	0	2,000		
1,782	7	11/30/2019	24,950	17,000	2,840	2,430	890	90	0	20	0	1,060	510	40	50	0	20	2,130		
1,454	1	12/1/2019	20,360	13,490	2,150	2,570	620	30	0	0	0	1,390	90	0	20	0	0	1,820		
1,231	2	12/2/2019	17,240	8,600	2,540	2,150	820	340	70	20	0	1,330	190	770	40	240	130	1,270		
2,041	3	12/3/2019	28,570	13,950	2,650	2,760	800	3,880	1,420	20	0	1,230	420	840	80	320	200	2,430		
1,986	4	12/4/2019	27,800	12,070	2,660	2,480	800	3,990	1,550	20	0	2,340	240	1,080	50	360	160	2,280		
1,864	5	12/5/2019	26,100	10,950	3,020	2,460	760	4,300	1,550	10	0	1,510	20	1,010	60	300	150	2,160		
2,053	6	12/6/2019	28,740	13,330	2,880	2,390	860	3,960	1,460	30	0	1,830	610	970	70	280	70	2,260		
1,675	7	12/7/2019	23,450	15,200	2,660	2,230	830	20	0	10	0	1,770	470	70	60	0	130	2,060		
1,636	1	12/8/2019	22,900	13,500	2,620	3,630	730	330	0	0	0	1,760	280	10	20	0	20	2,330		
1,834	2	12/9/2019	25,680	10,250	2,650	3,460	820	3,970	1,440	20	0	1,250	280	920	50	400	170	2,060		
2,024	3	12/10/2019	28,330	11,760	2,540	2,840	710	4,100	1,530	1,170	0	1,990	220	1,020	50	330	70	2,170		
1,997	4	12/11/2019	27,960	10,780	2,770	2,340	750	4,200	1,480	2,230	0	1,590	250	1,010	50	430	80	2,300		
1,949	5	12/12/2019	27,290	12,080	3,020	2,370	750	4,030	1,530	20	0	1,260	510	1,190	70	360	100	2,330		
2,138	6	12/13/2019	29,930	13,840	3,150	2,330	830	4,000	1,430	10	0	2,120	590	1,170	60	360	40	2,320		
1,605	7	12/14/2019	22,470	14,250	2,660	2,410	690	0	0	10	0	1,830	500	30	40	0	50	1,840		
1,496	1	12/15/2019	20,940	13,140	2,590	2,560	560	500	0	50	0	1,250	270	10	10	0	0	2,310		
1,630	2	12/16/2019	22,820	8,880	2,630	2,200	830	3,850	1,300	20	0	1,260	290	970	30	330	230	1,940		
1,728	3	12/17/2019	24,190	8,700	2,770	2,390	830	3,860	1,440	10	0	1,970	400	1,140	40	390	250	2,160		
1,684	4	12/18/2019	23,580	8,340	3,090	2,160	810	4,550	1,480	30	0	950	480	1,070	70	370	180	2,250		
1,860	5	12/19/2019	26,040	10,590	3,040	2,090	740	4,220	1,560	10	0	1,790	410	1,090	80	370	50	2,510		
1,633	6	12/20/2019	22,860	7,690	3,570	2,220	860	3,890	1,570	20	0	1,070	610	930	30	230	170	2,000		
1,351	7	12/21/2019	18,920	10,370	3,160	2,540	810	0	0	10	0	1,290	630	10	30	20	50	1,410		
1,461	1	12/22/2019	20,460	12,480	3,330	2,050	610	240	0	10	0	1,380	320	0	40	0	0	1,870		
1,460	2	12/23/2019	20,440	10,300	3,760	2,160	850	280	20	30	10	1,060	510	1,020	60	320	60	1,720		
1,259	3	12/24/2019	17,630	9,560	3,060	2,080	530	20	0	10	0	1,580	460	10	40	170	110	1,550		
769	4	12/25/2019	10,760	7,390	510	2,040	0	10	0	0	0	800	0	0	0	10	0	900		
1,381	5	12/26/2019	19,330	10,430	3,030	2,090	680	250	0	20	0	1,340	330	800	50	250	60	1,870		
1,359	6	12/27/2019	19,020	9,400	3,190	2,420	820	200	10	20	0	1,270	470	800	60	290	70	1,540		
1,541	7	12/28/2019	21,570	13,350	3,020	2,370	670	0	0	10	0	1,680	360	40	40	0	30	1,590		
1,467	1	12/29/2019	20,540	13,080	2,920	2,160	570	20	0	10	0	1,580	180	0	20	0	0	1,930		
1,237	2	12/30/20																		

City of Bethlehem
Table III-4
Commercial Outside City
Annual Daily Usage Per Customer (in gallons)

Commercial Outside City Daily	Day of Week	Date	Total Commercial	Bank	Diner	Salon	Municipal Bldg	Dining	Car Wash	Retail	Grocery	Mail Distributor	Car Wash	Daycare	Car Dealer	Car Dealer	Hotel	Hospital	Laundromat	Max Hour
Avg	Week		Outside																	
4,786	3	1/1/2019	76,570	0	80	0	30	2,430	3,890	1,120	1,670	3,740	3,760	0	30	690	8,700	48,330	2,100	5,440
6,523	4	1/2/2019	104,360	0	2,070	270	100	2,280	4,850	1,300	1,620	6,100	6,870	1,000	360	5,050	4,040	65,050	3,340	6,880
6,441	5	1/3/2019	103,060	80	2,230	350	130	2,320	4,580	1,300	1,430	5,750	6,040	3,000	250	6,200	2,810	65,220	1,370	7,480
7,071	6	1/4/2019	113,130	80	2,550	400	120	3,290	6,210	1,360	2,000	6,800	6,650	2,000	250	6,690	6,630	65,320	2,780	7,750
4,716	7	1/5/2019	75,450	20	2,330	430	30	3,700	120	1,330	1,620	5,270	100	0	200	1,310	5,250	50,870	2,870	4,240
5,578	1	1/6/2019	89,240	0	2,470	250	30	3,720	8,210	1,120	1,580	3,910	9,850	0	20	690	4,580	48,090	4,720	6,860
6,247	2	1/7/2019	99,950	80	2,440	150	170	2,000	3,510	1,380	2,030	6,080	4,750	3,000	370	2,960	4,020	65,300	1,710	6,620
6,601	3	1/8/2019	105,620	80	2,460	330	140	2,120	2,610	1,250	1,760	7,680	2,530	1,010	390	4,530	9,170	68,420	1,140	7,340
7,519	4	1/9/2019	120,300	80	2,270	290	160	2,850	8,180	1,370	1,460	6,600	10,500	2,520	340	6,160	8,710	67,750	1,060	8,440
7,103	5	1/10/2019	113,650	90	2,210	350	140	2,620	6,490	1,370	1,430	6,910	7,250	2,550	300	5,620	7,490	66,940	1,890	7,410
7,093	6	1/11/2019	113,480	80	2,870	530	70	3,460	8,390	1,310	1,880	6,750	9,150	2,400	240	2,840	5,840	65,470	2,200	7,920
6,211	7	1/12/2019	99,370	10	3,130	560	30	4,590	8,590	1,270	1,900	5,260	9,730	100	180	1,020	5,790	53,240	3,970	6,830
5,454	1	1/13/2019	87,260	0	2,540	130	40	2,880	7,360	1,060	1,750	4,290	8,040	80	40	690	5,780	48,080	4,500	6,250
7,486	2	1/14/2019	119,770	90	1,790	280	140	1,740	11,040	1,290	1,720	6,100	13,700	2,430	1,430	4,240	5,420	66,580	1,780	9,330
7,661	3	1/15/2019	122,580	60	2,790	440	60	2,440	9,200	1,260	1,750	7,200	10,280	2,480	240	4,020	7,010	71,150	2,240	9,270
7,008	4	1/16/2019	112,130	80	4,930	340	100	2,400	4,270	1,310	1,670	6,680	5,120	2,600	350	3,100	8,640	69,550	950	6,840
6,817	5	1/17/2019	109,070	60	2,310	320	90	2,480	5,210	1,360	2,020	6,530	6,250	2,500	270	3,280	6,520	68,720	1,230	7,370
6,654	6	1/18/2019	106,460	80	2,340	400	90	4,050	3,290	1,370	1,860	6,030	4,760	2,150	310	3,550	6,650	67,590	1,940	7,220
6,126	7	1/19/2019	98,020	20	2,390	380	140	3,500	6,270	1,270	1,970	4,780	6,330	110	190	1,240	12,620	52,510	4,300	7,510
5,111	1	1/20/2019	81,770	0	1,670	120	30	2,050	1,720	990	1,760	3,060	3,230	100	10	670	15,580	48,220	2,560	5,170
6,912	2	1/21/2019	110,590	0	1,650	350	60	2,600	9,280	1,500	2,100	4,520	3,680	670	290	1,610	12,720	68,450	1,110	7,440
8,379	3	1/22/2019	134,070	90	2,010	440	120	2,180	16,440	1,230	1,810	6,500	21,250	2,160	350	2,050	7,350	67,540	2,550	9,150
6,908	4	1/23/2019	110,530	60	2,050	310	80	2,640	4,700	1,300	1,640	6,650	7,360	2,410	290	3,960	7,460	67,940	1,680	8,460
6,288	5	1/24/2019	100,600	70	1,890	460	90	3,720	200	1,350	1,410	6,730	1,170	2,480	270	2,550	10,700	65,660	1,850	6,110
8,109	6	1/25/2019	129,740	80	2,460	630	130	3,400	10,830	1,380	1,710	7,310	13,860	2,280	270	3,870	10,650	67,770	3,110	8,660
6,258	7	1/26/2019	100,120	20	2,760	580	20	4,520	12,140	1,450	1,900	5,080	13,890	60	140	1,010	7,440	46,100	3,010	7,650
5,958	1	1/27/2019	95,330	0	2,510	230	30	3,870	8,750	1,200	1,780	4,530	9,440	30	20	610	7,800	50,280	4,250	6,760
6,583	2	1/28/2019	105,330	70	1,880	440	150	1,880	5,420	1,340	1,920	6,200	6,160	2,250	1,140	1,880	4,980	66,870	2,750	7,040
5,762	3	1/29/2019	92,190	70	1,320	10	170	2,060	180	1,110	1,580	6,290	50	560	2,100	6,850	67,130	2,290	5,500	
6,227	4	1/30/2019	99,630	60	1,850	210	90	1,760	3,360	1,350	1,460	5,630	3,610	690	280	1,760	8,730	67,300	1,490	7,100
6,851	5	1/31/2019	109,620	70	2,640	320	210	2,360	7,120	1,360	1,800	6,380	9,380	2,420	390	2,060	6,250	65,520	1,340	8,150
8,644	6	2/1/2019	138,310	80	1,960	430	90	2,620	9,230	1,430	1,750	6,700	10,450	2,030	760	4,200	10,030	84,360	2,190	9,670
7,743	7	2/2/2019	123,890	70	2,860	240	150	2,860	6,810	1,510	1,500	4,650	7,140	2,530	820	2,410	9,560	80,580	1,200	7,700
7,811	1	2/3/2019	124,970	80	3,050	370	110	2,310	9,080	1,440	1,870	3,890	10,190	3,020	520	3,290	7,710	76,210	1,830	8,660
7,928	2	2/4/2019	126,850	80	2,750	320	160	2,340	8,320	1,620	1,650	6,570	10,060	3,520	450	3,570	7,060	76,210	2,170	8,660
6,101	3	2/5/2019	97,610	0	2,290	180	50	3,420	2,120	1,180	1,550	7,430	4,230	1,800	20	640	10,360	57,330	5,010	5,250
7,901	4	2/6/2019	126,420	30	2,030	710	130	4,250	11,280	1,460	1,720	6,730	13,170	1,830	160	4,210	13,350	62,290	3,070	8,530
10,218	5	2/7/2019	163,480	70	1,750	490	140	3,860	14,170	1,440	1,750	7,050	36,330	3,350	250	5,670	11,030	73,870	2,260	13,980
8,238	6	2/8/2019	131,810	70	1,840	350	80	2,440	9,770	1,210	1,990	6,780	12,830	3,060	240	4,860	10,030	74,620	1,640	9,270
6,232	7	2/9/2019	99,710	40	1,800	0	80	1,430	800	1,080	1,720	5,020	770	1,990	160	3,830	8,300	71,390	1,300	5,990
7,693	1	2/10/2019	123,090	80	2,240	370	160	2,190	6,450	1,340	2,000	3,940	8,810	2,430	250	7,410	9,390	75,370	660	7,980
7,444	2	2/11/2019	119,110	0	2,420	450	90	2,780	4,340	1,330	1,980	5,430	5,740	260	240	7,050	11,800	73,010	2,190	7,190
7,528	3	2/12/2019	120,440	0	2,290	230	10	3,440	11,280	1,090	1,700	5,000	12,660	290	20	680	19,620	59,170	2,960	7,590
9,017	4	2/13/2019	144,270	10	2,010	550	50	3,550	20,460	1,370	1,850	5,610	22,950	310	140	4,290	17,380	61,410	2,330	9,990
9,794	5	2/14/2019	156,700	60	1,980	500	90	3,870	15,260	1,290	1,580	7,150	29,260	3,430	1,480	6,040	8,110	74,010	2,590	12,830
8,158	6	2/15/2019	130,520	50	1,230	380	90	3,900	11,600	1,290	1,820	6,620	15,780	1,980	240	5,040	7,260	72,310	930	8,410
4,325	7	2/16/2019	69,200	60	1,410	430	50	2,050	3,590	1,280	1,820	5,150	5,520	350	240	2,880	7,180	35,730	1,460	6,090
3,528	1	2/17/2019	56,440	0	2,390	30	90	1,880	50	1,050	1,280	3,810	60	310	540	1,730	6,970	35,020	1,230	3,590
4,567	2	2/18/2019	73,070	80	6,500	300	130	2,280	3,180	1,240	2,120	4,040	3,990	1,830	370	3,010	5,510	36,350	2,120	5,180
4,231	3	2/19/2019	67,690	0	2,190	230	30	3,820	7,790	1,130	1,850	6,330	7,830	390	10	960	9,200	21,420	4,510	5,520
5,241	4	2/20/2019	83,850	20	1,800	640	20	4,090	12,830	1,490	1,710	6,350	14,450	410	180	1,490	10,290	24,990	3,090	6,910
5,867	5	2/21/2019	93,870	90	2,060	550	70	3,680	7,840	1,350	1,740	6,600	14,450	2,840	230	5,650	9,370	35,000	2,350	8,360
6,681	6	2/22/2019	106,890	70	1,650	330	70	2,420	7,110	1,330	1,680	6,970	9,080	2,770	1,090	5,520	12,510	52,870	1,420	7,150
8,954	7	2/23/2019	143,260	90	1,610	380	90	2,400	12,310	1,320	1,570	5,320	21,170	2,660	330	6,100	15,680	69,760	2,470	11,690
9,262	1	2/24/2019	148,190	80	2,490	500	130	1,710	21,290	1,530	1,920	4,330	30,710	2,650	300	7,160	8,090	62,660	2,640	11,450
9,039	2	2/25/2019	144,630	80	2,390	270	270	2,020	22,230	1,480	1,630	5,710	22,040	2,380	530	8,860	4,860	67,460	2,420	11,420
9,458	3	2/26/2019	151,320	10	2,180	270	30	3,650	18,520	1,170	2,350	6,560	52,370	40	10	3,980	6,820	47,290	6,070	12,600
8,314	4	2/27/2019	133,020	20	320	610	30	4,750	20,030	1,250	2,150	7,080	31,540	90	180	2,270	8,610	51,310	2,780	11,240
7,522	5	2/28/2019	120,350	90	0	530														

City of Bethlehem
Table III-4
Commercial Outside City
Annual Daily Usage Per Customer (in gallons)

Commercial Outside City Daily	Day of Week	Date	Total Commercial																	Max Hour
			Outside	Bank	Diner	Salon	Municipal Bldg	Dining	Car Wash	Retail	Grocery	Mail Distributor	Car Wash	Daycare	Car Dealer	Car Dealer	Hotel	Hospital	Laundromat	
7,662	1	3/24/2019	122,590	0	2,590	220	20	3,770	10,690	5,440	1,590	4,400	11,380	100	20	2,110	10,070	65,920	4,270	9,330
8,243	2	3/25/2019	131,890	110	1,950	210	80	2,410	4,440	5,220	1,530	9,060	6,180	1,820	290	7,410	6,920	80,340	3,920	8,330
8,570	3	3/26/2019	137,120	70	1,640	390	90	2,280	8,270	5,400	1,890	6,400	10,920	1,880	480	8,810	8,010	79,050	1,540	8,770
8,436	4	3/27/2019	134,970	90	1,940	290	70	2,830	7,910	5,340	1,760	6,130	9,470	2,220	310	9,270	8,640	77,550	1,150	8,600
8,838	5	3/28/2019	141,410	100	2,020	450	90	2,980	7,540	5,280	1,750	6,590	17,440	2,500	240	6,770	7,990	77,340	2,330	9,820
8,414	6	3/29/2019	134,630	110	2,300	490	90	3,140	5,140	5,410	1,970	6,580	13,310	1,620	250	8,470	9,110	75,060	1,580	8,710
9,489	7	3/30/2019	151,820	30	2,350	570	20	4,450	13,020	5,270	1,790	5,550	29,040	160	150	4,920	11,550	69,130	3,820	10,940
7,116	1	3/31/2019	113,860	0	2,070	130	20	3,940	3,380	4,930	1,800	4,290	8,760	150	20	2,150	11,170	66,880	4,170	7,500
9,248	2	4/1/2019	147,960	100	1,970	360	140	2,370	6,110	5,770	2,120	6,150	21,830	1,640	490	8,530	7,100	79,510	3,770	9,420
8,628	3	4/2/2019	138,040	100	1,790	400	130	2,130	7,080	5,290	1,640	6,370	15,490	2,050	250	6,160	8,750	78,770	1,640	9,240
9,324	4	4/3/2019	149,190	80	2,050	240	90	2,610	7,830	5,800	1,820	6,730	21,250	2,690	290	6,110	9,780	80,120	1,700	11,470
9,256	5	4/4/2019	148,100	110	1,980	460	100	2,810	7,310	7,640	1,880	6,870	19,960	1,860	300	6,630	9,820	78,870	1,500	9,530
7,362	6	4/5/2019	117,790	110	2,210	390	110	3,400	820	6,270	1,930	6,610	810	1,650	230	4,360	10,660	76,240	1,990	6,840
9,491	7	4/6/2019	151,860	30	2,190	420	50	4,660	12,330	5,410	2,070	5,540	28,540	170	170	4,180	10,400	72,410	3,290	11,180
8,411	1	4/7/2019	134,570	0	2,220	150	20	3,800	10,420	5,470	2,020	4,380	23,070	170	20	560	9,750	69,000	3,520	9,250
9,841	2	4/8/2019	157,460	100	1,720	250	120	2,640	5,600	5,620	1,850	7,950	15,190	1,820	310	7,370	8,340	96,770	1,810	11,230
9,557	3	4/9/2019	152,910	90	2,010	390	90	2,580	6,700	5,570	1,800	8,070	13,870	2,280	300	7,390	8,320	90,880	2,570	10,520
9,295	4	4/10/2019	148,720	80	1,940	440	120	2,450	8,690	5,390	1,750	6,390	20,300	1,930	280	6,060	7,610	83,020	2,270	12,610
8,808	5	4/11/2019	140,920	80	1,920	460	80	2,850	6,460	5,860	1,630	6,750	16,780	2,360	380	6,230	8,790	77,410	2,880	9,190
8,723	6	4/12/2019	139,560	100	2,730	480	80	3,290	3,120	6,930	1,840	7,900	9,700	1,720	300	5,440	10,280	84,000	1,810	10,730
9,216	7	4/13/2019	147,450	10	2,220	520	40	4,440	7,830	5,600	1,600	9,560	20,010	230	140	3,420	13,110	75,360	3,360	10,520
7,719	1	4/14/2019	123,510	0	2,280	270	40	3,890	5,570	5,530	1,830	5,360	11,690	250	20	660	11,930	69,570	4,620	7,900
8,551	2	4/15/2019	136,820	100	2,080	420	140	2,320	4,160	5,550	1,800	7,220	11,280	2,950	280	5,950	7,460	80,870	4,240	8,640
9,413	3	4/16/2019	150,610	90	2,110	340	120	2,480	8,180	5,760	1,580	6,980	18,750	3,940	260	5,060	10,910	81,680	2,370	11,290
9,286	4	4/17/2019	148,580	80	2,490	270	100	2,750	8,830	5,190	1,840	6,810	16,900	2,990	300	6,810	9,700	82,380	1,840	11,010
9,366	5	4/18/2019	149,860	90	2,350	460	180	2,740	5,850	5,480	2,150	7,340	16,410	1,900	310	6,590	9,790	86,580	1,680	11,120
9,533	6	4/19/2019	152,530	60	3,220	510	100	3,880	5,030	5,900	2,100	9,750	13,390	230	270	4,280	9,950	92,300	1,850	11,450
8,784	7	4/20/2019	140,550	20	3,010	600	90	4,220	5,070	5,900	2,310	9,100	10,830	220	130	1,100	14,780	80,840	2,330	9,150
6,579	1	4/21/2019	105,270	0	2,870	10	20	3,050	0	5,290	1,360	7,270	0	210	30	700	68,790	3,360	6,250	
10,109	2	4/22/2019	161,740	80	2,380	300	120	2,160	12,010	5,700	2,330	8,100	30,270	280	560	8,610	8,200	84,200	2,360	11,500
11,029	3	4/23/2019	176,460	90	3,200	400	100	2,910	13,160	6,040	1,910	9,670	29,550	2,080	290	3,110	7,890	93,790	2,270	12,560
11,545	4	4/24/2019	184,720	90	3,120	270	70	2,420	16,790	6,010	1,580	10,120	34,870	2,640	260	3,050	10,320	91,310	1,800	13,470
9,515	5	4/25/2019	152,240	90	2,590	320	120	3,280	7,670	6,000	1,820	8,640	19,610	2,100	290	2,710	9,630	85,260	2,110	10,960
8,044	6	4/26/2019	128,710	80	2,830	400	80	3,600	1,380	5,900	1,790	8,380	2,800	1,880	280	2,670	11,290	83,600	1,750	8,320
9,836	7	4/27/2019	157,380	20	3,300	510	270	4,100	13,430	6,650	1,630	5,230	28,820	320	220	3,760	14,230	72,320	2,570	11,130
7,444	1	4/28/2019	119,100	0	4,960	290	30	3,430	3,360	11,190	2,190	3,970	10,170	240	10	1,130	11,330	61,950	4,850	6,670
10,003	2	4/29/2019	160,050	70	4,740	380	100	2,470	8,670	9,010	1,960	6,830	22,860	3,320	270	7,460	8,320	81,380	2,210	11,530
9,444	3	4/30/2019	151,100	80	1,890	340	1,320	2,480	7,770	5,760	2,300	8,720	8,780	3,240	700	7,780	9,390	88,670	1,880	11,470
8,713	4	5/1/2019	139,410	80	2,110	270	70	2,440	4,680	6,120	1,870	6,980	14,440	2,140	920	6,960	8,790	79,430	2,110	10,270
11,038	5	5/2/2019	176,600	100	2,270	390	90	2,250	10,260	9,150	2,600	10,620	24,190	2,080	330	7,620	9,800	92,650	2,200	12,910
9,742	6	5/3/2019	155,870	90	2,270	360	90	4,210	5,830	9,490	2,380	6,840	17,090	2,120	410	7,170	10,550	83,110	3,860	9,910
8,816	7	5/4/2019	141,050	20	2,240	400	50	4,220	8,750	6,510	1,800	5,360	9,030	240	200	4,360	13,220	81,310	3,340	9,910
6,946	1	5/5/2019	111,140	0	2,200	240	20	3,470	10	5,470	2,260	7,300	500	220	20	1,240	11,590	70,990	5,610	6,890
9,809	2	5/6/2019	156,950	90	1,700	280	180	2,740	8,010	5,870	2,140	8,760	10,320	1,830	1,120	6,880	10,340	93,790	2,900	10,730
9,607	3	5/7/2019	153,710	130	2,100	280	130	3,090	7,840	6,160	2,510	9,210	9,130	1,870	270	7,370	8,590	92,780	2,250	11,400
9,333	4	5/8/2019	149,320	80	1,930	320	110	2,930	8,230	6,330	2,020	9,960	9,950	1,980	290	6,420	8,370	88,760	1,640	9,640
8,239	5	5/9/2019	131,820	80	2,250	350	110	2,370	4,190	5,960	1,970	7,460	4,640	1,870	350	6,390	8,830	82,690	2,310	9,450
9,703	6	5/10/2019	155,250	70	2,400	370	90	3,710	4,870	6,060	2,100	9,680	7,140	1,780	330	7,280	9,980	96,710	2,680	10,980
9,312	7	5/11/2019	148,990	50	2,550	590	50	5,290	13,840	6,140	3,020	7,500	14,210	220	180	4,840	12,990	74,890	2,630	10,300
6,169	1	5/12/2019	98,710	0	2,850	150	50	4,280	360	5,370	2,600	3,760	1,940	220	10	1,640	12,030	60,840	2,610	5,730
6,988	2	5/13/2019	111,800	50	1,840	290	170	2,330	290	6,010	2,100	5,320	1,570	2,320	360	4,150	6,480	76,610	1,910	7,320
8,265	3	5/14/2019	132,240	80	2,210	320	100	2,260	5,030	6,060	2,240	6,550	5,030	1,920	1,090	6,460	8,530	82,540	1,820	9,820
9,704	4	5/15/2019	155,270	70	3,250	250	90	2,820	12,200	5,810	2,090	8,870	14,000	1,860	290	6,300	8,880	86,460	2,030	11,270
9,901	5	5/16/2019	158,420	80	2,100	320	70	2,370	12,270	6,090	2,540	9,410	13,970	1,980	230	6,700	9,100	89,380	1,810	11,630
10,876	6	5/17/2019	174,020	90	2,430	420	110	3,470	12,420	6,950	2,510	14,800	11,680	2,020	290	7,470	9,180	97,790	2,390	11,790
10,390	7	5/18/2019	166,240	10	2,300	410	40	3,820	17,980	6,970	2,230	8,680	21,640	220	190	5,710	10,840	82,500	2,700	11,390
9,789	1	5/19/2019	156,630	0	2,480	130	40	3,000	12,620	9,010	2,320	8,890	13,850	200	20	630	12,050	86,760	4,630	10,380
11,091	2	5/20/2019	177,460	70	2,060	420	110	1												

City of Bethlehem
Table III-4
Commercial Outside City
Annual Daily Usage Per Customer (in gallons)

Commercial Outside City Daily	Day of Week	Date	Total Commercial Outside	Bank	Diner	Salon	Municipal Bldg	Dining	Car Wash	Retail	Grocery	Mail Distributor	Car Wash	Daycare	Car Dealer	Car Dealer	Hotel	Hospital	Laundromat	Max Hour
10,222	6	6/14/2019	163,550	80	2,540	530	90	3,440	9,540	3,380	2,090	9,290	10,500	790	300	7,220	16,950	94,770	2,040	11,120
10,458	7	6/15/2019	167,330	30	2,420	710	30	3,840	10,740	6,700	1,920	6,410	11,830	220	190	4,220	22,980	93,560	1,530	11,990
10,181	1	6/16/2019	162,900	0	2,320	90	30	3,790	5,350	5,320	2,510	10,460	4,980	250	20	1,740	21,640	102,350	2,050	10,200
10,198	2	6/17/2019	163,160	100	1,900	210	160	2,300	3,410	2,070	2,090	12,280	3,970	780	350	6,660	10,790	112,070	4,020	10,830
9,298	3	6/18/2019	148,760	100	1,740	360	160	2,010	670	1,520	2,030	12,570	830	440	360	4,990	13,420	106,020	1,540	10,190
10,023	4	6/19/2019	160,360	80	2,280	290	120	2,720	1,200	1,700	2,100	12,410	2,190	900	320	6,370	13,560	111,770	2,350	10,400
10,839	5	6/20/2019	173,430	80	2,310	660	80	2,870	1,220	1,600	2,420	13,970	2,990	2,240	600	6,010	17,170	117,920	1,290	11,480
11,427	6	6/21/2019	182,830	90	2,100	1,280	120	2,950	8,050	2,580	2,100	14,170	11,410	2,210	290	7,790	16,240	108,910	2,540	11,580
11,064	7	6/22/2019	177,030	20	2,530	640	90	3,190	12,630	3,980	1,920	9,920	16,450	2,100	270	4,040	19,260	98,180	1,810	12,570
10,632	1	6/23/2019	170,110	0	2,480	350	80	2,590	11,590	2,400	1,880	8,390	12,030	2,080	10	1,650	24,850	96,960	2,770	11,500
11,544	2	6/24/2019	184,700	70	1,540	310	110	2,260	7,950	3,670	2,200	12,050	9,770	2,220	290	7,510	17,760	113,970	3,020	11,970
11,527	3	6/25/2019	184,430	70	1,920	470	100	2,520	5,450	4,010	2,200	14,330	7,110	2,210	260	6,630	9,450	125,160	2,540	11,470
11,881	4	6/26/2019	190,100	90	1,840	370	90	2,430	9,130	4,030	1,930	15,320	10,970	1,480	290	7,290	10,020	122,710	2,110	12,670
12,292	5	6/27/2019	196,670	80	1,960	430	100	2,480	10,760	3,220	1,710	13,630	12,020	380	270	7,270	10,080	130,520	1,760	13,050
12,178	6	6/28/2019	194,840	50	1,940	330	80	2,930	9,640	4,640	1,850	14,150	10,870	300	280	6,920	13,640	123,640	3,580	12,650
10,953	7	6/29/2019	175,240	10	2,240	420	70	3,650	8,550	4,670	1,940	11,930	8,170	180	190	4,340	14,960	112,120	1,800	12,410
10,804	1	6/30/2019	172,870	0	2,100	90	60	3,250	9,780	6,870	1,700	10,400	11,880	180	30	1,650	12,910	108,190	3,780	10,660
11,389	2	7/1/2019	182,230	100	2,190	450	90	2,240	9,780	6,420	2,010	11,450	9,870	270	320	7,170	7,200	119,100	3,570	12,750
11,738	3	7/2/2019	187,800	90	2,250	430	110	2,690	6,810	4,960	1,970	13,130	7,310	390	310	6,950	6,910	131,060	2,430	12,540
11,491	4	7/3/2019	183,860	80	2,110	440	70	2,780	5,580	5,010	1,980	13,110	5,310	280	300	6,200	6,710	132,220	1,680	11,820
10,496	5	7/4/2019	167,940	0	230	120	30	3,530	6,260	4,560	2,290	10,100	6,840	170	10	1,710	9,730	120,020	2,340	10,380
11,886	6	7/5/2019	190,170	60	2,730	540	30	3,100	7,190	2,960	2,260	11,810	9,070	160	330	6,720	11,690	129,390	2,130	11,770
11,781	7	7/6/2019	188,490	20	2,440	430	40	3,560	6,630	4,020	2,190	13,490	8,040	150	190	4,360	14,230	125,980	2,720	12,760
10,651	1	7/7/2019	170,410	0	2,870	280	30	2,790	7,790	3,630	2,500	12,610	9,840	140	20	1,790	12,480	110,340	3,300	11,890
10,769	2	7/8/2019	172,310	80	2,110	380	120	2,080	2,580	5,960	2,090	10,680	3,680	190	300	5,540	10,370	123,610	2,540	11,020
11,499	3	7/9/2019	183,980	90	1,910	480	110	2,440	7,840	5,280	2,070	10,520	9,320	240	280	6,640	9,980	125,170	1,610	11,780
12,138	4	7/10/2019	194,200	60	2,120	420	100	2,120	6,330	4,390	2,080	13,710	8,170	340	270	6,840	9,140	136,380	1,730	11,880
10,896	5	7/11/2019	174,330	70	2,230	320	70	2,650	1,710	3,830	2,260	14,100	4,950	330	290	4,720	10,880	123,960	1,960	10,980
12,326	6	7/12/2019	197,220	80	2,420	590	110	2,930	8,730	2,470	2,480	14,760	11,810	300	260	6,810	13,380	127,640	2,540	12,750
11,874	7	7/13/2019	189,980	30	2,860	1,100	30	3,670	11,210	5,670	2,460	11,760	12,700	210	160	4,520	17,060	114,340	2,200	11,750
11,316	1	7/14/2019	181,060	0	2,640	240	110	3,620	9,470	8,230	2,610	10,790	10,570	220	30	1,780	14,690	112,620	3,440	10,910
11,676	2	7/15/2019	186,820	40	2,180	340	90	2,130	7,720	5,060	2,050	12,400	9,690	870	290	7,240	9,000	126,350	1,370	12,480
12,200	3	7/16/2019	195,200	60	1,870	490	150	2,610	8,710	4,140	2,140	12,950	7,610	1,210	270	6,290	10,670	135,100	930	12,130
12,093	4	7/17/2019	193,480	50	2,450	460	60	2,910	6,060	6,730	1,790	14,990	6,180	960	270	6,140	9,830	132,820	1,780	13,240
11,503	5	7/18/2019	184,040	60	2,610	570	200	2,300	2,800	3,850	2,230	15,250	1,970	870	280	5,660	14,460	129,690	1,240	11,760
13,167	6	7/19/2019	210,670	70	2,370	550	50	3,490	8,470	3,750	2,890	15,390	10,880	500	260	6,470	12,560	140,920	2,050	13,320
13,009	7	7/20/2019	208,150	20	2,540	450	70	3,380	10,330	7,340	1,970	13,860	10,780	230	130	3,950	13,300	138,010	1,790	12,580
12,077	1	7/21/2019	193,230	0	2,620	50	40	3,070	8,380	6,080	1,520	12,350	8,450	200	30	1,690	13,690	131,450	3,610	10,650
11,184	2	7/22/2019	178,950	60	2,060	300	170	2,720	3,530	1,420	1,550	12,770	3,370	390	260	5,710	8,210	134,630	1,800	11,130
10,729	3	7/23/2019	171,660	60	2,160	660	120	2,440	3,130	3,010	1,800	12,120	4,400	390	440	5,570	10,420	123,410	1,530	8,830
11,476	4	7/24/2019	183,620	70	2,300	440	120	2,940	9,700	4,450	1,910	12,030	10,570	960	290	6,480	9,520	120,740	1,100	12,320
11,400	5	7/25/2019	182,400	80	2,380	470	230	2,500	8,030	2,970	2,010	14,440	10,140	1,400	250	5,760	10,380	119,620	1,740	11,590
12,729	6	7/26/2019	203,670	50	2,820	450	110	3,930	9,420	7,360	1,760	17,880	11,580	2,020	260	6,710	12,000	125,110	2,210	14,250
11,284	7	7/27/2019	180,540	10	2,640	410	50	3,430	11,360	6,020	1,650	11,340	11,460	2,720	170	4,110	13,370	108,910	2,890	12,570
11,488	1	7/28/2019	183,800	0	2,530	200	20	3,490	8,320	8,710	1,590	11,030	10,880	2,690	50	1,840	12,810	115,190	4,450	11,440
12,548	2	7/29/2019	200,760	60	1,760	330	170	2,250	10,010	6,630	1,770	12,920	12,020	1,710	290	7,000	10,220	130,770	2,850	12,580
14,161	3	7/30/2019	226,580	70	2,350	270	140	2,940	8,610	5,600	1,740	14,690	33,510	360	300	7,740	11,080	135,410	1,770	13,720
12,542	4	7/31/2019	200,670	70	1,990	520	120	2,130	4,060	3,850	1,760	13,550	26,260	200	330	6,200	10,050	127,900	1,680	12,670
11,893	5	8/1/2019	190,290	80	2,660	420	100	3,380	7,770	3,390	1,890	13,370	13,410	630	240	6,180	11,600	123,950	1,220	11,480
11,914	6	8/2/2019	190,630	70	2,790	440	90	4,110	8,090	3,840	1,880	13,640	10,090	290	270	6,360	12,300	125,360	1,010	12,650
11,456	7	8/3/2019	183,290	20	3,030	580	1,170	3,560	9,280	4,440	1,450	12,200	11,360	50	130	4,390	15,410	112,860	3,360	11,990
11,001	1	8/4/2019	176,020	0	2,550	160	50	3,390	9,050	6,570	1,420	10,910	9,350	10	20	1,880	16,440	110,260	3,960	10,680
11,338	2	8/5/2019	181,400	40	1,900	400	120	2,710	7,620	4,230	2,120	11,200	8,390	2,050	350	250	11,260	119,540	2,750	11,820
11,281	3	8/6/2019	180,490	50	2,060	470	300	2,560	5,150	2,220	2,250	12,270	5,950	2,490	270	6,340	9,520	126,780	1,810	11,790
10,616	4	8/7/2019	169,850	60	2,280	380	100	2,270	3,540	1,530	1,550	12,870	4,060	1,210	300	5,350	10,630	121,130	2,590	12,090
11,727	5	8/8/2019	187,630	50	2,070	480	70	2,620	7,070	2,070	1,510	13,880	8,990	1,130	260	6,120	14,320	122,920	4,070	11,920
11,469	6	8/9/2019	183,500	60	2,720	600	110	2,770	9,010	3,420	2,030	12,730	10,520	940	220	6,250	15,350	114,870	1,900	11,000
10,514	7	8/10/2019	168,220	10	2,850	540	90	3,44												

City of Bethlehem
Table III-4
Commercial Outside City
Annual Daily Usage Per Customer (in gallons)

Commercial Outside City Daily	Day of Week	Date	Total Commercial Outside	Bank	Diner	Salon	Municipal Bldg	Dining	Car Wash	Retail	Grocery	Mail Distribution	Car Wash	Daycare	Car Dealer	Car Dealer	Hotel	Hospital	Laundromat	Max Hour
11,064	4	9/4/2019	177,020	60	2,020	340	140	2,340	5,210	4,320	1,430	13,340	7,150	1,720	350	4,940	9,190	122,550	1,920	10,790
10,593	5	9/5/2019	169,480	80	2,220	390	120	2,300	7,020	4,610	2,190	11,830	8,070	1,630	270	5,580	12,300	108,890	1,980	10,680
9,801	6	9/6/2019	156,810	90	2,610	420	190	3,240	4,950	4,300	2,200	10,310	7,990	1,840	260	5,770	9,710	101,160	1,770	8,970
9,821	7	9/7/2019	157,130	50	2,480	580	100	3,770	12,840	2,930	1,700	7,940	14,550	40	170	2,660	11,030	93,190	3,100	11,520
9,489	1	9/8/2019	151,830	0	2,760	210	100	3,470	9,660	6,070	1,670	7,600	9,820	0	20	1,070	12,940	93,660	2,780	9,870
10,543	2	9/9/2019	168,680	70	2,150	500	190	1,700	7,160	3,670	1,700	10,210	9,130	1,720	290	5,340	7,730	114,800	2,320	11,980
10,843	3	9/10/2019	173,490	60	1,970	730	160	1,920	7,230	3,110	1,590	11,670	7,550	1,760	350	5,880	11,960	115,730	1,820	10,430
11,538	4	9/11/2019	184,610	70	2,130	870	280	2,510	7,790	4,720	1,560	12,930	8,400	1,810	260	6,020	10,120	123,860	1,280	11,470
10,801	5	9/12/2019	172,810	60	2,050	470	170	2,190	4,610	3,670	1,580	12,750	4,140	1,820	230	6,050	12,820	118,010	2,190	11,460
9,985	6	9/13/2019	159,760	80	2,430	890	150	2,970	6,520	3,360	1,870	9,270	6,260	1,820	220	7,510	11,190	103,290	1,930	9,320
8,943	7	9/14/2019	143,090	30	2,910	1,270	280	3,740	4,810	4,060	1,600	8,190	4,570	50	160	3,200	12,980	92,670	2,570	9,850
9,906	1	9/15/2019	158,490	0	2,570	110	160	3,520	11,260	3,410	1,700	7,880	13,800	0	20	1,250	11,830	95,610	5,370	9,920
10,445	2	9/16/2019	167,120	60	2,000	370	210	1,800	6,980	5,650	1,610	10,060	9,110	1,780	310	6,020	6,390	112,400	2,370	10,740
10,812	3	9/17/2019	172,990	60	2,460	490	230	2,350	8,660	4,540	2,000	10,220	13,370	1,770	240	5,660	10,130	108,970	1,840	11,860
10,023	4	9/18/2019	160,370	50	2,550	420	200	2,330	8,900	4,100	1,680	9,160	12,360	1,770	250	5,700	9,260	100,240	1,400	11,180
9,558	5	9/19/2019	152,930	70	2,180	370	180	2,280	9,600	1,680	1,570	8,660	11,950	1,870	240	5,520	10,520	93,960	2,280	10,900
10,353	6	9/20/2019	165,650	60	2,340	470	220	3,100	11,430	2,530	2,120	8,510	15,970	1,830	250	6,680	10,950	97,240	1,950	11,480
10,298	7	9/21/2019	164,760	10	2,720	830	270	3,880	13,430	3,250	1,960	7,920	16,380	10	260	3,840	14,500	92,020	3,480	11,940
9,500	1	9/22/2019	152,000	0	2,510	250	260	2,630	10,630	3,940	1,630	7,430	14,070	0	20	1,300	11,610	91,560	4,160	9,830
11,718	2	9/23/2019	187,480	90	2,120	390	190	2,000	7,010	5,530	2,020	11,070	9,570	1,720	280	6,450	7,970	128,740	2,330	12,660
11,045	3	9/24/2019	176,720	80	1,900	390	190	2,570	8,740	5,870	1,550	10,290	12,280	1,770	290	6,280	9,890	113,560	1,070	12,120
10,549	4	9/25/2019	168,790	90	2,060	290	140	2,550	9,470	4,680	1,450	9,670	12,480	1,790	310	5,680	9,690	106,060	2,380	11,710
9,632	5	9/26/2019	154,110	80	2,180	470	100	2,970	5,970	4,280	1,580	9,410	6,080	2,000	400	4,770	9,420	102,910	1,490	10,790
10,889	6	9/27/2019	174,230	100	2,260	510	170	3,110	11,400	2,810	1,590	9,120	16,310	1,830	260	5,430	12,910	103,620	2,800	13,050
10,147	7	9/28/2019	162,350	10	2,500	600	80	3,480	9,450	4,050	1,600	8,110	12,580	20	200	3,630	13,430	100,640	1,970	10,200
10,285	1	9/29/2019	164,560	0	2,290	120	60	3,180	11,600	3,280	1,580	8,280	14,780	0	20	990	12,320	100,110	5,950	9,550
9,055	2	9/30/2019	144,880	90	1,640	700	130	1,870	4,650	4,120	1,570	8,360	5,500	1,650	340	5,830	8,960	97,690	1,780	10,730
10,210	3	10/1/2019	163,360	90	1,880	440	130	2,930	7,280	2,280	1,570	11,010	9,280	1,990	310	5,290	9,530	107,250	2,280	11,330
11,171	4	10/2/2019	178,730	80	2,290	550	130	2,340	7,730	2,800	1,670	12,960	9,560	1,860	980	5,230	9,060	120,140	1,350	13,220
7,563	5	10/3/2019	121,000	80	2,180	400	110	2,630	320	1,430	1,660	7,770	320	1,610	250	4,030	10,180	83,820	2,130	7,340
9,310	6	10/4/2019	148,960	100	2,560	480	100	3,150	10,450	1,530	1,840	7,260	20,070	1,810	210	5,730	12,280	79,570	1,810	10,250
7,645	7	10/5/2019	122,320	40	2,560	590	110	3,410	10,330	1,490	1,560	4,920	15,280	10	750	2,450	13,170	62,690	2,960	8,660
6,348	1	10/6/2019	101,560	0	2,180	130	30	2,970	3,100	1,120	2,020	4,620	4,340	0	30	970	10,770	64,550	4,730	7,020
8,088	2	10/7/2019	129,400	110	1,930	310	140	2,150	1,700	1,460	1,690	9,980	2,480	1,770	280	4,270	6,520	93,250	1,360	9,590
8,191	3	10/8/2019	131,060	80	2,130	380	140	2,350	5,060	2,110	2,390	8,260	6,630	1,900	290	4,850	9,490	82,240	2,760	10,360
7,911	4	10/9/2019	126,580	70	2,740	500	80	2,270	4,170	3,510	1,820	6,830	6,390	100	320	4,020	10,380	80,670	2,710	9,870
8,970	5	10/10/2019	143,520	80	1,950	440	110	2,150	7,610	1,830	2,100	9,260	13,200	1,840	270	3,960	9,590	87,370	1,760	11,590
9,694	6	10/11/2019	155,110	70	2,340	630	270	3,630	11,050	2,160	1,860	9,230	16,850	1,650	230	5,310	12,080	86,210	1,540	10,750
8,244	7	10/12/2019	131,910	20	2,460	710	170	3,950	9,710	2,790	1,520	6,230	14,820	10	190	2,630	14,110	70,150	2,440	9,310
7,699	1	10/13/2019	123,190	0	2,420	600	50	3,040	9,280	2,820	1,740	5,570	12,730	0	20	1,120	13,390	66,530	3,880	7,750
8,478	2	10/14/2019	135,640	0	1,860	690	80	2,020	160	3,510	1,620	6,360	11,970	690	320	5,000	11,870	86,870	2,620	9,740
8,206	3	10/15/2019	131,290	90	2,050	380	120	1,910	480	1,870	1,580	7,440	11,450	1,640	290	4,420	10,800	84,840	1,930	9,180
7,574	4	10/16/2019	121,180	70	2,310	340	80	2,080	250	1,530	1,570	7,240	1,680	1,810	290	3,570	13,460	84,340	560	8,870
7,233	5	10/17/2019	115,730	80	2,310	320	120	2,640	240	1,430	1,500	8,110	7,280	1,870	280	4,060	10,070	73,560	1,860	7,150
7,698	6	10/18/2019	123,170	250	2,180	430	120	2,990	180	1,570	1,780	6,930	11,490	1,860	270	4,360	11,100	76,260	1,400	7,460
6,769	7	10/19/2019	108,300	30	2,360	570	20	4,090	290	1,800	1,780	4,900	12,790	20	170	2,630	11,320	62,580	2,950	8,800
5,533	1	10/20/2019	88,530	0	2,730	40	40	2,420	470	1,560	1,540	3,830	1,900	0	40	950	11,780	56,760	4,470	5,110
7,744	2	10/21/2019	123,900	80	2,140	270	120	1,860	150	1,620	1,910	6,520	9,780	1,990	320	4,390	7,460	82,220	3,070	10,610
7,814	3	10/22/2019	125,030	70	1,820	450	80	2,140	190	1,550	2,680	8,780	3,230	820	370	2,970	9,800	87,950	2,130	8,030
8,746	4	10/23/2019	139,930	90	2,440	310	80	2,230	780	1,930	1,530	8,300	16,820	1,700	320	3,810	10,060	87,690	1,840	11,240
8,829	5	10/24/2019	141,260	80	2,840	450	110	2,430	190	1,440	1,710	9,190	13,130	1,570	5,130	4,500	9,820	86,490	2,180	9,880
8,423	6	10/25/2019	134,760	100	2,220	500	250	2,960	140	1,580	1,820	7,470	11,330	1,640	8,720	4,400	9,980	80,160	1,490	8,810
7,108	7	10/26/2019	113,720	20	2,380	500	10	3,520	10	1,400	1,770	4,850	10,610	50	140	1,510	11,890	71,500	3,560	7,400
6,533	1	10/27/2019	104,520	0	2,330	130	40	3,100	30	1,420	1,680	5,530	4,010	0	30	950	11,610	68,760	4,900	6,640
8,161	2	10/28/2019	130,570	90	2,040	400	150	2,040	320	1,550	2,270	7,900	11,720	1,670	320	3,680	7,130	86,610	2,680	10,980
7,709	3	10/29/2019	123,340	90	1,990	460	90	2,500	380	2,000	1,840	8,310	2,350	1,750	410	3,130	9,720	86,270	2,050	9,010
8,336	4	10/30/2019	133,380	70	2,080	440	80	2,360	570	1,570	1,600	11,400	7,270	1,800	300	3,780	9,570	89,510	980	10,180
8,544	5	10/31/2019	136,700	70	2,090	390	100	2,390	1,740	1,540	1,480	10,230	710	1,700	330	3,960	8,700	100,240	1,030	

City of Bethlehem
Table III-4
Commercial Outside City
Annual Daily Usage Per Customer (in gallons)

Commercial Outside City Daily Avg	Day of Week	Date	Total Commercial Outside	Bank	Diner	Salon	Municipal Bldg	Dining	Car Wash	Retail	Grocery	Mail Distribution	Car Wash	Daycare	Car Dealer	Car Dealer	Hotel	Hospital	Laundromat	Max Hour
7,915	2	11/25/2019	126,640	100	2,190	800	160	2,160	8,520	1,290	1,930	6,470	11,580	1,490	310	4,120	9,220	73,920	2,380	8,420
7,977	3	11/26/2019	127,630	80	1,780	630	110	2,570	8,700	1,500	1,980	7,510	11,920	1,450	280	3,720	8,690	74,860	1,850	9,110
7,281	4	11/27/2019	116,500	60	2,080	670	320	3,520	6,360	1,610	2,010	6,860	8,540	40	270	3,260	7,950	70,810	2,140	9,300
4,774	5	11/28/2019	76,380	10	2,340	10	110	620	0	580	1,110	4,370	70	0	10	680	8,850	56,260	1,360	3,970
7,522	6	11/29/2019	120,350	60	2,500	290	260	3,740	7,830	1,840	1,580	5,990	10,710	0	290	3,970	12,980	66,680	1,630	8,410
6,844	7	11/30/2019	109,500	20	2,400	880	80	3,980	5,990	1,620	1,680	5,070	8,860	0	170	2,510	13,130	59,900	3,210	7,670
5,437	1	12/1/2019	86,990	10	2,310	690	70	2,580	370	1,290	1,750	4,110	240	0	10	750	11,380	57,650	3,780	4,710
6,171	2	12/2/2019	98,740	80	1,720	150	190	1,930	140	1,810	1,280	5,390	150	50	270	1,600	8,600	73,030	2,350	6,260
8,149	3	12/3/2019	130,390	70	1,960	380	230	2,570	9,580	1,530	1,610	6,340	14,550	1,410	240	3,280	7,780	77,810	1,050	9,260
7,214	4	12/4/2019	115,420	90	2,180	170	110	2,940	3,560	1,450	1,770	6,680	5,450	1,610	300	2,990	9,320	75,240	1,560	7,620
8,334	5	12/5/2019	133,340	80	2,250	90	720	3,060	8,460	1,580	1,870	7,510	13,580	1,670	290	3,640	10,300	76,260	1,980	9,050
8,527	6	12/6/2019	136,430	90	2,650	540	950	3,410	10,160	1,410	1,700	7,020	13,680	1,470	260	4,390	11,420	74,960	2,320	9,870
8,145	7	12/7/2019	130,320	30	2,580	580	810	4,460	16,330	1,780	1,920	5,750	17,010	0	180	2,900	12,080	61,770	2,140	9,350
6,949	1	12/8/2019	111,190	0	2,550	210	770	3,350	10,790	1,700	1,770	4,940	9,560	0	10	840	11,600	58,300	4,800	7,640
6,595	2	12/9/2019	105,520	90	1,800	340	890	2,660	170	1,590	1,600	6,600	420	1,460	310	2,010	8,990	74,720	1,870	7,140
6,924	3	12/10/2019	110,790	90	2,210	470	830	2,390	420	2,030	1,420	6,980	990	1,790	320	2,340	10,500	76,650	1,360	6,760
7,659	4	12/11/2019	122,550	80	2,320	450	860	2,250	5,620	1,510	1,560	7,030	8,420	1,940	310	3,670	9,240	75,540	1,750	8,310
7,969	5	12/12/2019	127,500	70	2,170	460	910	2,640	9,110	1,770	1,620	7,450	9,840	1,710	260	2,990	10,660	74,410	1,430	9,110
7,529	6	12/13/2019	120,470	60	2,230	810	800	3,460	1,850	1,910	1,990	7,450	4,520	1,550	260	3,430	12,400	75,260	2,490	7,930
6,446	7	12/14/2019	103,140	20	2,380	790	760	3,940	2,260	2,610	2,390	6,190	3,490	40	150	1,620	13,400	60,800	2,300	6,740
8,306	1	12/15/2019	132,900	0	2,260	180	740	3,090	8,030	1,390	1,710	6,070	17,060	70	10	750	11,100	75,770	4,670	8,190
6,843	2	12/16/2019	109,490	80	2,110	670	870	2,360	1,850	2,030	1,840	6,180	4,550	1,450	340	2,540	5,310	75,960	1,350	7,110
6,468	3	12/17/2019	103,480	70	1,980	1,130	790	2,040	70	1,560	1,690	6,950	280	1,460	260	2,050	8,510	73,380	1,260	5,940
8,149	4	12/18/2019	130,380	80	1,970	440	810	2,700	7,320	1,580	2,520	7,030	15,750	1,580	270	3,240	8,340	75,150	1,600	9,510
8,912	5	12/19/2019	142,590	100	2,290	540	820	2,070	10,070	1,840	2,040	8,590	23,470	1,480	250	2,050	7,700	77,770	1,510	10,010
9,170	6	12/20/2019	146,720	100	2,440	570	910	3,550	16,340	1,960	2,850	6,970	20,680	1,960	260	3,220	9,470	74,030	1,410	11,350
8,104	7	12/21/2019	129,660	10	2,990	710	850	3,970	16,620	1,610	1,940	5,710	18,400	10	150	1,130	11,990	60,850	2,720	9,530
8,034	1	12/22/2019	128,550	0	2,640	360	740	3,100	16,630	1,530	2,280	4,570	18,790	30	10	730	13,450	60,120	3,570	10,030
9,289	2	12/23/2019	148,630	70	2,360	570	800	2,480	22,340	1,540	2,300	6,170	20,990	40	1,290	5,940	5,670	73,740	2,330	11,570
8,283	3	12/24/2019	132,530	30	1,710	480	760	1,880	19,160	1,530	2,130	7,020	21,140	10	10	1,170	4,770	69,050	1,680	11,000
4,366	4	12/25/2019	69,860	0	280	10	750	50	0	570	120	4,060	490	10	10	800	5,660	56,150	900	3,610
8,239	5	12/26/2019	131,830	60	2,190	440	730	3,010	13,340	1,570	1,760	5,710	16,510	50	320	3,820	8,400	71,970	1,950	10,040
8,070	6	12/27/2019	129,120	70	2,420	530	740	3,470	10,170	2,490	1,770	6,200	12,570	160	320	4,880	9,980	71,830	1,520	8,610
8,002	7	12/28/2019	128,030	40	2,430	630	800	3,600	14,670	1,480	1,970	5,200	16,740	0	170	3,190	12,080	61,750	3,280	9,840
5,817	1	12/29/2019	93,070	10	2,130	170	730	2,560	1,950	1,370	1,870	4,220	2,480	0	10	670	12,270	59,080	3,550	5,850
6,454	2	12/30/2019	103,270	50	2,240	330	830	2,600	90	1,740	2,790	5,650	1,150	60	880	2,630	8,330	71,290	2,610	6,550
7,609	3	12/31/2019	121,750	30	2,350	310	790	2,620	6,420	1,330	3,050	6,390	11,940	2,220	1,450	3,510	7,600	68,230	3,510	10,030

City of Bethlehem
Table III-5
Industrial Inside City
Annual Daily Usage Per Customer (in gallons)

Industrial Inside City Daily Avg	Day of Week	Date	Total Inside Industrial	Industrial 1	Industrial 2	Industrial 3	Industrial 4	Industrial 5	Industrial 6	Industrial 7	Industrial 8	Industrial 9	Max Hour
45,076	3	1/1/2019	405,680	205,820	97,340	20	49,110	140	4,950	43,000	300	5,000	26,890
79,644	4	1/2/2019	716,800	214,610	122,680	73,320	49,120	40,910	9,940	66,660	4,560	135,000	66,840
89,007	5	1/3/2019	801,060	258,460	135,580	121,500	71,590	4,450	11,890	73,350	4,240	120,000	43,000
89,822	6	1/4/2019	808,400	256,440	148,820	132,090	51,910	3,320	10,290	76,240	4,290	125,000	41,430
82,580	7	1/5/2019	743,220	265,490	174,470	130,840	1,780	4,480	8,100	67,620	440	90,000	42,360
57,880	1	1/6/2019	520,920	231,100	177,720	39,550	170	500	8,000	58,770	110	5,000	28,960
94,774	2	1/7/2019	852,970	172,560	171,010	81,200	54,660	196,290	9,290	68,630	4,330	95,000	73,760
103,377	3	1/8/2019	930,390	216,880	170,000	122,400	2,320	217,020	8,380	74,380	4,010	115,000	76,550
82,880	4	1/9/2019	745,920	259,330	168,230	120,670	2,110	4,130	9,910	77,740	3,800	100,000	42,290
91,401	5	1/10/2019	822,610	248,710	166,590	124,080	96,190	2,780	7,100	73,000	4,160	100,000	54,760
94,608	6	1/11/2019	851,470	246,700	162,610	125,990	117,030	3,490	13,210	77,880	4,560	100,000	56,510
63,066	7	1/12/2019	567,590	250,490	165,840	77,460	560	560	6,950	60,510	220	5,000	32,250
50,534	1	1/13/2019	454,810	243,540	139,410	980	20	110	8,290	57,230	230	5,000	24,090
87,378	2	1/14/2019	786,400	229,620	163,470	75,980	140,310	2,680	10,050	64,660	4,630	95,000	52,500
92,201	3	1/15/2019	829,810	240,310	169,360	117,220	92,040	3,130	21,650	61,710	4,390	120,000	57,080
92,756	4	1/16/2019	834,800	237,790	173,830	118,250	95,000	3,820	15,050	71,100	4,960	115,000	57,960
92,341	5	1/17/2019	831,070	239,360	167,190	120,250	118,420	2,920	13,480	69,250	5,200	95,000	52,330
92,229	6	1/18/2019	830,060	237,120	170,300	132,150	99,280	2,910	12,530	71,280	4,490	100,000	57,340
60,610	7	1/19/2019	545,490	252,820	173,950	29,920	300	350	32,940	49,870	340	5,000	30,650
46,310	1	1/20/2019	416,790	176,400	172,850	4,220	0	270	8,790	49,000	260	5,000	22,110
69,370	2	1/21/2019	624,330	133,210	163,610	71,390	2,020	55,260	25,250	69,200	4,390	100,000	57,770
94,491	3	1/22/2019	850,420	113,830	172,190	132,230	26,180	198,670	19,860	68,160	4,300	115,000	71,130
71,716	4	1/23/2019	645,440	136,960	178,200	132,510	2,460	5,360	17,310	67,930	4,710	100,000	37,950
86,851	5	1/24/2019	781,660	204,550	165,220	134,010	67,720	10,240	23,470	76,660	4,790	95,000	51,040
83,581	6	1/25/2019	752,230	241,260	172,460	132,930	2,910	2,980	18,290	76,840	4,560	100,000	40,500
67,817	7	1/26/2019	610,350	257,810	179,240	82,290	720	600	21,150	63,200	340	5,000	32,550
54,133	1	1/27/2019	487,200	257,710	170,420	1,300	120	270	5,450	46,820	110	5,000	25,680
95,344	2	1/28/2019	858,100	240,170	175,600	70,820	84,600	99,180	13,440	64,700	4,590	105,000	86,470
81,107	3	1/29/2019	729,960	226,370	176,340	111,430	2,340	3,360	15,300	70,510	4,310	120,000	41,790
84,177	4	1/30/2019	757,590	196,860	149,170	110,980	97,640	8,160	15,900	69,830	4,050	105,000	41,220
83,121	5	1/31/2019	748,090	163,930	126,630	110,870	144,190	15,430	15,670	66,780	4,590	100,000	42,770
91,974	6	2/1/2019	827,770	200,620	151,070	111,920	42,030	125,160	23,760	68,940	4,270	100,000	95,200
69,130	7	2/2/2019	622,170	207,320	182,160	35,810	220	95,950	31,030	64,510	170	5,000	50,980
62,329	1	2/3/2019	560,960	222,850	183,410	550	160	62,530	37,270	48,940	250	5,000	28,920
93,470	2	2/4/2019	841,230	235,230	186,010	82,090	41,070	102,880	39,700	49,070	5,180	100,000	79,710
135,826	3	2/5/2019	1,222,430	262,940	189,930	125,680	26,690	418,080	46,530	47,960	4,620	100,000	88,870
101,994	4	2/6/2019	917,950	233,990	197,100	124,770	150,740	4,760	47,160	44,760	4,670	110,000	57,930
98,736	5	2/7/2019	888,620	229,830	195,130	132,270	50,110	77,450	47,260	46,600	4,970	105,000	73,650
88,150	6	2/8/2019	793,350	237,130	207,610	132,680	2,660	10,050	44,300	44,730	4,190	110,000	43,050
71,114	7	2/9/2019	640,030	225,470	204,310	127,380	240	830	35,780	40,690	330	5,000	30,400
59,928	1	2/10/2019	539,350	216,370	194,840	24,650	39,130	120	33,000	31,030	210	0	31,550
92,266	2	2/11/2019	830,390	226,830	199,720	76,920	1,720	149,300	36,260	40,130	4,510	95,000	93,240
81,142	3	2/12/2019	730,280	215,900	194,670	119,180	115,840	3,920	36,810	41,130	2,830	0	44,930
91,911	4	2/13/2019	827,200	222,410	199,700	116,760	71,240	3,540	38,230	41,070	4,250	130,000	54,790
103,117	5	2/14/2019	928,050	233,230	192,780	115,910	161,400	4,000	38,100	43,230	4,400	135,000	59,240
93,070	6	2/15/2019	837,630	264,830	191,570	128,250	2,430	5,620	40,350	80,370	4,210	120,000	46,300
79,248	7	2/16/2019	713,230	256,120	190,060	108,870	130	830	31,070	45,850	300	80,000	43,110
44,436	1	2/17/2019	399,920	159,050	189,010	1,590	200	430	26,420	23,140	80	0	18,920

City of Bethlehem
Table III-5
Industrial Inside City
Annual Daily Usage Per Customer (in gallons)

Industrial Inside City Daily Avg	Day of Week	Date	Total Inside Industrial	Industrial 1	Industrial 2	Industrial 3	Industrial 4	Industrial 5	Industrial 6	Industrial 7	Industrial 8	Industrial 9	Max Hour
92,547	2	2/18/2019	832,920	164,540	179,510	92,410	2,130	215,770	34,280	44,730	4,550	95,000	95,180
92,296	3	2/19/2019	830,660	211,980	181,940	129,430	108,270	4,440	37,350	42,890	4,360	110,000	53,010
81,847	4	2/20/2019	736,620	224,690	182,560	128,110	2,050	3,710	36,080	41,260	3,160	115,000	40,370
89,134	5	2/21/2019	802,210	263,870	190,310	128,550	39,030	3,880	34,470	37,490	4,610	100,000	42,650
87,023	6	2/22/2019	783,210	265,820	187,770	134,490	2,360	3,670	34,390	45,640	4,070	105,000	42,630
63,528	7	2/23/2019	571,750	252,860	201,510	39,630	290	1,100	33,560	37,550	250	5,000	33,510
55,060	1	2/24/2019	495,540	237,920	191,200	770	130	460	29,870	29,680	510	5,000	22,800
83,060	2	2/25/2019	747,540	175,640	193,950	89,120	1,940	88,290	39,640	39,980	3,980	115,000	61,280
104,668	3	2/26/2019	942,010	209,740	190,690	145,560	43,590	156,960	38,380	43,040	4,050	110,000	94,060
92,998	4	2/27/2019	836,980	231,900	193,340	151,530	50,210	3,420	36,610	41,610	3,360	125,000	55,070
99,570	5	2/28/2019	896,130	243,030	190,150	138,380	90,960	44,840	36,300	44,060	3,410	105,000	90,220
100,218	6	3/1/2019	901,960	237,260	191,830	137,270	55,570	93,020	37,710	45,690	3,610	100,000	78,150
71,818	7	3/2/2019	646,360	247,370	196,310	112,150	340	770	38,130	45,960	330	5,000	33,160
55,286	1	3/3/2019	497,570	241,190	195,340	1,800	410	640	26,940	26,020	230	5,000	25,980
60,114	2	3/4/2019	541,030	165,030	174,990	85,550	36,640	2,600	33,510	39,150	3,560	0	35,760
88,150	3	3/5/2019	793,350	196,730	179,870	127,030	78,900	3,200	40,300	43,020	4,300	120,000	42,080
115,172	4	3/6/2019	1,036,550	207,800	191,760	126,760	136,420	161,630	39,700	43,520	3,960	125,000	109,330
86,971	5	3/7/2019	782,740	232,480	186,880	137,580	31,690	2,980	39,310	43,000	3,820	105,000	41,960
89,779	6	3/8/2019	808,010	251,560	184,940	158,060	2,620	4,680	39,000	43,410	3,740	120,000	44,680
81,717	7	3/9/2019	735,450	251,330	157,570	156,000	610	590	36,590	47,480	280	85,000	42,230
47,394	1	3/10/2019	426,550	213,090	146,590	4,090	70	640	31,430	25,570	70	5,000	23,910
73,647	2	3/11/2019	662,820	224,090	135,030	72,460	1,990	43,200	37,000	44,830	4,220	100,000	52,140
93,243	3	3/12/2019	839,190	261,310	137,260	114,900	2,880	112,760	39,650	46,310	4,120	120,000	91,220
66,686	4	3/13/2019	600,170	118,080	163,340	113,980	2,840	4,320	42,870	45,880	3,860	105,000	39,020
75,294	5	3/14/2019	677,650	105,860	187,760	123,330	53,220	15,070	42,530	45,540	4,340	100,000	41,990
85,752	6	3/15/2019	771,770	244,500	153,040	128,030	39,640	2,930	46,910	47,010	4,710	105,000	52,190
68,830	7	3/16/2019	619,470	284,210	167,950	79,640	570	1,230	39,630	41,080	160	5,000	32,710
54,402	1	3/17/2019	489,620	252,280	162,770	1,160	170	630	31,940	35,570	100	5,000	25,150
87,136	2	3/18/2019	784,220	250,930	156,030	79,050	1,860	117,850	41,530	42,760	4,210	90,000	81,950
110,729	3	3/19/2019	996,560	263,550	153,570	115,840	2,580	244,180	42,370	45,360	4,110	125,000	98,700
86,669	4	3/20/2019	780,020	262,100	141,780	116,150	54,510	4,080	42,380	44,940	4,080	110,000	39,880
87,072	5	3/21/2019	783,650	255,920	143,020	115,070	48,250	2,240	44,630	45,620	3,900	125,000	42,010
83,728	6	3/22/2019	753,550	262,680	175,120	114,120	2,920	3,580	44,180	46,140	4,810	100,000	41,780
73,862	7	3/23/2019	664,760	278,750	182,230	114,690	190	360	39,880	47,070	150	1,440	31,730
63,172	1	3/24/2019	568,550	292,890	184,500	29,760	40	110	34,190	23,040	70	3,950	27,300
114,472	2	3/25/2019	1,030,250	288,510	175,520	90,970	83,810	199,080	39,650	44,050	3,900	104,760	91,510
82,779	3	3/26/2019	745,010	280,700	174,960	147,130	2,910	4,090	41,670	49,460	3,540	40,550	40,380
83,524	4	3/27/2019	751,720	271,900	169,910	106,480	2,590	3,970	41,330	44,130	3,730	107,680	40,580
98,714	5	3/28/2019	888,430	276,130	180,250	119,620	101,930	2,710	43,040	46,760	3,740	114,250	60,080
85,861	6	3/29/2019	772,750	293,710	178,890	118,770	4,040	4,020	28,740	36,010	3,610	104,960	40,030
69,159	7	3/30/2019	622,430	321,860	155,960	71,720	450	380	29,090	38,690	170	4,110	31,210
49,557	1	3/31/2019	446,010	265,750	125,910	1,300	290	470	21,100	27,070	150	3,970	21,180
105,214	2	4/1/2019	946,930	184,280	155,270	88,460	54,100	261,670	36,780	41,780	4,030	120,560	96,590
84,054	3	4/2/2019	756,490	238,610	151,860	130,570	27,850	4,320	42,430	44,960	4,120	111,770	38,910
90,754	4	4/3/2019	816,790	289,060	171,460	111,800	36,880	3,630	41,310	45,940	4,230	112,480	42,000
103,948	5	4/4/2019	935,530	302,180	178,560	107,280	141,960	5,340	40,790	47,520	4,790	107,110	62,700
75,510	6	4/5/2019	679,590	261,870	113,710	107,670	2,310	4,340	42,530	46,600	3,600	96,960	36,010
63,238	7	4/6/2019	569,140	281,480	168,540	22,020	180	1,370	47,350	44,120	150	3,930	26,860

City of Bethlehem
Table III-5
Industrial Inside City
Annual Daily Usage Per Customer (in gallons)

Industrial Inside City Daily Avg	Day of Week	Date	Total Inside Industrial	Industrial 1	Industrial 2	Industrial 3	Industrial 4	Industrial 5	Industrial 6	Industrial 7	Industrial 8	Industrial 9	Max Hour
66,111	1	4/7/2019	595,000	300,190	171,640	3,080	38,570	1,390	38,880	37,130	400	3,720	35,700
103,518	2	4/8/2019	931,660	299,840	155,790	75,370	68,090	133,610	47,820	49,720	3,920	97,500	86,230
96,860	3	4/9/2019	871,740	309,260	100,780	96,200	107,100	40,220	47,500	50,090	5,210	115,380	53,230
97,900	4	4/10/2019	881,100	298,130	124,340	126,980	76,990	46,710	44,240	55,040	7,400	101,270	68,760
92,557	5	4/11/2019	833,010	286,340	128,340	116,040	81,980	2,200	43,220	51,900	7,710	115,280	44,540
84,334	6	4/12/2019	759,010	294,150	128,480	114,670	1,940	2,730	45,710	51,440	6,970	112,920	39,880
70,038	7	4/13/2019	630,340	310,770	124,530	91,570	260	590	47,960	46,780	3,890	3,990	30,560
56,607	1	4/14/2019	509,460	206,970	129,820	620	80,420	300	40,600	42,770	3,530	4,430	29,990
81,451	2	4/15/2019	733,060	233,830	123,970	85,340	83,620	2,750	46,380	44,870	7,480	104,820	38,900
91,509	3	4/16/2019	823,580	303,540	116,550	127,480	53,040	3,900	43,470	49,560	7,350	118,690	48,460
93,070	4	4/17/2019	837,630	294,840	137,900	138,710	48,480	3,150	45,730	48,790	6,930	113,100	44,430
88,899	5	4/18/2019	800,090	296,760	84,540	128,450	29,080	46,060	49,450	51,100	6,740	107,910	80,640
67,824	6	4/19/2019	610,420	317,140	87,470	3,520	500	370	36,400	52,300	4,080	108,640	33,460
53,459	7	4/20/2019	481,130	315,090	83,360	250	0	30	34,320	41,160	3,560	3,360	24,620
49,694	1	4/21/2019	447,250	303,220	84,640	0	0	30	26,500	25,870	3,600	3,390	20,640
89,516	2	4/22/2019	805,640	304,540	91,000	240	55,380	191,800	27,730	28,300	7,590	99,060	98,070
83,980	3	4/23/2019	755,820	331,510	101,170	56,930	49,400	4,910	41,200	44,380	7,220	119,100	39,840
91,890	4	4/24/2019	827,010	338,280	96,770	79,540	81,140	9,110	43,480	50,340	7,410	120,940	54,300
82,232	5	4/25/2019	740,090	298,990	83,930	80,440	63,490	4,690	40,420	45,840	7,550	114,740	53,150
74,140	6	4/26/2019	667,260	283,820	84,740	79,560	1,610	4,340	44,020	46,690	6,920	115,560	34,640
63,674	7	4/27/2019	573,070	316,530	82,680	78,850	210	650	39,300	46,760	3,670	4,420	28,430
50,581	1	4/28/2019	455,230	282,640	81,730	25,110	50	260	30,280	27,810	3,870	3,480	22,620
81,641	2	4/29/2019	734,770	286,740	82,500	67,000	1,420	94,570	36,420	42,830	7,110	116,180	91,840
83,531	3	4/30/2019	751,780	301,730	84,610	95,460	47,150	5,200	43,000	47,210	6,900	120,520	46,400
82,398	4	5/1/2019	741,580	275,350	86,260	92,120	71,410	4,890	40,280	49,910	7,290	114,070	48,030
89,300	5	5/2/2019	803,700	302,310	93,450	108,650	77,570	5,270	44,910	50,730	7,300	113,510	46,430
83,740	6	5/3/2019	753,660	283,710	98,740	116,940	46,750	2,980	41,510	43,520	6,790	112,720	42,950
64,787	7	5/4/2019	583,080	300,310	88,900	98,960	90	1,030	44,730	41,530	3,990	3,540	28,820
42,819	1	5/5/2019	385,370	221,270	93,100	6,340	120	360	29,320	27,920	3,620	3,320	19,230
121,089	2	5/6/2019	1,089,800	260,060	105,530	62,750	123,170	337,120	41,000	43,980	7,160	109,030	95,690
93,123	3	5/7/2019	838,110	309,400	98,910	102,640	105,730	4,800	43,530	45,890	7,510	119,700	50,940
93,343	4	5/8/2019	840,090	295,430	103,320	102,420	105,840	5,200	45,160	49,790	6,860	126,070	48,360
95,601	5	5/9/2019	860,410	281,820	100,390	101,870	167,020	2,870	41,180	45,040	7,210	113,010	47,830
82,367	6	5/10/2019	741,300	287,240	96,500	101,470	39,270	2,450	43,660	46,810	7,390	116,510	46,650
63,736	7	5/11/2019	573,620	315,670	98,180	66,520	20	340	39,800	45,980	3,620	3,490	28,170
53,392	1	5/12/2019	480,530	251,400	122,730	800	42,680	1,160	29,110	25,880	3,570	3,200	30,890
74,442	2	5/13/2019	669,980	117,990	147,790	94,370	1,620	106,520	37,980	42,310	7,260	114,140	93,000
65,422	3	5/14/2019	588,800	33,610	143,430	143,690	44,090	3,660	43,900	43,890	7,320	125,210	39,000
64,772	4	5/15/2019	582,950	0	126,650	143,340	78,590	4,520	45,020	48,040	7,420	129,370	40,770
56,423	5	5/16/2019	507,810	0	55,350	147,610	81,410	3,580	45,510	47,080	7,630	119,640	32,680
53,501	6	5/17/2019	481,510	0	60,950	158,910	24,010	2,840	49,090	46,920	6,510	132,280	37,150
39,950	7	5/18/2019	359,550	0	61,990	149,300	3,900	450	44,660	44,710	3,580	50,960	23,570
53,848	1	5/19/2019	484,630	282,350	67,230	5,070	51,880	60	39,860	30,770	3,750	3,660	40,900
92,246	2	5/20/2019	830,210	353,220	66,850	51,660	84,280	85,600	44,750	52,400	6,600	84,850	63,320
78,749	3	5/21/2019	708,740	63,490	67,300	110,610	107,850	145,980	46,430	50,540	7,240	109,300	83,470
60,422	4	5/22/2019	543,800	76,480	58,080	110,510	97,100	5,780	43,850	49,770	7,410	94,820	36,820
66,808	5	5/23/2019	601,270	145,470	54,900	110,690	30,090	61,720	42,730	46,950	7,130	101,590	56,980
64,956	6	5/24/2019	584,600	204,790	52,680	91,310	1,680	3,050	44,060	56,960	6,130	123,940	32,750

City of Bethlehem
Table III-5
Industrial Inside City
Annual Daily Usage Per Customer (in gallons)

Industrial Inside City Daily Avg	Day of Week	Date	Total Inside Industrial	Industrial 1	Industrial 2	Industrial 3	Industrial 4	Industrial 5	Industrial 6	Industrial 7	Industrial 8	Industrial 9	Max Hour
52,753	7	5/25/2019	474,780	255,640	51,420	12,710	3,750	370	51,050	45,150	3,960	50,730	30,480
43,447	1	5/26/2019	391,020	254,930	50,120	350	3,520	60	43,450	31,870	3,500	3,220	19,440
56,449	2	5/27/2019	508,040	326,920	32,950	310	83,700	40	27,950	29,420	3,670	3,080	30,940
96,477	3	5/28/2019	868,290	299,240	34,610	85,770	100,730	141,130	38,700	43,940	6,910	117,260	89,430
96,450	4	5/29/2019	868,050	305,750	46,760	134,970	1,920	165,680	43,970	47,400	7,070	114,530	96,190
80,452	5	5/30/2019	724,070	194,020	53,010	136,020	47,750	67,720	42,350	51,400	7,090	124,710	71,650
62,388	6	5/31/2019	561,490	159,260	50,840	132,160	1,740	5,480	47,020	53,820	7,190	103,980	31,620
	7	6/1/2019		333,230		107,540	4,570	670	40,250	50,700	3,990	93,880	37,420
	1	6/2/2019		294,580		3,870	49,470	340	34,500	37,600	3,490	3,770	32,530
	2	6/3/2019		62,440		86,060	44,980	133,520	41,230	48,120	7,900	108,060	82,730
	3	6/4/2019		179,210		118,670	95,520	246,520	46,170	45,100	7,330	109,520	87,910
	4	6/5/2019		208,390		121,760	54,660	38,080	45,850	49,920	7,040	108,140	53,050
	5	6/6/2019		309,220		127,930	50,780	3,030	45,740	55,560	7,280	108,400	40,970
	6	6/7/2019		318,490		128,660	1,410	3,990	44,200	55,370	8,080	106,710	39,150
	7	6/8/2019		309,920		96,520	4,940	630	38,980	51,550	3,520	7,570	27,040
	1	6/9/2019		313,510		830	15,360	280	36,380	35,130	3,740	4,590	28,580
	2	6/10/2019		282,990		80,940	167,290	126,120	40,870	44,560	6,840	107,580	100,080
	3	6/11/2019		320,710		115,110	70,640	538,850	43,190	49,700	7,100	116,400	99,880
	4	6/12/2019		309,020		120,700	1,810	83,440	47,150	48,600	7,460	110,250	80,560
	5	6/13/2019		284,120		126,360	67,150	2,740	45,430	47,220	6,910	115,170	48,680
	6	6/14/2019		322,530		120,430	76,770	3,140	46,650	50,400	7,040	113,800	46,030
	7	6/15/2019		319,330		102,380	5,470	440	41,160	37,670	4,200	3,900	24,480
	1	6/16/2019		307,070		2,250	4,960	250	39,960	34,460	3,680	3,670	20,150
	2	6/17/2019		306,090		95,350	2,010	129,440	45,270	51,210	7,330	115,860	93,160
	3	6/18/2019		305,550		134,220	113,740	156,310	43,700	50,830	7,990	109,770	94,740
	4	6/19/2019		262,380		125,160	65,960	3,130	48,280	50,530	7,590	109,400	43,530
	5	6/20/2019		305,030		121,800	189,420	3,310	52,250	49,420	7,490	106,290	51,280
	6	6/21/2019		333,090		123,560	64,550	2,910	51,550	49,410	6,750	102,450	55,610
	7	6/22/2019		340,120		92,720	4,460	380	49,330	46,720	3,700	3,570	26,810
	1	6/23/2019		342,240		900	4,380	280	43,200	33,240	3,600	3,400	21,350
	2	6/24/2019		340,450		86,320	1,220	261,750	50,910	47,150	7,550	107,120	101,620
	3	6/25/2019		190,420		120,810	87,580	147,040	54,830	51,350	7,280	104,910	88,480
	4	6/26/2019		352,620		117,590	96,070	5,240	51,070	45,860	7,050	115,860	48,930
	5	6/27/2019		362,710		134,530	87,650	3,880	54,470	48,890	7,560	97,810	52,010
	6	6/28/2019		336,530		130,500	62,120	3,040	51,300	49,240	9,030	101,050	49,810
	7	6/29/2019		317,790		5,960	4,460	530	50,460	42,620	3,690	5,460	22,540
	1	6/30/2019		347,130		1,040	157,640	2,150	37,400	34,510	3,940	3,550	31,770
81,799	2	7/1/2019	736,190	342,390	30,040	2,980	45,370	76,110	46,760	63,740	6,970	121,830	89,630
80,583	3	7/2/2019	725,250	338,430	25,710	2,950	77,980	3,570	56,570	81,590	6,850	131,600	45,270
73,154	4	7/3/2019	658,390	326,730	26,960	850	42,730	3,650	51,170	82,280	6,690	117,330	42,500
63,303	5	7/4/2019	569,730	346,340	17,150	0	4,260	460	39,630	42,290	5,720	113,880	33,020
46,394	6	7/5/2019	417,550	337,510	6,480	1,820	130	140	33,380	28,850	5,670	3,570	20,850
47,729	7	7/6/2019	429,560	335,870	20,530	0	4,320	20	33,100	28,290	4,100	3,330	20,100
63,391	1	7/7/2019	570,520	337,810	27,360	870	109,590	560	45,460	41,670	3,820	3,380	32,650
96,720	2	7/8/2019	870,480	126,790	25,820	62,360	123,980	320,910	43,110	54,300	6,720	106,490	93,000
69,576	3	7/9/2019	626,180	46,560	25,090	100,880	103,720	121,890	48,600	68,240	7,070	104,130	80,640
84,444	4	7/10/2019	760,000	147,640	123,040	104,190	155,260	2,840	47,090	63,120	8,660	108,160	51,210
96,277	5	7/11/2019	866,490	299,840	183,990	98,460	61,620	2,680	46,910	76,410	9,120	87,460	45,780

City of Bethlehem
Table III-5
Industrial Inside City
Annual Daily Usage Per Customer (in gallons)

Industrial Inside City Daily Avg	Day of Week	Date	Total Inside Industrial	Industrial 1	Industrial 2	Industrial 3	Industrial 4	Industrial 5	Industrial 6	Industrial 7	Industrial 8	Industrial 9	Max Hour
93,308	6	7/12/2019	839,770	346,110	186,130	89,760	2,290	3,880	48,440	50,480	9,070	103,610	42,530
76,627	7	7/13/2019	689,640	350,980	179,630	56,840	4,510	630	41,580	48,380	3,890	3,200	31,340
71,894	1	7/14/2019	647,050	366,740	184,570	1,210	4,440	300	48,280	34,260	3,810	3,440	28,620
128,858	2	7/15/2019	1,159,720	356,020	184,070	94,890	137,600	178,000	47,020	52,340	7,610	102,170	115,510
143,696	3	7/16/2019	1,293,260	368,570	183,660	147,400	113,890	256,350	48,140	56,510	7,360	111,380	115,450
103,862	4	7/17/2019	934,760	299,700	185,400	152,960	71,020	3,030	48,800	69,910	8,870	95,070	58,020
96,598	5	7/18/2019	869,380	297,140	187,710	132,980	52,480	2,790	46,070	51,060	7,910	91,240	51,960
109,749	6	7/19/2019	987,740	362,810	176,650	109,250	130,960	3,570	49,050	52,780	8,650	94,020	57,220
78,514	7	7/20/2019	706,630	415,140	183,980	2,590	4,400	430	46,900	46,550	3,540	3,100	30,710
76,344	1	7/21/2019	687,100	416,070	183,930	470	4,310	320	39,050	36,260	3,750	2,940	30,680
146,627	2	7/22/2019	1,319,640	385,660	186,380	100,240	164,640	282,300	47,890	52,130	6,900	93,500	118,170
147,993	3	7/23/2019	1,331,940	385,100	185,610	138,930	188,020	225,870	45,900	52,790	6,970	102,750	111,590
108,023	4	7/24/2019	972,210	368,280	171,180	139,010	78,450	5,160	42,080	40,470	9,050	118,530	56,950
110,676	5	7/25/2019	996,080	340,130	166,140	137,350	100,750	73,970	28,910	34,150	6,750	107,930	111,160
114,008	6	7/26/2019	1,026,070	349,220	161,560	134,410	2,640	197,840	31,460	32,710	8,870	107,360	104,910
70,571	7	7/27/2019	635,140	362,470	170,610	33,560	5,290	700	25,890	29,880	3,780	2,960	31,050
66,027	1	7/28/2019	594,240	361,150	173,780	370	5,080	400	23,830	23,390	3,370	2,870	27,320
123,626	2	7/29/2019	1,112,630	356,460	180,370	62,890	143,660	223,880	18,310	19,350	7,250	100,460	114,790
127,729	3	7/30/2019	1,149,560	364,510	175,840	90,410	120,260	239,820	19,390	18,490	7,440	113,400	102,340
103,764	4	7/31/2019	933,880	303,850	171,350	92,390	98,220	114,380	20,230	26,010	8,760	98,690	80,110
92,143	5	8/1/2019	829,290	336,700	173,710	130,300	36,330	2,850	18,540	23,650	7,320	99,890	51,830
91,262	6	8/2/2019	821,360	349,190	153,220	161,150	1,690	3,660	21,820	22,710	8,920	99,000	41,050
73,118	7	8/3/2019	658,060	350,280	155,470	106,890	4,560	330	20,880	13,230	3,450	2,970	31,470
62,833	1	8/4/2019	565,500	356,270	155,370	3,480	6,520	190	22,040	15,300	3,400	2,930	27,090
127,799	2	8/5/2019	1,150,190	354,600	161,890	93,140	153,500	263,750	29,320	37,990	7,200	48,800	115,240
123,736	3	8/6/2019	1,113,620	345,090	165,560	130,870	114,860	172,100	34,430	35,560	6,950	108,200	99,710
112,014	4	8/7/2019	1,008,130	318,750	172,150	127,230	198,850	2,220	33,910	38,130	8,640	108,250	60,280
124,141	5	8/8/2019	1,117,270	346,100	172,140	124,490	222,420	71,410	38,550	47,060	6,790	88,310	101,920
115,997	6	8/9/2019	1,043,970	346,360	188,720	123,630	171,240	3,640	42,440	47,720	8,260	111,960	62,760
69,622	7	8/10/2019	626,600	335,110	187,890	13,390	4,310	590	40,140	37,590	3,490	4,090	29,250
67,477	1	8/11/2019	607,290	331,570	186,900	460	4,420	310	39,210	37,240	3,440	3,740	27,450
143,837	2	8/12/2019	1,294,530	339,360	191,010	61,770	77,380	407,080	45,900	46,280	7,120	118,630	117,200
124,666	3	8/13/2019	1,121,990	342,460	193,190	95,420	135,210	122,250	46,210	48,590	7,140	131,520	100,530
115,118	4	8/14/2019	1,036,060	337,660	189,680	117,990	156,240	3,170	45,980	47,570	8,940	128,830	53,850
111,739	5	8/15/2019	1,005,650	342,490	190,130	139,690	119,760	3,990	47,530	44,360	7,410	110,290	51,930
85,564	6	8/16/2019	770,080	342,620	170,990	134,970	15,390	2,980	45,320	45,920	8,550	3,340	43,020
66,090	7	8/17/2019	594,810	349,210	122,790	19,080	4,320	1,960	40,290	50,720	3,790	2,650	29,500
59,896	1	8/18/2019	539,060	339,960	113,680	380	4,320	250	36,270	38,850	3,390	1,960	25,260
107,992	2	8/19/2019	971,930	293,160	119,720	85,060	151,530	143,420	45,010	47,970	6,850	79,210	103,060
122,039	3	8/20/2019	1,098,350	357,100	135,820	120,120	128,220	150,290	45,780	51,910	7,080	102,030	103,170
119,411	4	8/21/2019	1,074,700	342,960	133,300	126,080	244,800	5,540	45,480	49,440	8,440	118,660	51,800
131,217	5	8/22/2019	1,180,950	349,080	166,310	126,090	227,790	86,650	46,400	52,940	7,370	118,320	93,350
99,759	6	8/23/2019	897,830	334,110	164,470	125,540	58,540	3,250	43,370	52,950	8,650	106,950	50,810
68,809	7	8/24/2019	619,280	339,350	163,690	23,110	4,370	400	38,480	43,530	3,350	3,000	30,300
76,739	1	8/25/2019	690,650	340,070	159,260	390	107,150	260	38,240	39,500	3,280	2,500	38,140
128,829	2	8/26/2019	1,159,460	324,410	161,260	80,050	124,280	259,790	43,120	48,760	7,230	110,560	111,250
104,209	3	8/27/2019	937,880	326,050	161,800	112,300	95,720	34,400	43,400	52,140	7,210	104,860	72,470
99,971	4	8/28/2019	899,740	316,620	163,560	114,010	78,790	4,670	43,390	55,150	9,330	114,220	53,560

City of Bethlehem
Table III-5
Industrial Inside City
Annual Daily Usage Per Customer (in gallons)

Industrial Inside City Daily Avg	Day of Week	Date	Total Inside Industrial	Industrial 1	Industrial 2	Industrial 3	Industrial 4	Industrial 5	Industrial 6	Industrial 7	Industrial 8	Industrial 9	Max Hour
100,708	5	8/29/2019	906,370	340,020	158,700	112,680	88,000	5,720	46,980	51,270	7,820	95,180	53,030
97,444	6	8/30/2019	877,000	344,940	155,380	113,780	50,320	9,970	46,930	52,590	8,670	94,420	52,200
69,122	7	8/31/2019	622,100	347,410	161,380	14,530	4,320	380	46,430	41,590	3,580	2,480	28,590
64,283	1	9/1/2019	578,550	331,800	154,010	550	3,900	170	35,250	46,760	3,770	2,340	28,160
67,514	2	9/2/2019	607,630	324,310	203,940	40	11,020	20	32,810	29,590	3,440	2,460	36,030
123,763	3	9/3/2019	1,113,870	347,380	187,640	86,930	153,550	141,120	43,730	48,170	7,380	97,970	110,850
122,328	4	9/4/2019	1,100,950	341,900	157,140	125,900	87,330	151,760	50,230	54,280	8,580	123,830	118,130
116,504	5	9/5/2019	1,048,540	330,460	155,650	133,450	149,530	56,220	48,380	51,620	6,950	116,280	80,990
97,632	6	9/6/2019	878,690	315,910	131,090	122,430	83,090	3,890	48,730	49,510	8,250	115,790	61,120
69,628	7	9/7/2019	626,650	327,200	113,780	26,010	3,980	780	42,820	41,880	3,810	66,390	35,060
58,564	1	9/8/2019	527,080	333,940	114,450	380	4,000	590	35,870	31,610	3,430	2,810	24,410
87,171	2	9/9/2019	784,540	333,060	114,700	92,220	1,590	60,630	40,920	48,970	6,640	85,810	92,130
122,294	3	9/10/2019	1,100,650	341,560	117,970	109,140	97,780	215,630	48,460	58,990	7,170	103,950	119,370
92,639	4	9/11/2019	833,750	342,600	109,480	107,620	53,040	4,900	50,030	52,340	8,510	105,230	49,190
93,636	5	9/12/2019	842,720	334,600	109,080	116,780	87,080	5,290	52,170	50,760	7,230	79,730	44,310
121,796	6	9/13/2019	1,096,160	325,620	106,730	128,210	61,190	270,150	47,860	50,370	8,820	97,210	113,760
60,762	7	9/14/2019	546,860	309,070	111,030	21,200	3,990	780	48,320	46,560	3,310	2,600	28,200
63,171	1	9/15/2019	568,540	258,370	111,240	260	102,830	790	43,580	45,090	3,210	3,170	31,580
102,060	2	9/16/2019	918,540	223,780	117,560	57,960	176,220	155,770	44,730	44,000	6,940	91,580	96,440
103,628	3	9/17/2019	932,650	301,360	117,470	101,830	120,610	76,570	46,880	53,040	7,330	107,560	93,090
130,282	4	9/18/2019	1,172,540	320,330	117,150	110,100	139,550	276,390	43,010	44,440	8,360	113,210	111,440
86,132	5	9/19/2019	775,190	316,350	116,880	107,640	3,750	63,520	45,340	43,230	6,960	71,520	59,340
86,599	6	9/20/2019	779,390	320,240	130,530	108,850	2,510	5,010	48,130	44,600	8,360	111,160	40,090
64,063	7	9/21/2019	576,570	332,510	137,020	20,190	1,950	2,580	42,160	34,300	3,380	2,480	27,480
64,831	1	9/22/2019	583,480	338,860	113,940	330	48,480	1,050	40,800	34,010	3,530	2,480	35,510
98,781	2	9/23/2019	889,030	340,740	113,520	85,060	24,040	140,750	50,080	40,940	6,740	87,160	108,130
89,762	3	9/24/2019	807,860	345,640	119,380	114,250	2,780	19,260	50,280	39,660	7,790	108,820	43,890
118,481	4	9/25/2019	1,066,330	330,270	126,590	114,890	1,860	273,840	48,800	42,360	8,860	118,860	101,640
94,453	5	9/26/2019	850,080	323,250	114,990	134,150	101,970	3,240	47,590	40,410	7,350	77,130	55,750
89,679	6	9/27/2019	807,110	332,750	104,490	122,990	43,010	3,010	50,140	40,750	8,650	101,320	52,320
60,837	7	9/28/2019	547,530	331,960	108,510	13,940	1,040	790	46,580	38,590	3,740	2,380	27,170
65,649	1	9/29/2019	590,840	352,740	100,830	400	51,790	480	41,740	36,590	3,300	2,970	37,480
118,983	2	9/30/2019	1,070,850	326,930	109,140	96,310	94,060	251,820	44,790	40,890	6,820	100,090	104,660
117,732	3	10/1/2019	1,059,590	334,370	93,520	140,920	55,630	221,720	52,290	43,680	7,200	110,260	111,130
105,198	4	10/2/2019	946,780	362,640	101,970	123,890	135,580	3,950	53,520	50,390	9,750	105,090	46,550
100,268	5	10/3/2019	902,410	295,870	112,430	124,070	159,500	2,630	46,590	48,640	6,790	105,890	50,850
85,459	6	10/4/2019	769,130	257,380	112,730	124,870	51,990	2,840	45,900	61,790	6,660	104,970	46,970
59,284	7	10/5/2019	533,560	293,060	116,580	32,720	1,150	310	45,520	38,210	3,440	2,570	25,890
60,024	1	10/6/2019	540,220	299,210	117,420	200	45,120	640	33,310	37,980	3,360	2,980	32,070
104,499	2	10/7/2019	940,490	311,230	142,440	64,270	130,600	92,620	46,150	48,680	7,110	97,390	92,500
113,621	3	10/8/2019	1,022,590	317,190	139,140	98,070	228,240	19,420	45,400	49,540	6,830	118,760	53,890
140,253	4	10/9/2019	1,262,280	304,840	162,190	98,690	198,270	285,370	47,820	49,220	6,560	109,320	104,230
109,750	5	10/10/2019	987,750	332,260	171,240	119,920	161,810	4,620	46,650	48,790	6,970	95,490	51,880
90,508	6	10/11/2019	814,570	328,950	156,100	113,090	1,900	3,050	47,450	54,960	8,390	100,680	40,770
67,348	7	10/12/2019	606,130	311,020	140,020	51,560	6,530	450	43,120	47,440	3,420	2,570	31,990
62,187	1	10/13/2019	559,680	312,630	138,690	730	9,670	360	39,090	52,450	3,570	2,490	31,170
116,927	2	10/14/2019	1,052,340	317,350	152,510	89,060	40,560	245,070	42,870	54,220	6,750	103,950	101,950
141,579	3	10/15/2019	1,274,210	314,910	163,720	100,490	147,990	318,390	47,290	63,460	6,750	111,210	110,330

City of Bethlehem
Table III-5
Industrial Inside City
Annual Daily Usage Per Customer (in gallons)

Industrial Inside City Daily Avg	Day of Week	Date	Total Inside Industrial	Industrial 1	Industrial 2	Industrial 3	Industrial 4	Industrial 5	Industrial 6	Industrial 7	Industrial 8	Industrial 9	Max Hour
93,613	4	10/16/2019	842,520	257,330	163,470	97,970	99,630	4,890	46,860	59,060	7,380	105,930	48,190
96,786	5	10/17/2019	871,070	302,790	148,870	97,360	96,660	5,260	45,450	64,620	7,000	103,060	49,710
86,002	6	10/18/2019	774,020	301,140	128,330	98,180	26,500	3,180	48,040	55,970	6,530	106,150	43,230
58,854	7	10/19/2019	529,690	290,480	120,060	19,260	990	140	41,710	50,960	3,530	2,560	25,900
49,249	1	10/20/2019	443,240	220,920	129,400	280	1,110	410	35,810	49,290	3,170	2,850	23,630
107,218	2	10/21/2019	964,960	208,120	130,180	79,670	1,960	346,230	44,910	52,470	6,510	94,910	95,190
111,113	3	10/22/2019	1,000,020	261,640	127,990	101,190	3,410	268,470	47,050	62,070	6,810	121,390	99,640
129,272	4	10/23/2019	1,163,450	315,590	126,360	101,680	2,190	401,290	43,950	58,830	6,610	106,950	100,690
82,907	5	10/24/2019	746,160	300,230	119,950	101,030	3,400	3,400	45,440	51,560	6,340	114,810	39,640
90,263	6	10/25/2019	812,370	292,100	121,130	100,820	94,930	2,950	42,240	51,110	6,450	100,640	57,450
59,733	7	10/26/2019	537,600	294,960	135,120	24,020	540	330	36,210	40,650	3,200	2,570	27,240
47,278	1	10/27/2019	425,500	211,660	123,560	270	730	260	35,310	47,780	3,080	2,850	21,440
87,611	2	10/28/2019	788,500	210,290	117,510	115,340	153,320	4,040	44,070	39,690	6,980	97,260	55,470
103,832	3	10/29/2019	934,490	245,650	145,010	117,630	215,040	4,110	44,800	49,400	6,640	106,210	55,870
112,727	4	10/30/2019	1,014,540	291,340	154,040	104,090	246,570	3,200	47,860	49,300	6,850	111,290	61,270
115,817	5	10/31/2019	1,042,350	298,040	119,750	105,960	192,080	122,090	51,200	48,830	7,020	97,380	116,390
83,542	6	11/1/2019	751,880	290,030	127,240	116,050	11,050	3,450	48,580	45,690	6,250	103,540	38,850
58,822	7	11/2/2019	529,400	270,490	141,260	26,470	50	530	45,800	39,020	3,090	2,690	26,160
61,896	1	11/3/2019	557,060	285,940	135,690	4,500	49,460	310	34,060	40,560	3,410	3,130	31,820
102,430	2	11/4/2019	921,870	277,560	115,370	93,920	99,400	157,990	39,400	44,050	5,130	89,050	69,670
92,007	3	11/5/2019	828,060	294,820	115,530	103,110	99,990	4,250	44,890	57,510	3,640	104,320	46,740
92,171	4	11/6/2019	829,540	288,060	126,230	98,820	98,250	3,760	44,680	55,400	4,150	110,190	55,760
89,512	5	11/7/2019	805,610	260,480	138,770	109,350	86,920	2,570	48,030	57,770	3,910	97,810	57,380
78,118	6	11/8/2019	703,060	243,910	116,640	110,670	30,780	2,550	42,690	46,310	3,510	106,000	42,720
50,486	7	11/9/2019	454,370	236,490	117,780	24,250	20	360	35,180	36,910	430	2,950	23,720
55,872	1	11/10/2019	502,850	266,600	130,020	250	20	400	58,720	41,590	80	5,170	24,730
110,066	2	11/11/2019	990,590	287,840	123,410	106,020	2,010	262,210	55,290	49,530	3,830	100,450	101,090
83,581	3	11/12/2019	752,230	266,140	117,510	129,060	3,150	16,570	42,000	55,240	4,080	118,480	39,760
80,743	4	11/13/2019	726,690	237,630	127,570	119,210	38,200	2,670	42,890	48,200	4,110	106,210	36,530
83,207	5	11/14/2019	748,860	248,220	121,820	118,480	60,230	2,460	43,640	50,750	4,220	99,040	40,450
80,781	6	11/15/2019	727,030	270,030	125,620	120,150	2,980	2,590	44,760	45,350	4,230	111,320	39,020
52,678	7	11/16/2019	474,100	261,030	123,080	11,950	190	560	39,250	33,800	150	4,090	24,540
54,713	1	11/17/2019	492,420	249,030	118,210	370	50,150	470	33,160	36,990	100	3,940	30,310
79,937	2	11/18/2019	719,430	258,900	112,660	90,790	66,990	3,110	40,060	44,420	3,990	98,510	40,090
88,019	3	11/19/2019	792,170	275,600	114,140	108,110	72,970	3,850	43,750	48,830	3,840	121,080	46,770
86,138	4	11/20/2019	775,240	267,350	118,250	108,490	71,810	2,770	42,480	51,050	4,120	108,920	41,220
83,303	5	11/21/2019	749,730	281,840	97,390	108,150	68,360	4,910	43,570	51,490	4,390	89,630	41,710
74,537	6	11/22/2019	670,830	283,110	107,830	54,280	26,720	2,850	43,760	54,230	3,630	94,420	38,320
50,311	7	11/23/2019	452,800	258,610	108,170	780	60	640	36,910	43,980	120	3,530	22,650
56,369	1	11/24/2019	507,320	257,270	127,670	230	48,950	1,320	30,770	37,200	380	3,530	33,670
84,457	2	11/25/2019	760,110	272,710	111,350	20,290	111,820	32,470	43,790	46,900	3,540	117,240	60,960
98,800	3	11/26/2019	889,200	281,790	108,360	74,220	194,210	3,570	41,440	48,590	3,330	133,690	48,750
83,852	4	11/27/2019	754,670	274,170	96,900	96,140	52,420	3,740	44,520	48,410	2,990	135,380	47,840
57,421	5	11/28/2019	516,790	257,130	96,410	19,110	860	240	22,520	28,310	140	92,070	32,660
36,551	6	11/29/2019	328,960	180,570	99,670	580	0	20	22,100	22,390	120	3,510	20,140
37,002	7	11/30/2019	333,020	167,410	104,420	700	0	40	27,640	29,070	410	3,330	16,430
37,090	1	12/1/2019	333,810	157,500	114,930	1,050	10	320	28,240	27,930	160	3,670	16,840
81,196	2	12/2/2019	730,760	201,500	109,580	76,130	57,330	96,850	36,250	41,030	2,940	109,150	86,210

City of Bethlehem
Table III-5
Industrial Inside City
Annual Daily Usage Per Customer (in gallons)

Industrial Inside City Daily Avg	Day of Week	Date	Total Inside Industrial	Industrial 1	Industrial 2	Industrial 3	Industrial 4	Industrial 5	Industrial 6	Industrial 7	Industrial 8	Industrial 9	Max Hour
80,131	3	12/3/2019	721,180	252,540	103,770	96,310	59,700	3,080	38,470	52,950	3,910	110,450	51,900
84,734	4	12/4/2019	762,610	241,750	118,800	111,430	69,490	5,600	40,740	48,070	3,990	122,740	55,510
77,563	5	12/5/2019	698,070	252,680	115,420	109,480	2,090	4,080	43,290	44,970	3,700	122,360	37,140
68,552	6	12/6/2019	616,970	267,550	134,800	114,760	1,930	2,690	40,380	47,830	3,280	3,750	34,820
49,206	7	12/7/2019	442,850	200,550	126,720	33,650	30	860	38,670	38,100	130	4,140	25,600
46,719	1	12/8/2019	420,470	164,400	135,250	1,210	46,610	610	31,220	37,730	100	3,340	26,840
103,496	2	12/9/2019	931,460	199,230	126,660	72,190	156,280	184,120	35,440	41,070	4,270	112,200	93,800
94,790	3	12/10/2019	853,110	274,650	127,240	92,530	126,480	32,380	42,990	47,110	3,440	106,290	45,870
91,064	4	12/11/2019	819,580	230,940	129,050	93,680	125,690	8,630	42,540	49,540	4,070	135,440	56,470
95,489	5	12/12/2019	859,400	230,470	136,880	93,350	181,860	17,640	39,170	48,860	3,650	107,520	54,310
76,540	6	12/13/2019	688,860	240,410	126,390	102,150	25,780	3,400	41,380	41,780	2,970	104,600	44,830
51,364	7	12/14/2019	462,280	254,250	109,740	18,880	120	500	37,820	37,410	120	3,440	23,070
56,291	1	12/15/2019	506,620	255,910	125,760	690	51,900	1,200	30,990	36,360	380	3,430	30,980
118,422	2	12/16/2019	1,065,800	228,970	132,890	64,410	51,050	406,150	33,540	44,450	3,180	101,160	96,530
85,414	3	12/17/2019	768,730	208,990	127,750	79,560	112,450	4,310	39,700	65,800	3,430	126,740	49,690
70,053	4	12/18/2019	630,480	149,720	135,750	79,690	59,010	3,290	37,240	50,190	3,830	111,760	36,570
88,189	5	12/19/2019	793,700	187,120	127,670	88,020	60,000	141,870	40,090	57,640	3,260	88,030	88,850
75,194	6	12/20/2019	676,750	236,470	122,950	95,260	1,970	3,710	46,690	59,740	2,660	107,300	39,000
50,731	7	12/21/2019	456,580	225,510	129,910	13,860	570	510	35,390	46,140	440	4,250	23,400
49,969	1	12/22/2019	449,720	242,080	127,220	2,890	80	460	28,630	44,150	90	4,120	21,470
61,874	2	12/23/2019	556,870	261,840	134,080	2,980	140	120	23,390	26,470	420	107,430	28,780
59,401	3	12/24/2019	534,610	236,740	127,360	3,030	0	30	22,990	27,310	510	116,640	30,930
40,062	4	12/25/2019	360,560	157,940	137,140	2,730	10,010	40	22,880	25,890	120	3,810	26,230
78,102	5	12/26/2019	702,920	162,590	188,880	3,000	37,680	108,910	37,950	42,090	1,480	120,340	63,120
65,808	6	12/27/2019	592,270	176,810	185,590	3,560	1,980	3,390	44,540	46,850	2,010	127,540	33,800
55,432	7	12/28/2019	498,890	175,680	184,870	2,900	43,130	2,650	36,630	33,110	150	19,770	29,820
52,182	1	12/29/2019	469,640	162,420	185,050	2,730	51,400	370	31,140	32,630	60	3,840	28,810
81,543	2	12/30/2019	733,890	213,510	188,440	3,030	53,300	97,450	25,130	21,700	2,300	129,030	60,550
68,827	3	12/31/2019	619,440	252,000	173,260	2,860	610	17,040	24,050	21,110	1,730	126,780	34,270

City of Bethlehem
Table III-6
Industrial Outside City
Annual Daily Usage Per Customer (in gallons)

Industrial Outside City Daily Avg	Day of Week	Date	Total Outside Industrial	Industrial 1	Industrial 2	Industrial 3	Industrial 4	Industrial 5	Industrial 6	Industrial 7	Max Hour
	3	1/1/2019		840	25,000	17,070	9,950		14,740	0	9,510
	4	1/2/2019		4,220	45,000	15,770	88,470		45,800	960	14,100
	5	1/3/2019		4,180	50,000	101,210	83,450		56,480	1,050	20,180
	6	1/4/2019		3,850	50,000	100,400	37,290		42,080	1,180	20,550
	7	1/5/2019		840	25,000	81,600	150		11,600	200	12,890
	1	1/6/2019		1,410	30,000	55,460	93,840		10,280	0	18,410
	2	1/7/2019		4,680	50,000	17,410	100,930		45,800	1,090	16,080
	3	1/8/2019		3,740	50,000	17,600	116,890		53,560	1,960	17,220
	4	1/9/2019		4,410	50,000	77,160	38,410		55,240	2,550	17,790
	5	1/10/2019		4,610	50,000	45,940	57,660		61,870	2,630	15,540
	6	1/11/2019		4,830	50,000	109,390	29,100		33,550	1,970	14,800
	7	1/12/2019		2,200	25,000	108,060	220		16,820	220	14,130
	1	1/13/2019		1,930	30,000	17,610	84,360		7,170	100	14,710
	2	1/14/2019		4,780	45,000	115,520	93,150		43,020	1,220	22,510
	3	1/15/2019		4,600	55,000	104,510	103,830		41,780	1,320	21,300
	4	1/16/2019		4,500	55,000	77,870	35,470		47,270	1,330	15,880
	5	1/17/2019		5,220	50,000	53,130	55,450		44,480	1,150	18,600
	6	1/18/2019		3,970	50,000	98,230	25,690		33,750	1,240	16,020
	7	1/19/2019		1,810	30,000	108,830	50		20,240	460	13,260
	1	1/20/2019		1,660	30,000	86,200	77,680		16,120	20	20,920
	2	1/21/2019		5,130	40,000	96,190	103,140		32,250	1,970	22,370
	3	1/22/2019		5,060	40,000	20,900	95,320		38,530	2,070	14,810
	4	1/23/2019		4,360	50,000	62,660	46,430		42,940	1,450	15,470
	5	1/24/2019		3,200	45,000	62,570	710		34,940	1,330	14,650
	6	1/25/2019		4,700	45,000	17,370	40		34,290	1,420	8,620
	7	1/26/2019		2,850	30,000	100,580	50		16,370	560	12,940
	1	1/27/2019		1,730	20,000	80,760	82,920		10,410	80	19,860
	2	1/28/2019		4,870	45,000	18,300	123,250		38,750	1,330	16,420
	3	1/29/2019		4,360	45,000	45,540	112,790		30,080	1,470	15,300
	4	1/30/2019		4,880	40,000	112,050	38,500		41,140	1,800	23,550
	5	1/31/2019		5,470	40,000	165,760	36,650		37,340	2,190	20,110
25,741	6	2/1/2019	180,190	5,040	35,000	77,270	27,190	1,910	31,540	2,240	13,450
12,987	7	2/2/2019	90,910	2,570	25,000	49,560	40	20	12,490	1,230	12,410
35,726	1	2/3/2019	250,080	1,530	20,000	140,130	82,970	20	4,800	630	20,610
25,631	2	2/4/2019	179,420	3,430	55,000	18,220	75,880	770	24,840	1,280	15,140
22,751	3	2/5/2019	159,260	3,320	50,000	59,470	17,940	1,490	25,270	1,770	13,990
28,526	4	2/6/2019	199,680	4,070	50,000	55,580	57,790	1,570	28,840	1,830	14,850
37,094	5	2/7/2019	259,660	4,270	55,000	120,340	41,560	2,320	34,670	1,500	21,180
18,626	6	2/8/2019	130,380	3,520	50,000	18,040	330	2,550	54,080	1,860	10,170
12,046	7	2/9/2019	84,320	2,770	25,000	16,620	90	40	39,120	680	7,920
24,263	1	2/10/2019	169,840	2,210	30,000	16,250	88,610	40	31,980	750	15,660
44,506	2	2/11/2019	311,540	4,230	50,000	105,680	100,420	1,410	47,720	2,080	22,490
33,934	3	2/12/2019	237,540	3,320	40,000	64,940	91,110	1,020	35,370	1,780	19,530
21,541	4	2/13/2019	150,790	3,800	45,000	26,770	31,000	1,440	41,080	1,700	12,760
39,471	5	2/14/2019	276,300	4,490	50,000	111,630	61,350	3,500	43,360	1,970	21,940
30,924	6	2/15/2019	216,470	3,390	55,000	75,940	44,600	3,470	32,430	1,640	13,540
15,050	7	2/16/2019	105,350	2,440	30,000	64,080	80	60	8,670	20	12,430
19,541	1	2/17/2019	136,790	1,900	25,000	17,500	87,820	50	4,520	0	14,460

City of Bethlehem
Table III-6
Industrial Outside City
Annual Daily Usage Per Customer (in gallons)

Industrial Outside City Daily Avg	Day of Week	Date	Total Outside Industrial	Industrial 1	Industrial 2	Industrial 3	Industrial 4	Industrial 5	Industrial 6	Industrial 7	Max Hour
31,204	2	2/18/2019	218,430	3,900	50,000	19,930	105,470	1,570	36,090	1,470	15,120
43,866	3	2/19/2019	307,060	4,970	50,000	127,800	70,080	1,870	51,140	1,200	22,790
31,971	4	2/20/2019	223,800	4,410	45,000	97,210	32,200	1,150	43,030	800	16,530
32,184	5	2/21/2019	225,290	3,630	50,000	42,440	78,020	1,940	48,210	1,050	19,990
32,549	6	2/22/2019	227,840	4,170	55,000	67,810	52,280	1,560	46,040	980	16,590
9,207	7	2/23/2019	64,450	2,010	30,000	17,190	9,660	140	5,140	310	6,490
19,366	1	2/24/2019	135,560	720	25,000	17,250	85,960	140	6,490	0	13,200
46,876	2	2/25/2019	328,130	4,750	55,000	103,310	121,680	1,160	40,750	1,480	22,720
35,973	3	2/26/2019	251,810	4,870	45,000	54,690	106,790	1,230	37,850	1,380	30,660
34,120	4	2/27/2019	238,840	6,360	50,000	79,230	56,180	880	44,780	1,410	17,640
32,321	5	2/28/2019	226,250	4,730	50,000	66,940	63,180	2,480	37,590	1,330	19,460
26,841	6	3/1/2019	187,890	4,710	40,000	55,000	43,320	2,630	41,110	1,120	13,200
28,644	7	3/2/2019	200,510	1,430	25,000	167,760	40	50	5,980	250	12,460
38,180	1	3/3/2019	267,260	1,330	25,000	148,880	84,160	60	7,830	0	20,040
33,611	2	3/4/2019	235,280	3,920	40,000	58,450	104,260	1,970	25,640	1,040	18,590
43,049	3	3/5/2019	301,340	4,900	45,000	110,680	98,180	1,760	39,460	1,360	21,200
23,813	4	3/6/2019	166,690	4,950	50,000	17,420	63,660	1,850	27,110	1,700	14,460
29,121	5	3/7/2019	203,850	5,180	45,000	61,440	59,290	2,540	28,540	1,860	20,460
18,927	6	3/8/2019	132,490	5,680	45,000	17,350	34,710	2,010	26,230	1,510	13,900
9,391	7	3/9/2019	65,740	2,120	35,000	16,980	70	50	11,450	70	6,440
21,780	1	3/10/2019	152,460	570	25,000	16,180	105,610	40	5,060	0	12,790
32,986	2	3/11/2019	230,900	3,890	60,000	17,270	121,690	850	25,890	1,310	16,450
29,860	3	3/12/2019	209,020	4,580	55,000	17,310	92,870	970	37,080	1,210	15,870
34,064	4	3/13/2019	238,450	4,700	55,000	133,990	14,000	2,240	27,340	1,180	15,480
37,630	5	3/14/2019	263,410	4,720	60,000	76,090	94,510	650	26,380	1,060	22,620
21,249	6	3/15/2019	148,740	3,100	55,000	21,210	37,130	3,850	27,190	1,260	15,930
10,181	7	3/16/2019	71,270	3,390	45,000	17,260	50	40	5,350	180	6,300
25,153	1	3/17/2019	176,070	2,490	40,000	17,100	111,670	10	4,800	0	14,660
35,704	2	3/18/2019	249,930	4,600	55,000	40,620	110,260	2,440	35,870	1,140	16,400
31,354	3	3/19/2019	219,480	7,310	60,000	18,190	101,520	2,990	28,290	1,180	15,610
20,701	4	3/20/2019	144,910	5,830	65,000	17,280	25,420	1,460	28,760	1,160	12,650
14,171	5	3/21/2019	99,200	3,390	45,000	17,410	140	1,680	30,500	1,080	8,120
15,597	6	3/22/2019	109,180	3,940	55,000	17,180	880	840	30,190	1,150	8,520
8,443	7	3/23/2019	59,100	2,730	30,000	17,020	50	80	9,150	70	6,360
30,083	1	3/24/2019	210,580	2,010	40,000	42,320	115,260	70	10,920	0	28,410
42,399	2	3/25/2019	296,790	4,700	50,000	82,170	119,490	2,210	36,990	1,230	16,960
45,867	3	3/26/2019	321,070	5,310	60,000	60,670	145,220	1,960	46,630	1,280	21,050
32,829	4	3/27/2019	229,800	5,690	55,000	62,110	42,670	1,390	61,520	1,420	18,700
29,093	5	3/28/2019	203,650	4,220	55,000	36,930	69,040	990	36,230	1,240	14,100
22,249	6	3/29/2019	155,740	3,110	50,000	18,110	49,710	1,680	31,980	1,150	15,530
10,070	7	3/30/2019	70,490	2,780	40,000	17,190	90	60	9,230	1,140	6,370
25,327	1	3/31/2019	177,290	2,340	35,000	16,990	111,010	40	11,870	40	14,360
38,124	2	4/1/2019	266,870	4,910	55,000	32,420	140,380	740	32,360	1,060	20,140
43,849	3	4/2/2019	306,940	4,850	55,000	91,810	119,170	2,040	32,980	1,090	20,090
34,014	4	4/3/2019	238,100	5,050	65,000	17,910	107,550	2,040	37,850	2,700	14,380
41,613	5	4/4/2019	291,290	5,220	60,000	78,630	98,970	1,720	45,270	1,480	18,560
29,281	6	4/5/2019	204,970	6,330	50,000	71,470	37,220	7,930	30,870	1,150	19,420
12,201	7	4/6/2019	85,410	1,930	35,000	17,250	230	11,360	19,580	60	7,450

City of Bethlehem
Table III-6
Industrial Outside City
Annual Daily Usage Per Customer (in gallons)

Industrial Outside City	Day of		Total Outside								
Daily Avg	Week	Date	Industrial	Industrial 1	Industrial 2	Industrial 3	Industrial 4	Industrial 5	Industrial 6	Industrial 7	Max Hour
26,900	1	4/7/2019	188,300	1,090	35,000	16,800	105,810	10,460	19,110	30	15,140
37,756	2	4/8/2019	264,290	2,770	60,000	24,670	134,980	3,360	37,320	1,190	20,070
36,590	3	4/9/2019	256,130	4,460	60,000	36,120	114,740	900	38,590	1,320	21,420
39,139	4	4/10/2019	273,970	3,870	55,000	77,030	102,530	2,360	31,840	1,340	19,890
40,691	5	4/11/2019	284,840	4,360	65,000	70,820	103,660	2,220	37,630	1,150	19,540
27,107	6	4/12/2019	189,750	3,180	65,000	42,150	46,640	1,160	30,520	1,100	16,950
25,210	7	4/13/2019	176,470	460	45,000	16,900	99,780	60	14,260	10	11,570
32,274	1	4/14/2019	225,920	800	40,000	73,000	102,640	60	9,420	0	18,950
33,283	2	4/15/2019	232,980	3,270	60,000	32,400	94,390	2,440	39,220	1,260	20,550
44,839	3	4/16/2019	313,870	4,170	55,000	113,850	97,300	1,480	41,020	1,050	20,840
38,079	4	4/17/2019	266,550	3,390	55,000	79,500	86,200	1,610	39,760	1,090	21,910
20,523	5	4/18/2019	143,660	3,100	60,000	17,130	18,960	2,140	41,320	1,010	13,420
5,940	6	4/19/2019	41,580	930	15,000	16,960	120	40	7,600	930	6,130
3,857	7	4/20/2019	27,000	2,680	0	16,790	240	20	7,150	120	1,730
3,946	1	4/21/2019	27,620	3,650	0	16,740	250	30	6,950	0	1,830
20,600	2	4/22/2019	144,200	2,540	0	16,980	83,130	2,700	37,800	1,050	10,300
22,319	3	4/23/2019	156,230	2,790	37,660	17,080	49,430	3,380	44,800	1,090	9,780
21,154	4	4/24/2019	148,080	3,020	64,910	17,640	26,280	1,750	33,480	1,000	10,120
17,084	5	4/25/2019	119,590	2,950	59,400	17,130	80	2,320	36,750	960	7,190
16,519	6	4/26/2019	115,630	2,470	58,240	17,260	170	2,210	34,290	990	6,280
10,193	7	4/27/2019	71,350	1,120	40,520	16,940	70	60	12,610	30	3,400
24,594	1	4/28/2019	172,160	1,660	36,780	16,960	108,150	30	8,580	0	11,260
42,121	2	4/29/2019	294,850	3,860	62,710	85,540	95,710	1,810	44,170	1,050	23,000
31,019	3	4/30/2019	217,130	2,850	62,450	17,350	68,790	2,080	62,550	1,060	15,360
30,991	4	5/1/2019	216,940	2,690	54,490	82,340	19,500	1,630	55,300	990	14,250
36,210	5	5/2/2019	253,470	2,780	61,340	61,410	64,600	1,380	60,920	1,040	12,540
20,721	6	5/3/2019	145,050	2,500	53,380	17,080	15,120	960	55,030	980	8,860
17,387	7	5/4/2019	121,710	130	45,410	64,180	710	20	11,250	10	10,510
22,917	1	5/5/2019	160,420	2,840	41,560	16,820	90,490	10	8,700	0	10,230
34,143	2	5/6/2019	239,000	3,200	65,140	17,110	95,400	2,410	54,690	1,050	14,430
37,957	3	5/7/2019	265,700	2,550	66,940	51,810	90,890	1,900	50,560	1,050	18,650
23,120	4	5/8/2019	161,840	2,570	62,760	22,610	27,460	2,210	43,240	990	16,790
24,497	5	5/9/2019	171,480	2,670	61,050	17,250	49,840	2,210	37,370	1,090	12,610
32,453	6	5/10/2019	227,170	2,670	69,760	95,750	19,540	2,040	36,500	910	15,770
17,149	7	5/11/2019	120,040	830	42,260	61,660	6,850	50	8,370	20	10,550
18,683	1	5/12/2019	130,780	120	29,840	16,890	77,070	30	6,830	0	10,670
46,000	2	5/13/2019	322,000	2,740	58,550	116,090	99,420	2,330	38,840	4,030	21,700
36,464	3	5/14/2019	255,250	2,870	52,450	45,230	119,780	2,370	31,380	1,170	17,730
24,940	4	5/15/2019	174,580	3,030	61,260	17,170	32,630	1,930	54,510	4,050	10,870
39,514	5	5/16/2019	276,600	2,790	60,410	89,250	64,690	1,870	56,640	950	20,530
34,571	6	5/17/2019	242,000	2,330	60,380	87,650	41,590	2,180	46,930	940	20,690
12,356	7	5/18/2019	86,490	2,720	52,170	17,030	70	40	14,450	10	4,370
28,273	1	5/19/2019	197,910	300	67,520	16,910	98,170	30	14,670	310	12,180
39,604	2	5/20/2019	277,230	2,790	91,080	17,550	105,900	1,640	55,320	2,950	15,040
26,224	3	5/21/2019	183,570	3,090	69,130	36,820	28,130	1,540	43,570	1,290	12,300
37,986	4	5/22/2019	265,900	3,020	63,950	63,180	84,710	4,840	45,180	1,020	18,200
34,536	5	5/23/2019	241,750	2,650	74,290	17,520	100,270	3,150	42,040	1,830	14,850
28,359	6	5/24/2019	198,510	2,370	66,700	51,190	36,840	1,460	37,560	2,390	14,320

City of Bethlehem
Table III-6
Industrial Outside City
Annual Daily Usage Per Customer (in gallons)

Industrial Outside City Daily Avg	Day of Week	Date	Total Outside Industrial	Industrial 1	Industrial 2	Industrial 3	Industrial 4	Industrial 5	Industrial 6	Industrial 7	Max Hour
17,041	7	5/25/2019	119,290	60	44,510	64,710	40	40	7,310	2,620	10,530
26,670	1	5/26/2019	186,690	40	63,010	17,210	92,890	20	6,810	6,710	12,360
18,479	2	5/27/2019	129,350	90	57,100	17,260	43,420	30	6,820	4,630	12,500
39,823	3	5/28/2019	278,760	2,490	75,020	62,010	84,580	1,800	46,890	5,970	21,200
47,741	4	5/29/2019	334,190	3,020	84,450	102,400	95,320	2,120	39,450	7,430	22,910
34,707	5	5/30/2019	242,950	2,810	84,550	17,600	85,210	1,740	44,090	6,950	13,490
26,461	6	5/31/2019	185,230	2,620	88,710	17,470	25,440	1,920	42,620	6,450	11,070
14,130	7	6/1/2019	98,910	130	57,140	17,170	630	70	17,790	5,980	5,500
25,196	1	6/2/2019	176,370	150	54,300	17,150	84,210	30	15,690	4,840	9,970
34,483	2	6/3/2019	241,380	3,140	62,110	21,550	109,010	4,820	37,880	2,870	15,850
35,254	3	6/4/2019	246,780	3,090	62,900	49,250	86,980	7,070	34,520	2,970	20,780
32,390	4	6/5/2019	226,730	2,510	78,320	26,180	80,500	2,080	32,990	4,150	14,210
35,214	5	6/6/2019	246,500	2,660	85,820	86,590	27,070	1,260	36,360	6,740	14,990
30,964	6	6/7/2019	216,750	2,420	77,140	94,650	80	4,970	31,740	5,750	14,840
18,987	7	6/8/2019	132,910	70	52,230	62,500	2,290	40	11,890	3,890	11,190
11,637	1	6/9/2019	81,460	150	45,380	17,050	2,410	50	14,480	1,940	4,410
25,479	2	6/10/2019	178,350	2,530	65,520	38,910	18,580	1,120	49,310	2,380	14,470
43,233	3	6/11/2019	302,630	2,930	72,740	56,150	108,310	2,880	54,130	5,490	15,800
35,153	4	6/12/2019	246,070	2,650	62,560	14,990	108,110	1,700	53,160	2,900	13,630
39,396	5	6/13/2019	275,770	2,810	65,350	54,580	87,050	6,390	55,480	4,110	21,270
26,173	6	6/14/2019	183,210	3,820	59,930	41,800	35,200	2,070	35,800	4,590	13,790
9,421	7	6/15/2019	65,950	1,330	39,260	15,580	240	40	7,690	1,810	4,150
20,856	1	6/16/2019	145,990	430	50,390	16,980	69,600	30	8,170	390	9,330
44,077	2	6/17/2019	308,540	2,660	72,870	97,140	102,240	1,660	26,320	5,650	19,920
44,086	3	6/18/2019	308,600	2,590	75,420	87,210	106,490	1,320	29,100	6,470	20,490
32,279	4	6/19/2019	225,950	2,730	78,760	73,790	24,620	1,640	38,820	5,590	13,920
36,706	5	6/20/2019	256,940	4,840	83,350	48,300	72,290	1,770	39,530	6,860	18,980
22,617	6	6/21/2019	158,320	2,540	73,650	17,400	26,800	1,030	31,430	5,470	14,080
11,336	7	6/22/2019	79,350	60	47,520	17,090	110	30	10,130	4,410	4,340
23,544	1	6/23/2019	164,810	230	47,490	17,050	88,330	30	8,410	3,270	11,120
38,390	2	6/24/2019	268,730	3,480	79,920	17,350	125,270	1,670	32,820	8,220	14,350
37,331	3	6/25/2019	261,320	3,330	88,230	24,190	108,100	2,390	25,880	9,200	17,750
32,569	4	6/26/2019	227,980	2,500	87,580	15,360	95,370	770	17,300	9,100	14,720
35,614	5	6/27/2019	249,300	2,840	90,210	13,950	102,390	1,500	28,780	9,630	16,020
25,809	6	6/28/2019	180,660	2,620	82,690	18,510	33,630	2,210	31,850	9,150	14,090
17,410	7	6/29/2019	121,870	530	60,630	42,380	2,990	70	7,920	7,350	12,000
29,003	1	6/30/2019	203,020	100	57,120	16,970	113,200	40	9,530	6,060	12,430
46,526	2	7/1/2019	325,680	2,430	74,320	96,700	103,390	1,080	40,260	7,500	21,090
25,606	3	7/2/2019	179,240	2,400	79,150	17,600	23,790	1,240	44,720	10,340	13,800
41,630	4	7/3/2019	291,410	4,570	76,480	78,630	86,980	1,650	32,930	10,170	23,730
14,421	5	7/4/2019	100,950	390	46,410	17,160	19,670	40	8,260	9,020	11,030
22,981	6	7/5/2019	160,870	60	52,810	85,820	3,980	40	8,150	10,010	12,390
13,327	7	7/6/2019	93,290	70	54,940	16,820	4,170	30	7,970	9,290	5,000
27,814	1	7/7/2019	194,700	40	59,840	16,810	101,180	30	8,450	8,350	12,820
38,711	2	7/8/2019	270,980	2,140	62,020	39,560	126,070	900	32,620	7,670	22,510
42,733	3	7/9/2019	299,130	2,430	90,100	70,950	85,190	2,130	39,400	8,930	22,970
33,759	4	7/10/2019	236,310	2,480	90,440	65,800	19,570	1,700	46,230	10,090	15,600
40,749	5	7/11/2019	285,240	4,200	85,690	142,570	2,790	1,910	40,000	8,080	15,680

City of Bethlehem
Table III-6
Industrial Outside City
Annual Daily Usage Per Customer (in gallons)

Industrial Outside City Daily Avg	Day of Week	Date	Total Outside Industrial	Industrial 1	Industrial 2	Industrial 3	Industrial 4	Industrial 5	Industrial 6	Industrial 7	Max Hour
27,756	6	7/12/2019	194,290	2,810	84,850	55,900	4,390	1,610	35,490	9,240	15,890
14,933	7	7/13/2019	104,530	90	66,010	16,260	4,060	50	17,970	90	5,550
28,044	1	7/14/2019	196,310	110	66,830	16,790	95,120	30	17,430	0	11,360
47,820	2	7/15/2019	334,740	2,780	78,960	71,400	132,160	1,090	37,040	11,310	23,040
45,767	3	7/16/2019	320,370	2,690	86,960	53,700	103,670	1,440	60,700	11,210	20,670
41,409	4	7/17/2019	289,860	4,720	89,140	29,660	96,000	1,310	57,020	12,010	18,410
43,600	5	7/18/2019	305,200	3,260	82,240	114,580	31,170	2,160	61,420	10,370	22,140
26,244	6	7/19/2019	183,710	2,410	91,070	16,680	5,250	880	54,910	12,510	9,590
19,764	7	7/20/2019	138,350	100	79,890	15,750	5,880	50	24,490	12,190	6,810
30,620	1	7/21/2019	214,340	160	75,530	16,210	89,570	30	21,400	11,440	13,010
39,784	2	7/22/2019	278,490	2,510	79,100	24,450	102,930	1,860	58,780	8,860	19,120
46,623	3	7/23/2019	326,360	3,150	72,410	60,880	131,670	1,760	49,580	6,910	22,070
38,326	4	7/24/2019	268,280	2,600	76,490	93,480	43,370	2,040	42,860	7,440	19,720
43,460	5	7/25/2019	304,220	3,930	72,080	73,250	100,240	1,100	46,050	7,570	20,250
45,824	6	7/26/2019	320,770	2,450	80,290	165,680	31,910	2,370	29,900	8,170	21,970
31,874	7	7/27/2019	223,120	50	68,030	129,200	6,570	20	12,140	7,110	13,900
41,371	1	7/28/2019	289,600	110	74,800	105,520	94,530	10	7,000	7,630	17,560
43,846	2	7/29/2019	306,920	3,410	94,880	17,310	129,710	2,370	49,160	10,080	17,170
40,834	3	7/30/2019	285,840	2,640	97,550	17,450	107,430	1,500	48,560	10,710	15,750
30,964	4	7/31/2019	216,750	2,340	89,090	17,300	57,550	760	40,850	8,860	13,990
27,154	5	8/1/2019	190,080	2,610	84,750	18,540	35,720	2,620	37,250	8,590	16,970
23,544	6	8/2/2019	164,810	2,520	91,620	21,820	5,040	3,040	31,970	8,800	9,470
18,503	7	8/3/2019	129,520	2,910	75,580	20,880	6,480	20	15,950	7,700	6,560
30,947	1	8/4/2019	216,630	150	79,480	22,040	93,120	20	14,160	7,660	13,070
39,713	2	8/5/2019	277,990	2,570	88,330	29,320	88,200	5,120	56,540	7,910	16,620
39,043	3	8/6/2019	273,300	2,820	94,320	34,430	74,400	2,790	55,750	8,790	15,340
39,130	4	8/7/2019	273,910	3,200	93,750	33,910	78,810	3,510	52,010	8,720	16,900
41,687	5	8/8/2019	291,810	3,060	98,950	38,550	92,360	2,100	48,130	8,660	17,030
31,214	6	8/9/2019	218,500	2,280	96,040	42,440	33,450	1,240	35,290	7,760	14,120
17,277	7	8/10/2019	120,940	80	61,510	38,580	5,010	20	10,820	4,920	6,550
16,859	1	8/11/2019	118,010	90	58,290	40,770	4,750	20	8,970	5,120	5,810
38,310	2	8/12/2019	268,170	2,660	84,230	45,900	83,110	2,170	42,830	7,270	16,850
43,587	3	8/13/2019	305,110	2,970	91,370	46,210	99,310	1,780	55,720	7,750	17,330
43,949	4	8/14/2019	307,640	2,710	92,940	45,980	105,430	1,260	50,590	8,730	18,210
31,097	5	8/15/2019	217,680	2,650	90,340	47,530	23,570	1,170	44,810	7,610	13,070
27,840	6	8/16/2019	194,880	2,670	92,630	45,320	5,490	2,040	38,400	8,330	11,330
20,463	7	8/17/2019	143,240	50	77,190	40,290	6,860	40	11,260	7,550	6,850
29,743	1	8/18/2019	208,200	120	75,470	36,270	80,120	10	8,910	7,300	12,130
43,337	2	8/19/2019	303,360	3,630	90,890	45,010	108,440	2,930	42,950	9,510	18,820
40,146	3	8/20/2019	281,020	2,610	102,910	45,780	73,720	1,990	44,990	9,020	15,960
35,996	4	8/21/2019	251,970	2,760	98,090	45,480	44,820	1,520	48,740	10,560	15,410
40,110	5	8/22/2019	280,770	3,180	96,320	58,190	60,880	2,310	50,640	9,250	16,670
36,236	6	8/23/2019	253,650	2,660	78,610	59,600	59,270	750	46,250	6,510	17,750
20,867	7	8/24/2019	146,070	590	70,390	55,030	2,110	30	13,650	4,270	6,960
30,830	1	8/25/2019	215,810	320	86,230	54,580	55,770	10	14,810	4,090	16,230
45,367	2	8/26/2019	317,570	2,810	84,440	59,650	114,660	1,090	49,410	5,510	16,570
38,387	3	8/27/2019	268,710	2,900	80,310	59,370	80,250	2,640	37,440	5,800	13,870
36,909	4	8/28/2019	258,360	3,640	88,290	59,910	45,830	1,740	52,750	6,200	15,510

City of Bethlehem
Table III-6
Industrial Outside City
Annual Daily Usage Per Customer (in gallons)

Industrial Outside City Daily Avg	Day of Week	Date	Total Outside Industrial	Industrial 1	Industrial 2	Industrial 3	Industrial 4	Industrial 5	Industrial 6	Industrial 7	Max Hour
40,960	5	8/29/2019	286,720	3,970	81,150	63,540	70,790	6,400	55,300	5,570	16,650
35,144	6	8/30/2019	246,010	2,390	82,700	63,450	48,940	3,730	37,670	7,130	15,610
18,889	7	8/31/2019	132,220	160	56,580	52,700	70	40	18,510	4,160	7,900
24,947	1	9/1/2019	174,630	40	59,200	2,550	92,850	20	15,530	4,440	11,840
19,784	2	9/2/2019	138,490	260	60,450	2,540	53,550	0	16,850	4,840	11,820
46,117	3	9/3/2019	322,820	2,700	92,190	67,750	93,670	4,270	55,690	6,550	23,630
29,267	4	9/4/2019	204,870	3,000	85,340	16,040	32,390	2,650	57,680	7,770	14,990
40,176	5	9/5/2019	281,230	3,330	73,210	78,720	66,980	4,120	48,510	6,360	18,470
36,983	6	9/6/2019	258,880	2,760	65,700	91,410	44,040	4,250	44,750	5,970	20,780
19,076	7	9/7/2019	133,530	80	49,900	52,760	2,120	3,080	21,630	3,960	12,210
27,570	1	9/8/2019	192,990	130	52,390	16,870	98,440	3,060	17,540	4,560	12,710
32,650	2	9/9/2019	228,550	2,780	74,200	14,550	76,710	3,390	50,550	6,370	12,860
36,377	3	9/10/2019	254,640	2,720	79,470	18,430	82,450	870	64,780	5,920	16,880
34,529	4	9/11/2019	241,700	2,890	89,740	17,220	49,360	3,790	70,800	7,900	13,960
46,163	5	9/12/2019	323,140	2,690	83,580	110,820	68,440	1,610	48,400	7,600	21,380
24,387	6	9/13/2019	170,710	2,270	70,160	15,650	29,970	5,510	42,100	5,050	11,460
15,829	7	9/14/2019	110,800	70	60,170	14,850	3,040	10	28,180	4,480	5,900
26,167	1	9/15/2019	183,170	130	57,350	16,540	71,030	20	33,350	4,750	11,440
35,144	2	9/16/2019	246,010	2,740	77,110	15,860	87,350	4,860	52,170	5,920	14,450
40,426	3	9/17/2019	282,980	2,870	66,360	59,070	97,810	3,370	47,550	5,950	18,880
36,833	4	9/18/2019	257,830	2,830	58,720	102,530	36,290	5,400	49,190	2,870	20,810
35,070	5	9/19/2019	245,490	3,140	57,180	48,310	76,280	3,700	54,540	2,340	13,370
23,690	6	9/20/2019	165,830	2,470	59,830	16,940	39,800	2,520	41,480	2,790	11,990
12,836	7	9/21/2019	89,850	50	54,210	16,680	1,560	10	15,300	2,040	4,740
26,444	1	9/22/2019	185,110	120	61,110	16,590	85,080	20	18,010	4,180	14,850
50,676	2	9/23/2019	354,730	2,670	82,300	113,830	86,990	1,480	60,360	7,100	22,940
39,053	3	9/24/2019	273,370	2,900	66,680	41,940	84,160	4,640	68,280	4,770	21,130
40,997	4	9/25/2019	286,980	2,740	62,360	129,180	22,520	5,170	59,970	5,040	16,030
35,844	5	9/26/2019	250,910	2,720	69,280	50,440	60,110	4,660	59,990	3,710	18,660
21,980	6	9/27/2019	153,860	2,530	69,050	14,730	20,080	850	42,240	4,380	10,860
14,184	7	9/28/2019	99,290	90	61,780	14,670	1,370	10	18,000	3,370	5,790
13,481	1	9/29/2019	94,370	210	57,570	16,510	2,650	10	13,660	3,760	5,460
21,233	2	9/30/2019	148,630	2,780	61,110	14,870	1,130	1,940	63,140	3,660	7,780
35,503	3	10/1/2019	248,520	2,670	76,260	98,230	5,070	4,110	55,310	6,870	20,380
43,201	4	10/2/2019	302,410	2,710	87,640	60,690	72,760	7,270	63,000	8,340	25,470
42,994	5	10/3/2019	300,960	2,730	55,530	56,490	109,420	7,590	65,840	3,360	20,150
22,824	6	10/4/2019	159,770	2,900	52,110	15,430	25,680	3,920	56,820	2,910	12,390
9,179	7	10/5/2019	64,250	860	34,520	16,300	40	10	12,490	30	3,240
20,427	1	10/6/2019	142,990	140	35,360	16,490	79,800	0	11,200	0	9,890
37,949	2	10/7/2019	265,640	2,510	67,040	15,820	102,470	4,410	69,020	4,370	16,520
39,354	3	10/8/2019	275,480	2,690	59,010	111,640	19,620	7,820	71,760	2,940	20,220
22,723	4	10/9/2019	159,060	2,750	53,820	34,880	950	2,730	63,020	910	13,340
24,843	5	10/10/2019	173,900	3,090	55,960	15,530	50,670	1,950	44,770	1,930	11,630
23,840	6	10/11/2019	166,880	3,020	58,680	29,130	22,270	4,060	48,430	1,290	14,320
9,231	7	10/12/2019	64,620	120	35,740	16,630	70	0	11,570	490	3,070
8,596	1	10/13/2019	60,170	200	32,410	16,590	630	10	10,330	0	3,820
34,299	2	10/14/2019	240,090	2,700	55,920	116,870	1,650	3,370	57,980	1,600	14,900
24,911	3	10/15/2019	174,380	3,040	54,040	57,950	1,870	1,170	55,440	870	13,310

City of Bethlehem
Table III-6
Industrial Outside City
Annual Daily Usage Per Customer (in gallons)

Industrial Outside City Daily Avg	Day of Week	Date	Total Outside Industrial	Industrial 1	Industrial 2	Industrial 3	Industrial 4	Industrial 5	Industrial 6	Industrial 7	Max Hour
37,501	4	10/16/2019	262,510	2,690	54,710	53,690	78,030	2,570	69,970	850	16,570
39,833	5	10/17/2019	278,830	2,970	45,290	76,520	72,460	6,810	73,890	890	22,180
32,670	6	10/18/2019	228,690	3,140	47,130	114,030	9,510	4,460	49,550	870	15,740
10,127	7	10/19/2019	70,890	980	35,580	15,070	130	3,490	15,620	20	10,060
6,854	1	10/20/2019	47,980	270	27,710	2,750	70	20	17,160	0	4,070
15,789	2	10/21/2019	110,520	2,620	47,720	7,010	600	980	50,850	740	5,760
17,586	3	10/22/2019	123,100	2,620	53,320	13,630	140	5,530	45,540	2,320	7,790
30,843	4	10/23/2019	215,900	3,790	52,160	17,510	98,330	1,400	41,570	1,140	14,120
35,783	5	10/24/2019	250,480	4,190	50,760	28,520	113,450	5,190	47,490	880	15,870
20,120	6	10/25/2019	140,840	2,550	48,890	21,800	20,660	800	45,370	770	13,720
8,540	7	10/26/2019	59,780	270	34,320	2,720	80	10	22,360	20	3,870
18,226	1	10/27/2019	127,580	90	37,220	2,600	69,940	10	16,760	960	9,090
27,104	2	10/28/2019	189,730	2,490	50,300	6,730	90,960	2,500	35,530	1,220	13,290
24,120	3	10/29/2019	168,840	2,770	51,970	15,300	71,130	400	24,000	3,270	11,370
22,247	4	10/30/2019	155,730	2,700	63,020	44,350	29,750	240	10,610	5,060	12,180
29,493	5	10/31/2019	206,450	2,680	72,610	47,630	63,960	440	13,840	5,290	11,900
14,839	6	11/1/2019	103,870	3,460	50,800	11,120	20,800	390	16,490	810	9,220
7,970	7	11/2/2019	55,790	1,650	35,410	3,230	150	10	15,320	20	3,070
18,680	1	11/3/2019	130,760	1,660	40,770	2,790	69,900	0	15,570	70	9,890
32,444	2	11/4/2019	227,110	3,610	54,950	48,950	83,910	3,340	31,470	880	12,610
28,651	3	11/5/2019	200,560	3,140	49,360	46,700	62,860	4,970	32,740	790	13,830
15,654	4	11/6/2019	109,580	3,880	52,560	7,810	14,640	1,160	28,650	880	9,290
13,847	5	11/7/2019	96,930	3,480	48,730	7,710	140	4,470	30,050	2,350	7,050
13,684	6	11/8/2019	95,790	4,170	48,950	6,470	2,080	8,660	24,660	800	5,300
8,741	7	11/9/2019	61,190	2,210	34,180	3,450	90	6,290	14,850	120	3,200
17,429	1	11/10/2019	122,000	1,520	29,890	3,040	73,460	20	14,070	0	9,020
32,670	2	11/11/2019	228,690	3,600	52,330	27,430	98,390	3,500	42,670	770	18,350
28,287	3	11/12/2019	198,010	3,810	49,420	39,260	64,170	2,970	37,540	840	18,270
23,697	4	11/13/2019	165,880	5,240	51,700	5,140	62,980	2,880	36,880	1,060	11,630
27,524	5	11/14/2019	192,670	4,680	51,470	6,550	79,480	7,370	41,980	1,140	11,920
18,704	6	11/15/2019	130,930	3,930	52,870	5,780	15,660	6,370	45,190	1,130	9,370
10,134	7	11/16/2019	70,940	2,530	38,640	2,950	80	30	26,460	250	4,030
17,614	1	11/17/2019	123,300	1,940	31,890	2,860	72,210	10	14,140	250	9,360
36,013	2	11/18/2019	252,090	3,570	48,110	60,550	83,970	3,780	51,140	970	16,640
35,409	3	11/19/2019	247,860	3,630	47,890	73,590	68,780	1,650	51,410	910	17,070
24,861	4	11/20/2019	174,030	3,940	54,560	40,130	8,930	8,590	57,030	850	13,840
27,641	5	11/21/2019	193,490	3,530	54,470	7,640	74,720	6,490	45,700	940	14,040
17,117	6	11/22/2019	119,820	3,350	52,210	6,330	11,930	6,970	38,090	940	6,870
9,877	7	11/23/2019	69,140	1,730	36,890	3,010	120	20	27,320	50	4,020
15,264	1	11/24/2019	106,850	1,030	28,340	2,620	64,120	10	10,730	0	8,640
25,089	2	11/25/2019	175,620	3,100	50,610	4,970	67,300	5,090	43,670	880	12,850
25,589	3	11/26/2019	179,120	3,190	50,100	6,540	74,190	5,200	38,930	970	10,040
24,686	4	11/27/2019	172,800	2,680	47,180	11,310	57,680	5,650	47,340	960	12,300
9,780	5	11/28/2019	68,460	1,270	26,360	3,190	11,660	30	25,950	0	5,860
9,767	6	11/29/2019	68,370	1,620	28,090	3,020	100	10	35,080	450	3,990
10,069	7	11/30/2019	70,480	1,850	30,810	3,060	110	20	34,460	170	4,090
21,340	1	12/1/2019	149,380	1,600	30,220	3,150	84,070	20	30,140	180	10,330
35,626	2	12/2/2019	249,380	3,560	47,660	74,220	83,370	5,010	34,740	820	17,060

City of Bethlehem
Table III-6
Industrial Outside City
Annual Daily Usage Per Customer (in gallons)

Industrial Outside City Daily Avg	Day of Week	Date	Total Outside Industrial	Industrial 1	Industrial 2	Industrial 3	Industrial 4	Industrial 5	Industrial 6	Industrial 7	Max Hour
29,867	3	12/3/2019	209,070	4,400	55,580	28,700	82,220	6,720	30,350	1,100	18,220
24,454	4	12/4/2019	171,180	3,680	49,880	7,950	70,710	2,920	35,200	840	11,410
22,674	5	12/5/2019	158,720	4,030	52,310	53,890	13,850	5,710	28,010	920	11,050
14,514	6	12/6/2019	101,600	3,780	56,310	7,220	1,230	4,460	27,570	1,030	5,510
9,510	7	12/7/2019	66,570	2,330	42,740	5,120	280	20	15,790	290	4,030
19,331	1	12/8/2019	135,320	1,930	32,700	5,240	78,110	20	16,870	450	9,520
28,096	2	12/9/2019	196,670	2,990	48,000	6,580	104,130	4,480	29,530	960	11,020
26,654	3	12/10/2019	186,580	3,310	51,530	7,090	81,020	5,020	37,420	1,190	11,830
19,293	4	12/11/2019	135,050	4,770	52,820	8,180	29,220	1,750	37,330	980	9,500
23,021	5	12/12/2019	161,150	4,550	52,300	7,410	49,230	5,960	40,470	1,230	10,850
15,797	6	12/13/2019	110,580	3,680	49,610	5,340	13,920	1,650	35,400	980	9,200
9,331	7	12/14/2019	65,320	650	34,510	2,770	90	10	27,110	180	3,370
19,911	1	12/15/2019	139,380	1,450	33,010	2,960	81,700	10	20,250	0	9,500
25,381	2	12/16/2019	177,670	4,170	42,840	5,280	92,910	5,650	25,710	1,110	11,180
34,133	3	12/17/2019	238,930	3,580	39,070	51,210	103,090	4,670	36,230	1,080	18,120
31,989	4	12/18/2019	223,920	4,090	42,270	29,260	95,570	7,710	43,930	1,090	15,500
37,281	5	12/19/2019	260,970	4,590	37,860	85,780	83,360	7,410	40,090	1,880	18,980
17,924	6	12/20/2019	125,470	3,990	38,810	8,160	27,550	5,020	40,230	1,710	8,870
11,573	7	12/21/2019	81,010	1,970	27,000	5,310	23,210	0	22,700	820	6,890
19,974	1	12/22/2019	139,820	1,570	30,140	4,850	83,730	0	18,970	560	11,500
23,821	2	12/23/2019	166,750	1,520	35,240	6,290	85,670	8,910	27,830	1,290	10,410
10,613	3	12/24/2019	74,290	1,370	32,290	5,170	24,590	10	10,100	760	7,910
6,219	4	12/25/2019	43,530	1,630	26,580	5,290	80	10	9,660	280	2,560
18,746	5	12/26/2019	131,220	420	27,660	5,880	86,330	10	9,790	1,130	9,320
19,390	6	12/27/2019	135,730	20	31,350	50,840	37,910	870	13,800	940	9,530
9,287	7	12/28/2019	65,010	170	30,350	5,710	70	1,980	26,690	40	3,500
20,810	1	12/29/2019	145,670	210	26,720	5,440	84,270	1,970	26,950	110	11,240
32,043	2	12/30/2019	224,300	3,650	26,540	51,210	113,210	530	28,300	860	17,420
13,766	3	12/31/2019	96,360	970	21,460	6,400	43,390	10	23,560	570	8,720

City of Bethlehem
Table III-7
Sales for Resale
Annual Daily Usage Per Customer (in gallons)

Resale Daily	Avg.	Day of Week	Date	Total Resale	Schoenersville	Blair Road	Bridal Path Rd	Westgate	Kohler	University Heights	Stonesthrow	Steel City	Friedensville	Commerce	Saucun Meadow	Seidersville	Clauser Dr	Black River	Lower Saucon	Promenade	Zinc Blending	Augusta Dr	Upper Saucon	Salisbury	Max Hour
21,757	3	1/1/2019	326,350	270	0	0	270	280	680	15,060	8,530		81,390	0	1,040	550	10	200,570	309,230	0	16,850	0	16,850	25,290	
19,851	4	1/2/2019	297,770	280	0	0	280	270	660	14,450	8,570		73,000	0	1,170	460	0	188,480	286,890	0	10,600	0	10,600	21,520	
19,159	5	1/3/2019	287,390	300	0	0	300	820	820	14,100	7,490		70,870	0	890	640	0	181,940	276,750	0	10,340	0	10,340	21,920	
19,231	6	1/4/2019	288,470	260	0	0	260	730	730	14,170	7,700		72,160	0	700	600	0	181,750	277,810	0	10,400	0	10,400	22,040	
20,490	7	1/5/2019	307,350	270	0	0	270	1,090	1,090	15,810	8,450		73,820	5,000	810	690	0	191,080	296,750	0	10,330	0	10,330	20,800	
22,449	1	1/6/2019	336,740	240	0	0	240	1,160	1,160	17,520	9,160		80,820	0	680	890	0	198,310	309,500	0	10,330	0	10,330	27,000	
19,437	2	1/7/2019	291,560	260	0	0	260	700	700	14,710	7,400		77,840	0	740	780	0	178,950	280,880	0	10,420	0	10,420	22,830	
17,568	3	1/8/2019	281,080	280	0	0	280	700	700	14,430	7,640		71,500	0	730	790	0	174,460	270,100	0	10,420	0	10,420	280	
17,556	4	1/9/2019	280,900	340	0	0	340	730	730	13,700	7,490		71,030	0	640	720	0	175,120	269,600	0	10,360	0	10,360	600	
17,366	5	1/10/2019	295,230	220	0	0	220	910	910	14,490	8,300	12,860	70,420	0	700	700	0	175,830	284,210	0	10,410	0	10,410	390	
18,159	6	1/11/2019	308,710	260	0	0	260	420	420	13,890	7,150	25,850	0	760	720	0	177,040	297,600	0	10,360	0	10,360	490		
19,839	7	1/12/2019	337,270	230	0	0	230	930	930	15,830	9,160	31,210	76,960	0	530	740	0	190,610	325,970	0	10,470	0	10,470	600	
20,656	1	1/13/2019	351,160	250	0	0	250	710	710	17,700	9,960	29,890	82,830	0	770	860	0	198,020	339,840	0	10,540	0	10,540	530	
18,771	2	1/14/2019	319,100	240	0	0	240	870	870	14,060	7,900	26,370	71,230	0	670	750	10	184,810	306,760	1,000	10,680	0	11,680	420	
18,864	3	1/15/2019	320,690	320	0	0	320	730	730	14,390	8,030	26,240	70,570	7,300	630	670	0	180,870	309,430	0	10,430	0	10,430	510	
25,136	4	1/16/2019	393,310	260	33,960	19,490	0	820	820	13,100	7,530	68,690	32,240	550	790	0	177,740	328,720	0	10,520	0	10,520	360		
19,839	5	1/17/2019	434,150	270	76,410	27,030	103,710	550	550	13,180	7,460	27,140	66,780	25,390	600	680	440	174,750	317,970	0	11,940	0	11,940	530	
21,890	6	1/18/2019	372,130	300	74,630	7,370	82,300	700	700	13,540	8,060	24,660	66,930	4,980	690	890	0	158,570	279,020	0	10,470	0	10,470	340	
24,552	7	1/19/2019	417,380	260	42,190	38,020	80,470	670	670	15,260	8,970	30,400	70,560	11,430	730	1,040	10	179,380	318,450	0	18,220	0	18,220	240	
26,585	1	1/20/2019	451,950	220	93,920	25,660	119,800	750	750	16,500	9,690	29,820	76,520	7,730	520	1,160	690	173,950	317,330	0	14,430	0	14,430	390	
28,426	2	1/21/2019	483,240	250	93,920	47,660	141,830	860	860	14,490	8,180	28,820	74,970	10,910	650	850	0	190,760	330,490	0	10,560	0	10,560	350	
25,193	3	1/22/2019	428,280	260	90,640	29,950	120,850	900	900	13,330	8,010	26,020	71,290	11,570	720	810	70	164,030	296,680	0	10,410	0	10,410	340	
25,339	4	1/23/2019	430,770	270	70,990	49,450	120,710	750	750	16,280	8,120	21,240	66,000	5,890	780	900	10	179,250	299,220	0	10,440	0	10,440	400	
24,726	5	1/24/2019	420,340	260	68,210	35,830	104,300	860	860	15,530	7,900	27,370	69,770	13,860	720	700	0	168,840	305,240	0	10,410	0	10,410	390	
24,051	6	1/25/2019	408,870	290	51,670	36,530	88,490	720	720	14,070	7,540	25,970	67,060	4,610	610	800	0	184,480	305,860	0	14,360	0	14,360	160	
23,468	7	1/26/2019	398,950	300	26,020	30,620	56,940	720	720	16,290	7,570	29,670	74,590	14,690	530	780	0	184,710	311,550	0	10,460	0	10,460	0	
25,140	1	1/27/2019	414,340	230	62,100	62,210	15,960	900	900	15,960	8,220	25,960	77,980	5,150	590	1,140	0	195,890	341,290	0	10,480	0	10,480	560	
24,598	2	1/28/2019	418,170	320	53,510	51,120	104,950	830	830	12,510	7,900	28,260	70,260	13,900	750	970	0	166,790	302,170	0	10,450	0	10,450	600	
22,496	3	1/29/2019	382,440	340	48,430	20,880	69,650	800	800	13,480	6,780	28,510	67,780	15,300	610	680	0	176,260	302,000	0	10,510	0	10,510	280	
23,588	4	1/30/2019	401,000	220	78,790	18,970	97,980	1,080	1,080	14,250	8,980	20,940	70,210	8,970	650	780	0	166,970	292,140	0	10,460	0	10,460	420	
24,059	5	1/31/2019	409,000	270	87,820	6,080	94,170	950	950	14,680	7,990	15,780	68,550	13,320	510	800	0	180,820	303,800	0	10,550	0	10,550	480	
25,122	6	2/1/2019	421,070	260	91,290	7,210	98,760	580	580	15,410	7,550	26,520	72,630	12,630	750	820	0	178,240	314,360	0	13,450	0	13,450	500	
29,369	7	2/2/2019	499,278	230	90,090	60,428	150,748	860	860	16,970	8,990	29,890	83,530	13,160	500	800	0	190,930	335,630	2,000	10,470	0	12,470	430	
33,454	1	2/3/2019	568,716	230	126,310	53,526	180,066	900	900	18,540	9,880	32,980	78,800	30,730	820	5,400	10	199,880	377,940	0	10,370	0	10,370	340	
32,008	2	2/4/2019	544,142	270	134,830	58,162	181,612	940	940	15,920	7,950	31,300	71,930	36,620	810	9,460	22,560	148,300	347,790	0	14,290	0	14,290	450	
29,389	3	2/5/2019	470,227	310	80,430	52,437	133,177	760	760	12,840	7,160	26,340	62,600	30,820	620	9,460	6,740	167,250	325,590	0	11,010	0	11,010	450	
25,754	4	2/6/2019	433,714	230	73,010	129,238	129,238	720	720	12,880	7,980	29,820	69,580	29,820	590	700	0	185,930	325,490	0	10,330	0	10,330	360	
26,370	5	2/7/2019	448,289	330	76,750	59,099	136,179	1,360	1,360	12,490	7,880	26,230	66,870	10,020	500	9,390	0	166,690	301,430	0	10,270	0	10,270	410	
25,041	6	2/8/2019	425,699	280	84,140	46,539	130,959	2,490	2,490	13,580	7,710	27,030	64,380	11,790	890	7,310	10	153,370	284,160	0	10,230	0	10,230	350	
28,816	7	2/9/2019	489,874	260	95,590	54,664	150,514	730	730	14,760	8,620	30,180	76,100	9,460	600	730	0	187,690	328,590	0	10,340	0	10,340	430	
28,731	1	2/10/2019	488,424	230	97,320	53,284	150,834	1,980	1,980	16,940	8,950	30,430	73,570	11,770	540	830	10	181,860	326,880	0	10,370	0	10,370	340	
25,030	2	2/11/2019	425,513	230	71,370	129,510	129,510	530	530	13,370	7,860	26,510	71,940	13,760	590	700	0	167,160	305,470	0	10,340	0	10,340	360	
26,530	3	2/12/2019	451,004	250	74,940	61,574	136,764	710	710	13,840	7,890	28,140	68,560	14,070	670	810	0	168,790	303,470	0	10,390	0	10,390	380	
25,805	4	2/13/2019	438,690	300	74,960	54,920	129,910	910	910	13,650	7,780	28,210	67,280	5,360	640	730	20	173,480	298,250	0	10,240	0	10,240	290	
25,439	5	2/14/2019	432,464	0	76,710	55,074	131,784	430	430	13,420	7,850	27,130	67,370	13,880	760	560	60,690	97,750	289,840	0	10,420	0	10,420	420	
26,035	6	2/15/2019	442,600	0	68,520	59,530	128,050	480	480	13,100	7,150	25,750	72,230	3,990	660	580	87,600	92,380	303,920	0	10,300	0	10,300	320	
28,003	7	2/16/2019	476,056	0	110,700	50,566	161,266	450	450	14,840	9,050	28,040	73,510	12,750	730	790	93,730	70,380	304,050	0	10,320	0	10,320	420	
27,425	1	2/17/2019	466,222	0	84,940	54,672	139,612	800	800	14,900	8,070	28,910	71,750	7,050	630	1,120	0	186,220	315,370	0	10,360	0	10,360	450	
27,224	2	2/18/2019	462,809	0	81,000	55,289	136,289	860	860	14,680	8,410	28,350	75,700	12,020	630	750	95,850	71,190	308,440	0	17,670	0	17,670	410	
25,140	3	2/19/2019	427,376	170	71,700	59,568	131,438	590	590	12,670	7,220	26,510	68,858	4,310	490	610	84,910	78,900	285,068	0	10,510	0	10,510	360	
26,212	4	2/20/2019	445,596	290																					

City of Bethlehem
Table III-7
Sales For Resale
Annual Daily Usage Per Customer (in gallons)

Resale Daily	Day of Week	Date	Total Resale	Schoenersville	Blair Road	Bridal Path Rd	Westgate	Kohler	University Heights	Stonestown	Steel City	Friedensville	Commerce	Saucon Meadow	Seidersville	Clauser Dr	Black River	Lower Saucon	Promenade	Zinc Blending	Augusta Dr	Upper Saucon	Salisbury	Max Hour
26,575	4	4/10/2019	502,780	230	73,370	49,170	122,770	780	13,980	8,320	23,980	64,590	9,690	520	690	4,390	242,230	369,570	0	9,950	0	9,950	490	38,900
31,217	5	4/11/2019	530,690	230	68,510	49,850	118,590	700	13,060	8,720	27,890	63,910	16,720	510	580	6,340	262,970	401,400	0	10,660	0	10,660	640	44,720
27,438	6	4/12/2019	466,440	310	71,240	52,250	123,800	810	12,390	8,130	27,480	67,540	8,650	650	560	6,590	197,510	330,310	2,000	9,990	0	11,990	340	46,170
27,671	7	4/13/2019	470,410	250	86,410	47,600	134,260	630	15,350	10,060	31,670	70,740	12,600	620	610	0	182,670	324,950	0	9,990	0	9,990	1,210	30,330
29,644	1	4/14/2019	503,940	370	89,360	48,250	137,640	710	16,280	9,230	37,220	76,300	17,380	520	10	10	180,570	339,690	0	25,810	0	25,810	460	34,170
32,838	2	4/15/2019	558,240	310	75,360	55,800	131,170	910	12,850	8,900	29,170	80,910	17,490	390	540	1,070	216,910	416,620	0	9,950	0	9,950	500	43,510
30,872	3	4/16/2019	524,830	370	74,280	58,600	133,110	730	12,240	8,160	32,050	68,780	36,480	410	670	2,510	219,050	381,080	0	10,130	0	10,130	510	43,010
30,565	4	4/17/2019	519,610	240	70,020	60,500	130,760	680	11,950	8,410	28,330	134,400	23,660	430	660	10	169,880	378,410	0	9,980	0	9,980	460	47,600
29,814	5	4/18/2019	506,830	240	79,280	53,450	132,970	560	12,980	9,070	26,130	136,740	12,360	860	730	110	163,780	363,320	0	10,080	0	10,080	460	38,190
28,902	6	4/19/2019	491,330	290	89,720	44,090	134,100	500	14,040	8,600	27,360	80,330	23,450	950	630	10	190,890	346,760	0	9,980	0	9,980	490	31,660
28,477	7	4/20/2019	486,110	290	86,210	54,590	138,070	500	15,220	9,320	29,370	86,670	4,620	650	0	0	185,370	332,390	0	10,030	0	10,030	600	30,640
29,374	1	4/21/2019	499,360	270	98,080	55,300	153,650	880	15,700	8,970	26,930	74,250	6,330	690	750	0	200,860	335,360	0	10,000	0	10,000	350	31,600
28,064	2	4/22/2019	477,090	310	76,510	61,880	138,700	740	15,010	10,540	29,870	72,890	12,160	660	860	90	184,000	326,820	0	9,990	0	9,990	1,580	32,610
30,496	3	4/23/2019	518,430	240	85,860	52,220	138,320	710	60,130	10,650	28,970	67,850	6,950	440	3,610	10	187,820	367,150	0	9,980	0	9,980	2,980	36,880
26,385	4	4/24/2019	448,550	280	76,490	59,970	136,740	590	14,390	10,130	33,420	67,680	3,220	640	680	0	170,530	301,280	0	10,080	0	10,080	450	34,080
26,720	5	4/25/2019	454,240	330	76,630	130,940	130,940	710	15,630	9,780	27,000	68,820	4,550	580	540	10	177,660	312,770	0	9,970	0	9,970	550	35,030
25,358	6	4/26/2019	431,080	260	65,640	58,570	124,470	910	14,040	7,730	28,640	66,520	16,980	720	620	0	159,980	296,140	0	10,110	0	10,110	360	32,440
27,711	7	4/27/2019	471,080	280	86,040	52,660	138,980	700	14,770	10,880	33,200	72,680	5,920	640	710	10	182,030	321,540	0	10,000	0	10,000	560	30,240
27,848	1	4/28/2019	473,420	290	100,410	42,740	143,440	740	15,600	9,990	29,400	73,940	11,480	430	1,130	10	176,610	319,320	0	10,170	0	10,170	490	29,610
26,639	2	4/29/2019	452,860	260	80,000	53,480	133,740	650	15,610	8,750	26,830	69,450	7,320	320	870	0	178,740	308,540	0	10,110	0	10,110	470	35,170
25,123	3	4/30/2019	427,090	240	68,770	59,760	128,770	450	13,650	8,010	27,080	65,120	10,430	580	690	0	161,680	287,690	0	10,080	0	10,080	550	31,580
25,110	4	5/1/2019	426,870	280	69,900	57,200	127,380	610	12,720	7,750	26,820	65,290	2,940	340	670	0	171,800	298,940	0	10,120	0	10,120	430	31,450
26,726	5	5/2/2019	454,350	250	80,590	54,480	135,320	700	13,590	7,950	27,800	66,340	13,190	300	560	10	178,080	308,520	0	10,040	0	10,040	470	33,460
26,447	6	5/3/2019	449,600	300	77,610	57,620	135,530	510	13,200	8,430	27,690	66,010	5,850	450	660	10	180,650	303,460	0	10,040	0	10,040	570	34,440
27,886	7	5/4/2019	485,970	200	85,930	61,010	147,140	1,060	15,410	9,690	30,870	70,020	12,490	580	400	0	169,840	311,360	0	10,600	0	10,600	870	29,020
28,562	1	5/5/2019	471,960	320	83,310	59,040	142,670	590	15,020	9,130	32,050	72,500	4,600	510	0	0	185,580	310,580	0	10,160	0	10,160	550	29,400
27,466	2	5/6/2019	460,120	250	136,120	80,960	138,070	710	14,320	8,900	29,170	80,910	17,490	390	660	20	116,630	314,270	0	10,070	0	10,070	400	36,510
26,482	3	5/7/2019	450,190	230	78,610	56,070	134,910	700	12,710	9,590	26,930	64,290	6,860	620	960	10	182,010	304,680	0	10,050	0	10,050	550	35,010
26,309	4	5/8/2019	447,250	280	70,740	65,500	136,520	580	13,390	9,210	29,040	69,210	8,570	910	810	73,650	92,930	300,240	0	10,080	0	10,080	410	33,730
26,980	5	5/9/2019	458,660	270	69,500	59,580	129,350	450	12,830	8,130	28,570	62,660	6,930	720	770	152,320	41,830	317,070	1,610	10,140	0	11,770	470	33,740
26,936	6	5/10/2019	457,910	290	82,670	60,320	143,280	760	13,730	7,850	29,250	64,870	12,430	950	660	143,170	30,350	304,020	0	10,160	0	10,160	470	32,550
27,320	7	5/11/2019	491,910	270	89,520	55,320	153,940	710	15,320	8,900	29,170	80,910	17,490	390	540	10	177,660	312,770	0	10,120	0	10,120	470	31,580
26,389	1	5/12/2019	448,620	290	72,340	63,320	135,950	860	15,510	8,360	28,420	65,330	10,700	490	680	151,500	20,190	302,040	0	10,210	0	10,210	420	28,990
26,261	2	5/13/2019	446,430	330	70,320	63,990	134,640	560	13,940	7,660	28,350	63,170	7,760	790	760	158,450	19,920	301,110	0	10,160	0	10,160	520	34,010
25,317	3	5/14/2019	430,390	250	64,280	52,220	129,930	620	15,190	8,320	27,250	62,350	16,970	530	640	143,320	39,990	289,780	0	10,210	0	10,210	470	32,050
26,276	4	5/15/2019	446,700	310	82,090	46,810	129,210	970	14,330	8,360	30,440	65,850	4,840	670	670	161,060	13,680	306,890	0	10,070	0	10,070	530	33,430
27,254	5	5/16/2019	472,010	240	86,020	52,600	142,690	710	14,750	8,230	28,600	63,120	10,690	520	670	158,590	23,560	309,340	0	10,160	0	10,160	470	31,760
27,209	6	5/17/2019	462,560	370	82,690	60,100	143,160	720	16,640	9,380	29,120	61,800	6,280	720	540	157,680	24,130	307,760	0	10,160	1,000	11,160	480	35,300
30,054	7	5/18/2019	510,910	370	100,750	59,530	160,650	2,880	17,630	9,800	11,210	67,110	12,100	370	480	177,610	25,790	324,980	0	24,650	0	24,650	630	31,980
29,415	1	5/19/2019	500,060	290	94,700	66,800	161,790	1,500	17,360	11,760	0	68,420	5,270	550	880	202,940	18,670	327,550	0	10,140	0	10,140	580	29,870
29,944	2	5/20/2019	441,940	260	97,250	50,210	147,720	870	17,560	12,470	0	67,210	3,180	410	660	160,960	18,680	281,830	0	11,020	0	11,020	470	31,480
27,631	3	5/21/2019	469,730	320	84,530	66,400	149,180	590	14,720	11,540	0	65,340	21,920	940	710	168,280	25,750	309,800	0	10,090	0	10,090	550	33,490
26,602	4	5/22/2019	452,240	280	95,220	57,560	153,060	680	15,280	10,360	0	64,710	6,110	650	770	154,220	36,040	288,820	0	9,990	0	9,990	370	34,870
26,661	5	5/23/2019	453,240	310	82,150	61,520	143,980	920	22,200	8,750	0	67,790	5,500	850	840	154,230	36,100	297,180	1,540	10,020	0	11,560	520	32,740
27,145	6	5/24/2019	461,470	270	85,810	52,060	138,140	1,500	15,570	8,120	0	69,280	13,440	630	800	146,200	39,390	312,930	0	10,010	0	10,010	390	32,510
30,612	7	5/25/2019	520,410	210	109,100	59,100	168,410	620	19,170	12,730	0	75,700	8,100	530	690	137,860	86,060	341,460	0	10,070	0	10,070	470	32,060
30,219	1	5/26/2019	513,730	270	108,980	62,660	171,910	790	16,240	9,370	0	73,520	7,680	640	790	149,240	70,030	331,300	0	10,070	0	10,070	450	32,390
33,628	2	5/27/2019	571,680	250	146,710	36,210	183,180	730	20,010	10,230	0	80,280	6,590	650	1,100	160,270	96,110	377,590	0	9,980	0	9,980	550	36,100
26,064	3	5/28/201																						

City of Bethlehem
Table III-7
Sales For Resale
Annual Daily Usage Per Customer (in gallons)

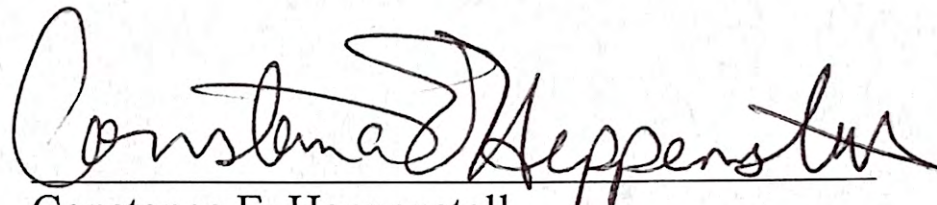
Resale Daily	Avg	Day of Week	Date	Total Resale	Schoenersville	Blair Road	Bridal Path Rd	Westgate	Kohler	University Heights	Stonesthrow	Steel City	Friedensville	Commerce	Saucon Meadow	Seidersville	Clauser Dr	Black River	Lower Saucon	Promenade	Zinc Blending	Augusta Dr	Upper Saucon	Salisbury	Max Hour	
1	7/18/2019	5	7/18/2019	250	76,020	80,730	137,000		470	15,990	7,910	25,530	72,890	8,600	840	630	0	132,970	790	6,650	0	9,440	450	27,830		
2	7/19/2019	6	7/19/2019	270	93,650	55,180	149,100		570	15,360	11,880	25,830	72,760	16,700	1,400	710	0	144,630	40	9,910	820	9,950	500	20,240		
3	7/20/2019	7	7/20/2019	220	124,050	52,230	176,500		580	15,440	10,130	30,700	78,050	5,440	1,040	1,160	0	142,550	100	9,860	0	9,960	600	21,240		
4	7/21/2019	1	7/21/2019	240	108,200	65,370	173,810		770	17,590	11,170	27,760	77,720	9,260	1,360	1,950	0	147,580	30	9,850	0	9,880	400	20,030		
5	7/22/2019	2	7/22/2019	1,600	73,350	64,600	139,550		630	15,390	8,410	24,610	73,840	10,010	680	770	10	134,350	20	9,910	0	9,930	670	20,020		
6	7/23/2019	3	7/23/2019	1,310	68,830	69,230	141,210		570	18,110	14,520	24,360	69,880	10,350	560	810	0	129,200	50	9,860	0	9,910	550	19,570		
7	7/24/2019	4	7/24/2019	330	81,350	58,560	140,240		640	14,290	9,570	26,460	69,020	12,390	540	920	30	133,860	70	9,800	0	9,870	390	21,160		
8	7/25/2019	5	7/25/2019	3,030	88,010	64,370	155,410		430	16,000	10,720	28,700	68,090	4,310	730	760	350	130,090	750	10,050	0	10,800	490	21,270		
9	7/26/2019	6	7/26/2019	300	103,570	56,120	159,990		580	20,330	11,490	32,030	70,860	15,440	810	850	140	152,530	0	9,820	0	9,820	410	20,370		
10	7/27/2019	7	7/27/2019	5,380	121,820	57,990	185,190		600	17,390	14,890	30,020	75,910	7,210	650	680	0	147,350	60	9,820	0	9,880	420	22,290		
11	7/28/2019	1	7/28/2019	730	120,990	180,630			780	18,310	15,830	29,090	79,680	13,220	420	1,030	0	158,160	40	9,840	0	9,880	460	21,250		
12	7/29/2019	2	7/29/2019	340	115,510	53,970	169,820		980	13,930	11,840	26,810	77,260	6,920	650	1,000	390	139,780	60	9,850	0	9,910	500	21,680		
13	7/30/2019	3	7/30/2019	3,050	128,510	43,570	175,130		500	14,460	10,760	30,410	74,910	10,570	470	830	7,470	150,380	30	14,890	0	14,920	630	31,500		
14	7/31/2019	4	7/31/2019	280	96,280	55,970	152,530		970	14,420	9,110	26,830	70,090	9,000	810	1,680	0	132,910	10	9,810	0	9,820	550	21,110		
15	8/1/2019	5	8/1/2019	458,440	3,200	93,390	61,960	158,550	870	15,210	8,270	27,980	68,210	18,560	470	2,100	-	147,900	289,570	40	9,840	-	9,880	440	28,660	
16	8/2/2019	6	8/2/2019	550,020	220	114,590	169,240		810	14,230	10,480	27,890	72,120	12,920	580	850	-	232,470	370,500	90	9,730	-	9,820	460	35,230	
17	8/3/2019	7	8/3/2019	606,910	3,100	125,370	51,020	179,490	1,070	20,520	10,100	31,500	76,580	8,490	480	2,580	160	265,890	417,280	100	9,550	-	9,650	490	36,740	
18	8/4/2019	1	8/4/2019	577,020	270	119,000	59,720	178,990	860	19,160	8,880	29,570	75,420	10,510	320	6,530	10	236,600	387,860	60	9,600	-	9,660	510	34,580	
19	8/5/2019	2	8/5/2019	554,940	260	107,910	55,200	163,370	1,050	15,000	9,230	28,760	70,740	9,930	750	900	20	245,030	381,410	50	9,730	-	9,780	380	34,670	
20	8/6/2019	3	8/6/2019	530,330	3,340	92,750	61,830	157,920	970	16,370	9,900	26,990	70,320	13,750	570	870	20	222,000	361,760	70	9,840	-	9,910	740	33,100	
21	8/7/2019	4	8/7/2019	479,830	320	87,130	141,780		660	14,250	8,550	25,510	66,080	6,950	750	730	-	204,500	327,980	30	9,760	-	9,790	280	32,930	
22	8/8/2019	5	8/8/2019	514,390	3,060	85,850	58,600	147,510	780	16,190	9,000	25,760	69,060	11,470	690	790	-	223,980	356,670	60	9,740	-	9,800	410	33,500	
23	8/9/2019	6	8/9/2019	542,590	230	86,340	58,360	144,930	710	20,750	9,960	26,080	70,770	12,590	1,110	900	30	246,490	387,390	60	9,720	-	9,780	490	34,690	
24	8/10/2019	7	8/10/2019	589,210	3,150	104,040	64,720	171,910	820	20,050	7,290	31,060	77,230	5,360	550	890	10	261,600	406,860	60	9,730	-	9,790	650	35,710	
25	8/11/2019	1	8/11/2019	587,980	380	107,110	64,710	172,200	710	17,130	12,930	32,080	74,820	11,540	210	1,140	-	254,940	405,500	20	9,850	-	9,870	410	33,810	
26	8/12/2019	2	8/12/2019	542,020	340	104,510	56,650	161,900	910	17,280	9,320	28,780	70,940	6,170	190	870	80	-	335,320	369,920	80	9,670	-	9,750	450	34,610
27	8/13/2019	3	8/13/2019	482,630	3,240	102,390	64,830	165,110	750	15,820	10,110	29,450	72,110	6,800	100	820	10	183,260	355,130	30	9,820	-	9,850	530	35,850	
28	8/14/2019	4	8/14/2019	481,310	360	91,770	51,380	143,510	730	15,650	9,090	26,330	68,490	11,640	240	810	120	194,130	327,230	40	9,810	-	9,850	720	31,590	
29	8/15/2019	5	8/15/2019	439,060	3,070	58,350	56,230	117,650	610	14,060	5,610	25,640	66,030	8,290	400	760	20	186,350	311,070	20	9,940	-	9,960	380	34,040	
30	8/16/2019	6	8/16/2019	491,200	3,240	93,240	52,960	146,520	630	13,790	8,310	25,500	71,790	15,050	650	750	60	197,750	334,200	30	9,890	-	9,830	450	33,140	
31	8/17/2019	7	8/17/2019	492,420	3,010	62,410	57,980	123,400	740	16,890	8,980	27,370	79,260	9,590	750	820	-	214,330	358,730	40	9,790	-	9,830	460	29,800	
32	8/18/2019	1	8/18/2019	528,070	3,200	101,180	64,830	165,110	750	15,820	10,110	29,450	72,110	6,800	100	820	10	183,260	355,130	30	9,820	-	9,850	530	35,850	
33	8/19/2019	2	8/19/2019	461,380	300	44,680	52,870	97,850	680	15,860	10,100	31,360	71,970	8,120	1,130	940	560	211,920	352,740	50	9,840	-	9,890	900	28,470	
34	8/20/2019	3	8/20/2019	459,640	3,050	39,950	58,480	101,480	690	14,370	9,980	29,160	71,980	17,000	550	710	-	204,350	347,780	40	9,820	-	9,860	520	32,840	
35	8/21/2019	4	8/21/2019	496,370	250	75,780	60,600	136,630	720	26,440	8,670	26,550	74,310	6,000	530	970	-	205,050	349,240	30	9,820	-	9,860	640	34,690	
36	8/22/2019	5	8/22/2019	524,490	3,130	81,870	58,930	139,190	690	25,140	10,320	29,360	72,010	14,490	750	870	10	216,710	370,350	40	9,730	-	9,760	450	34,990	
37	8/23/2019	6	8/23/2019	472,780	320	87,130	141,780		660	14,250	8,550	25,510	66,080	6,950	750	730	-	204,500	327,980	30	9,760	-	9,790	280	32,930	
38	8/24/2019	7	8/24/2019	394,910	3,060	-	-	59,200	62,260	610	18,010	10,230	27,780	68,810	8,700	440	960	-	186,680	322,220	50	9,800	-	9,850	580	24,580
39	8/25/2019	1	8/25/2019	480,080	170	45,750	66,340	112,260	760	17,410	9,840	30,790	77,630	3,300	510	1,480	-	215,950	357,310	10	9,970	-	9,980	330	31,780	
40	8/26/2019	2	8/26/2019	522,420	180	96,170	54,420	126,470	800	15,100	8,590	27,100	75,710	8,820	600	970	-	223,050	361,150	20	9,950	-	9,970	530	48,800	
41	8/27/2019	3	8/27/2019	488,690	3,030	66,210	57,210	120,560	720	14,170	8,590	27,510	69,380	15,740	640	880	-	210,050	347,270	40	12,100	-	12,140	830	28,390	
42	8/28/2019	4	8/28/2019	505,110	380	85,780	55,110	126,470	800	15,100	8,590	27,100	75,710	8,820	600	970	-	199,970	344,630	20	11,840	-	11,850	470	35,140	
43	8/29/2019	5	8/29/2019	527,780	2,970	85,300	60,980	149,250	590	14,100	9,510	29,290	70,010	9,070	990	1,010	20	237,310	366,460	40	11,470	-	11,510	560	36,860	
44	8/30/2019	6	8/30/2019	546,400	190	105,630	46,290	152,110	540	16,360	10,210	26,460	73,810	17,810	560	950	40	232,080	383,820	50	9,790	-	9,840	630	34,850	
45	8/31/2019	7	8/31/2019	460,340	3,000	41,540	54,830	99,370	770	16,060	10,430	26,210	83,590	5,050	400	940	-	216,940	360,390	-	-	-	-	580	33,640	
46	9/1/2019	1	9/1/2019	446,720	210	50,310	63,830	114,350	720	15,060	9,310	26,950	75,320	2,990	630	1,030	-	199,940	331,950	-	-	-	-	420	32,320	
47	9/2/2019	2	9/2/2019	525,850	180	86,050	61,650	149,880	820	17,950	9,180	27,380	80,660	13,480	730	1,250	-	224,760	375,250	-	-	-	-	720	33,660	
48	9/3/2019	3	9/3/2019	501,840	4,060	24,830	64,490	93,380	680	13,510	8,680	25,760	71,000	21,180	1,180	840	630	243,260	388,120	60						

City of Bethlehem
Table III-7
Sales For Resale
Annual Daily Usage Per Customer (in gallons)

Resale Daily	Avg	Day of Week	Date	Total Resale	Schoenersville	Blair Road	Bridal Path Rd	Westgate	Kohler	University Heights	Stonesthrow	Steel City	Friedensville	Commerce	Saucun Meadow	Seidersville	Clauser Dr	Black River	Lower Saucon	Promenade	Zinc Blending	Augusta Dr	Upper Saucon	Salisbury	Max Hour
24,184	6	10/25/2019	431,130	340	52,350	69,660	122,350		660	14,390	8,540	24,780	65,960	6,940	640	690	136,590	14,940	274,130	20	14,110	-	14,130	520	31,100
25,602	7	10/26/2019	435,240	3,750	60,600	66,740	131,090		860	15,540	8,820	25,840	74,360	6,190	910	880	143,220	17,160	293,780	-	9,830	-	9,830	540	30,150
26,772	1	10/27/2019	455,120	170	66,080	69,710	135,960		920	17,120	9,420	28,200	80,080	3,360	810	920	152,700	15,260	308,790	20	9,940	-	9,960	410	29,750
24,201	2	10/28/2019	411,420	220	57,640	64,260	122,120		640	15,550	8,540	25,200	66,800	1,570	780	1,180	144,590	14,170	279,020	40	9,780	-	9,820	460	32,290
25,195	3	10/29/2019	428,310	3,210	49,450	71,190	123,850		750	13,480	8,660	26,880	66,730	12,900	680	570	147,070	14,240	293,960	550	9,950	-	9,950	550	30,870
24,199	4	10/30/2019	411,390	220	52,140	69,820	118,180		840	13,290	8,910	26,530	72,230	3,990	900	720	140,850	13,490	281,750	10	9,860	1,000	10,010	590	31,860
24,522	5	10/31/2019	416,870	3,180	46,460	74,240	123,880		610	12,790	8,460	24,190	70,780	5,730	870	850	141,200	17,110	282,590	10	9,880	-	9,890	510	30,980
24,417	6	11/1/2019	415,090	190	50,150	70,150	120,490		970	11,860	8,010	23,470	76,020	3,800	1,070	890	143,350	15,000	284,440	-	9,770	-	9,770	390	31,440
25,875	7	11/2/2019	439,880	3,150	66,410	64,510	134,070		660	15,280	9,120	26,980	77,010	2,150	480	1,000	145,780	16,950	295,410	-	9,960	-	9,960	440	29,820
27,392	1	11/3/2019	465,670	190	77,610	59,140	136,940		800	16,860	9,970	29,160	74,990	6,560	1,170	1,160	159,590	18,150	318,410	20	9,830	-	9,830	490	30,430
25,344	2	11/4/2019	430,850	210	72,690	63,820	126,230		900	16,300	8,030	25,590	68,210	9,320	730	820	145,480	16,770	292,150	10	10,000	-	10,010	460	31,760
25,123	3	11/5/2019	427,090	3,460	53,180	70,030	126,670		710	13,650	8,150	23,320	70,090	11,340	440	560	146,780	14,910	289,950	10	9,920	-	9,920	540	32,890
24,286	4	11/6/2019	412,870	210	64,490	60,780	125,480		700	13,720	8,710	24,870	69,990	1,020	670	860	120,380	35,930	276,850	10	9,890	-	9,900	640	32,430
23,999	5	11/7/2019	407,980	3,390	56,510	60,890	120,790		640	15,020	8,260	24,630	66,370	2,130	570	740	93,550	64,880	276,790	20	9,880	-	9,900	500	32,550
24,627	6	11/8/2019	418,660	210	53,820	69,740	123,770		540	13,210	7,720	25,240	70,230	13,890	840	930	89,540	62,380	284,520	10	9,850	-	9,860	510	32,490
25,841	7	11/9/2019	439,300	3,190	71,280	60,760	135,230		670	16,000	9,220	26,820	72,340	2,080	680	101,270	62,800	293,610	10	9,910	-	9,920	540	29,340	
28,258	1	11/10/2019	480,380	170	71,490	70,340	142,000		1,060	17,270	9,230	29,930	80,760	8,010	760	1,020	112,500	66,940	327,880	30	9,900	-	9,930	570	29,610
24,727	2	11/11/2019	420,360	230	68,960	55,230	124,420		1,080	15,110	7,980	25,410	69,750	-	980	900	101,830	62,530	285,570	10	9,890	-	9,900	470	33,240
25,098	3	11/12/2019	426,660	3,130	53,000	70,290	126,420		740	15,460	7,790	25,780	67,070	2,110	910	650	101,940	67,350	289,800	-	9,840	-	9,840	600	31,980
24,916	4	11/13/2019	423,570	260	61,330	63,790	125,380		820	16,980	7,870	25,310	70,520	5,270	900	790	95,690	62,530	286,680	20	9,910	1,000	10,010	600	32,580
25,126	5	11/14/2019	427,150	170	56,310	70,940	127,420		600	14,670	8,950	23,900	73,640	-	1,220	1,050	95,660	69,310	289,200	20	9,920	-	9,940	590	31,640
24,648	6	11/15/2019	419,020	210	52,320	68,540	121,070		580	13,540	8,120	25,620	67,720	8,960	1,730	710	97,660	61,220	285,860	370	9,920	-	10,290	1,800	30,700
25,858	7	11/16/2019	439,580	200	72,270	62,050	134,520		860	16,280	8,560	26,090	71,630	240	1,660	1,150	103,470	64,460	294,400	20	9,940	-	9,960	700	30,690
27,784	1	11/17/2019	472,330	230	79,450	65,980	145,660		1,050	16,910	9,750	31,700	74,320	2,840	1,390	1,250	104,870	72,090	316,170	-	9,950	-	9,950	550	29,150
25,785	2	11/18/2019	438,350	230	66,220	69,450	135,900		780	14,400	8,480	25,580	71,230	5,940	1,030	1,070	100,980	62,560	292,050	20	9,890	-	9,910	490	32,890
25,414	3	11/19/2019	432,040	270	57,470	74,730	131,810		690	16,900	8,220	24,420	70,260	7,920	780	940	95,320	67,720	289,650	10	9,930	-	9,940	640	33,080
25,089	4	11/20/2019	426,510	260	65,130	69,330	134,660		760	14,120	7,680	25,170	66,740	7,800	1,330	880	94,400	62,560	281,440	20	9,910	-	9,930	480	32,930
24,933	5	11/21/2019	423,860	290	49,430	77,630	127,350		720	13,430	10,390	25,050	66,600	-	730	750	98,050	70,130	285,850	70	9,920	-	9,990	670	33,150
25,161	6	11/22/2019	427,730	190	69,970	61,420	131,580		730	13,860	7,640	24,610	65,430	3,180	1,120	720	97,680	64,290	279,260	170	11,270	5,000	16,440	450	33,020
27,018	7	11/23/2019	459,310	170	70,100	71,520	137,420		780	16,910	8,860	29,880	74,320	5,580	960	1,100	105,840	67,180	311,410	10	10,000	-	10,010	470	32,430
28,094	1	11/24/2019	477,590	190	69,440	71,950	141,580		790	16,460	9,660	29,440	76,250	7,760	1,330	960	111,010	67,920	325,580	10	9,910	-	9,920	510	30,170
25,544	2	11/25/2019	434,250	220	61,070	66,070	127,360		1,140	14,660	8,670	26,380	71,200	-	3,440	780	105,260	65,230	296,760	70	9,930	-	9,960	530	32,720
26,705	3	11/26/2019	453,990	260	62,290	65,880	128,430		690	13,030	8,230	25,650	70,670	2,450	3,390	800	120,580	69,550	315,040	10	9,960	-	9,970	550	32,420
32,047	4	11/27/2019	544,800	220	93,290	52,640	146,150		920	15,590	9,130	26,830	76,780	6,140	3,330	910	158,600	89,960	388,190	40	9,900	-	9,940	520	37,180
33,982	5	11/28/2019	577,690	160	99,370	54,940	154,470		1,270	16,600	8,940	27,800	75,120	14,250	3,600	1,060	226,240	38,060	412,940	-	9,840	-	9,840	440	39,020
29,112	6	11/29/2019	494,910	220	87,710	53,270	141,200		660	14,020	8,050	24,390	73,860	17,770	3,450	710	200,140	-	343,050	-	10,010	-	10,010	650	31,110
29,104	7	11/30/2019	494,760	170	85,380	55,590	141,150		790	15,840	8,010	26,000	79,480	-	2,170	1,170	209,600	-	343,070	-	9,970	-	9,970	570	33,770
28,728	1	12/1/2019	488,370	200	79,950	58,770	138,920		980	16,950	9,680	29,480	75,430	1,900	750	670	203,040	-	338,880	-	10,030	-	10,030	540	32,310
28,606	2	12/2/2019	486,300	230	85,520	54,060	139,810		750	16,170	8,260	30,020	72,220	9,150	810	820	153,240	44,620	336,060	20	9,890	-	9,910	520	29,420
25,952	3	12/3/2019	441,190	160	63,010	63,680	126,810		740	12,590	7,840	23,260	68,030	-	520	690	119,250	71,110	304,030	60	9,770	-	9,830	480	30,930
25,633	4	12/4/2019	435,760	180	56,670	69,760	126,610		930	13,710	7,630	24,520	66,340	5,390	900	700	115,320	62,640	298,480	-	9,960	-	9,960	710	32,790
26,061	5	12/5/2019	443,030	180	76,590	50,660	127,770		710	13,980	9,760	24,570	66,150	7,700	670	670	161,100	25,530	304,070	10	10,040	-	10,050	540	33,490
25,329	6	12/6/2019	430,590	190	94,220	27,670	122,080		720	13,330	14,300	24,370	65,150	480	1,220	470	130,080	47,660	297,780	-	10,070	-	10,070	660	33,620
26,921	7	12/7/2019	457,650	210	108,750	18,350	127,310		630	14,990	9,120	23,810	70,360	9,530	1,150	610	119,030	70,530	319,760	10	9,960	-	9,970	610	30,610
29,159	1	12/8/2019	495,710	200	114,160	26,570	140,930		1,070	15,930	9,830	28,900	75,800	800	900	790	130,440	79,720	344,180	30	10,010	-	10,040	560	31,440
26,968	2	12/9/2019	458,460	250	106,720	16,200	123,170		770	13,940	8,010	26,590	67,950	5,280	750	690	125,480	70,960	320,420	20	14,250	-	14,270	600	32,970
26,524	3	12/10/2019	452,600	190	103,080	20,220	123,500		820	13,800	8,460	25,530	71,340	2,430	710	990	107,780	86,920	318,780	10	9,850	-	9,860	460	31,790</

VERIFICATION

I, Constance E. Heppenstall, Senior Project Manager, Rate Studies, of Gannett Fleming Valuation and Rate Consultants, LLC, hereby state, as Rate Consultant for the City of Bethlehem, that the facts set forth in the foregoing Demand Study, Exhibit CEH-2 filed with the Public Utility Commission on July 31, 2020 and docketed at PaPUC Docket No. R-2020-3020256 are true and correct to the best of my knowledge, information and belief and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).

A handwritten signature in black ink, reading "Constance E. Heppenstall". The signature is fluid and cursive, with the first name "Constance" being more prominent and the last name "Heppenstall" following in a similar style.

Constance E. Heppenstall

Gannett Fleming Valuation and Rate Consultants, LLC

Dated: July 31, 2020

**EXHIBIT NO. JJS-1 –
DEPRECIATION STUDY
AS OF DECEMBER 31, 2019**

CITY OF BETHLEHEM - BUREAU OF WATER

BETHLEHEM, PENNSYLVANIA

2019 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS
RELATED TO WATER PLANT
AS OF DECEMBER 31, 2019

Prepared by:



Gannett Fleming

*Excellence Delivered **As Promised***

CITY OF BETHLEHEM – BUREAU OF WATER

Bethlehem, Pennsylvania

2019 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS
RELATED TO WATER PLANT
AS OF DECEMBER 31, 2019

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

Harrisburg, Pennsylvania



Gannett Fleming

*Excellence Delivered **As Promised***

July 14, 2020

City of Bethlehem – Bureau of Water
10 East Church Street
Bethlehem, PA 18018

Ladies and Gentlemen:

Pursuant to your request, we have determined the annual depreciation accruals applicable to water plant as of December 31, 2019. Summaries of the original cost, annual accruals and the book depreciation reserve are presented in Table 1 on page I-3 of the attached report.

A description of the methods and procedures upon which the study was based, as well as support for the service life estimates, is set forth in a companion report "2020 Depreciation Study - Calculated Annual Depreciation Accruals Related to Water Plant as of December 31, 2020".

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

JOHN J. SPANOS
President

JJS:mle

066869.100

Gannett Fleming Valuation and Rate Consultants, LLC

P.O. Box 67100 • Harrisburg, PA 17106-7100 | 207 Senate Avenue • Camp Hill, PA 17011-2316

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PART I. RESULTS OF STUDY

CITY OF BETHLEHEM – BUREAU OF WATER

DEPRECIATION STUDY

PART I. RESULTS OF STUDY

SUMMARY OF RESULTS

The results of the depreciation study are summarized in Table 1, which sets forth the ratemaking book depreciation reserve and the calculated annual depreciation related to Utility Plant in Service, Customers' Advances for Construction and Contributions in Aid of Construction as of December 31, 2019.

DETAILED TABULATIONS OF DEPRECIATION CALCULATIONS

The supporting data for the depreciation calculations are presented in account sequence in the section beginning on page II-6. The original cost, calculated accrued depreciation, allocated book reserve, future accruals, remaining life and annual accrual are shown for each vintage of each account or subaccount.



CITY OF BETHLEHEM - BUREAU OF WATER

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WATER PLANT AS OF DECEMBER 31, 2019

		PROBABLE			BOOK	CALCULATED ANNUAL		COMPOSITE	
ACCOUNT		RETIREMENT	SURVIVOR	ORIGINAL	DEPRECIATION	FUTURE	ACCRUAL	ACCRUAL	REMAINING
(1)		DATE	CURVE	COST	RESERVE	ACCRUALS	AMOUNT	RATE	LIFE
		(2)	(3)	(4)	(5)	(6)	(7)	(8)=(7)/(4)	(9)=(6)/(7)
NONDEPRECIABLE PLANT									
311.12	RESERVOIR LAND			686,402.00					
311.2	POWER AND PUMPING LAND			13,100.00					
311.3	PURIFICATION LAND			744,178.03					
311.4	TRANSMISSION AND DISTRIBUTION LAND AND RIGHTS OF WAY			574,482.28					
311.5	DISTRIBUTION RESERVOIR AND STANDPIPE LAND			8,184.90					
TOTAL NONDEPRECIABLE PLANT				2,026,347.21					
DEPRECIABLE PLANT									
312.11	COLLECTING AND IMPOUNDING RESERVOIRS								
	WILD CREEK RESERVOIR	06-2091	125-R3	2,331,139.59	950,352	1,380,788	25,841	1.11	53.4
	PENN FOREST RESERVOIR	06-2108	125-R3	68,560,105.32	13,793,620	54,766,485	737,606	1.08	74.2
	TOTAL COLLECTING AND IMPOUNDING RESERVOIRS			70,891,244.91	14,743,972	56,147,273	763,447	1.08	73.5
312.12	LAKE, RIVER AND OTHER INTAKES								
	TUNKHANNOCK INTAKE	06-2044	65-S1.5	410,771.89	271,725	139,047	7,331	1.78	19.0
	MOISTURE CONTROL SYSTEM	06-2027	SQUARE	30,460.16	4,883	25,577	3,410	11.19	7.5
	TOTAL LAKE, RIVER AND OTHER INTAKES			441,232.05	276,608	164,624	10,741	2.43	15.3
312.13	WELLS AND SPRINGS		50-R3	391,197.65	69,418	321,780	8,407	2.15	38.3
312.2	POWER AND PUMPING STRUCTURES								
	SOUTH SIDE BOOSTER STATION	06-2058	SQUARE	754,728.74	126,873	627,856	16,308	2.16	38.5
	5TH AND WILLIAM ST. BOOSTER STATION	06-2054	SQUARE	478,397.41	123,350	355,047	10,291	2.15	34.5
	MOUNTAINTOP PUMP STATION		FULLY ACCRUED	14,828.71	14,829	0	0	-	-
	GOLF COURSE BOOSTER STATION		FULLY ACCRUED	10,400.00	10,400	0	0	-	-
	AIRPORT ROAD PUMPING STATION		FULLY ACCRUED	64,835.00	64,835	0	0	-	-
	TOTAL POWER AND PUMPING STRUCTURES			1,323,189.86	340,287	982,903	26,599	2.01	37.0
312.3	PURIFICATION BUILDINGS								
	WILD CREEK CHEMICAL HOUSE	06-2034	SQUARE	232,411.04	150,575	81,836	5,645	2.43	14.5
	PENNSVILLE TREATMENT PLANT	06-2069	SQUARE	17,991,803.24	6,068,392	11,923,412	240,876	1.34	49.5
	COUNTRY SQUIRE ESTATES TREATMENT BUILDING	06-2025	SQUARE	10,752.00	9,987	765	139	1.29	5.5
	EAST ALLEN GARDENS TREATMENT BUILDING	06-2025	SQUARE	26,312.50	14,707	11,606	2,110	8.02	5.5
	SHADY LANE TREATMENT BUILDING	06-2033	SQUARE	30,719.78	11,826	18,894	1,399	4.55	13.5
	WIL-MAR MANOR TREATMENT BUILDING	06-2023	SQUARE	22,579.00	20,780	1,799	514	2.28	3.5
	TOTAL PURIFICATION BUILDINGS			18,314,577.56	6,276,267	12,038,312	250,683	1.37	48.0
312.5	DISTRIBUTION RESERVOIRS AND STANDPIPES								
	12 MG LOW SERVICE RESERVOIR	06-2066	SQUARE	2,145,718.61	639,554	1,506,165	32,390	1.51	46.5
	2 MG HIGH SERVICE RESERVOIR	06-2034	SQUARE	664,739.55	489,833	174,907	12,062	1.81	14.5
	ONE MILLION GALLON STANDPIPE	06-2034	SQUARE	373,264.55	279,712	93,553	6,452	1.73	14.5
	500 THOUSAND GALLON STANDPIPE	06-2024	SQUARE	630,455.84	437,814	192,642	42,810	6.79	4.5
	FIVE MILLION GALLON S.E. STANDPIPE	06-2025	SQUARE	375,732.59	345,612	30,121	5,477	1.46	5.5
	FIVE MILLION GALLON N.E. STANDPIPE	06-2051	SQUARE	2,646,158.04	1,036,451	1,609,707	54,408	2.06	29.6
	FIVE MILLION GALLON S.W. STANDPIPE	06-2053	SQUARE	1,748,450.09	888,300	860,150	25,677	1.47	33.5
	TANK PAINTING		10-SQ	796,561.14	775,884	20,677	20,677	2.60	1.0
	TOTAL DISTRIBUTION RESERVOIRS AND STANDPIPES			9,381,080.41	4,893,160	4,487,922	199,953	2.13	22.4



CITY OF BETHLEHEM - BUREAU OF WATER

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WATER PLANT AS OF DECEMBER 31, 2019

ACCOUNT (1)	PROBABLE RETIREMENT DATE (2)	SURVIVOR CURVE (3)	ORIGINAL COST (4)	BOOK DEPRECIATION RESERVE (5)	FUTURE ACCRUALS (6)	CALCULATED ANNUAL		COMPOSITE REMAINING LIFE (9)=(6)/(7)
						ACCRUAL AMOUNT (7)	ACCRUAL RATE (8)=(7)/(4)	
312.62 STORES, SHOP AND GARAGE BUILDINGS								
STEEL STORAGE BUILDING		FULLY ACCRUED	35,520.78	35,521	0	0	-	-
WOOD STORAGE BUILDING		FULLY ACCRUED	15,661.20	15,661	0	0	-	-
VEHICLE STORAGE BUILDING	06-2025	SQUARE	28,473.73	23,170	5,304	965	3.39	5.5
STEFKO BLVD. STORAGE BUILDING	06-2053	SQUARE	35,449.00	4,843	30,606	913	2.58	33.5
EAST ALLEN TWP STORAGE BUILDING	06-2053	SQUARE	11,000.00	1,756	9,244	276	2.51	33.5
TOTAL STORES, SHOP AND GARAGE BUILDINGS			126,104.71	80,951	45,154	2,154	1.71	21.0
312.63 MISCELLANEOUS STRUCTURES AND IMPROVEMENTS								
DWELLING AT WILD CREEK	06-2026	SQUARE	33,269.90	27,665	5,605	863	2.59	6.5
DWELLING AT PENN FOREST		FULLY ACCRUED	11,815.03	11,815	0	0	-	-
RADIO CONTROL TOWER		40-SQ	49,474.80	32,544	16,931	1,254	2.53	13.5
TOTAL MISCELLANEOUS STRUCTURES AND IMPROVEMENTS			94,559.73	72,024	22,536	2,117	2.24	10.6
316 ELECTRIC PUMPING EQUIPMENT		50-R2	1,825,357.44	1,521,980	303,377	11,074	0.61	27.4
317 OIL ENGINE PUMPING EQUIPMENT		45-S2.5	56,876.68	53,747	3,130	143	0.25	21.9
319 GAS ENGINE PUMPING EQUIPMENT		40-R2.5	29,592.00	22,439	7,153	461	1.56	15.5
320 PURIFICATION SYSTEM								
GENERAL EQUIPMENT		45-R2.5	7,803,431.09	3,770,681	4,032,750	161,275	2.07	25.0
SCADA EQUIPMENT		10-SQ	1,433,793.68	1,279,162	154,632	18,749	1.31	8.2
FILTERS, BASINS AND PIPING	06-2069	SQUARE	9,049,750.81	2,997,994	6,051,757	122,258	1.35	49.5
TOTAL PURIFICATION SYSTEM			18,286,975.58	8,047,837	10,239,139	302,282	1.65	33.9
321 LABORATORY EQUIPMENT		20-SQ	296,095.34	273,702	22,393	2,382	0.80	9.4
322 MAINS AND ACCESSORIES								
CAST IRON - 4 INCH AND UNDER		70-R3	152,157.05	101,148	51,009	1,849	1.22	27.6
CAST IRON - 6 INCH AND LARGER		110-R3	23,332,105.24	5,661,137	17,670,968	231,188	0.99	76.4
CAST IRON AND CONCRETE PRESSURE PIPE		110-R3	4,467,369.25	2,502,787	1,964,582	45,680	1.02	43.0
STEEL PIPE		75-R3	17,561,045.06	7,878,788	9,682,257	231,303	1.32	41.9
GALVANIZED STEEL		50-R4	62,888.34	57,559	5,329	374	0.59	14.2
VALVES AND VALVE BOXES		70-R3	3,117,348.55	1,291,650	1,825,698	42,678	1.37	42.8
TELEMETERING EQUIPMENT		20-R4	3,003,905.42	2,784,195	219,711	35,317	1.18	6.2
TOTAL MAINS AND ACCESSORIES			51,696,818.91	20,277,265	31,419,554	588,389	1.14	53.4
323 SERVICES		65-R3	7,683,904.58	3,468,931	4,214,973	116,159	1.51	36.3
324 METERS								
METERS - 1991 AND PRIOR		30-L5	162,426.34	148,119	14,307	3,689	2.27	3.9
METERS - 1992 AND SUBSEQUENT		25-R2.5	6,456,194.93	3,716,862	2,739,333	229,696	3.56	11.9
TOTAL METERS			6,618,621.27	3,864,981	2,753,640	233,385	3.53	11.8
325 FIRE HYDRANTS		75-R3	2,711,242.75	892,594	1,818,648	35,955	1.33	50.6
328 OFFICE FURNITURE AND EQUIPMENT								
OFFICE FURNITURE		40-SQ	24,954.03	13,848	11,106	633	2.54	17.5
OFFICE EQUIPMENT		15-SQ	45,588.31	41,734	3,854	488	1.07	7.9
MICROPROCESSOR		5-SQ	359,856.01	353,324	6,532	4,639	1.29	1.4
DIGITAL AERIAL MAPPING		FULLY ACCRUED	199,317.28	199,317	0	0	-	-
TOTAL OFFICE FURNITURE AND EQUIPMENT			629,715.63	608,223	21,492	5,760	0.91	3.7



CITY OF BETHLEHEM - BUREAU OF WATER

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WATER PLANT AS OF DECEMBER 31, 2019

	ACCOUNT (1)	PROBABLE RETIREMENT DATE (2)	SURVIVOR CURVE (3)	ORIGINAL COST (4)	BOOK DEPRECIATION RESERVE (5)	FUTURE ACCRUALS (6)	CALCULATED ANNUAL		COMPOSITE REMAINING LIFE (9)=(6)/(7)
							ACCRUAL AMOUNT (7)	ACCRUAL RATE (8)=(7)/(4)	
329	TRANSPORTATION EQUIPMENT								
	PASSENGER CARS		8-S3	203,511.90	198,820.75	4,691	2,300	1.13	2.0
	LIGHT TRUCKS		12-L3	1,094,173.37	927,394.46	166,779	19,413	1.77	8.6
	HEAVY TRUCKS		13-L3	949,511.70	727,573	221,939	25,288	2.66	8.8
	MARINE EQUIPMENT		FULLY ACCRUED	8,982.96	8,983	0	0	-	-
	TOTAL TRANSPORTATION EQUIPMENT			2,256,179.93	1,862,771	393,409	47,001	2.08	8.4
332	TOOLS AND WORK EQUIPMENT								
	CONSTRUCTION EQUIPMENT		15-L3	845,034.50	668,813	176,222	19,271	2.28	9.1
	TOOLS AND WORK EQUIPMENT		20-L1	676,162.52	474,658	201,505	20,663	3.06	9.8
	TOTAL TOOLS AND WORK EQUIPMENT			1,521,197.02	1,143,471	377,727	39,934	2.63	9.5
333	COMMUNICATION EQUIPMENT		15-SQ	784,037.24	611,367	172,670	30,454	3.88	5.7
334	MISCELLANEOUS EQUIPMENT		15-SQ	315,246.65	197,696	117,551	16,459	5.22	7.1
	TOTAL DEPRECIABLE PLANT			195,675,047.90	69,599,691	126,075,360	2,693,939	1.38	46.8
	TOTAL WATER PLANT IN SERVICE			197,701,395.11	69,599,691	126,075,360	2,693,939	1.36	46.8
	CUSTOMERS' ADVANCES FOR CONSTRUCTION								
322	MAINS AND ACCESSORIES		110-R3	311,897.34	92,416	219,481	2,987	0.96	73.5
	TOTAL CUSTOMERS' ADVANCES FOR CONSTRUCTION			311,897.34	92,416	219,481	2,987	0.96	73.5
	CONTRIBUTIONS IN AID OF CONSTRUCTION								
	NONDEPRECIABLE PLANT								
311.12	RESERVOIR LAND			52,715.13					
311.4	TRANSMISSION AND DISTRIBUTION LAND AND RIGHTS OF WAY			42,271.40					
	TOTAL NONDEPRECIABLE PLANT			94,986.53					
	DEPRECIABLE PLANT								
312.11	COLLECTING AND IMPOUNDING RESERVOIRS								
	WILD CREEK RESERVOIR	06-2091	125-R3	784,949.87	243,451	541,499	11,645	1.48	46.5
	TOTAL COLLECTING AND IMPOUNDING RESERVOIRS			784,949.87	243,451	541,499	11,645	1.48	46.5
312.12	LAKE, RIVER AND OTHER INTAKES								
	TUNKHANNOCK INTAKE	06-2044	65-S1.5	131,607.59	76,959	54,649	3,201	2.43	17.1
	TOTAL LAKE, RIVER AND OTHER INTAKES			131,607.59	76,959	54,649	3,201	2.43	17.1
312.13	WELLS AND SPRINGS		50-R3	13,047.00	11,990	1,057	88	0.67	12.0
312.2	POWER AND PUMPING STRUCTURES								
	MOUNTAINTOP PUMP STATION		FULLY ACCRUED	2,643.25	2,643	0	0	-	-
	TOTAL POWER AND PUMPING STRUCTURES			2,643.25	2,643	0	0	0.00	0.0



CITY OF BETHLEHEM - BUREAU OF WATER

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WATER PLANT AS OF DECEMBER 31, 2019

ACCOUNT		PROBABLE RETIREMENT DATE	SURVIVOR CURVE	ORIGINAL COST	BOOK DEPRECIATION RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT		COMPOSITE REMAINING LIFE
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)=(7)/(4)	(9)=(6)/(7)
312.3	PURIFICATION BUILDINGS								
	WILD CREEK CHEMICAL HOUSE	06-2034	SQUARE	41,822.43	38,476	3,347	231	0.55	14.5
	COUNTRY SQUIRE ESTATES TREATMENT BUILDING	06-2025	SQUARE	10,752.00	10,528	224	41	0.38	5.5
	EAST ALLEN GARDENS TREATMENT BUILDING	06-2025	SQUARE	10,752.00	10,528	224	41	0.38	5.5
	SHADY LANE TREATMENT BUILDING	06-2033	SQUARE	4,086.00	3,563	523	39	0.95	13.4
	WIL-MAR MANOR TREATMENT BUILDING		FULLY ACCRUED	21,219.00	21,219	0	0	-	-
	TOTAL PURIFICATION BUILDINGS			88,631.43	84,314	4,318	352	0.40	12.3
312.5	DISTRIBUTION RESERVOIRS AND STANDPIPES								
	ONE MILLION GALLON STANDPIPE	06-2034	SQUARE	149,506.00	142,510	6,996	482	0.32	14.5
	500 THOUSAND GALLON STANDPIPE		FULLY ACCRUED	99,691.00	99,691	0	0	-	-
	TOTAL DISTRIBUTION RESERVOIRS AND STANDPIPES			249,197.00	242,201	6,996	482	0.19	14.5
316	ELECTRIC PUMPING EQUIPMENT		FULLY ACCRUED	15,240.35	15,240	0	0	-	-
317	OIL ENGINE PUMPING EQUIPMENT		FULLY ACCRUED	5,354.12	5,354	0	0	-	-
322	MAINS AND ACCESSORIES								
	CAST IRON - 4 INCH AND UNDER		70-R3	96,756.00	54,983	41,773	1,487	1.54	28.1
	CAST IRON - 6 INCH AND LARGER		110-R3	2,883,077.02	646,675	2,236,402	28,488	0.99	78.5
	CAST IRON AND CONCRETE PRESSURE PIPE		110-R3	1,081,994.83	660,036	421,958	11,115	1.03	38.0
	STEEL PIPE		75-R3	1,117,147.08	734,067	383,080	14,128	1.26	27.1
	GALVANIZED STEEL		50-R4	25,129.00	21,769	3,360	384	1.53	8.8
	TOTAL MAINS AND ACCESSORIES			5,204,103.93	2,117,531	3,086,573	55,602	1.07	55.5
323	SERVICES		65-R3	318,671.00	163,972	154,699	4,806	1.51	32.2
325	FIRE HYDRANTS		75-R3	105,002.05	34,562	70,440	1,411	1.34	49.9
TOTAL DEPRECIABLE PLANT				6,918,447.59	2,998,216	3,920,231	77,587	1.12	50.5
TOTAL CONTRIBUTIONS IN AID OF CONSTRUCTION				7,013,434.12	2,998,216	3,920,231	77,587	1.11	50.5
TOTAL WATER PLANT				190,376,063.65	66,509,059	121,935,648	2,613,365	1.37	46.7

PART II. DETAILED DEPRECIATION CALCULATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST

CITY OF BETHLEHEM - BUREAU OF WATER

**CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019**

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	AMOUNT (2) - (3) (4)	CUMULATIVE AMOUNT (5)	COL 4 TOTAL (6)
1880	92,916	87,369	5,547	5,547	0.0
1890	58,764	49,971	8,793	14,340	0.0
1900	152,332	139,100	13,232	27,571	0.0
1912	1,256	1,256	0	27,571	0.0
1915	2,338	2,338	0	27,571	0.0
1916	64,976	54,956	10,020	37,591	0.0
1917	9,603	8,020	1,583	39,174	0.0
1918	27,921	23,057	4,864	44,038	0.0
1919	23,368	21,081	2,287	46,326	0.0
1920	16,449	14,415	2,034	48,360	0.0
1921	18,520	15,634	2,886	51,246	0.0
1922	20,559	17,351	3,208	54,455	0.0
1923	30,911	25,593	5,318	59,773	0.1
1924	117,077	113,381	3,696	63,468	0.1
1925	65,011	53,662	11,349	74,817	0.1
1926	105,947	86,029	19,918	94,735	0.1
1927	68,538	55,250	13,288	108,023	0.1
1928	52,860	43,045	9,815	117,838	0.1
1929	73,794	59,516	14,278	132,116	0.1
1930	69,068	54,219	14,849	146,964	0.1
1931	33,470	25,920	7,550	154,514	0.1
1932	32,315	24,869	7,446	161,960	0.1
1933	16,503	12,779	3,724	165,684	0.1
1934	37,892	28,571	9,321	175,005	0.1
1935	2,762	2,103	659	175,664	0.1
1936	8,102	6,004	2,098	177,762	0.2
1937	23,541	17,559	5,982	183,744	0.2
1938	29,002	21,291	7,711	191,456	0.2
1939	26,171	19,600	6,571	198,027	0.2
1940	17,959	13,147	4,812	202,838	0.2
1941	1,768,347	1,202,828	565,519	768,357	0.6
1942	76,972	54,690	22,282	790,639	0.7
1943	226,793	147,180	79,613	870,252	0.7
1944	11,411	8,262	3,149	873,401	0.7
1945	10,773	7,574	3,199	876,601	0.7
1946	701,390	419,478	281,912	1,158,512	1.0
1947	93,068	63,675	29,393	1,187,905	1.0
1948	145,841	96,956	48,885	1,236,791	1.0
1949	109,241	72,186	37,055	1,273,846	1.0
1950	106,317	70,690	35,627	1,309,473	1.1
1951	140,000	93,026	46,974	1,356,447	1.1
1952	119,086	79,302	39,784	1,396,231	1.2
1953	1,413,589	783,819	629,770	2,026,001	1.7
1954	85,683	56,618	29,065	2,055,066	1.7
1955	148,018	114,135	33,883	2,088,949	1.7
1956	187,905	122,882	65,023	2,153,972	1.8
1957	55,907	38,144	17,763	2,171,735	1.8
1958	5,614,108	2,411,641	3,202,467	5,374,202	4.4
1959	(14,891)	(23,522)	8,631	5,382,833	4.4
1960	48,123	31,439	16,684	5,399,517	4.4

CITY OF BETHLEHEM - BUREAU OF WATER

**CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019**

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	AMOUNT (2) - (3) (4)	CUMULATIVE AMOUNT (5)	COL 4 TOTAL (6)
1961	93,006	56,839	36,167	5,435,684	4.5
1962	73,097	41,540	31,557	5,467,241	4.5
1963	84,548	50,146	34,402	5,501,643	4.5
1964	42,776	26,272	16,504	5,518,147	4.5
1965	517,854	426,540	91,314	5,609,462	4.6
1966	149,717	102,584	47,133	5,656,595	4.6
1967	345,268	223,364	121,904	5,778,499	4.7
1968	1,346,625	933,763	412,862	6,191,361	5.1
1969	1,556,902	1,144,142	412,760	6,604,122	5.4
1970	475,951	340,171	135,780	6,739,902	5.5
1971	89,160	58,521	30,639	6,770,540	5.6
1972	549,394	492,149	57,245	6,827,785	5.6
1973	83,663	50,295	33,368	6,861,153	5.6
1974	278,707	139,986	138,721	6,999,874	5.7
1975	194,352	114,375	79,977	7,079,851	5.8
1976	424,005	244,475	179,530	7,259,381	6.0
1977	433,428	255,185	178,243	7,437,625	6.1
1978	348,717	213,647	135,070	7,572,694	6.2
1979	878,492	474,391	404,101	7,976,795	6.5
1980	302,067	206,872	95,195	8,071,991	6.6
1981	407,345	252,837	154,508	8,226,498	6.8
1982	598,360	340,854	257,506	8,484,004	7.0
1983	468,722	313,682	155,040	8,639,045	7.1
1984	506,195	263,372	242,823	8,881,868	7.3
1985	503,955	269,523	234,432	9,116,300	7.5
1986	821,061	383,653	437,408	9,553,708	7.8
1987	975,257	456,010	519,247	10,072,954	8.3
1988	1,088,183	507,193	580,990	10,653,945	8.7
1989	1,057,227	519,107	538,120	11,192,064	9.2
1990	1,311,913	573,135	738,778	11,930,843	9.8
1991	2,680,346	1,387,311	1,293,035	13,223,878	10.8
1992	1,767,304	1,128,267	639,037	13,862,915	11.4
1993	9,045,202	5,019,754	4,025,448	17,888,363	14.7
1994	27,048,879	11,583,800	15,465,079	33,353,442	27.4
1995	4,135,479	2,341,772	1,793,707	35,147,149	28.8
1996	11,269,084	4,268,552	7,000,532	42,147,681	34.6
1997	1,767,366	896,626	870,740	43,018,420	35.3
1998	59,312,263	11,305,728	48,006,535	91,024,955	74.7
1999	5,168,360	1,560,568	3,607,792	94,632,747	77.6
2000	1,832,631	655,518	1,177,113	95,809,860	78.6
2001	1,962,720	1,192,760	769,960	96,579,820	79.2
2002	1,457,679	638,723	818,956	97,398,776	79.9
2003	995,847	661,439	334,408	97,733,184	80.2
2004	772,895	455,839	317,056	98,050,240	80.4
2005	819,114	443,175	375,939	98,426,180	80.7
2006	1,446,319	412,519	1,033,800	99,459,980	81.6
2007	1,929,446	500,703	1,428,743	100,888,723	82.7
2008	1,910,634	664,730	1,245,904	102,134,627	83.8
2009	2,689,235	1,047,407	1,641,828	103,776,455	85.1
2010	866,413	637,632	228,781	104,005,237	85.3

CITY OF BETHLEHEM - BUREAU OF WATER

**CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019**

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	AMOUNT (2) - (3) (4)	CUMULATIVE AMOUNT (5)	COL 4 TOTAL (6)
2011	2,522,696	611,229	1,911,467	105,916,704	86.9
2012	1,855,133	765,829	1,089,304	107,006,008	87.8
2013	2,033,734	430,224	1,603,510	108,609,518	89.1
2014	1,818,282	293,359	1,524,923	110,134,441	90.3
2015	2,230,989	341,110	1,889,879	112,024,320	91.9
2016	2,715,476	304,306	2,411,170	114,435,490	93.9
2017	2,809,450	285,374	2,524,076	116,959,565	95.9
2018	3,040,624	205,437	2,835,187	119,794,752	98.2
2019	2,187,547	46,656	2,140,891	121,935,644	100.0
TOTAL	188,444,703	66,509,059	121,935,644		
NONDEPRECIABLE	1,931,361	0	1,931,361		
TOTAL	190,376,064	66,509,059	123,867,005		

UTILITY PLANT IN SERVICE

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.11 COLLECTING AND IMPOUNDING RESERVOIRS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
WILD CREEK RESERVOIR INTERIM SURVIVOR CURVE.. IOWA 125-R3 PROBABLE RETIREMENT YEAR.. 6-2091						
1941	1,514,312.54	950,988	781,309	733,004	46.50	15,764
1982	4,781.97	1,811	1,488	3,294	61.50	54
1988	12,691.59	4,238	3,482	9,210	62.84	147
1989	47,645.00	15,551	12,776	34,869	62.95	554
1990	71,974.32	22,931	18,840	53,135	63.09	842
1991	18,200.00	5,653	4,644	13,556	63.25	214
1992	34,104.03	10,316	8,475	25,629	63.41	404
1993	27,975.95	8,231	6,762	21,214	63.59	334
1994	49,198.30	14,051	11,544	37,654	63.79	590
1995	223,387.12	61,834	50,801	172,586	64.00	2,697
1996	163,004.40	43,669	35,877	127,127	64.22	1,980
1997	40,455.00	10,470	8,602	31,853	64.45	494
2010	35,817.50	4,456	3,661	32,157	66.84	481
2013	4,750.00	420	345	4,405	67.03	66
2015	1,000.08	63	52	948	66.93	14
2016	34,309.04	1,705	1,401	32,908	66.92	492
2019	47,532.75	356	292	47,240	66.17	714
	2,331,139.59	1,156,743	950,352	1,380,788		25,841

PENN FOREST RESERVOIR
INTERIM SURVIVOR CURVE.. IOWA 125-R3
PROBABLE RETIREMENT YEAR.. 6-2108

1958	5,484,346.50	2,833,213	2,327,700	3,156,646	57.55	54,850
1974	3,038.89	1,231	1,011	2,028	66.85	30
1979	85,000.00	31,671	26,020	58,980	68.20	865
1985	1,301.40	427	351	951	70.76	13
1991	180,831.86	50,506	41,495	139,337	73.54	1,895
1996	993,530.00	235,864	193,780	799,750	75.50	10,593
1998	57,614,270.62	12,755,800	10,479,861	47,134,410	75.59	623,554
1999	3,441,149.46	733,653	602,752	2,838,398	75.65	37,520
2000	423,525.37	85,891	70,566	352,959	76.65	4,605
2001	226,141.87	43,917	36,081	190,061	76.74	2,477
2002	252.35	47	39	214	76.84	3

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.11 COLLECTING AND IMPOUNDING RESERVOIRS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PENN FOREST RESERVOIR						
INTERIM SURVIVOR CURVE.. IOWA 125-R3						
PROBABLE RETIREMENT YEAR.. 6-2108						
2003	1,195.00	211	173	1,022	76.95	13
2004	12,060.00	2,019	1,659	10,401	77.09	135
2005	93,462.00	14,767	12,132	81,330	77.25	1,053
	68,560,105.32	16,789,217	13,793,620	54,766,485		737,606
	70,891,244.91	17,945,960	14,743,972	56,147,273		763,447
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 73.5						1.08

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.12 LAKE, RIVER AND OTHER INTAKES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
TUNKHANNOCK INTAKE						
INTERIM SURVIVOR CURVE.. IOWA 65-S1.5						
PROBABLE RETIREMENT YEAR.. 6-2044						
1969	287,394.85	214,799	212,293	75,102	17.07	4,400
1987	20,160.24	12,449	12,304	7,856	20.13	390
1994	39,585.00	21,602	21,350	18,235	21.23	859
1998	5,330.47	2,647	2,616	2,714	21.79	125
1999	4,563.08	2,208	2,182	2,381	21.87	109
2001	9,794.65	4,458	4,406	5,389	22.15	243
2003	11,225.00	4,759	4,703	6,522	22.41	291
2004	11,165.35	4,551	4,498	6,667	22.52	296
2005	15,203.25	5,929	5,860	9,343	22.68	412
2012	6,100.00	1,477	1,460	4,640	23.46	198
2013	250.00	54	53	197	23.53	8
	410,771.89	274,933	271,725	139,047		7,331

MOISTURE CONTROL SYSTEM
INTERIM SURVIVOR CURVE.. SQUARE
PROBABLE RETIREMENT YEAR.. 6-2027

1987	28,864.32	23,452	4,629	24,236	7.50	3,231
1988	1,595.84	1,289	254	1,341	7.50	179
	30,460.16	24,741	4,883	25,577		3,410
	441,232.05	299,674	276,608	164,624		10,741

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 15.3 2.43

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.13 WELLS AND SPRINGS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-R3						
1912	1,256.00	1,256	1,256			
1915	2,338.00	2,338	2,338			
1965	1,022.00	897	935	87	7.61	11
1967	26,350.00	22,687	23,636	2,714	8.48	320
1970	6,397.60	5,352	5,576	822	9.67	85
1978	5,305.00	4,007	4,175	1,130	13.45	84
1998	3,160.00	1,420	1,479	1,681	26.34	64
1999	4,245.84	1,828	1,904	2,342	27.12	86
2015	52,117.41	5,326	5,549	46,568	39.55	1,177
2016	226,255.63	18,055	18,811	207,445	40.36	5,140
2017	62,750.17	3,608	3,759	58,992	40.98	1,440
	391,197.65	66,774	69,418	321,780		8,407

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 38.3 2.15

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.2 POWER AND PUMPING STRUCTURES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SOUTH SIDE BOOSTER STATION INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2058						
1919	9,164.00	6,626	9,164			
1978	160.00	83	160			
1987	1,498.43	686	1,498			
1995	5,325.00	2,071	5,325			
2002	3,942.78	1,232	3,943			
2015	44,703.11	4,678	15,081	29,622	38.50	769
2016	26,409.79	2,201	7,096	19,314	38.50	502
2017	57,991.85	3,536	11,399	46,592	38.50	1,210
2018	605,533.78	22,708	73,206	532,327	38.50	13,827
	754,728.74	43,821	126,873	627,856		16,308

5TH AND WILLIAM ST. BOOSTER STATION
INTERIM SURVIVOR CURVE.. SQUARE
PROBABLE RETIREMENT YEAR.. 6-2054

2014	64,921.15	8,927	20,316	44,605	34.50	1,293
2015	336,986.37	38,881	88,485	248,501	34.50	7,203
2016	49,910.03	4,597	10,462	39,448	34.50	1,143
2017	26,579.86	1,796	4,087	22,493	34.50	652
	478,397.41	54,201	123,350	355,047		10,291

MOUNTAINTOP PUMP STATION
FULLY ACCRUED

1959	2,418.25	2,418	2,418			
1976	631.94	632	632			
2002	11,778.52	11,779	11,779			
	14,828.71	14,829	14,829			

GOLF COURSE BOOSTER STATION
FULLY ACCRUED

1967	10,400.00	10,400	10,400			
	10,400.00	10,400	10,400			

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.2 POWER AND PUMPING STRUCTURES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
AIRPORT ROAD PUMPING STATION						
FULLY ACCRUED						
1997	64,835.00	64,835	64,835			
	64,835.00	64,835	64,835			
	1,323,189.86	188,086	340,287	982,903		26,599
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						37.0 2.01

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.3 PURIFICATION BUILDINGS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
WILD CREEK CHEMICAL HOUSE INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2034						
1941	81,370.60	68,684	70,882	10,489	14.50	723
1976	736.26	552	570	167	14.50	12
1977	941.18	702	724	217	14.50	15
1978	3,340.00	2,475	2,554	786	14.50	54
1982	3,000.00	2,163	2,232	768	14.50	53
1994	11,437.00	7,291	7,524	3,913	14.50	270
1997	52,687.13	32,040	33,065	19,622	14.50	1,353
1998	28,598.87	17,080	17,627	10,972	14.50	757
1999	11,392.52	6,673	6,887	4,506	14.50	311
2000	3,861.53	2,215	2,286	1,576	14.50	109
2002	1,419.25	776	801	618	14.50	43
2005	2,690.02	1,345	1,388	1,302	14.50	90
2011	6,655.75	2,460	2,539	4,117	14.50	284
2015	3,150.00	746	770	2,380	14.50	164
2019	21,130.93	704	727	20,404	14.50	1,407
	232,411.04	145,906	150,575	81,836		5,645

PENNSVILLE TREATMENT PLANT
INTERIM SURVIVOR CURVE.. SQUARE
PROBABLE RETIREMENT YEAR.. 6-2069

1994	15,248,108.08	5,184,357	5,350,254	9,897,854	49.50	199,957
1995	1,004,453.08	332,554	343,196	661,258	49.50	13,359
1997	17,704.14	5,533	5,710	11,994	49.50	242
1998	199,736.00	60,484	62,419	137,317	49.50	2,774
1999	120,768.05	35,368	36,500	84,268	49.50	1,702
2000	24,132.69	6,820	7,038	17,094	49.50	345
2001	4,215.49	1,147	1,184	3,032	49.50	61
2002	123,000.03	32,126	33,154	89,846	49.50	1,815
2003	6,271.63	1,568	1,618	4,653	49.50	94
2004	29,320.00	6,992	7,216	22,104	49.50	447
2006	64,445.01	13,810	14,252	50,193	49.50	1,014
2007	762,278.11	153,683	158,601	603,677	49.50	12,195
2008	8,956.00	1,688	1,742	7,214	49.50	146
2012	11,247.50	1,480	1,527	9,720	49.50	196
2013	367,167.43	42,617	43,981	323,187	49.50	6,529
	17,991,803.24	5,880,227	6,068,392	11,923,412		240,876

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.3 PURIFICATION BUILDINGS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
COUNTRY SQUIRE ESTATES TREATMENT BUILDING INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2025						
1970	10,752.00	9,677	9,987	765	5.50	139
	10,752.00	9,677	9,987	765		139
EAST ALLEN GARDENS TREATMENT BUILDING INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2025						
1970	10,261.50	9,235	9,530	731	5.50	133
2017	16,051.00	5,016	5,177	10,874	5.50	1,977
	26,312.50	14,251	14,707	11,606		2,110
SHADY LANE TREATMENT BUILDING INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2033						
1965	4,086.00	3,275	3,380	706	13.50	52
2013	13,335.13	4,334	4,473	8,862	13.50	656
2014	13,298.65	3,850	3,973	9,325	13.50	691
	30,719.78	11,459	11,826	18,894		1,399
WIL-MAR MANOR TREATMENT BUILDING INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2023						
1978	21,219.00	19,569	20,195	1,024	3.50	293
2017	1,360.00	567	585	775	3.50	221
	22,579.00	20,136	20,780	1,799		514
	18,314,577.56	6,081,656	6,276,267	12,038,312		250,683
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 48.0						1.37

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.5 DISTRIBUTION RESERVOIRS AND STANDPIPES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
12 MG LOW SERVICE RESERVOIR INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2066						
1890	58,764.00	43,239	49,971	8,793	46.50	189
1938	5,992.00	3,815	4,409	1,583	46.50	34
1956	71,398.19	41,216	47,633	23,766	46.50	511
1961	30,023.09	16,727	19,331	10,692	46.50	230
1971	1,249.90	638	737	513	46.50	11
1979	430,987.00	200,633	231,868	199,119	46.50	4,282
1984	7,815.95	3,384	3,911	3,905	46.50	84
1989	1,091.40	432	499	592	46.50	13
2003	8,997.77	2,357	2,724	6,274	46.50	135
2005	85,685.00	20,367	23,538	62,147	46.50	1,336
2011	1,281,865.11	198,112	228,955	1,052,910	46.50	22,643
2012	161,849.20	22,479	25,979	135,871	46.50	2,922
	2,145,718.61	553,399	639,554	1,506,165		32,390

2 MG HIGH SERVICE RESERVOIR
INTERIM SURVIVOR CURVE.. SQUARE
PROBABLE RETIREMENT YEAR.. 6-2034

1924	95,251.06	82,695	95,251			
1982	1,214.48	876	1,013	201	14.50	14
1983	136,937.00	98,004	113,353	23,584	14.50	1,626
1984	5,913.38	4,198	4,855	1,058	14.50	73
1989	3,050.00	2,067	2,391	659	14.50	45
2000	6,500.00	3,728	4,312	2,188	14.50	151
2001	352,972.96	197,880	228,871	124,102	14.50	8,559
2002	62,900.67	34,399	39,786	23,114	14.50	1,594
	664,739.55	423,847	489,833	174,907		12,062

ONE MILLION GALLON STANDPIPE
INTERIM SURVIVOR CURVE.. SQUARE
PROBABLE RETIREMENT YEAR.. 6-2034

1959	111,642.00	90,058	104,078	7,564	14.50	522
1995	9,865.42	6,198	7,163	2,703	14.50	186
1997	96,593.08	58,739	67,884	28,709	14.50	1,980
2000	3,877.02	2,224	2,570	1,307	14.50	90
2001	151,287.03	84,813	98,017	53,270	14.50	3,674
	373,264.55	242,032	279,712	93,553		6,452

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.5 DISTRIBUTION RESERVOIRS AND STANDPIPES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
500 THOUSAND GALLON STANDPIPE INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2024						
1959	99,691.00	92,789	99,691			
1989	6,430.00	5,603	6,430			
2005	10,872.75	8,298	9,814	1,058	4.50	235
2011	112,049.98	73,264	86,653	25,397	4.50	5,644
2012	92,844.00	58,028	68,632	24,212	4.50	5,380
2013	92,844.00	54,862	64,888	27,956	4.50	6,212
2014	76,277.00	41,952	49,619	26,658	4.50	5,924
2015	19,930.50	9,965	11,786	8,144	4.50	1,810
2016	26,574.00	11,626	13,751	12,823	4.50	2,850
2017	33,948.29	12,124	14,340	19,609	4.50	4,358
2018	29,497.16	7,374	8,722	20,776	4.50	4,617
2019	29,497.16	2,950	3,489	26,008	4.50	5,780
	630,455.84	378,835	437,814	192,642		42,810
FIVE MILLION GALLON S.E. STANDPIPE INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2025						
1965	271,412.68	246,532	271,413			
1969	4,553.39	4,106	4,553			
1970	13,496.03	12,146	13,496			
1987	842.49	721	842			
2014	14,202.00	7,101	11,048	3,154	5.50	573
2015	12,260.00	5,517	8,583	3,677	5.50	669
2016	58,966.00	22,931	35,676	23,290	5.50	4,235
	375,732.59	299,054	345,612	30,121		5,477
FIVE MILLION GALLON N.E. STANDPIPE INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2051						
1991	1,375,679.14	712,849	823,828	551,851	26.50	20,825
2011	212,490.61	45,154	52,184	160,307	31.50	5,089
2012	335,695.35	64,558	74,609	261,087	31.50	8,288
2013	167,989.34	28,735	33,209	134,781	31.50	4,279
2014	85,991.20	12,783	14,773	71,218	31.50	2,261
2015	85,991.20	10,749	12,422	73,569	31.50	2,336
2016	90,720.72	9,072	10,484	80,236	31.50	2,547

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.5 DISTRIBUTION RESERVOIRS AND STANDPIPES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FIVE MILLION GALLON N.E. STANDPIPE INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2051						
2017	95,450.24	7,018	8,111	87,340	31.50	2,773
2018	95,450.24	4,338	5,013	90,437	31.50	2,871
2019	100,700.00	1,573	1,818	98,882	31.50	3,139
	2,646,158.04	896,829	1,036,451	1,609,707		54,408

FIVE MILLION GALLON S.W. STANDPIPE
INTERIM SURVIVOR CURVE.. SQUARE
PROBABLE RETIREMENT YEAR.. 6-2053

1993	1,687,758.46	745,432	861,484	826,275	33.50	24,665
1994	12,223.18	5,283	6,105	6,118	33.50	183
1997	26,343.57	10,585	12,233	14,111	33.50	421
2002	20,302.38	6,967	8,052	12,251	33.50	366
2011	1,822.50	369	426	1,396	33.50	42
	1,748,450.09	768,636	888,300	860,150		25,677

TANK PAINTING
SURVIVOR CURVE.. 10-SQUARE

1998	166,817.84	166,818	166,818			
1999	216,193.90	216,194	216,194			
2010	413,549.40	392,872	392,872	20,677	0.50	20,677
	796,561.14	775,884	775,884	20,677		20,677
	9,381,080.41	4,338,516	4,893,160	4,487,922		199,953

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 22.4 2.13

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.62 STORES, SHOP AND GARAGE BUILDINGS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
STEEL STORAGE BUILDING FULLY ACCRUED						
1965	31,830.40	31,830	31,830			
1995	3,690.38	3,690	3,691			
	35,520.78	35,520	35,521			
WOOD STORAGE BUILDING FULLY ACCRUED						
1970	15,661.20	15,661	15,661			
	15,661.20	15,661	15,661			
VEHICLE STORAGE BUILDING INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2025						
1985	15,783.73	13,613	13,372	2,412	5.50	439
1998	9,890.00	7,875	7,735	2,155	5.50	392
2003	2,800.00	2,100	2,063	737	5.50	134
	28,473.73	23,588	23,170	5,304		965
STEFKO BLVD. STORAGE BUILDING INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2053						
2013	16,600.00	2,698	2,650	13,950	33.50	416
2015	18,849.00	2,232	2,193	16,656	33.50	497
	35,449.00	4,930	4,843	30,606		913

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.62 STORES, SHOP AND GARAGE BUILDINGS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
EAST ALLEN TWP STORAGE BUILDING INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2053						
2013	11,000.00	1,788	1,756	9,244	33.50	276
	11,000.00	1,788	1,756	9,244		276
	126,104.71	81,487	80,951	45,154		2,154
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 21.0						1.71

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.63 MISCELLANEOUS STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
DWELLING AT WILD CREEK INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2026						
1941	12,200.00	11,267	11,208	992	6.50	153
1979	1,319.90	1,137	1,131	189	6.50	29
1995	5,750.00	4,544	4,520	1,230	6.50	189
1997	14,000.00	10,862	10,805	3,195	6.50	492
	33,269.90	27,810	27,665	5,605		863
DWELLING AT PENN FOREST FULLY ACCRUED						
1958	11,815.03	11,815	11,815			
	11,815.03	11,815	11,815			
RADIO CONTROL TOWER SURVIVOR CURVE.. 40-SQUARE						
1993	49,474.80	32,777	32,544	16,931	13.50	1,254
	49,474.80	32,777	32,544	16,931		1,254
	94,559.73	72,402	72,024	22,536		2,117
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						10.6 2.24

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 316 ELECTRIC PUMPING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-R2						
1959	8,482.17	7,390	8,482			
1963	6,758.18	5,728	6,758			
1966	37,293.00	30,726	37,293			
1967	44,562.00	36,496	44,562			
1972	420,612.38	327,657	420,612			
1978	1,450.30	1,041	1,450			
1980	2,212.37	1,538	2,212			
1982	5,477.83	3,677	5,478			
1986	254.80	159	255			
1989	1,975.05	1,151	1,918	57	21.85	3
1994	869,899.90	441,387	735,470	134,430	24.75	5,432
1995	59,312.36	29,205	48,663	10,649	25.25	422
1997	93,686.58	43,208	71,996	21,691	26.28	825
1998	6,617.06	2,945	4,907	1,710	26.81	64
1999	41,257.30	17,675	29,451	11,806	27.35	432
2000	1,499.50	614	1,023	476	28.12	17
2001	9,617.09	3,772	6,285	3,332	28.67	116
2003	53,278.73	19,074	31,783	21,496	29.59	726
2004	83,946.00	28,491	47,474	36,472	30.16	1,209
2011	30,829.41	6,184	10,305	20,524	33.87	606
2013	18,660.26	2,948	4,912	13,748	34.65	397
2019	27,675.17	415	691	26,984	32.72	825
	1,825,357.44	1,011,481	1,521,980	303,377		11,074

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 27.4 0.61

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 317 OIL ENGINE PUMPING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 45-S2.5						
1955	44,804.62	41,901	44,805			
1959	2,677.06	2,462	2,677			
1999	9,395.00	4,545	6,265	3,130	21.87	143
	56,876.68	48,908	53,747	3,130		143
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						21.9 0.25

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 319 GAS ENGINE PUMPING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 40-R2.5						
1993	29,592.00	18,664	22,439	7,153	15.52	461
	29,592.00	18,664	22,439	7,153		461
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 15.5						1.56

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 320 PURIFICATION SYSTEM

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 45-R2.5						
1967	1,350.00	1,184	1,337	13	7.38	2
1970	30,780.41	26,360	29,772	1,008	8.30	121
1971	8,937.63	7,586	8,568	370	8.64	43
1975	8,454.00	6,885	7,776	678	10.14	67
1977	1,344.00	1,068	1,206	138	10.97	13
1978	1,983.46	1,556	1,757	226	11.41	20
1980	1,337.00	1,019	1,151	186	12.31	15
1981	679.00	510	576	103	12.78	8
1983	1,832.00	1,331	1,503	329	13.75	24
1984	1,734.00	1,237	1,397	337	14.25	24
1985	9,069.00	6,352	7,174	1,895	14.76	128
1986	3,735.00	2,565	2,897	838	15.28	55
1987	6,275.27	4,201	4,745	1,530	16.04	95
1988	12,309.00	8,065	9,109	3,200	16.58	193
1989	11,630.96	7,450	8,414	3,217	17.12	188
1990	16,405.70	10,260	11,588	4,818	17.67	273
1991	3,245.00	1,979	2,235	1,010	18.23	55
1994	4,286,251.13	2,393,443	2,703,269	1,582,982	20.16	78,521
1995	292,364.71	158,286	178,776	113,589	20.75	5,474
1998	50,427.80	24,609	27,795	22,633	22.56	1,003
1999	29,696.96	13,940	15,745	13,952	23.17	602
2000	21,001.52	9,419	10,638	10,364	23.98	432
2001	52,096.30	22,360	25,254	26,842	24.60	1,091
2002	23,594.18	9,662	10,913	12,681	25.24	502
2003	117,622.89	45,802	51,731	65,892	25.87	2,547
2004	13,086.16	4,827	5,452	7,634	26.52	288
2005	43,191.15	15,031	16,977	26,214	27.17	965
2008	6,809.76	1,926	2,175	4,635	29.15	159
2009	1,938,541.82	504,796	570,140	1,368,402	29.82	45,889
2012	65,749.81	12,571	14,198	51,552	31.72	1,625
2013	6,923.99	1,161	1,311	5,613	32.26	174
2014	21,461.20	3,082	3,481	17,980	32.81	548
2015	14,943.88	1,775	2,005	12,939	33.38	388
2016	36,636.21	3,436	3,881	32,755	33.81	969
2017	11,579.00	790	892	10,687	34.13	313
2018	454,760.25	19,100	21,573	433,187	34.21	12,663
2019	195,590.94	2,895	3,270	192,321	33.17	5,798
	7,803,431.09	3,338,519	3,770,681	4,032,750		161,275

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 25.0 2.07

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 320.1 SCADA EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 10-SQUARE						
2002	135,480.19	135,480	135,480			
2003	173,057.12	173,057	173,057			
2004	154,938.23	154,938	154,938			
2005	20,027.76	20,028	20,028			
2008	71,790.61	71,791	71,791			
2009	141,063.88	141,064	141,064			
2010	178,798.41	169,858	178,798			
2012	263,976.43	197,982	263,976			
2013	6,043.50	3,928	6,044			
2014	3,794.68	2,087	3,795			
2015	34,885.00	15,698	32,782	2,103	5.50	382
2016	5,925.44	2,074	4,331	1,594	6.50	245
2017	144,287.64	36,072	75,329	68,959	7.50	9,195
2018	35,129.54	5,269	11,004	24,126	8.50	2,838
2019	64,595.25	3,230	6,745	57,850	9.50	6,089
	1,433,793.68	1,132,556	1,279,162	154,632		18,749

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 8.2 1.31

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 320.2 FILTERS, BASINS AND PIPING

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2069						
1994	5,451,701.33	1,853,578	2,093,519	3,358,182	49.50	67,842
1995	370,092.46	122,530	138,391	231,701	49.50	4,681
1998	5,568.30	1,686	1,904	3,664	49.50	74
1999	156,378.55	45,797	51,725	104,654	49.50	2,114
2000	297,154.84	83,979	94,850	202,305	49.50	4,087
2006	918,279.31	196,778	222,251	696,028	49.50	14,061
2007	609,086.10	122,798	138,694	470,392	49.50	9,503
2008	1,184,396.89	223,283	252,186	932,211	49.50	18,833
2013	14,503.00	1,683	1,901	12,602	49.50	255
2014	4,435.53	444	502	3,934	49.50	79
2017	38,154.50	1,834	2,071	36,083	49.50	729
	9,049,750.81	2,654,390	2,997,994	6,051,757		122,258
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 49.5						1.35

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 321 LABORATORY EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 20-SQUARE						
1976	746.55	747	747			
1979	1,384.00	1,384	1,384			
1982	186.50	186	186			
1983	13,017.04	13,017	13,017			
1984	1,673.43	1,673	1,673			
1985	28,276.00	28,276	28,276			
1986	7,667.94	7,668	7,668			
1987	6,156.47	6,156	6,156			
1988	3,860.53	3,861	3,861			
1989	8,039.43	8,039	8,039			
1990	73.64	74	74			
1991	39,914.18	39,914	39,914			
1992	5,508.94	5,509	5,509			
1993	2,800.78	2,801	2,801			
1994	14,252.11	14,252	14,252			
1995	15,397.28	15,397	15,397			
1996	18,984.42	18,984	18,984			
1997	61,194.52	61,195	61,195			
1998	15,774.01	15,774	15,774			
1999	2,522.15	2,522	2,522			
2000	3,307.08	3,224	3,213	94	0.50	94
2001	5,217.50	4,826	4,810	408	1.50	272
2003	8,297.91	6,846	6,823	1,475	3.50	421
2005	1,428.61	1,036	1,033	396	5.50	72
2006	1,238.85	836	833	406	6.50	62
2009	9,386.82	4,928	4,912	4,475	9.50	471
2012	2,181.02	818	815	1,366	12.50	109
2013	617.78	201	200	418	13.50	31
2014	10,149.41	2,791	2,782	7,367	14.50	508
2017	6,840.44	855	852	5,988	17.50	342
	296,095.34	273,790	273,702	22,393		2,382

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 9.4 0.80

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
CAST IRON - 4 INCH AND UNDER						
SURVIVOR CURVE.. IOWA 70-R3						
1900	19,187.22	19,187	19,187			
1917	193.44	186	186	8	3.88	2
1919	91.98	88	88	4	4.76	1
1921	18.64	18	18	1	4.60	
1922	120.62	115	115	6	4.54	1
1923	106.59	101	101	6	5.54	1
1924	1,924.78	1,820	1,815	109	5.52	20
1925	799.47	755	753	46	5.50	8
1926	133.21	126	126	8	5.50	1
1927	58.92	55	55	4	6.51	1
1930	95.20	89	89	6	6.65	1
1931	301.65	280	279	22	6.74	3
1932	42.90	39	39	4	7.73	1
1933	87.97	81	81	7	7.84	1
1937	928.66	843	841	88	8.41	10
1938	190.10	170	170	21	9.41	2
1939	1,570.88	1,404	1,400	170	9.59	18
1940	1,096.32	976	974	123	9.79	13
1944	504.78	442	441	64	10.71	6
1947	757.38	648	646	111	12.25	9
1951	1,015.75	849	847	169	13.47	13
1952	2,441.88	2,011	2,006	436	14.47	30
1953	1,446.13	1,183	1,180	266	14.80	18
1968	1,443.85	1,004	1,001	442	22.58	20
1970	35,564.00	23,942	23,882	11,682	24.03	486
1974	608.36	385	384	224	26.45	8
1976	5,376.22	3,274	3,266	2,110	27.93	76
1977	565.84	339	338	228	28.43	8
1979	802.31	461	460	342	29.92	11
1980	61,922.31	34,974	34,886	27,037	30.43	888
1981	992.10	550	549	443	30.94	14
1984	956.83	496	495	462	32.99	14
1985	1,814.60	914	912	903	33.99	27
1987	1,400.32	674	672	728	35.07	21
1988	1,281.53	597	595	686	36.07	19
1989	2,997.02	1,362	1,359	1,638	36.62	45
2000	370.20	112	112	258	45.02	6
2002	2,947.09	805	803	2,144	46.60	46
	152,157.05	101,355	101,148	51,009		1,849

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
CAST IRON - 6 INCH AND LARGER SURVIVOR CURVE.. IOWA 110-R3						
1880	87,136.86	80,227	81,590	5,546	12.02	461
1900	117,326.99	102,356	104,095	13,232	17.48	757
1916	59,462.29	48,616	49,442	10,020	23.09	434
1917	8,926.99	7,229	7,352	1,575	24.08	65
1918	26,351.75	21,129	21,488	4,864	25.09	194
1919	12,525.69	10,071	10,242	2,284	24.50	93
1920	10,680.01	8,501	8,645	2,035	25.50	80
1921	14,531.68	11,451	11,646	2,886	26.50	109
1922	16,276.43	12,855	13,073	3,203	25.95	123
1923	25,897.20	20,241	20,585	5,312	26.96	197
1924	16,814.17	13,007	13,228	3,586	27.95	128
1925	53,331.83	41,327	42,029	11,303	27.45	412
1926	90,389.11	69,301	70,479	19,910	28.45	700
1927	58,103.38	44,071	44,820	13,283	29.45	451
1928	43,103.95	32,733	33,289	9,815	28.99	339
1929	60,492.57	45,442	46,214	14,278	29.98	476
1930	60,684.34	45,076	45,842	14,842	30.99	479
1931	30,854.07	22,937	23,327	7,527	30.55	246
1932	29,475.70	21,665	22,033	7,443	31.55	236
1933	14,236.56	10,344	10,520	3,717	32.55	114
1934	34,558.91	24,820	25,242	9,317	33.55	278
1935	2,438.57	1,751	1,781	658	33.15	20
1936	7,541.18	5,353	5,444	2,097	34.14	61
1937	20,506.82	14,379	14,623	5,883	35.15	167
1938	21,179.76	14,845	15,097	6,082	34.78	175
1939	21,452.94	14,852	15,104	6,349	35.78	177
1940	15,275.23	10,444	10,621	4,654	36.78	127
1941	49,854.69	34,051	34,630	15,225	36.44	418
1942	70,202.98	47,331	48,135	22,068	37.45	589
1943	99,969.21	66,540	67,671	32,298	38.44	840
1944	9,069.67	5,957	6,058	3,011	39.45	76
1945	9,394.85	6,159	6,264	3,131	39.14	80
1946	38,160.65	24,682	25,101	13,059	40.14	325
1947	81,645.23	52,090	52,975	28,670	41.14	697
1948	137,020.80	87,200	88,682	48,339	40.85	1,183
1949	101,051.49	63,400	64,477	36,574	41.87	874
1950	93,889.75	58,080	59,067	34,823	42.85	813
1951	118,531.23	72,257	73,485	45,046	43.87	1,027
1952	98,640.45	59,924	60,942	37,698	43.61	864
1953	77,162.77	46,182	46,967	30,196	44.61	677
1954	67,355.48	39,706	40,381	26,975	45.61	591
1955	74,192.80	43,069	43,801	30,392	46.61	652
1956	92,525.06	53,461	54,370	38,156	46.40	822

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES

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YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
CAST IRON - 6 INCH AND LARGER						
SURVIVOR CURVE.. IOWA 110-R3						
1957	35,485.16	20,184	20,527	14,958	47.38	316
1958	100,303.52	56,130	57,084	43,220	48.40	893
1959	14,834.76	8,257	8,397	6,437	48.20	134
1960	31,517.08	17,252	17,545	13,972	49.20	284
1961	52,308.68	28,153	28,631	23,677	50.20	472
1962	65,029.05	34,400	34,985	30,044	51.20	587
1963	67,156.43	35,284	35,884	31,273	51.03	613
1964	29,415.07	15,184	15,442	13,973	52.02	269
1965	170,818.04	86,571	88,042	82,776	53.03	1,561
1966	82,901.24	41,252	41,953	40,948	54.02	758
1967	219,847.66	108,495	110,339	109,509	53.88	2,032
1968	105,199.88	50,927	51,792	53,407	54.88	973
1969	74,082.10	35,167	35,765	38,317	55.88	686
1970	100,196.69	46,622	47,414	52,782	56.88	928
1971	33,479.30	15,427	15,689	17,790	56.76	313
1972	81,856.88	36,934	37,562	44,295	57.77	767
1973	123,952.84	54,762	55,693	68,260	58.76	1,162
1974	210,145.15	90,825	92,368	117,777	59.77	1,971
1975	155,383.16	66,380	67,508	87,875	59.67	1,473
1976	181,521.64	75,803	77,091	104,430	60.67	1,721
1977	146,232.23	59,663	60,677	85,555	61.67	1,387
1978	110,842.46	44,160	44,910	65,932	62.67	1,052
1979	103,396.75	40,201	40,884	62,513	63.67	982
1980	138,869.34	53,215	54,119	84,750	63.59	1,333
1981	70,334.19	26,263	26,709	43,625	64.60	675
1982	130,608.10	47,515	48,322	82,286	65.59	1,255
1983	60,396.60	21,380	21,743	38,653	66.60	580
1984	192,415.94	66,942	68,080	124,336	66.54	1,869
1985	166,128.77	56,168	57,123	109,006	67.54	1,614
1986	417,807.22	137,166	139,497	278,310	68.54	4,061
1987	373,284.98	118,891	120,911	252,374	69.54	3,629
1988	568,581.66	175,521	178,504	390,078	70.54	5,530
1989	793,885.92	239,754	243,828	550,058	70.51	7,801
1990	588,016.53	171,701	174,619	413,398	71.52	5,780
1991	545,328.48	153,892	156,507	388,821	72.51	5,362
1992	577,874.63	157,297	159,970	417,905	73.52	5,684
1993	346,878.25	91,923	93,485	253,393	73.50	3,448
1994	336,136.04	85,715	87,172	248,964	74.50	3,342
1995	400,219.47	98,054	99,720	300,499	75.50	3,980
1996	387,240.51	91,002	92,548	294,692	76.50	3,852
1997	690,440.13	155,349	157,989	532,451	77.50	6,870
1998	930,646.80	202,136	205,571	725,076	77.50	9,356
1999	401,819.62	83,177	84,591	317,229	78.51	4,041

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YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
CAST IRON - 6 INCH AND LARGER SURVIVOR CURVE.. IOWA 110-R3						
2000	373,848.38	73,648	74,900	298,949	79.50	3,760
2001	175,017.91	32,693	33,249	141,769	80.51	1,761
2002	506,691.02	89,583	91,105	415,586	81.50	5,099
2003	64,171.19	10,800	10,984	53,188	81.54	652
2004	110,035.54	17,397	17,693	92,343	82.54	1,119
2005	60,442.32	8,939	9,091	51,351	83.54	615
2006	766,838.57	105,594	107,388	659,450	84.54	7,800
2007	194,116.36	25,002	25,427	168,689	84.58	1,994
2008	80,774.60	9,564	9,727	71,048	85.59	830
2009	842,444.87	91,153	92,702	749,743	86.58	8,660
2010	17,008.88	1,663	1,691	15,318	87.59	175
2011	196,600.29	17,379	17,674	178,926	87.65	2,041
2012	233,756.26	18,233	18,543	215,213	88.65	2,428
2013	678,817.72	45,888	46,668	632,150	89.65	7,051
2014	781,972.40	44,729	45,489	736,483	90.65	8,124
2015	1,035,282.20	48,865	49,695	985,587	90.74	10,862
2016	1,373,960.50	50,562	51,421	1,322,539	91.73	14,418
2017	1,473,024.70	39,035	39,698	1,433,326	91.84	15,607
2018	944,899.75	15,118	15,375	929,525	91.96	10,108
2019	831,360.74	4,489	4,565	826,795	91.25	9,061
	23,332,105.24	5,566,540	5,661,137	17,670,968		231,188

CAST IRON AND CONCRETE PRESSURE PIPE
SURVIVOR CURVE.. IOWA 110-R3

1941	1,874,381.54	1,280,203	1,171,230	703,151	36.44	19,296
1943	120,348.55	80,104	73,285	47,063	38.44	1,224
1946	658,120.86	425,673	389,439	268,682	40.14	6,694
1953	1,321,438.50	790,881	723,560	597,878	44.61	13,402
1959	140,936.37	78,445	71,768	69,169	48.20	1,435
1976	3,708.99	1,549	1,417	2,292	60.67	38
1980	5,741.60	2,200	2,013	3,729	63.59	59
1981	7,506.91	2,803	2,564	4,943	64.60	77
1985	18,841.90	6,370	5,828	13,014	67.54	193
1986	9,971.60	3,274	2,995	6,976	68.54	102
1987	77,733.71	24,758	22,651	55,083	69.54	792
1990	109,400.00	31,945	29,226	80,174	71.52	1,121

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YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
CAST IRON AND CONCRETE PRESSURE PIPE SURVIVOR CURVE.. IOWA 110-R3						
1993	2,599.42	689	630	1,969	73.50	27
2013	7,924.00	536	490	7,434	89.65	83
2014	108,715.30	6,219	5,690	103,026	90.65	1,137
	4,467,369.25	2,735,649	2,502,787	1,964,582		45,680

STEEL PIPE
SURVIVOR CURVE.. IOWA 75-R3

1968	1,179,453.36	777,496	834,442	345,012	26.62	12,961
1969	2,288,531.43	1,490,749	1,599,935	688,597	27.02	25,485
1970	434,174.44	277,264	297,571	136,603	28.02	4,875
1978	1,249.71	695	746	504	33.13	15
1981	2,930.34	1,534	1,646	1,284	35.03	37
1985	505.60	241	259	247	37.96	7
1986	22,187.42	10,257	11,008	11,179	38.96	287
1987	39,486.02	17,840	19,147	20,339	39.44	516
1992	11,509.26	4,494	4,823	6,686	42.92	156
1993	4,553,639.84	1,713,535	1,839,038	2,714,602	43.92	61,808
1994	27,347.23	9,971	10,701	16,646	44.43	375
1995	45,060.13	15,789	16,945	28,115	45.43	619
1996	8,707,463.67	2,946,606	3,162,422	5,545,042	45.94	120,702
1997	13,999.68	4,536	4,868	9,131	46.94	195
1998	161,707.79	50,065	53,732	107,976	47.94	2,252
2000	65,045.82	18,395	19,742	45,304	49.46	916
2002	6,106.52	1,560	1,674	4,432	50.99	87
2011	646.80	82	88	559	58.17	10
	17,561,045.06	7,341,109	7,878,788	9,682,257		231,303

GALVANIZED STEEL
SURVIVOR CURVE.. IOWA 50-R4

1900	6,529.45	6,529	6,529
1920	751.57	752	752
1921	1,374.39	1,374	1,374
1922	1,224.89	1,225	1,225
1923	771.70	772	772
1924	379.40	379	379
1925	358.04	358	358
1926	123.63	124	124
1928	4,228.67	4,229	4,229

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YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
GALVANIZED STEEL						
SURVIVOR CURVE.. IOWA 50-R4						
1930	483.57	484	484			
1931	503.94	504	504			
1934	95.44	95	95			
1935	168.44	168	168			
1937	626.20	626	626			
1938	189.25	189	189			
1939	205.21	205	205			
1940	120.15	120	120			
1942	546.34	546	546			
1944	89.52	89	90			
1945	73.43	73	73			
1946	2,283.25	2,265	2,283			
1947	1,222.54	1,214	1,223			
1948	993.19	980	993			
1949	1,757.38	1,735	1,757			
1950	1,853.25	1,816	1,853			
1951	493.75	484	494			
1952	1,367.28	1,329	1,367			
1953	248.41	241	248			
1965	11,545.74	10,509	11,262	284	5.38	53
1967	462.53	415	445	18	5.98	3
1970	2,059.00	1,804	1,933	126	6.99	18
1974	1,141.04	950	1,018	123	9.15	13
1975	1,319.18	1,086	1,164	155	9.56	16
1978	11,894.00	9,330	9,998	1,896	11.41	166
1985	813.07	553	593	220	16.26	14
1986	286.50	190	204	83	17.01	5
2000	4,305.00	1,755	1,881	2,424	28.34	86
	62,888.34	55,497	57,559	5,329		374

VALVES AND VALVE BOXES
SURVIVOR CURVE.. IOWA 70-R3

1880	5,778.68	5,779	5,779
1900	7,878.93	7,879	7,879
1916	5,513.56	5,307	5,514
1917	482.44	465	482
1920	3,050.55	2,914	3,051
1921	1,862.11	1,779	1,862
1922	2,017.63	1,928	2,018
1923	2,560.05	2,421	2,560

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YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
VALVES AND VALVE BOXES SURVIVOR CURVE.. IOWA 70-R3						
1924	1,724.17	1,630	1,724			
1925	7,631.50	7,212	7,632			
1926	12,256.57	11,575	12,257			
1927	8,394.68	7,842	8,395			
1928	4,270.33	3,985	4,270			
1929	9,353.50	8,719	9,354			
1930	5,880.47	5,474	5,880			
1931	1,051.04	977	1,051			
1932	1,723.74	1,584	1,724			
1933	1,981.52	1,817	1,982			
1934	2,463.34	2,253	2,460	3	7.96	
1935	155.04	141	154	1	8.09	
1936	281.39	256	280	2	8.24	
1937	1,158.96	1,052	1,149	10	8.41	1
1938	924.25	829	905	19	9.41	2
1939	1,319.97	1,180	1,289	31	9.59	3
1940	1,062.64	946	1,033	30	9.79	3
1941	2,472.49	2,193	2,395	78	10.00	8
1942	4,975.17	4,396	4,800	175	10.22	17
1943	5,739.11	5,049	5,513	226	10.45	22
1944	767.46	672	734	34	10.71	3
1945	809.35	699	763	46	11.71	4
1946	2,446.36	2,104	2,298	149	11.97	12
1947	7,329.58	6,270	6,847	483	12.25	39
1948	6,019.99	5,122	5,593	427	12.54	34
1949	4,562.72	3,860	4,215	348	12.83	27
1950	7,914.42	6,656	7,268	646	13.14	49
1951	14,225.53	11,888	12,981	1,244	13.47	92
1952	11,590.54	9,545	10,423	1,168	14.47	81
1953	8,220.86	6,725	7,343	877	14.80	59
1954	8,613.54	6,996	7,639	974	15.15	64
1955	15,355.89	12,380	13,519	1,837	15.50	119
1956	15,154.52	12,125	13,240	1,914	15.87	121
1957	9,960.77	7,907	8,634	1,327	16.24	82
1958	9,725.66	7,596	8,295	1,431	17.24	83
1959	3,632.99	2,813	3,072	561	17.62	32
1960	6,663.53	5,115	5,585	1,078	18.02	60
1961	3,033.38	2,307	2,519	514	18.42	28
1962	3,396.87	2,539	2,773	624	19.42	32
1963	3,644.28	2,697	2,945	699	19.83	35
1964	1,221.73	895	977	244	20.26	12
1965	23,932.21	17,346	18,941	4,991	20.69	241
1966	3,582.98	2,550	2,785	798	21.68	37

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YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
VALVES AND VALVE BOXES SURVIVOR CURVE.. IOWA 70-R3						
1967	12,542.34	8,824	9,636	2,907	22.13	131
1968	5,027.73	3,495	3,816	1,211	22.58	54
1969	4,471.63	3,071	3,353	1,118	23.03	49
1970	2,352.72	1,584	1,730	623	24.03	26
1971	1,709.84	1,136	1,240	469	24.50	19
1972	4,054.42	2,658	2,902	1,152	24.96	46
1973	2,615.81	1,679	1,833	782	25.96	30
1974	7,473.25	4,726	5,161	2,313	26.45	87
1975	4,100.04	2,554	2,789	1,311	26.93	49
1976	46,189.16	28,129	30,716	15,473	27.93	554
1977	27,834.84	16,679	18,213	9,622	28.43	338
1978	29,396.95	17,324	18,917	10,480	28.92	362
1979	13,061.91	7,512	8,203	4,859	29.92	162
1980	20,495.97	11,576	12,641	7,855	30.43	258
1981	20,927.37	11,602	12,669	8,258	30.94	267
1982	35,773.84	19,318	21,095	14,679	31.94	460
1983	97,175.53	51,425	56,155	41,021	32.47	1,263
1984	17,131.51	8,879	9,696	7,436	32.99	225
1985	21,552.53	10,856	11,854	9,698	33.99	285
1986	26,013.55	12,809	13,987	12,027	34.53	348
1987	113,618.67	54,651	59,677	53,941	35.07	1,538
1988	53,098.02	24,754	27,031	26,067	36.07	723
1989	59,379.00	26,982	29,464	29,915	36.62	817
1990	145,048.32	63,763	69,627	75,421	37.61	2,005
1991	148,845.15	63,631	69,483	79,362	38.17	2,079
1992	84,888.98	35,246	38,488	46,401	38.73	1,198
1993	49,990.47	20,006	21,846	28,145	39.72	709
1994	106,288.96	41,198	44,987	61,302	40.29	1,522
1995	125,883.34	46,879	51,190	74,693	41.29	1,809
1996	79,715.89	28,666	31,302	48,413	41.86	1,157
1997	133,567.88	45,974	50,202	83,366	42.86	1,945
1998	117,405.59	38,873	42,448	74,957	43.44	1,726
1999	193,422.37	61,470	67,123	126,299	44.01	2,870
2000	123,538.46	37,333	40,766	82,772	45.02	1,839
2001	58,933.23	17,008	18,572	40,361	45.60	885
2002	141,354.01	38,590	42,139	99,215	46.60	2,129
2003	42,012.01	10,881	11,882	30,130	47.20	638
2004	11,504.29	2,800	3,058	8,447	48.19	175
2011	214,470.52	29,340	32,038	182,432	53.61	3,403
2012	105,138.16	12,701	13,869	91,269	54.61	1,671
2013	68,153.96	7,177	7,837	60,317	55.23	1,092
2014	148,136.90	13,273	14,494	133,643	55.85	2,393
2016	37,828.70	2,171	2,371	35,458	57.48	617

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
VALVES AND VALVE BOXES						
SURVIVOR CURVE.. IOWA 70-R3						
2017	32,885.42	1,355	1,480	31,406	58.11	540
2018	25,500.63	638	697	24,804	58.38	425
2019	21,069.69	179	195	20,874	58.32	358
	3,117,348.55	1,185,764	1,291,650	1,825,698		42,678

TELEMETERING EQUIPMENT
SURVIVOR CURVE.. IOWA 20-R4

1980	44,434.61	44,435	44,435			
1981	45,024.68	45,025	45,025			
1982	5,782.77	5,783	5,783			
1986	1,718.80	1,719	1,719			
1987	5,084.00	5,084	5,084			
1988	899.23	899	899			
1989	13,976.81	13,977	13,977			
1990	3,935.73	3,936	3,936			
1993	1,114,555.46	1,084,017	1,114,555			
1994	5,166.15	4,967	5,166			
1995	330,930.52	314,583	330,931			
1996	86,826.47	81,408	86,826			
1997	95,527.50	88,344	95,528			
1998	129,513.50	117,508	127,470	2,043	2.20	929
1999	107,976.27	96,066	104,210	3,766	2.54	1,483
2000	12,591.33	10,927	11,853	738	2.97	248
2001	526,809.25	443,468	481,065	45,744	3.48	13,145
2002	52,292.63	42,462	46,062	6,231	4.05	1,539
2003	158,421.71	123,379	133,839	24,583	4.69	5,242
2011	262,438.00	115,998	125,832	136,606	10.73	12,731
	3,003,905.42	2,643,985	2,784,195	219,711		35,317
	51,696,818.91	19,629,899	20,277,265	31,419,554		588,389

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 53.4 1.14

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 323 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 65-R3						
1959	803.50	651	694	110	14.13	8
1960	1,779.07	1,429	1,523	256	14.58	18
1961	2,594.78	2,064	2,200	395	15.03	26
1963	10,106.74	7,880	8,398	1,709	15.96	107
1964	6,673.41	5,148	5,486	1,187	16.45	72
1965	18,870.79	14,297	15,236	3,635	17.44	208
1966	20,221.79	15,146	16,141	4,081	17.93	228
1967	11,742.52	8,692	9,263	2,480	18.43	135
1968	35,786.75	26,171	27,890	7,897	18.92	417
1969	19,724.64	14,245	15,181	4,544	19.43	234
1970	53,678.27	38,262	40,776	12,902	19.94	647
1971	28,005.88	19,694	20,988	7,018	20.47	343
1972	24,008.34	16,650	17,744	6,264	20.99	298
1973	71,799.61	48,745	51,947	19,853	21.99	903
1974	23,510.27	15,724	16,757	6,753	22.53	300
1975	62,856.07	41,397	44,117	18,739	23.07	812
1976	175,379.28	113,681	121,150	54,229	23.61	2,297
1977	241,857.10	154,184	164,314	77,543	24.17	3,208
1978	234,936.73	146,248	155,856	79,081	25.17	3,142
1979	224,213.59	137,129	146,138	78,076	25.72	3,036
1980	258,964.35	155,482	165,697	93,267	26.29	3,548
1981	257,643.77	151,752	161,722	95,922	26.86	3,571
1982	407,697.40	235,445	250,913	156,784	27.44	5,714
1983	135,596.81	76,219	81,226	54,371	28.44	1,912
1984	246,909.86	135,850	144,775	102,135	29.02	3,519
1985	230,592.58	124,105	132,259	98,334	29.60	3,322
1986	289,109.80	152,072	162,063	127,047	30.19	4,208
1987	257,827.05	131,543	140,185	117,642	31.20	3,771
1988	301,708.91	150,161	160,026	141,683	31.79	4,457
1989	349,115.70	169,321	180,445	168,671	32.39	5,208
1990	233,674.64	109,593	116,793	116,882	33.40	3,499
1991	158,920.95	72,468	77,229	81,692	34.00	2,403
1992	287,676.23	127,383	135,752	151,924	34.61	4,390
1993	52,907.89	22,713	24,205	28,703	35.23	815
1994	100,375.94	41,465	44,189	56,187	36.23	1,551
1995	78,101.93	31,194	33,243	44,859	36.85	1,217
1996	117,147.96	45,149	48,115	69,033	37.48	1,842
1997	112,302.34	41,440	44,163	68,139	38.48	1,771
1998	121,671.99	43,169	46,005	75,667	39.10	1,935
1999	78,424.16	26,523	28,266	50,158	40.11	1,251
2000	134,447.54	43,521	46,380	88,068	40.74	2,162
2001	78,825.21	24,357	25,957	52,868	41.38	1,278
2002	129,457.54	37,827	40,312	89,146	42.38	2,103
2003	90,077.12	24,969	26,610	63,467	43.02	1,475

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 323 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 65-R3						
2004	58,062.41	15,212	16,211	41,851	43.67	958
2005	47,136.96	11,549	12,308	34,829	44.67	780
2006	197,626.21	45,355	48,335	149,291	45.32	3,294
2007	62,117.00	13,200	14,067	48,050	46.32	1,037
2008	135,921.36	26,722	28,478	107,443	46.98	2,287
2009	192,439.05	34,754	37,037	155,402	47.64	3,262
2010	98,499.77	16,095	17,152	81,348	48.64	1,672
2011	115,633.13	16,998	18,115	97,518	49.31	1,978
2012	124,023.45	16,098	17,156	106,867	50.30	2,125
2013	165,558.80	18,725	19,955	145,604	50.97	2,857
2014	143,833.10	13,837	14,746	129,087	51.65	2,499
2015	120,411.39	9,537	10,164	110,247	52.32	2,107
2016	106,083.79	6,577	7,009	99,075	52.99	1,870
2017	106,329.30	4,732	5,043	101,286	53.68	1,887
2018	136,344.53	3,654	3,894	132,451	54.37	2,436
2019	96,157.53	875	932	95,225	54.45	1,749
	7,683,904.58	3,255,078	3,468,931	4,214,973		116,159
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						36.3 1.51

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 324 METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
1991 AND PRIOR SURVIVOR CURVE.. IOWA 30-L5						
1985	745.44	681	704	42	3.24	13
1986	830.40	754	779	51	3.40	15
1987	1,721.38	1,561	1,613	108	3.34	32
1988	7,235.88	6,519	6,738	498	3.47	144
1989	17,709.77	15,825	16,356	1,354	3.63	373
1990	18,111.90	16,083	16,623	1,489	3.72	400
1991	116,071.57	101,888	105,306	10,765	3.97	2,712
	162,426.34	143,311	148,119	14,307		3,689
1992 AND SUBSEQUENT SURVIVOR CURVE.. IOWA 25-R2.5						
1992	786,261.35	674,612	697,247	89,015	4.55	19,564
1993	823,659.30	696,322	719,685	103,974	4.85	21,438
1994	192,605.63	159,632	164,988	27,618	5.27	5,241
1995	763,266.40	620,841	641,672	121,595	5.62	21,636
1996	473,114.32	375,795	388,404	84,711	6.09	13,910
1997	68,372.80	52,921	54,697	13,676	6.57	2,082
1998	28,240.89	21,311	22,026	6,215	6.99	889
1999	98,735.23	72,254	74,678	24,057	7.51	3,203
2000	210,190.70	148,773	153,765	56,426	8.05	7,009
2001	208,913.77	142,605	147,390	61,524	8.60	7,154
2002	68,765.77	45,124	46,638	22,128	9.17	2,413
2003	79,170.00	49,766	51,436	27,734	9.75	2,845
2004	81,739.80	49,028	50,673	31,067	10.34	3,005
2005	71,197.35	40,568	41,929	29,268	10.95	2,673
2006	51,916.08	27,962	28,900	23,016	11.56	1,991
2007	100,991.05	51,122	52,837	48,154	12.19	3,950
2008	74,543.04	35,229	36,411	38,132	12.83	2,972
2009	22,673.92	9,927	10,260	12,414	13.48	921
2010	39,786.04	15,986	16,522	23,264	14.14	1,645
2011	47,212.93	17,214	17,792	29,421	14.81	1,987
2012	69,781.16	22,818	23,584	46,198	15.44	2,992
2013	120,317.00	34,567	35,727	84,590	16.12	5,248
2014	117,412.06	29,001	29,974	87,438	16.77	5,214
2015	272,668.74	56,061	57,942	214,727	17.38	12,355
2016	419,485.76	68,418	70,714	348,772	17.96	19,419

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 324 METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
1992 AND SUBSEQUENT SURVIVOR CURVE.. IOWA 25-R2.5						
2017	300,048.14	35,706	36,904	263,144	18.51	14,216
2018	423,170.93	31,103	32,147	391,024	18.91	20,678
2019	441,954.77	11,535	11,922	430,033	18.66	23,046
	6,456,194.93	3,596,201	3,716,862	2,739,333		229,696
	6,618,621.27	3,739,512	3,864,981	2,753,640		233,385
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 11.8						3.53

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 325 FIRE HYDRANTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R3						
1900	1,409.15	1,398	1,409			
1918	1,569.36	1,481	1,569			
1919	1,586.78	1,499	1,587			
1920	1,967.33	1,840	1,967			
1921	733.53	686	734			
1922	919.63	861	920			
1923	1,575.62	1,460	1,576			
1924	982.93	911	983			
1925	2,890.00	2,676	2,890			
1926	3,044.48	2,818	3,044			
1927	1,981.11	1,814	1,981			
1928	1,256.64	1,150	1,257			
1929	3,947.73	3,608	3,948			
1930	1,924.00	1,739	1,924			
1931	759.00	685	759			
1932	1,072.96	967	1,073			
1933	197.11	177	197			
1934	774.04	688	774			
1936	279.76	248	280			
1937	320.25	283	320			
1938	526.93	459	521	6	11.96	1
1939	1,621.93	1,410	1,601	21	12.09	2
1940	404.57	351	399	6	12.24	
1941	1,124.79	971	1,103	22	12.41	2
1942	1,247.73	1,064	1,208	40	13.41	3
1943	736.39	625	710	26	13.59	2
1944	979.48	828	940	39	13.79	3
1945	495.66	417	474	22	14.00	2
1946	378.62	314	357	22	14.99	1
1947	2,113.33	1,747	1,984	129	15.22	8
1948	1,807.43	1,486	1,688	119	15.46	8
1949	1,869.67	1,529	1,736	134	15.71	9
1950	1,859.27	1,499	1,702	157	16.71	9
1951	5,734.03	4,595	5,219	515	16.97	30
1952	5,045.78	4,019	4,564	482	17.25	28
1953	5,072.27	3,980	4,520	552	18.25	30
1954	9,714.25	7,571	8,598	1,116	18.54	60
1955	13,664.30	10,576	12,011	1,653	18.83	88
1956	8,827.72	6,727	7,640	1,188	19.83	60
1957	10,460.61	7,910	8,983	1,478	20.15	73
1958	7,917.72	5,941	6,747	1,171	20.47	57
1959	7,663.29	5,656	6,424	1,239	21.47	58
1960	8,163.66	5,974	6,785	1,379	21.80	63
1961	5,045.76	3,660	4,157	889	22.15	40

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 325 FIRE HYDRANTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R3						
1962	4,671.16	3,331	3,783	888	23.15	38
1963	3,640.40	2,571	2,920	720	23.50	31
1964	5,341.22	3,735	4,242	1,099	23.87	46
1965	5,143.23	3,532	4,011	1,132	24.87	46
1966	5,718.22	3,885	4,412	1,306	25.24	52
1967	18,011.43	12,104	13,747	4,264	25.62	166
1968	19,463.45	12,830	14,571	4,892	26.62	184
1969	19,621.87	12,782	14,517	5,105	27.02	189
1970	13,921.28	8,890	10,096	3,825	28.02	137
1971	15,777.24	9,948	11,298	4,479	28.42	158
1972	18,861.85	11,736	13,329	5,533	28.84	192
1973	8,234.92	5,017	5,698	2,537	29.83	85
1974	29,893.34	17,954	20,390	9,503	30.26	314
1975	38,681.89	22,722	25,806	12,876	31.26	412
1976	16,293.70	9,428	10,707	5,587	31.68	176
1977	14,349.16	8,172	9,281	5,068	32.13	158
1978	11,407.93	6,344	7,205	4,203	33.13	127
1979	64.08	35	40	24	33.57	1
1980	25,784.90	13,749	15,615	10,170	34.58	294
1981	451.92	237	269	183	35.03	5
1983	6,765.28	3,383	3,842	2,923	36.50	80
1984	27,447.83	13,351	15,163	12,285	37.49	328
1985	28,435.42	13,538	15,375	13,060	37.96	344
1986	30,460.76	14,082	15,993	14,468	38.96	371
1987	33,638.42	15,198	17,260	16,378	39.44	415
1988	67,473.21	29,756	33,794	33,679	39.93	843
1989	97,973.67	41,835	47,512	50,462	40.93	1,233
1990	48,202.17	20,052	22,773	25,429	41.42	614
1991	71,587.68	28,764	32,668	38,920	42.43	917
1992	47,984.52	18,738	21,281	26,704	42.92	622
1993	43,626.21	16,417	18,645	24,981	43.92	569
1994	46,145.56	16,825	19,108	27,038	44.43	609
1995	56,709.37	19,871	22,568	34,141	45.43	752
1996	62,925.98	21,294	24,184	38,742	45.94	843
1997	54,875.62	17,780	20,193	34,683	46.94	739
1998	76,402.63	23,654	26,864	49,539	47.94	1,033
1999	45,368.85	13,484	15,314	30,055	48.47	620
2000	24,990.61	7,067	8,026	16,965	49.46	343
2001	41,550.68	11,223	12,746	28,805	49.99	576
2002	42,430.04	10,841	12,312	30,118	50.99	591
2003	40,538.24	9,835	11,170	29,368	51.52	570
2004	63,317.56	14,424	16,381	46,937	52.53	894
2005	76,363.32	16,388	18,612	57,751	53.07	1,088
2006	106,059.27	21,191	24,067	81,992	54.07	1,516

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 325 FIRE HYDRANTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R3						
2007	92,068.88	17,143	19,469	72,600	54.62	1,329
2008	74,735.34	12,810	14,548	60,187	55.61	1,082
2009	113,591.32	17,766	20,177	93,414	56.62	1,650
2010	59,339.64	8,456	9,604	49,736	57.17	870
2011	8,333.25	1,062	1,206	7,127	58.17	123
2012	76,307.70	8,638	9,810	66,498	58.73	1,132
2013	21,968.00	2,157	2,450	19,518	59.72	327
2014	65,005.78	5,434	6,172	58,834	60.29	976
2015	82,705.44	5,690	6,462	76,243	60.86	1,253
2016	78,397.00	4,202	4,772	73,625	61.86	1,190
2017	149,206.22	5,744	6,524	142,682	62.44	2,285
2018	124,109.49	2,904	3,298	120,811	62.60	1,930
2019	117,202.00	926	1,051	116,151	62.79	1,850
	2,711,242.75	787,223	892,594	1,818,648		35,955
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 50.6						1.33

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 328 OFFICE FURNITURE AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
OFFICE FURNITURE						
SURVIVOR CURVE.. 40-SQUARE						
1969	225.00	225	225			
1981	232.00	223	220	12	1.50	8
1987	685.00	557	549	136	7.50	18
1988	611.32	481	474	137	8.50	16
1989	514.80	393	388	127	9.50	13
1990	1,808.80	1,334	1,316	493	10.50	47
1991	882.00	628	619	263	11.50	23
1992	1,343.35	924	911	432	12.50	35
1994	2,578.96	1,644	1,622	957	14.50	66
1996	3,632.84	2,134	2,105	1,528	16.50	93
1997	1,041.93	586	578	464	17.50	27
2000	3,476.53	1,695	1,672	1,805	20.50	88
2001	2,348.92	1,086	1,071	1,278	21.50	59
2002	1,529.00	669	660	869	22.50	39
2003	1,794.05	740	730	1,064	23.50	45
2006	1,438.29	485	478	960	26.50	36
2008	811.24	233	230	581	28.50	20
	24,954.03	14,037	13,848	11,106		633

OFFICE EQUIPMENT
SURVIVOR CURVE.. 15-SQUARE

1964	125.00	125	125
1968	250.00	250	250
1969	725.00	725	725
1973	573.40	573	573
1975	343.80	344	344
1976	727.50	728	728
1977	674.10	674	674
1994	249.00	249	249
1995	7,385.69	7,386	7,386
1996	797.33	797	797
1998	1,220.00	1,220	1,220
1999	6,974.80	6,975	6,975
2000	2,707.00	2,707	2,707
2001	525.00	525	525
2002	13,479.20	13,479	13,479
2005	836.00	808	836

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 328 OFFICE FURNITURE AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
OFFICE EQUIPMENT SURVIVOR CURVE.. 15-SQUARE						
2008	2,795.96	2,144	2,263	533	3.50	152
2013	1,650.00	715	755	895	8.50	105
2015	3,549.53	1,065	1,124	2,426	10.50	231
	45,588.31	41,489	41,734	3,854		488
MICROPROCESSOR SURVIVOR CURVE.. 5-SQUARE						
1990	3,023.00	3,023	3,023			
1991	4,965.50	4,966	4,966			
1992	5,689.00	5,689	5,689			
1993	17,675.00	17,675	17,675			
1994	4,526.00	4,526	4,526			
1995	26,383.00	26,383	26,383			
1996	4,985.12	4,985	4,985			
1997	16,590.65	16,591	16,591			
1998	58,449.76	58,450	58,450			
1999	35,407.66	35,408	35,408			
2000	17,636.87	17,637	17,637			
2001	9,542.28	9,542	9,542			
2002	10,007.94	10,008	10,008			
2003	12,858.22	12,858	12,858			
2004	9,402.16	9,402	9,402			
2005	11,367.92	11,368	11,368			
2006	2,832.12	2,832	2,832			
2007	4,166.87	4,167	4,167			
2008	34,121.21	34,121	34,121			
2009	982.64	983	983			
2010	8,334.27	8,334	8,334			
2012	11,641.93	11,642	11,642			
2013	5,935.00	5,935	5,935			
2014	9,685.94	9,686	9,686			
2015	12,888.30	11,599	12,036	852	0.50	852
2016	20,757.65	14,530	15,078	5,680	1.50	3,787
	359,856.01	352,340	353,324	6,532		4,639

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 328 OFFICE FURNITURE AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
DIGITAL AERIAL MAPPING FULLY ACCRUED						
1995	156,570.50	156,570	156,571			
1996	14,003.54	14,004	14,004			
1997	12,687.50	12,688	12,688			
2001	6,231.65	6,232	6,232			
2002	9,824.09	9,824	9,824			
	199,317.28	199,318	199,317			
	629,715.63	607,184	608,223	21,492		5,760
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						3.7 0.91

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 329 TRANSPORTATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PASSENGER CARS						
SURVIVOR CURVE.. IOWA 8-S3						
1989	10,240.00	10,240	10,240			
1990	6,164.72	6,165	6,165			
1991	10,238.00	10,238	10,238			
1992	23,035.00	23,035	23,035			
1997	14,850.00	14,850	14,850			
1999	34,450.00	34,450	34,450			
2001	13,600.00	13,600	13,600			
2003	42,018.75	42,019	42,019			
2004	16,510.76	15,893	16,511			
2013	32,404.67	24,666	27,714	4,691	2.04	2,300
	203,511.90	195,156	198,821	4,691		2,300
LIGHT TRUCKS						
SURVIVOR CURVE.. IOWA 12-L3						
1984	14,898.00	14,898	14,898			
1986	15,331.00	15,331	15,331			
1989	12,630.00	12,630	12,630			
1990	30,783.66	30,784	30,784			
1992	18,986.00	18,952	18,986			
1994	17,379.00	17,063	17,379			
1995	72,464.00	70,478	72,464			
1996	127,450.00	122,798	127,450			
1997	20,024.40	19,103	20,024			
1998	18,687.00	17,598	18,687			
1999	58,001.00	53,982	58,001			
2003	54,686.12	47,730	54,686			
2004	22,459.00	19,216	22,459			
2008	144,665.49	113,620	144,665			
2009	46,865.22	35,725	46,865			
2012	143,865.73	91,283	143,866			
2013	32,404.67	18,432	30,345	2,059	4.93	418
2014	1.00			1	5.64	
2016	46,825.34	15,242	25,094	21,732	7.25	2,998
2017	88,422.70	20,762	34,181	54,241	8.15	6,655
2018	66,141.20	9,352	15,397	50,745	9.10	5,576
2019	41,202.84	1,945	3,202	38,001	10.09	3,766
	1,094,173.37	766,924	927,394	166,779		19,413

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 329 TRANSPORTATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
HEAVY TRUCKS						
SURVIVOR CURVE.. IOWA 13-L3						
1950	800.00	800	800			
1983	24,285.00	24,285	24,285			
1988	66,999.00	66,999	66,999			
1989	43,859.00	43,745	43,859			
1990	45,762.00	45,497	45,762			
1992	38,686.00	37,874	38,686			
1994	41,987.00	40,471	41,987			
1995	48,974.00	46,795	48,974			
1997	47,696.00	44,539	47,696			
1999	63,182.00	57,508	63,182			
2000	35,550.00	31,888	35,550			
2009	233,106.00	171,822	216,588	16,518	3.75	4,405
2013	32,404.66	17,252	21,747	10,658	5.71	1,867
2017	54,250.00	11,772	14,839	39,411	9.02	4,369
2018	65,348.77	8,535	10,759	54,590	9.98	5,470
2019	106,622.27	4,649	5,860	100,762	10.98	9,177
	949,511.70	654,431	727,573	221,939		25,288

MARINE EQUIPMENT
FULLY ACCRUED

1976	550.00	550	550			
1984	724.63	725	725			
1987	1,395.00	1,395	1,395			
2000	6,313.33	6,313	6,313			
	8,982.96	8,983	8,983			
	2,256,179.93	1,625,494	1,862,771	393,409		47,001

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 8.4 2.08

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 332 TOOLS AND WORK EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
CONSTRUCTION EQUIPMENT SURVIVOR CURVE.. IOWA 15-L3						
1973	2,887.20	2,887	2,887			
1976	3,900.00	3,900	3,900			
1978	2,889.00	2,889	2,889			
1979	11,450.00	11,450	11,450			
1986	12,317.00	12,214	12,317			
1987	43,732.50	43,068	43,733			
1988	21,905.00	21,390	21,905			
1989	39,925.28	38,724	39,925			
1990	32,465.16	31,316	32,465			
1991	10,220.86	9,759	10,221			
1992	15,250.90	14,427	15,251			
1993	66,768.00	62,635	66,768			
1994	171,675.00	159,349	171,675			
1995	22,754.00	20,906	22,754			
1997	12,750.99	11,419	12,642	109	2.63	41
1998	20,095.31	17,756	19,657	438	2.83	155
1999	2,297.08	2,001	2,215	82	3.03	27
2000	18,531.00	15,900	17,602	929	3.23	288
2004	64,344.00	51,662	57,193	7,151	3.81	1,877
2005	67,439.00	53,101	58,786	8,653	3.92	2,207
2013	11,385.00	5,351	5,924	5,461	7.33	745
2014	11,740.00	4,739	5,246	6,494	8.12	800
2016	57,069.04	14,964	16,566	40,503	9.85	4,112
2017	41,250.00	7,763	8,594	32,656	10.78	3,029
2018	34,737.73	3,932	4,353	30,385	11.75	2,586
2019	45,255.45	1,711	1,894	43,361	12.74	3,404
	845,034.50	625,213	668,813	176,222		19,271

TOOLS AND WORK EQUIPMENT
SURVIVOR CURVE.. IOWA 20-L1

1973	428.00	404	428
1974	2,328.92	2,183	2,329
1975	141.04	132	141
1976	2,578.14	2,389	2,578
1978	3,247.16	2,978	3,247
1979	6,812.34	6,207	6,812
1981	1,297.38	1,169	1,297
1982	5,090.13	4,543	5,090
1983	3,225.14	2,861	3,225
1984	4,178.23	3,679	4,178

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 332 TOOLS AND WORK EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
TOOLS AND WORK EQUIPMENT						
SURVIVOR CURVE.. IOWA 20-L1						
1985	5,368.58	4,686	5,369			
1986	2,565.29	2,217	2,565			
1987	10,477.24	8,989	10,477			
1988	6,975.63	5,933	6,976			
1989	4,670.03	3,931	4,670			
1990	4,260.91	3,545	4,234	27	5.96	5
1991	10,425.27	8,557	10,220	205	6.22	33
1992	5,680.95	4,608	5,503	178	6.40	28
1993	12,176.08	9,745	11,639	537	6.61	81
1994	29,028.51	22,947	27,406	1,622	6.76	240
1995	17,469.80	13,611	16,256	1,214	6.95	175
1996	23,169.11	17,750	21,199	1,970	7.17	275
1997	9,839.09	7,417	8,858	981	7.35	133
1998	2,418.43	1,789	2,137	282	7.57	37
1999	6,332.67	4,596	5,489	844	7.75	109
2000	15,437.25	10,957	13,086	2,351	7.97	295
2001	24,640.07	17,095	20,417	4,223	8.17	517
2002	62,640.12	42,420	50,663	11,977	8.34	1,436
2003	21,309.90	14,030	16,756	4,554	8.56	532
2004	25,409.89	16,267	19,428	5,982	8.71	687
2005	24,214.64	14,994	17,908	6,307	8.92	707
2006	3,262.74	1,947	2,325	937	9.12	103
2008	44,351.76	24,380	29,118	15,234	9.42	1,617
2009	13,274.63	6,927	8,273	5,002	9.62	520
2010	15,279.32	7,533	8,997	6,282	9.77	643
2011	29,174.37	13,414	16,021	13,154	9.99	1,317
2012	130,082.74	55,025	65,718	64,365	10.23	6,292
2013	28,279.85	10,826	12,930	15,350	10.48	1,465
2014	30,397.08	10,265	12,260	18,137	10.79	1,681
2015	8,863.09	2,549	3,044	5,819	11.15	522
2016	19,361.00	4,513	5,390	13,971	11.52	1,213
	676,162.52	400,008	474,658	201,505		20,663
	1,521,197.02	1,025,221	1,143,471	377,727		39,934

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 9.5 2.63

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 333 COMMUNICATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 15-SQUARE						
1986	2,518.00	2,518	2,518			
1989	958.04	958	958			
1993	166,542.86	166,543	166,543			
1994	4,226.50	4,226	4,226			
1996	15,596.00	15,596	15,596			
1998	1,903.13	1,903	1,903			
1999	11,505.15	11,505	11,505			
2000	9,216.97	9,217	9,217			
2001	20,839.00	20,839	20,839			
2002	29,484.00	29,484	29,484			
2003	7,392.40	7,392	7,392			
2004	4,183.98	4,184	4,184			
2005	88,371.73	85,426	85,722	2,650	0.50	2,650
2006	50,000.00	45,000	45,156	4,844	1.50	3,229
2007	90,256.00	75,213	75,473	14,783	2.50	5,913
2008	47,895.00	36,720	36,847	11,048	3.50	3,157
2009	8,100.00	5,670	5,690	2,410	4.50	536
2012	2,121.00	1,060	1,064	1,057	7.50	141
2013	105,846.04	45,866	46,025	59,821	8.50	7,038
2014	106,852.00	39,179	39,314	67,538	9.50	7,109
2017	10,229.44	1,705	1,711	8,518	12.50	681
	784,037.24	610,204	611,367	172,670		30,454
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						5.7 3.88

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 334 MISCELLANEOUS EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 15-SQUARE						
1974	567.57	568	568			
1975	658.80	659	659			
1989	199.98	200	200			
1991	3,285.18	3,285	3,285			
1994	789.00	789	789			
1995	668.82	669	669			
1996	3,596.64	3,597	3,597			
2000	74.44	74	74			
2003	8,151.17	8,151	8,151			
2004	1,410.00	1,410	1,410			
2005	99,184.67	95,879	95,845	3,340	0.50	3,340
2006	31,000.64	27,901	27,891	3,110	1.50	2,073
2007	14,366.00	11,972	11,968	2,398	2.50	959
2008	1,065.83	817	817	249	3.50	71
2009	367.99	258	258	110	4.50	24
2011	2,473.44	1,402	1,401	1,072	6.50	165
2012	18,771.70	9,386	9,382	9,390	7.50	1,252
2015	69,804.05	20,941	20,934	48,870	10.50	4,654
2017	58,810.73	9,802	9,798	49,013	12.50	3,921
	315,246.65	197,760	197,696	117,551		16,459

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 7.1 5.22

CUSTOMERS' ADVANCES FOR CONSTRUCTION

CITY OF BETHLEHEM - BUREAU OF WATER
CUSTOMERS' ADVANCES FOR CONSTRUCTION

ACCOUNT 322 MAINS AND ACCESSORIES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 110-R3						
1983	7,400.00	2,620	2,866	4,534	66.60	68
1984	12,736.47	4,431	4,847	7,889	66.54	119
1985	22,147.45	7,488	8,190	13,957	67.54	207
1986	19,825.48	6,509	7,119	12,706	68.54	185
1987	45,359.87	14,447	15,802	29,558	69.54	425
1988	37,500.00	11,576	12,662	24,838	70.54	352
1989	27,823.15	8,403	9,191	18,632	70.51	264
1990	5,350.89	1,562	1,709	3,642	71.52	51
1991	6,394.68	1,805	1,974	4,421	72.51	61
1992	3,058.92	833	911	2,148	73.52	29
1993	3,418.43	906	991	2,427	73.50	33
1994	20,282.00	5,172	5,657	14,625	74.50	196
1995	7,000.00	1,715	1,876	5,124	75.50	68
1996	14,100.00	3,314	3,625	10,475	76.50	137
1998	3,500.00	760	831	2,669	77.50	34
1999	13,100.00	2,712	2,966	10,134	78.51	129
2000	10,500.00	2,068	2,262	8,238	79.50	104
2001	16,400.00	3,064	3,352	13,048	80.51	162
2002	2,000.00	354	387	1,613	81.50	20
2003	9,500.00	1,599	1,749	7,751	81.54	95
2006	16,000.00	2,203	2,410	13,590	84.54	161
2008	3,000.00	355	388	2,612	85.59	31
2009	5,500.00	595	651	4,849	86.58	56
	311,897.34	84,491	92,416	219,481		2,987

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 73.5 0.96

CONTRIBUTIONS IN AID OF CONSTRUCTION

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 312.11 COLLECTING AND IMPOUNDING RESERVOIRS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
WILD CREEK RESERVOIR						
INTERIM SURVIVOR CURVE.. IOWA 125-R3						
PROBABLE RETIREMENT YEAR.. 6-2091						
1941	784,949.87	492,949	243,451	541,499	46.50	11,645
	784,949.87	492,949	243,451	541,499		11,645
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 46.5						1.48

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 312.12 LAKE, RIVER AND OTHER INTAKES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
TUNKHANNOCK INTAKE						
INTERIM SURVIVOR CURVE.. IOWA 65-S1.5						
PROBABLE RETIREMENT YEAR.. 6-2044						
1969	131,607.59	98,364	76,959	54,649	17.07	3,201
	131,607.59	98,364	76,959	54,649		3,201
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						17.1 2.43

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 312.13 WELLS AND SPRINGS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-R3						
1965	1,022.00	897	1,022			
1970	6,720.00	5,622	6,404	316	9.67	33
1978	5,305.00	4,007	4,564	741	13.45	55
	13,047.00	10,526	11,990	1,057		88
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 12.0 0.67						

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 312.2 POWER AND PUMPING STRUCTURES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
MOUNTAINTOP PUMP STATION FULLY ACCRUED						
1959	2,643.25	2,643	2,643			
	2,643.25	2,643	2,643			
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						0.0 0.00

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 312.3 PURIFICATION BUILDINGS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
WILD CREEK CHEMICAL HOUSE						
INTERIM SURVIVOR CURVE.. SQUARE						
PROBABLE RETIREMENT YEAR.. 6-2034						
1941	41,822.43	35,302	38,476	3,347	14.50	231
	41,822.43	35,302	38,476	3,347		231
COUNTRY SQUIRE ESTATES TREATMENT BUILDING						
INTERIM SURVIVOR CURVE.. SQUARE						
PROBABLE RETIREMENT YEAR.. 6-2025						
1970	10,752.00	9,677	10,528	224	5.50	41
	10,752.00	9,677	10,528	224		41
EAST ALLEN GARDENS TREATMENT BUILDING						
INTERIM SURVIVOR CURVE.. SQUARE						
PROBABLE RETIREMENT YEAR.. 6-2025						
1970	10,752.00	9,677	10,528	224	5.50	41
	10,752.00	9,677	10,528	224		41
SHADY LANE TREATMENT BUILDING						
INTERIM SURVIVOR CURVE.. SQUARE						
PROBABLE RETIREMENT YEAR.. 6-2033						
1965	4,086.00	3,275	3,563	523	13.50	39
	4,086.00	3,275	3,563	523		39
WIL-MAR MANOR TREATMENT BUILDING						
FULLY ACCRUED						
1978	21,219.00	21,219	21,219			
	21,219.00	21,219	21,219			
	88,631.43	79,150	84,314	4,318		352
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 12.3 0.40						

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 312.5 DISTRIBUTION RESERVOIRS AND STANDPIPES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
ONE MILLION GALLON STANDPIPE INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2034						
1959	149,506.00	120,602	142,510	6,996	14.50	482
	149,506.00	120,602	142,510	6,996		482
500 THOUSAND GALLON STANDPIPE FULLY ACCRUED						
1959	99,691.00	99,691	99,691			
	99,691.00	99,691	99,691			
	249,197.00	220,293	242,201	6,996		482
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 14.5						0.19

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 316 ELECTRIC PUMPING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
1959	8,482.17	8,482	8,482			
1963	6,758.18	6,758	6,758			
	15,240.35	15,240	15,240			

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 0.0 0.00

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 317 OIL ENGINE PUMPING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
1959	5,354.12	5,354	5,354			
	5,354.12	5,354	5,354			
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						0.0 0.00

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 322 MAINS AND ACCESSORIES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
CAST IRON - 4 INCH AND UNDER SURVIVOR CURVE.. IOWA 70-R3						
1970	35,564.00	23,942	22,501	13,063	24.03	544
1980	61,192.00	34,561	32,482	28,710	30.43	943
	96,756.00	58,503	54,983	41,773		1,487
CAST IRON - 6 INCH AND LARGER SURVIVOR CURVE.. IOWA 110-R3						
1970	53,448.00	24,869	26,462	26,986	56.88	474
1973	87,037.00	38,453	40,915	46,122	58.76	785
1975	74,611.00	31,874	33,915	40,696	59.67	682
1978	38,525.00	15,348	16,331	22,194	62.67	354
1980	133,404.00	51,120	54,394	79,010	63.59	1,242
1989	354,027.00	106,916	113,763	240,264	70.51	3,408
1990	41,847.00	12,219	13,001	28,846	71.52	403
1991	11,900.00	3,358	3,573	8,327	72.51	115
1992	174,116.02	47,394	50,429	123,687	73.52	1,682
1997	3,700.00	832	885	2,815	77.50	36
1998	439,522.00	95,464	101,577	337,945	77.50	4,361
2006	703,454.00	96,866	103,069	600,385	84.54	7,102
2009	767,486.00	83,042	88,360	679,126	86.58	7,844
	2,883,077.02	607,755	646,675	2,236,402		28,488
CAST IRON AND CONCRETE PRESSURE PIPE SURVIVOR CURVE.. IOWA 110-R3						
1941	940,597.83	642,428	588,003	352,595	36.44	9,676
1959	460.63	256	234	226	48.20	5
1959	140,936.37	78,445	71,799	69,137	48.20	1,434
	1,081,994.83	721,129	660,036	421,958		11,115
STEEL PIPE SURVIVOR CURVE.. IOWA 75-R3						
1969	1,010,820.08	658,448	665,445	345,375	27.02	12,782
1970	106,327.00	67,900	68,622	37,705	28.02	1,346
	1,117,147.08	726,348	734,067	383,080		14,128

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 322 MAINS AND ACCESSORIES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
GALVANIZED STEEL						
SURVIVOR CURVE.. IOWA 50-R4						
1965	11,176.00	10,172	10,393	783	5.38	146
1970	2,059.00	1,804	1,843	216	6.99	31
1978	11,894.00	9,330	9,533	2,361	11.41	207
	25,129.00	21,306	21,769	3,360		384
	5,204,103.93	2,135,041	2,117,531	3,086,573		55,602
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						55.5 1.07

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 323 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 65-R3						
1965	4,523.00	3,427	3,532	991	17.44	57
1970	27,722.00	19,760	20,366	7,356	19.94	369
1973	37,365.00	25,367	26,145	11,220	21.99	510
1976	14,334.00	9,291	9,576	4,758	23.61	202
1977	370.00	236	243	127	24.17	5
1978	13,662.00	8,505	8,766	4,896	25.17	195
1980	57,357.00	34,437	35,494	21,863	26.29	832
1981	675.00	398	410	265	26.86	10
1982	1,253.00	724	746	507	27.44	18
1983	3,108.00	1,747	1,801	1,307	28.44	46
1984	2,868.00	1,578	1,626	1,242	29.02	43
1985	3,126.00	1,682	1,734	1,392	29.60	47
1986	1,889.00	994	1,025	864	30.19	29
1987	3,265.00	1,666	1,717	1,548	31.20	50
1988	1,543.00	768	792	751	31.79	24
1989	66,223.00	32,118	33,103	33,120	32.39	1,023
1997	1,000.00	369	380	620	38.48	16
1998	10,722.00	3,804	3,921	6,801	39.10	174
2009	67,666.00	12,220	12,595	55,071	47.64	1,156
	318,671.00	159,091	163,972	154,699		4,806

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 32.2 1.51

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

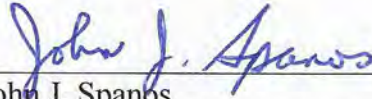
ACCOUNT 325 FIRE HYDRANTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2019

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R3						
1959	599.05	442	509	90	21.47	4
1973	2,427.00	1,479	1,704	723	29.83	24
1975	2,975.00	1,748	2,013	962	31.26	31
1980	5,742.00	3,062	3,527	2,215	34.58	64
1989	22,597.00	9,649	11,114	11,483	40.93	281
1998	8,547.00	2,646	3,048	5,499	47.94	115
2006	29,164.00	5,827	6,711	22,453	54.07	415
2009	32,951.00	5,154	5,936	27,015	56.62	477
	105,002.05	30,007	34,562	70,440		1,411
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 49.9						1.34

VERIFICATION

I, John J. Spanos, President of Gannett Fleming Valuation and Rate Consultants, LLC, hereby state, as Depreciation Consultant for the City of Bethlehem, that the facts set forth in the foregoing Depreciation Study, Exhibit JJS-1, filed with the Public Utility Commission on July 31, 2020 and docketed at PaPUC Docket No. R-2020-3020256 are true and correct to the best of my knowledge, information and belief and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).



John J. Spanos
Gannett Fleming Valuation and Rate Consultants, LLC

Dated: July 31, 2020

**EXHIBIT NO. JJS-2 –
DEPRECIATION STUDY
AS OF DECEMBER 31, 2020**

CITY OF BETHLEHEM - BUREAU OF WATER

BETHLEHEM, PENNSYLVANIA

2020 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS
RELATED TO WATER PLANT
AS OF DECEMBER 31, 2020

Prepared by:



Gannett Fleming

*Excellence Delivered **As Promised***

CITY OF BETHLEHEM – BUREAU OF WATER

Bethlehem, Pennsylvania

2020 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS
RELATED TO WATER PLANT
AS OF DECEMBER 31, 2020

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

Harrisburg, Pennsylvania



*Excellence Delivered **As Promised***

July 14, 2020

City of Bethlehem – Bureau of Water
10 East Church Street
Bethlehem, PA 18018

Ladies and Gentlemen:

Pursuant to your request, we have determined the annual depreciation accruals applicable to water plant. The results of our study as of December 31, 2020, are presented in the attached report. The results of our study as of December 31, 2019, are presented in our report, "2019 Depreciation Study - Calculated Annual Depreciation Accruals Related to Water Plant as of December 31, 2019." The same methods, procedures and estimates are used in both studies.

The attached report sets forth a description of the methods and procedures upon which the studies were based, the estimates of survivor curves, and the calculated annual depreciation as of December 31, 2020.

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

A handwritten signature in black ink, reading "John J. Spanos".

JOHN J. SPANOS
President

JJS:mle

066869.100

Gannett Fleming Valuation and Rate Consultants, LLC

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PART I. INTRODUCTION

CITY OF BETHLEHEM – BUREAU OF WATER

DEPRECIATION STUDY

PART I. INTRODUCTION

SCOPE

This report sets forth the results of the depreciation study for the City of Bethlehem – Bureau of Water to determine the annual depreciation accrual rates and amounts applicable to the original cost of water plant as of December 31, 2020. The rates and amounts are based on the straight line remaining life method of depreciation. This report also describes the concepts, methods and judgments which underlie the recommended annual depreciation accrual rates related to water plant in service as of December 31, 2020.

Part I, Introduction, contains statements with respect to the basis of the study and the development of original cost. Part II, Estimation of Survivor Curves, presents descriptions of the considerations and methods used in the service life study. Part III, Service Life Considerations, presents the results of the average service life analysis. Part IV, Calculation of Annual and Accrued Depreciation, describes the procedures used in the calculation of group depreciation. Part V, Results of Study, presents summaries by depreciable group of annual depreciation accrual rates and amounts, as well as composite remaining lives. Part VI, Service Life Statistics presents the statistical analysis of service life estimates, and Part VII, Detailed Depreciation Calculations presents the detailed tabulations of annual depreciation.

BASIS OF THE STUDY

The purpose of the depreciation study was to determine the annual depreciation accruals applicable to the original cost of water plant in service as of December 31, 2020. For most accounts, the straight line remaining life method using attained ages, the book depreciation reserve and estimated survivor curves, was the basis for the calculation of annual depreciation. For certain accounts, the annual and accrued amortization amounts were based on the age of the property and the selected amortization period.

The survivor curve estimates were based on judgment which incorporated (1) analyses of historical data related to water property; (2) consideration of the character, use and location of the property; (3) probable future events and management plans; and (4) a general knowledge of water property lives. The use of Iowa type survivor curves is a generally-accepted method of estimating average service life when the actual lives of individual property units are dispersed.

DEVELOPMENT OF ORIGINAL COST

The original cost as of December 31, 2019, represents a bringforward of the original cost of additions and retirements each year as part of the capital update. The original cost of additions during the future test year were based on the City's capital budget. The original cost of retirements was identified based on the location of the facility, the cost of the replacement, the vintages of past survivors, and combinations of these factors.

PART II. ESTIMATION OF SURVIVOR CURVES

PART II. ESTIMATION OF SURVIVOR CURVES

The calculation of annual depreciation based on the straight line method requires the estimation of survivor curves and the selection of group depreciation procedures. The estimation of survivor curves is discussed below and the development of net salvage is discussed in later sections of this report.

SURVIVOR CURVES

The use of an average service life for a property group implies that the various units in the group have different lives. Thus, the average life may be obtained by determining the separate lives of each of the units, or by constructing a survivor curve by plotting the number of units which survive at successive ages.

The survivor curve graphically depicts the amount of property existing at each age throughout the life of an original group. From the survivor curve, the average life of the group, the remaining life expectancy, the probable life, and the frequency curve can be calculated. In Figure 1, a typical smooth survivor curve and the derived curves are illustrated. The average life is obtained by calculating the area under the survivor curve, from age zero to the maximum age, and dividing this area by the ordinate at age zero. The remaining life expectancy at any age can be calculated by obtaining the area under the curve, from the observation age to the maximum age, and dividing this area by the percent surviving at the observation age. For example, in Figure 1, the remaining life at age 30 is equal to the crosshatched area under the survivor curve divided by 29.5 percent surviving at age 30. The probable life at any age is developed by adding the age and remaining life. If the probable life of the property is calculated for each year of age, the probable life curve shown in the chart can be developed. The frequency curve presents the number of units retired in each age interval. It is derived by obtaining the differences between the amount of property surviving at the beginning and at the end of each interval.

This study has incorporated the use of Iowa curves developed from a retirement rate analysis of historical retirement history. A discussion of the concepts of survivor curves and of the development of survivor curves using the retirement rate method is presented below.

Iowa Type Curves

The range of survivor characteristics usually experienced by utility and industrial properties is encompassed by a system of generalized survivor curves known as the Iowa type curves. There are four families in the Iowa system, labeled in accordance with the location of the modes of the retirements (or the portion of the frequency curve with the highest level of retirements) in relationship to the average life and the relative height of the modes. The left moded curves, presented in Figure 2, are those in which the greatest frequency of retirement occurs to the left of, or prior to, average service life. The symmetrical moded curves, presented in Figure 3, are those in which the greatest frequency of retirement occurs at average service life. The right moded curves, presented in Figure 4, are those in which the greatest frequency occurs to the right of, or after, average service life. The origin moded curves, presented in Figure 5, are those in which the greatest frequency of retirement occurs at the origin, or immediately after age zero. The letter designation of each family of curves (L, S, R or O) represents the location of the mode of the associated frequency curve with respect to the average service life. The numbers represent the relative heights of the modes of the frequency curves within each family. A higher number designates a higher mode curve.

The Iowa curves were developed at the Iowa State College Engineering Experiment Station through an extensive process of observation and classification of the ages at which industrial property had been retired. A report of the study which resulted in the classification of property survivor characteristics into 18 type curves, which constitute three of the four families, was published in 1935 in the form of the Experiment Station's Bulletin 125. These curve types have also been presented in subsequent

Experiment Station bulletins and in the text, "Engineering Valuation and Depreciation."¹ In 1957, Frank V. B. Couch, Jr., an Iowa State College graduate student submitted a thesis presenting his development of the fourth family consisting of the four O type survivor curves.

Retirement Rate Method of Analysis

The retirement rate method is an actuarial method of deriving survivor curves using the average rates at which property of each age group is retired. The method relates to property groups for which aged accounting experience is available and is the method used to develop the original stub survivor curves in this study. The method (also known as the annual rate method) is illustrated through the use of an example in the following text, and is also explained in several publications, including "Statistical Analyses of Industrial Property Retirements,"² "Engineering Valuation and Depreciation,"³ and "Depreciation Systems."⁴

The average rate of retirement used in the calculation of the percent surviving for the survivor curve (life table) requires two sets of data: first, the property retired during a period of observation, identified by the property's age at retirement; and second, the property exposed to retirement at the beginning of the age intervals during the same period. The period of observation is referred to as the experience band, and the band of years which represent the installation dates of the property exposed to retirement during the experience band is referred to as the placement band. An example of the calculations used in the development of a life table follows. The example includes schedules of annual aged property transactions, a schedule of plant exposed to retirement, a life table and illustrations of smoothing the stub survivor curve.

¹Marston, Anson, Robley Winfrey and Jean C. Hempstead. Engineering Valuation and Depreciation, 2nd Edition. New York, McGraw-Hill Book Company. 1953.

²Winfrey, Robley, Statistical Analyses of Industrial Property Retirements. Iowa State College, Engineering Experiment Station, Bulletin 125. 1935.

³Marston, Anson, Robley Winfrey, and Jean C. Hempstead, Supra Note 1.

⁴Wolf, Frank K. and W. Chester Fitch. Depreciation Systems. Iowa State University Press. 1994.

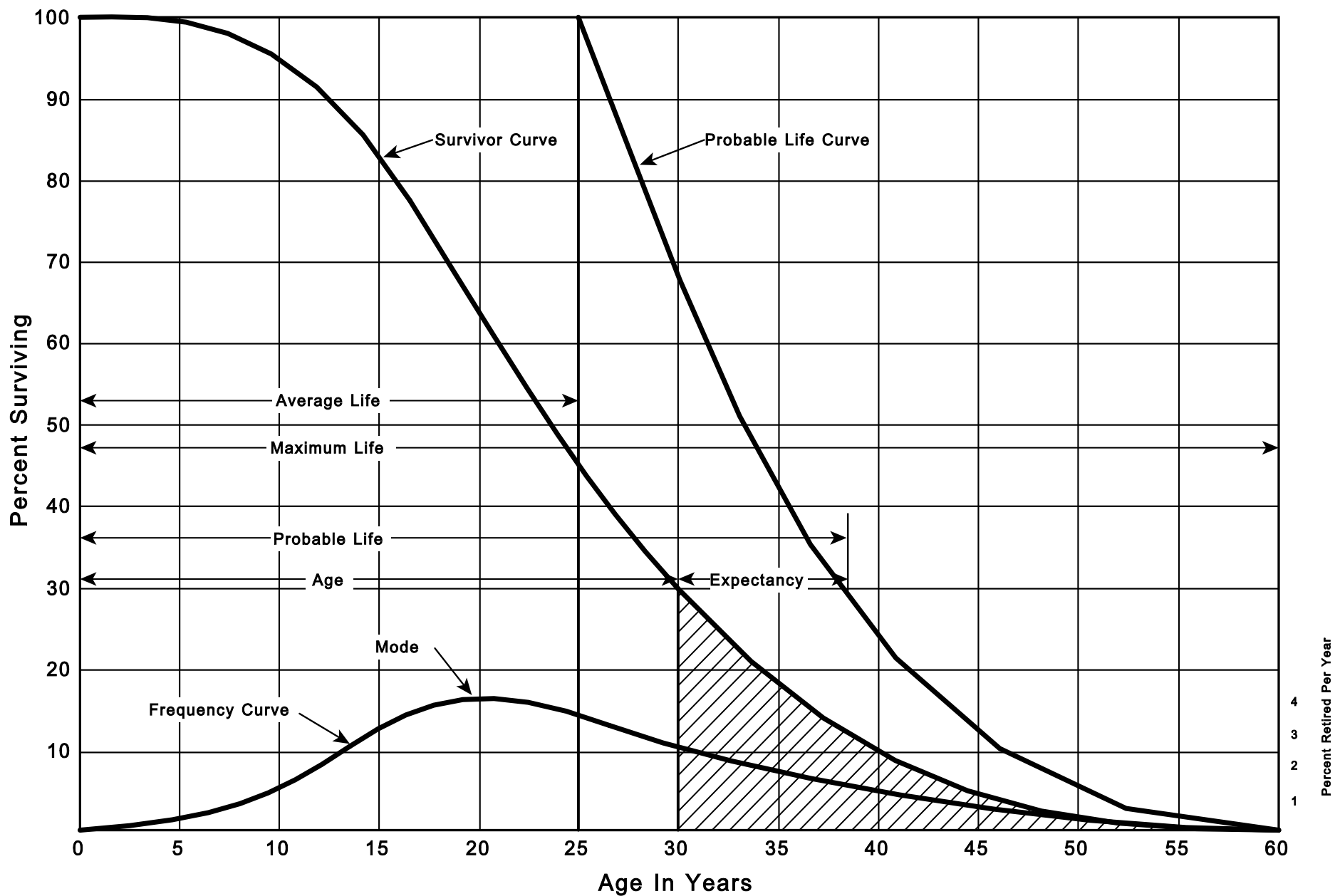


Figure 1. A Typical Survivor Curve and Derived Curves

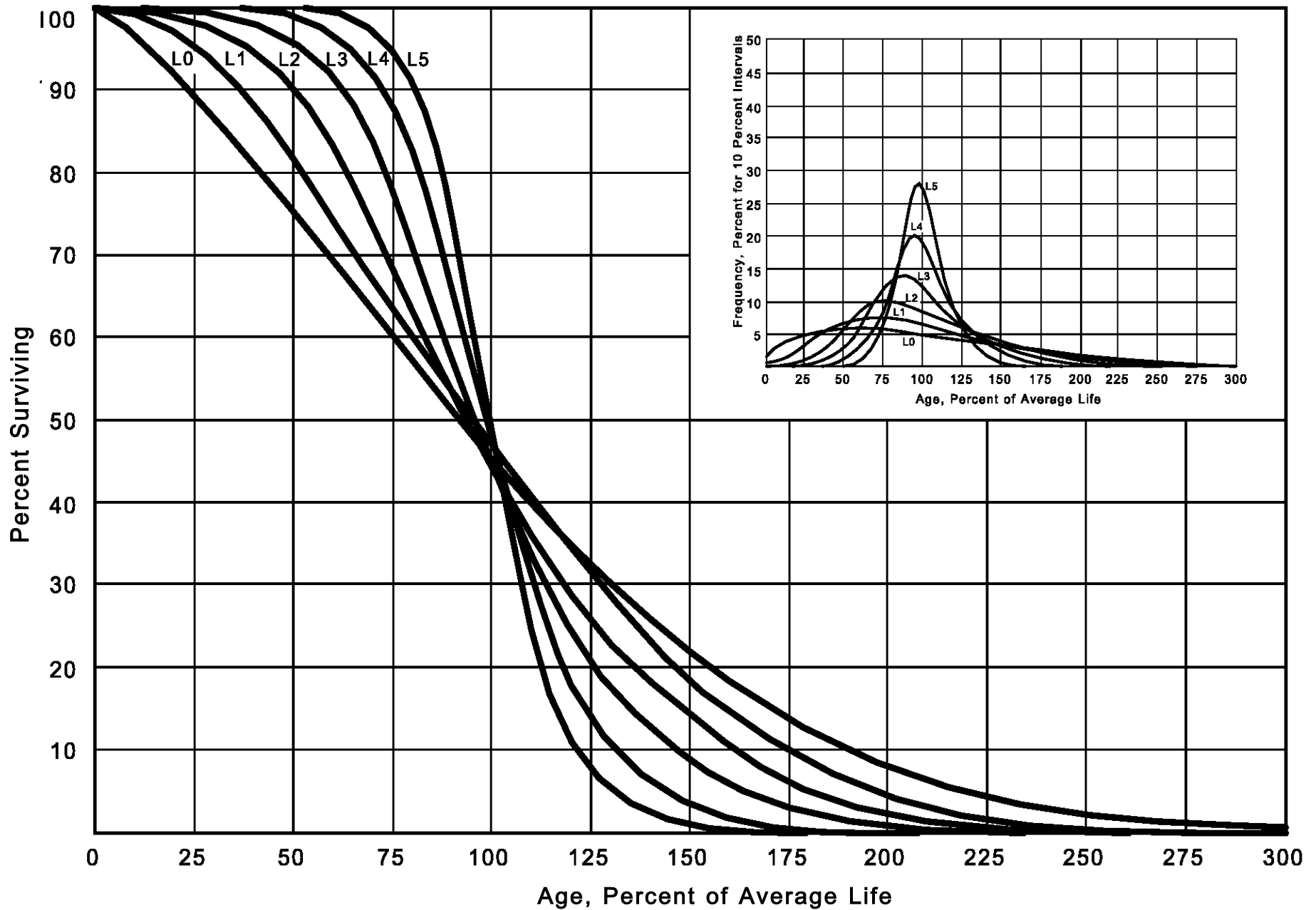


Figure 2. Left Modal or "L" Iowa Type Survivor Curves

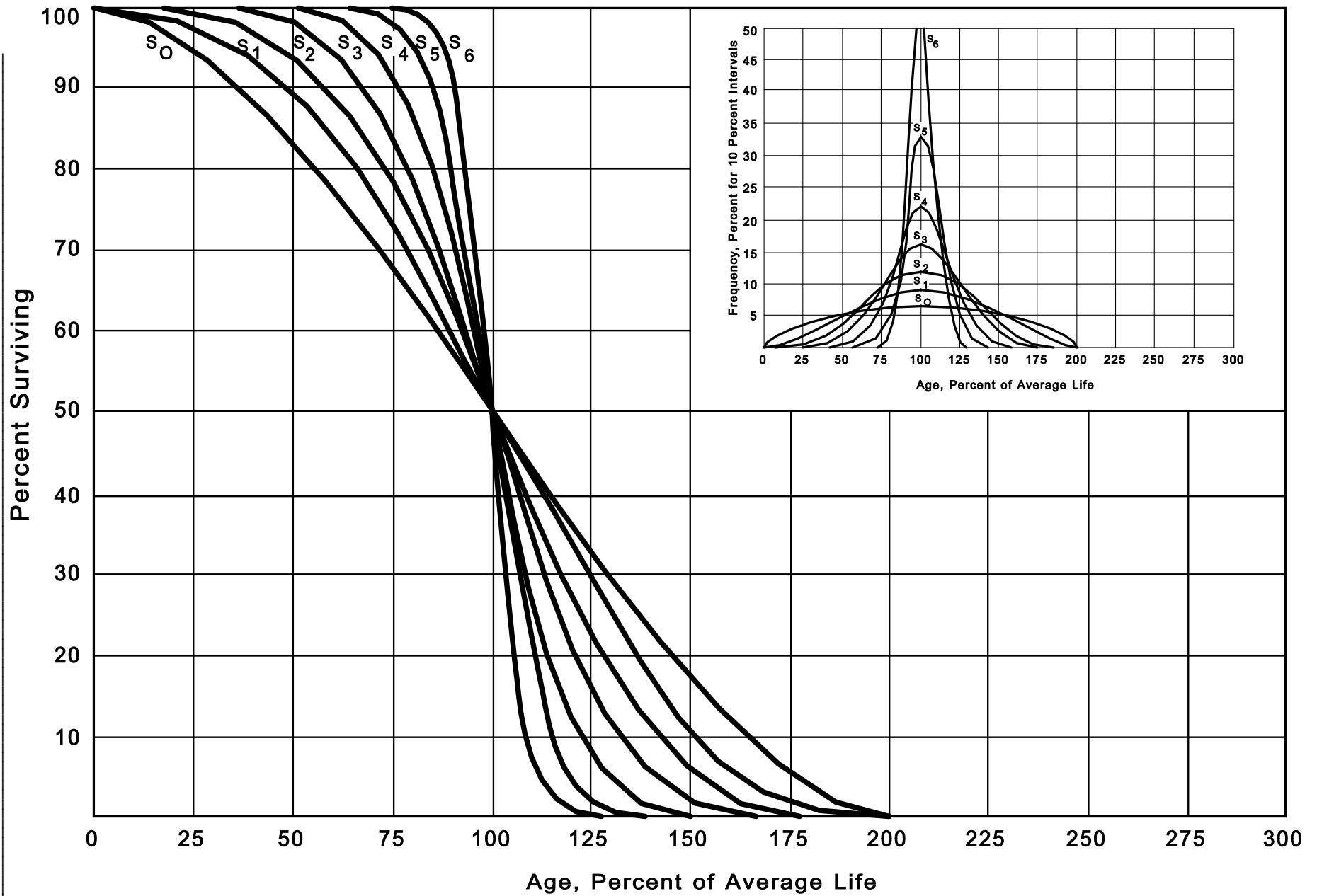


Figure 3. Symmetrical or "S" Iowa Type Survivor Curves

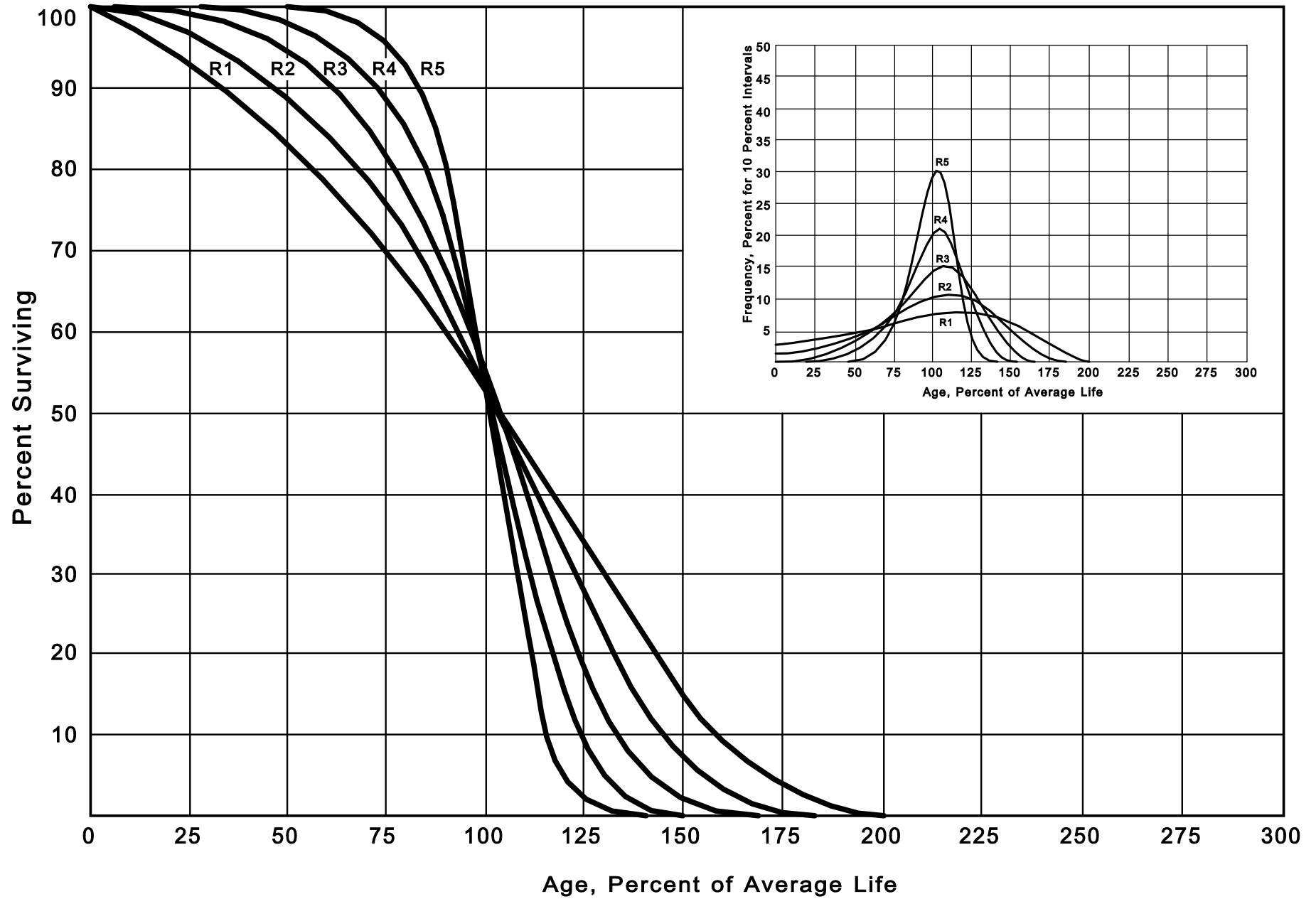


Figure 4. Right Modal or "R" Iowa Type Survivor Curves

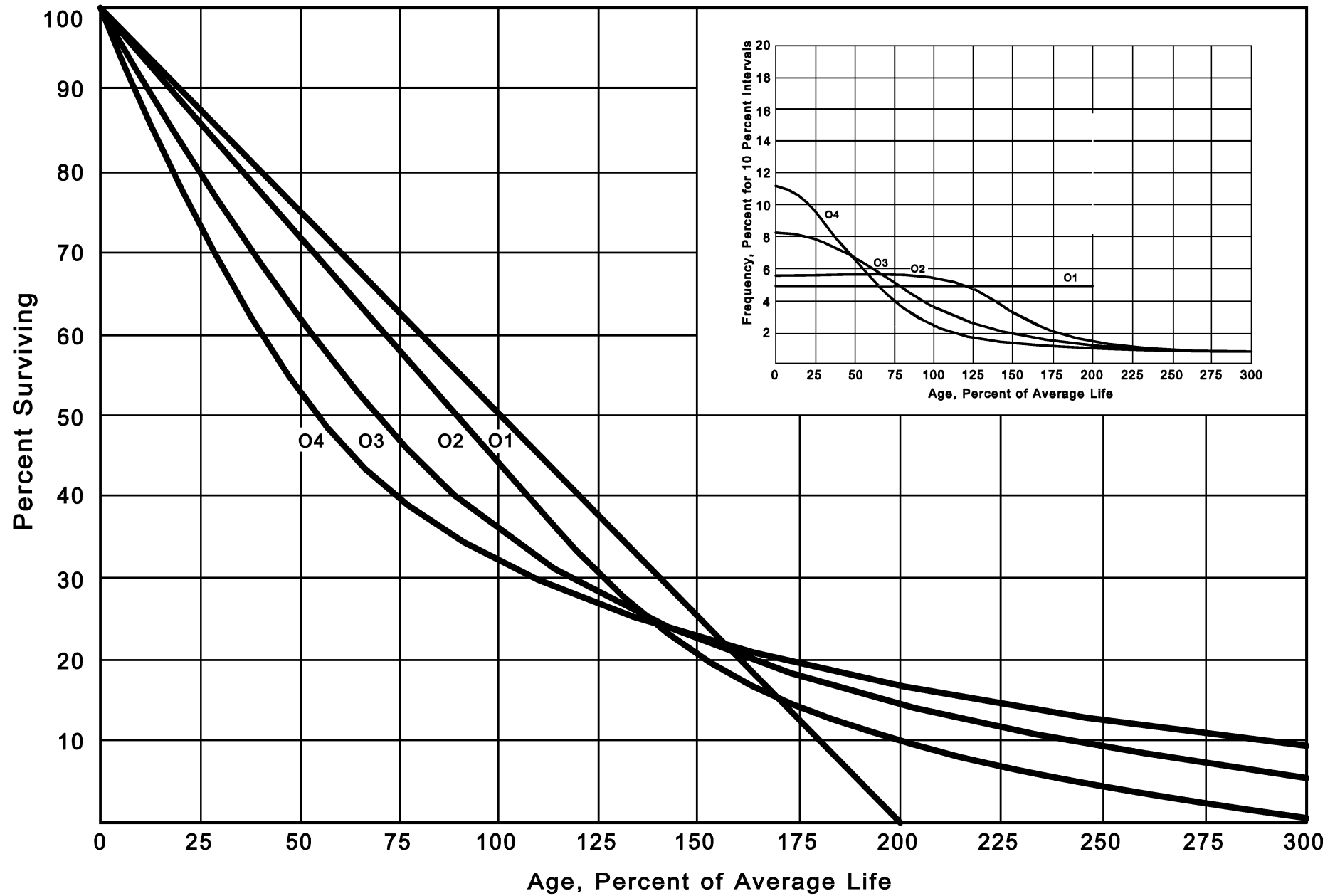


Figure 5. Origin Modal or "O" Iowa Type Survivor Curves

Schedules of Annual Transactions in Plant Records

A hypothetical property group is used to illustrate the retirement rate method. This property group is observed for the experience band 2010-2019 during which there were placements (or installations) during the years 2005-2019. In order to illustrate the summation of the aged data by age interval, the data were compiled in the manner presented in Schedules 1 and 2 on pages II-11 and II-12. In Schedule 1, year placed and the year of retirement are shown. The age interval during which a retirement occurred is determined from this information. In the example which follows, \$10,000 of the dollars invested in 2005 were retired in 2010. The \$10,000 retirement occurred during the age interval between 4½ and 5½ years on the basis that approximately one-half of the amount of property was installed prior to and subsequent to July 1 of each year. That is, on the average, property installed during a year is placed in service at the midpoint of the year for the purpose of the analysis. All retirements also are stated as occurring at the midpoint of a one-year age interval of time, except the first age interval which encompasses only one-half year.

The total retirements occurring in each age interval in a band are determined by summing the amounts for each transaction year-installation year combination for that age interval. For example, the total of \$143,000 retired for age interval 4½-5½ is the sum of the retirements entered on Schedule 1 immediately above the stair step line drawn on the table beginning with the 2010 retirements of 2005 installations and ending with the 2019 retirements of the 2014 installations. Thus, the total amount of 143 for age interval 4½-5½ equals the sum of:

$$10 + 12 + 13 + 11 + 13 + 13 + 15 + 17 + 19 + 20.$$



SCHEDULE 1. RETIREMENTS FOR EACH YEAR 2010-2019
SUMMARIZED BY AGE INTERVAL

Experience Band 2010-2019

Placement Band 2005-2019

Year Placed (1)	Retirements, Thousands of Dollars										Total During Age Interval (12)	Age Interval (13)
	2010 (2)	2011 (3)	2012 (4)	2013 (5)	2014 (6)	2015 (7)	2016 (8)	2017 (9)	2018 (10)	2019 (11)		
2005	10	11	12	13	14	16	23	24	25	26	26	13½-14½
2006	11	12	13	15	16	18	20	21	22	19	44	12½-13½
2007	11	12	13	14	16	17	19	21	22	18	64	11½-12½
2008	8	9	10	11	11	13	14	15	16	17	83	10½-11½
2009	9	10	11	12	13	14	16	17	19	20	93	9½-10½
2010	4	9	10	11	12	13	14	15	16	20	105	8½-9½
2011		5	11	12	13	14	15	16	18	20	113	7½-8½
2012			6	12	13	15	16	17	19	19	124	6½-7½
2013				6	13	15	16	17	19	19	131	5½-6½
2014					7	14	16	17	19	20	143	4½-5½
2015						8	18	20	22	23	146	3½-4½
2016							9	20	22	25	150	2½-3½
2017								11	23	25	151	1½-2½
2018									11	24	153	½-1½
2019										13	80	0-½
Total	53	68	86	106	128	157	196	231	273	308	1,606	



SCHEDULE 2. OTHER TRANSACTIONS FOR EACH YEAR 2010-2019
SUMMARIZED BY AGE INTERVAL

Experience Band 2010-2019

Placement Band 2005-2019

Year Placed	Acquisitions, Transfers and Sales, Thousands of Dollars										Total During Age Interval	Age Interval
	During Year											
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2005	-	-	-	-	-	-	60 ^a	-	-	-	-	13½-14½
2006	-	-	-	-	-	-	-	-	-	-	-	12½-13½
2007	-	-	-	-	-	-	-	-	-	-	-	11½-12½
2008	-	-	-	-	-	-	-	(5) ^b	-	-	60	10½-11½
2009	-	-	-	-	-	-	-	6 ^a	-	-	-	9½-10½
2010	-	-	-	-	-	-	-	-	-	-	(5)	8½-9½
2011		-	-	-	-	-	-	-	-	-	6	7½-8½
2012			-	-	-	-	-	-	-	-	-	6½-7½
2013				-	-	-	-	(12) ^b	-	-	-	5½-6½
2014					-	-	-	-	22 ^a	-	-	4½-5½
2015						-	-	(19) ^b	-	-	10	3½-4½
2016							-	-	-	-	-	2½-3½
2017								-	-	(102) ^c	(121)	1½-2½
2018									-	-	-	½-1½
2019											-	0-½
Total	-	-	-	-	-	-	60	(30)	22	(102)	(50)	

^a Transfer Affecting Exposures at Beginning of Year^b Transfer Affecting Exposures at End of Year^c Sale with Continued Use

Parentheses Denote Credit Amount.

In Schedule 2, other transactions which affect the group are recorded in a similar manner. The entries illustrated include transfers and sales. The entries which are credits to the plant account are shown in parentheses. The items recorded on this schedule are not totaled with the retirements, but are used in developing the exposures at the beginning of each age interval.

Schedule of Plant Exposed to Retirement

The development of the amount of plant exposed to retirement at the beginning of each age interval is illustrated in Schedule 3 on page II-14. The surviving plant at the beginning of each year from 2010 through 2019 is recorded by year in the portion of the table headed "Annual Survivors at the Beginning of the Year." The last amount entered in each column is the amount of new plant added to the group during the year. The amounts entered in Schedule 3 for each successive year following the beginning balance or addition are obtained by adding or subtracting the net entries shown on Schedules 1 and 2. For the purpose of determining the plant exposed to retirement, transfers-in are considered as being exposed to retirement in this group at the beginning of the year in which they occurred, and the sales and transfers-out are considered to be removed from the plant exposed to retirement at the beginning of the following year. Thus, the amounts of plant shown at the beginning of each year are the amounts of plant from each placement year considered to be exposed to retirement at the beginning of each successive transaction year. For example, the exposures for the installation year 2015 are calculated in the following manner:

Exposures at age 0	= amount of addition	= \$750,000
Exposures at age ½	= \$750,000 - \$ 8,000	= \$742,000
Exposures at age 1½	= \$742,000 - \$18,000	= \$724,000
Exposures at age 2½	= \$724,000 - \$20,000 - \$19,000	= \$685,000
Exposures at age 3½	= \$685,000 - \$22,000	= \$663,000



SCHEDULE 3. PLANT EXPOSED TO RETIREMENT
JANUARY 1 OF EACH YEAR 2010-2019
SUMMARIZED BY AGE INTERVAL

Experience Band 2010-2019

Placement Band 2005-2019

Year Placed	Exposures, Thousands of Dollars										Total at Beginning of Age Interval	Age Interval
	Annual Survivors at the Beginning of the Year											
(1)	2010 (2)	2011 (3)	2012 (4)	2013 (5)	2014 (6)	2015 (7)	2016 (8)	2017 (9)	2018 (10)	2019 (11)	(12)	(13)
2005	255	245	234	222	209	195	239	216	192	167	167	13½-14½
2006	279	268	256	243	228	212	194	174	153	131	323	12½-13½
2007	307	296	284	271	257	241	224	205	184	162	531	11½-12½
2008	338	330	321	311	300	289	276	262	242	226	823	10½-11½
2009	376	367	357	346	334	321	307	297	280	261	1,097	9½-10½
2010	420 ^a	416	407	397	386	374	361	347	332	316	1,503	8½-9½
2011		460 ^a	455	444	432	419	405	390	374	356	1,952	7½-8½
2012			510 ^a	504	492	479	464	448	431	412	2,463	6½-7½
2013				580 ^a	574	561	546	530	501	482	3,057	5½-6½
2014					660 ^a	653	639	623	628	609	3,789	4½-5½
2015						750 ^a	742	724	685	663	4,332	3½-4½
2016							850 ^a	841	821	799	4,955	2½-3½
2017								960 ^a	949	926	5,719	1½-2½
2018									1,080 ^a	1,069	6,579	½-1½
2019										1,220 ^a	7,490	0-½
Total	1,975	2,382	2,824	3,318	3,872	4,494	5,247	6,017	6,852	7,799	44,780	

^aAdditions during the year

For the entire experience band 2010-2019, the total exposures at the beginning of an age interval are obtained by summing diagonally in a manner similar to the summing of the retirements during an age interval (Schedule 1). For example, the figure of 3,789, shown as the total exposures at the beginning of age interval 4½-5½, is obtained by summing:

$$255 + 268 + 284 + 311 + 334 + 374 + 405 + 448 + 501 + 609.$$

Original Life Table

The original life table, illustrated in Schedule 4 on page II-16, is developed from the totals shown on the schedules of retirements and exposures, Schedules 1 and 3, respectively. The exposures at the beginning of the age interval are obtained from the corresponding age interval of the exposure schedule, and the retirements during the age interval are obtained from the corresponding age interval of the retirement schedule. The retirement ratio is the result of dividing the retirements during the age interval by the exposures at the beginning of the age interval. The percent surviving at the beginning of each age interval is derived from survivor ratios, each of which equals one minus the retirement ratio. The percent surviving is developed by starting with 100% at age zero and successively multiplying the percent surviving at the beginning of each interval by the survivor ratio, i.e. one minus the retirement ratio for that age interval. The calculations necessary to determine the percent surviving at age 5½ are as follows:

Percent surviving at age 4½	=	88.15	
Exposures at age 4½	=	3,789,000	
Retirements from age 4½ to 5½	=	143,000	
Retirement Ratio	=	$143,000 \div 3,789,000$	= 0.0377
Survivor Ratio	=	$1.000 - 0.0377$	= 0.9623
Percent surviving at age 5½	=	$(88.15) \times (0.9623)$	= 84.83

The totals of the exposures and retirements (columns 2 and 3) are shown for the purpose of checking with the respective totals in Schedules 1 and 3. The ratio of the total retirements to the total exposures, other than for each age interval, is meaningless.

SCHEDULE 4. ORIGINAL LIFE TABLE

CALCULATED BY THE RETIREMENT RATE METHOD

Experience Band 2010-2019

Placement Band 2005-2019

(Exposure and Retirement Amounts are in Thousands of Dollars)

Age at Beginning of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retirement Ratio	Survivor Ratio	Percent Surviving at Beginning of Age Interval
(1)	(2)	(3)	(4)	(5)	(6)
0.0	7,490	80	0.0107	0.9893	100.00
0.5	6,579	153	0.0233	0.9767	98.93
1.5	5,719	151	0.0264	0.9736	96.62
2.5	4,955	150	0.0303	0.9697	94.07
3.5	4,332	146	0.0337	0.9663	91.22
4.5	3,789	143	0.0377	0.9623	88.15
5.5	3,057	131	0.0429	0.9571	84.83
6.5	2,463	124	0.0503	0.9497	81.19
7.5	1,952	113	0.0579	0.9421	77.11
8.5	1,503	105	0.0699	0.9301	72.65
9.5	1,097	93	0.0848	0.9152	67.57
10.5	823	83	0.1009	0.8991	61.84
11.5	531	64	0.1205	0.8795	55.60
12.5	323	44	0.1362	0.8638	48.90
13.5	167	26	0.1557	0.8443	42.24
14.5					35.66
Total	<u>44,780</u>	<u>1,606</u>			

Column 2 from Schedule 3, Column 12, Plant Exposed to Retirement.

Column 3 from Schedule 1, Column 12, Retirements for Each Year.

Column 4 = Column 3 Divided by Column 2.

Column 5 = 1.0000 Minus Column 4.

Column 6 = Column 5 Multiplied by Column 6 as of the Preceding Age Interval.

The original survivor curve is plotted from the original life table (column 6, Schedule 4). When the curve terminates at a percent surviving greater than zero, it is called a stub survivor curve. Survivor curves developed from retirement rate studies generally are stub curves.

Smoothing the Original Survivor Curve

The smoothing of the original survivor curve eliminates any irregularities and serves as the basis for the preliminary extrapolation to zero percent surviving of the original stub curve. Even if the original survivor curve is complete from 100% to zero percent, it is desirable to eliminate any irregularities, as there is still an extrapolation for the vintages which have not yet lived to the age at which the curve reaches zero percent. In this study, the smoothing of the original curve with established type curves was used to eliminate irregularities in the original curve.

The Iowa type curves are used in this study to smooth those original stub curves which are expressed as percents surviving at ages in years. Each original survivor curve was compared to the Iowa curves using visual and mathematical matching in order to determine the better fitting smooth curves. In Figures 6, 7, and 8, the original curve developed in Schedule 4 is compared with the L, S, and R Iowa type curves which most nearly fit the original survivor curve. In Figure 6, the L1 curve with an average life between 12 and 13 years appears to be the best fit. In Figure 7, the S0 type curve with a 12-year average life appears to be the best fit and appears to be better than the L1 fitting. In Figure 8, the R1 type curve with a 12-year average life appears to be the best fit and appears to be better than either the L1 or the S0.

In Figure 9, the three fittings, 12-L1, 12-S0 and 12-R1 are drawn for comparison purposes. It is probable that the 12-R1 Iowa curve would be selected as the most representative of the plotted survivor characteristics of the group.



FIGURE 6. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN L1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

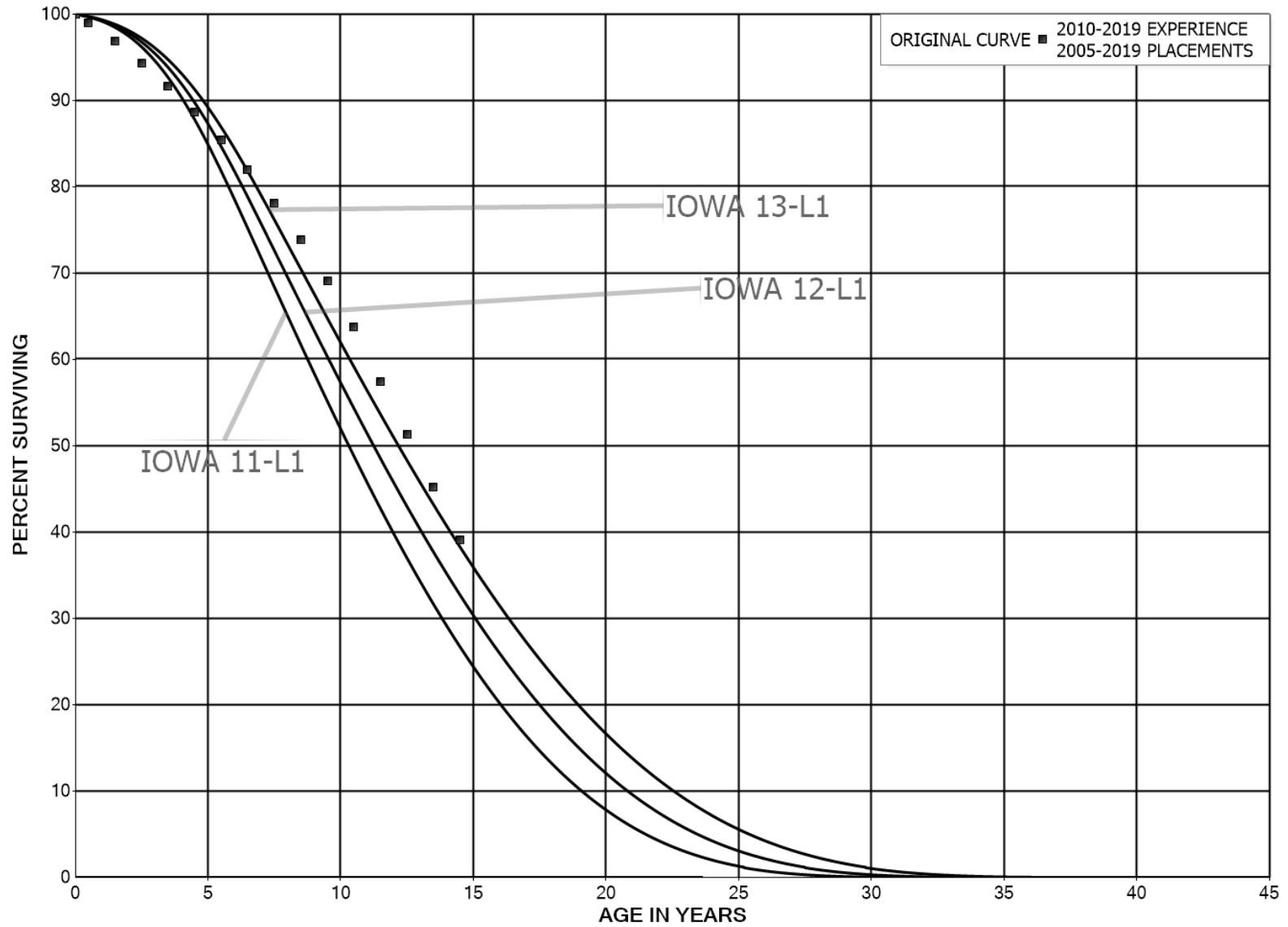




FIGURE 7. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN S0 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

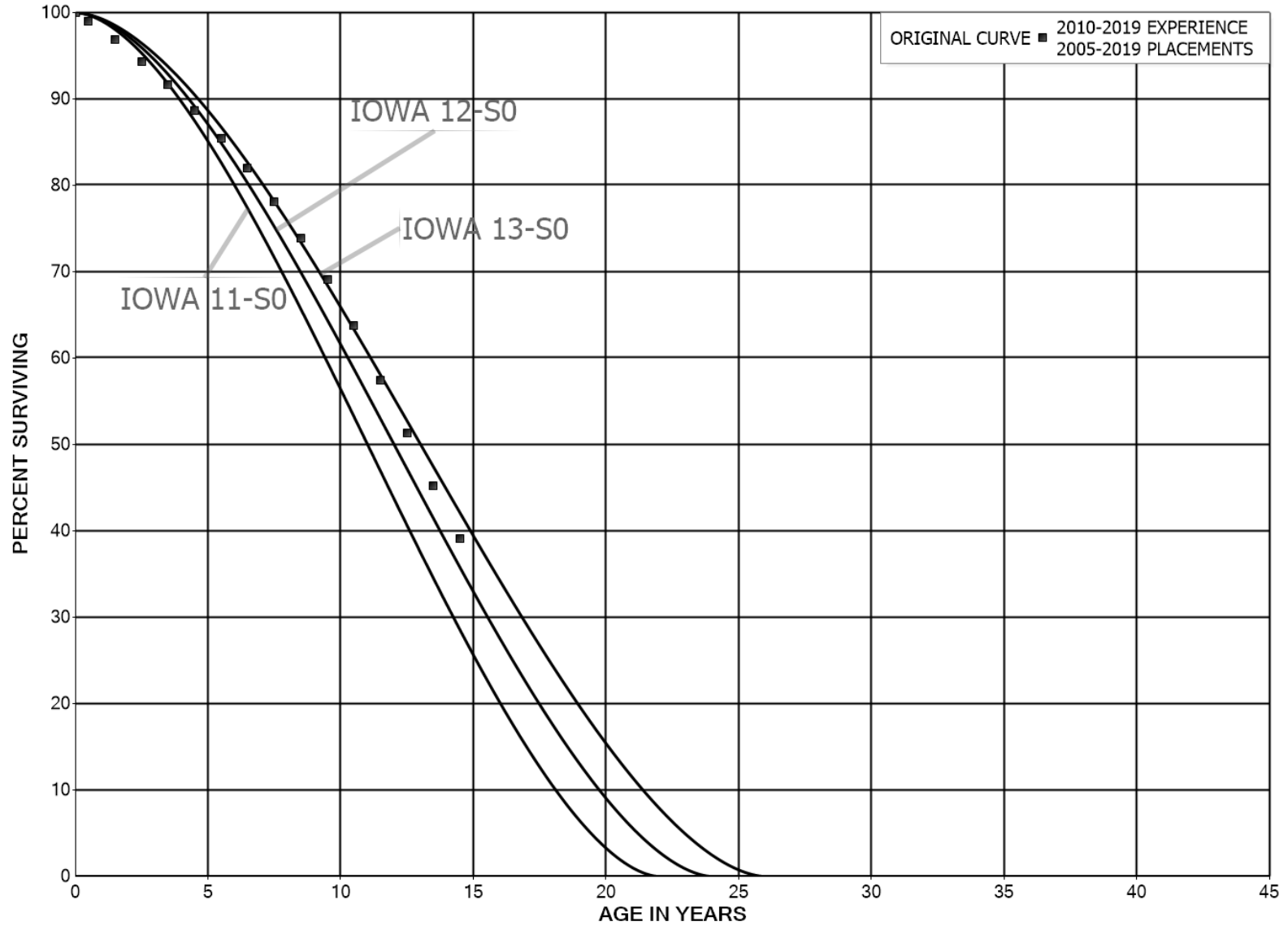




FIGURE 8. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN R1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

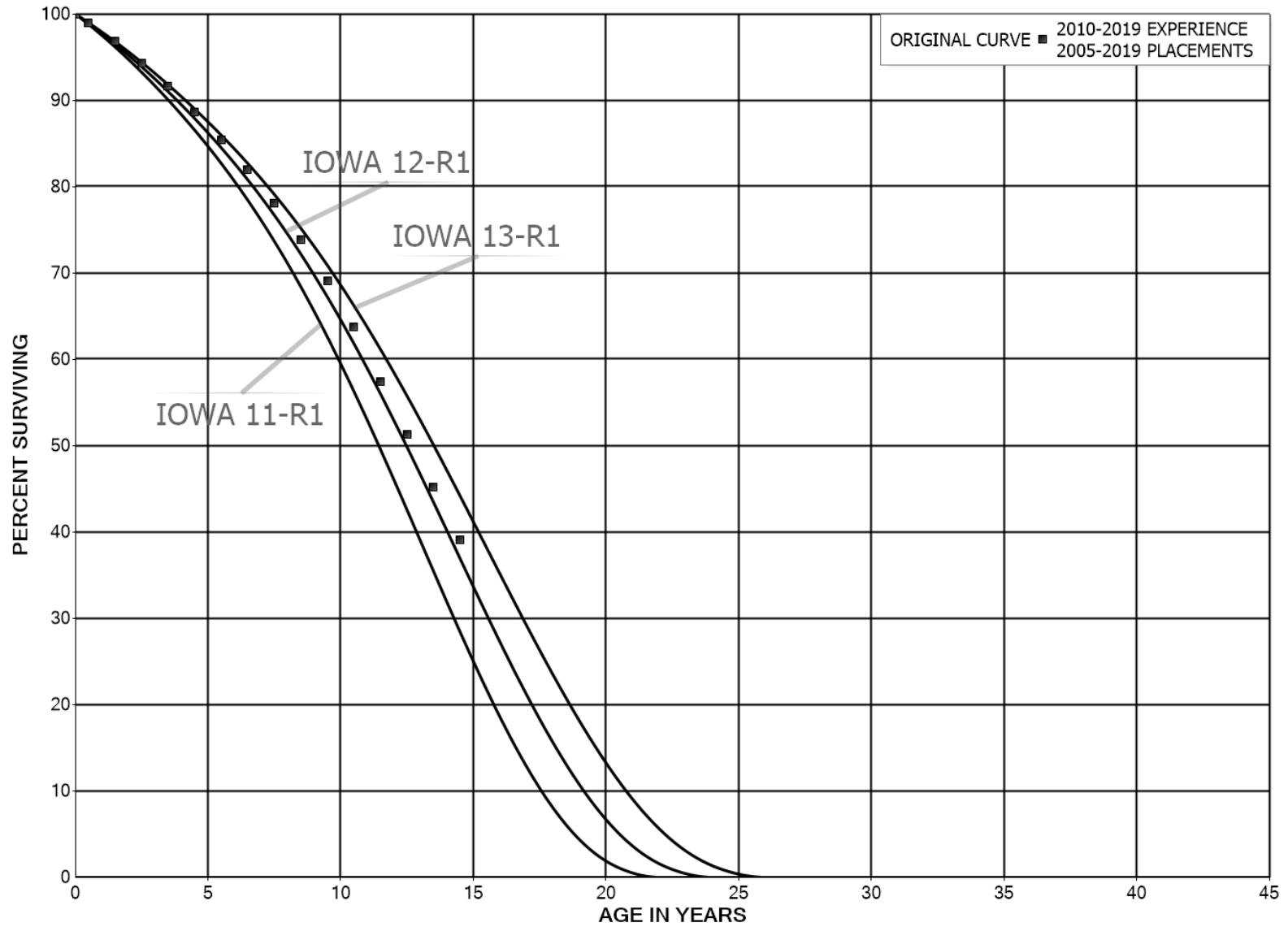
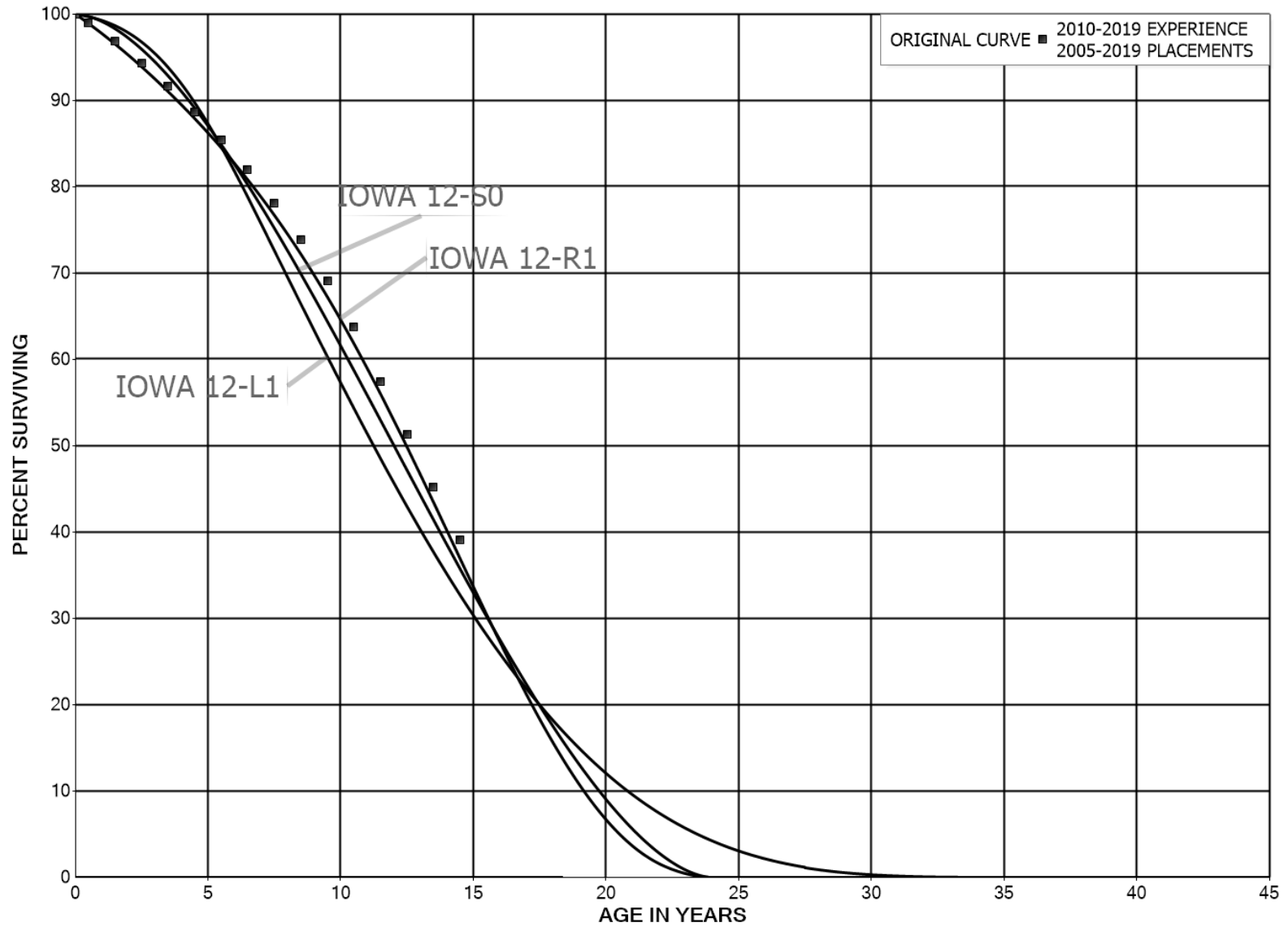




FIGURE 9. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN L1, S0 AND R1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES



PART III. SERVICE LIFE CONSIDERATIONS

PART III. SERVICE LIFE CONSIDERATIONS

Judgments. The survivor curve estimates were based on judgment which considered factors including statistical analyses of retirements, Company policies and outlook as determined during discussions with management, and survivor curve estimates from previous studies from other water companies. For depreciable groups which consist of numerous similar items of property, the distribution of the lives of the units in the group was judged on the basis of an average survival pattern for the entire group.

Account 334, Meters – 1992 and Subsequent, is used to illustrate the manner in which the study was conducted. Aged plant accounting data have been compiled for the years through 2019. These data have been coded according to account or property group, type of transaction, year in which the transaction took place, and year in which the utility plant was placed in service. The retirements, other plant transactions and plant additions were analyzed by the retirement rate method.

The survivor curve estimate for this account is the 25-R2.5. The statistical analyses for the period 2013-2019 is set forth on page VI-58 which represents a reasonable life characteristic of the meters that are currently in service. Based on the City's sampling program, industry expectations and management outlook a 25-year average life is reasonable.

The amortization periods selected for general plant Accounts 321, 328, 333 and 334 are discussed in the section, "Amortization of General Plant Accounts."

PART IV. CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

PART IV. CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

BOOK RESERVE

The book reserve as of December 31, 2019, is the result of a bringforward of the book reserve established by the Commission for the water property. The projected book reserve as of December 31, 2020, is a bringforward of the December 31, 2019 book reserve based on projected accruals and retirements.

GROUP DEPRECIATION PROCEDURES

A group procedure for depreciation is appropriate when considering more than a single item of property. Normally the items within a group do not have identical service lives, but have lives that are dispersed over a range of time. There are two primary group procedures, namely, average service life and equal life group. In the average service life procedure, the rate of annual depreciation is based on the average life or average remaining life of the group, and this rate is applied to the surviving balances of the group's cost. A characteristic of this procedure is that the cost of plant retired prior to average life is not fully recouped at the time of retirement, whereas the cost of plant retired subsequent to average life is more than fully recouped. Over the entire life cycle, the portion of cost not recouped prior to average life is balanced by the cost recouped subsequent to average life.

Single Unit of Property

The calculation of straight line depreciation for a single unit of property is straightforward. For example, if a \$1,000 unit of property attains an age of four years and has a life expectancy of six years, the annual accrual over the total life is:

$$\frac{\$1,000}{(4 + 6)} = \$100 \text{ per year.}$$

The accrued depreciation is:

$$\$1,000 \left(1 - \frac{6}{10} \right) = \$400.$$

Remaining Life Annual Accruals

For the purpose of calculating remaining life accruals as of December 31, 2020, the depreciation reserve for each plant account is allocated among vintages in proportion to the calculated accrued depreciation for the account. Explanations of remaining life accruals and calculated accrued depreciation follow. The detailed calculations as of December 31, 2020, are set forth in the Results of Study section of the report.

Equal Life Group Procedure

In the equal life group procedure, the remaining life annual accrual for each vintage is determined by dividing future book accruals (original cost less book reserve) by the composite remaining life for the surviving original cost of that vintage. The composite remaining life is derived by compositing the individual equal life group remaining lives in accordance with the following equation:

$$\text{Composite Remaining Life} = \frac{\sum \left(\frac{\text{Book Cost}}{\text{Life}} \times \text{Remaining Life} \right)}{\sum \frac{\text{Book Cost}}{\text{Life}}}.$$

The book costs and lives of the several equal life groups which are summed in the foregoing equation are defined by the estimated survivor curve.

Inasmuch as book cost divided by life equals the whole life annual accrual, the foregoing equation reduces to the following form:

$$\text{Composite Remaining Life} = \frac{\sum \text{Whole Life Future Accruals}}{\sum \text{Whole Life Annual Accruals}}$$

or

$$\text{Composite Remaining Life} = \frac{\sum \text{Book Cost} - \text{Calc. Reserve}}{\sum \text{Whole Life Annual Accrual}}.$$

The annual accrual rate for each account is equal to the sum of the remaining life annual accruals for all vintages divided by the account's total original cost. The account's "composite remaining life" is calculated by dividing the sum of the future book accruals for all vintages by the sum of the remaining life annual accruals for all vintages.

The calculated accrued depreciation in the equal life group procedure also represents that portion of depreciable cost which will not be allocated to expense through future accruals. However, the calculation is based at the equal life group level rather than the vintage group level, and does not require the use of averages. The equal life group accrued depreciation ratio is calculated as follows:

$$\text{Ratio} = 1 - \left(\frac{\text{Remaining Life}}{\text{Service Life}} \right)$$

Inasmuch as service life minus remaining life equals age, when averages are not employed, the foregoing equation reduces to:

$$\text{Ratio} = \left(\frac{\text{Age}}{\text{Service Life}} \right)$$

AMORTIZATION OF GENERAL PLANT ACCOUNTS

In order to use a more efficient and cost effective accounting process for equipment recorded in general plant Accounts 321, 328, 333 and 334; amounts capitalized in these accounts are amortized rather than depreciated. Amortization as defined in the Uniform System of Accounts is the gradual extinguishment of an amount in an account by distributing such amount over a fixed period, over the life of the asset or liability to which it applies, or over the period during which it is anticipated the benefit will be realized.

The primary reasons for the amortization of certain general plant accounts is that the effort required to unitize additions, periodically inventory equipment and determine amounts to be retired for equipment recorded in these accounts is disproportionate to the original cost of the equipment when compared to other water plant accounts.

Accounting for such equipment using an amortization concept consists of capitalization of amounts to these accounts based on the same criteria as used previously under depreciation accounting, amortization of the asset over a fixed period, retirement of the equipment at the end of the amortization period and recognition of any net salvage related to disposition of equipment in these accounts as a gain or loss. For equipment in these accounts that was placed in service prior to implementation of amortization accounting, the net book value by vintage amortized over the remaining amortization period specified for each account and the original cost will be retired at the end of this period.

The amortization periods selected for each account or subaccount are based on a review of the existing depreciation rates for the accounts, typical service lives used for each type of equipment and a consideration of the period during which it is anticipated

that most of the benefit of the equipment will be realized. The amortization periods are as follows:

<u>Account Number</u>	<u>Description</u>	<u>Amortization Period, Years</u>
321	Laboratory Equipment	20
328	Office Furniture and Equipment	
	Office Furniture	40
	Office Equipment	15
	Microprocessor	5
	Digital Aerial Mapping	5
333	Communication Equipment	15
334	Miscellaneous Equipment	15

PART V. RESULTS OF STUDY

PART V. RESULTS OF STUDY

DESCRIPTION OF SUMMARY TABULATIONS

The results of the depreciation study are summarized in Table 1 which sets forth, by depreciable group, the estimated survivor curve, calculated annual accruals and book reserve related to original cost. Table 2 presents the bringforward to December 31, 2020 of the book reserve as of December 31, 2019. Table 3 sets forth the calculation of estimated depreciation accruals for the twelve months ended December 31, 2020.

DESCRIPTION OF DETAILED TABULATIONS

Supporting statistical data for the estimates of average service lives and survivor curves as well as, the annual depreciation calculations are presented in two sections.

The section beginning on page VI-2 sets forth, for each depreciable group analyzed by the retirement rate method, a chart depicting the original and estimated survivor curves followed by a tabular presentation of the original life table plotted on the chart. A cumulative summary, by year installed, for utility plant and the supporting data for the original cost depreciation calculations are presented in the section beginning on page VII-2.

In the first section, the survivor curves estimated for the depreciable groups are shown as dark smooth curves on the charts. Each smooth survivor curve is denoted by a numeral followed by the type curve designation. The numeral used is the average life derived from the entire curve from 100 percent to zero percent surviving. In cases where only a segment of the estimated curve is used in the depreciation calculation, the numeral used for identification purposes is not a designation of the average life of the group. The titles of the charts indicate the group, the symbol used to plot the points of the original life

table, and the experience and placement bands of the life tables which were plotted. The experience band indicates the range of years for which the retirements were used to develop the stub survivor curve. The placements indicate, for the related experience band, the range of years of installations which appear in the experience.

The tables of the calculated annual depreciation related to original cost are presented in account sequence in the second section and indicate the estimated average survivor curves used in the calculations. The tables set forth, for each installation year, the original cost, calculated accrued depreciation, allocated book reserve, remaining life expectancy, and the calculated annual accrual.



CITY OF BETHLEHEM - BUREAU OF WATER

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WATER PLANT AS OF DECEMBER 31, 2020

		PROBABLE			BOOK	CALCULATED ANNUAL		COMPOSITE	
ACCOUNT		RETIREMENT	SURVIVOR	ORIGINAL	DEPRECIATION	FUTURE	ACCRUAL	ACCRUAL	REMAINING
(1)		DATE	CURVE	COST	RESERVE	ACCRUALS	AMOUNT	RATE	LIFE
		(2)	(3)	(4)	(5)	(6)	(7)	(8)=(7)/(4)	(9)=(6)/(7)
NONDEPRECIABLE PLANT									
311.12	RESERVOIR LAND			686,402.00					
311.2	POWER AND PUMPING LAND			13,100.00					
311.3	PURIFICATION LAND			744,178.03					
311.4	TRANSMISSION AND DISTRIBUTION LAND AND RIGHTS OF WAY			574,482.28					
311.5	DISTRIBUTION RESERVOIR AND STANDPIPE LAND			8,184.90					
TOTAL NONDEPRECIABLE PLANT				2,026,347.21					
DEPRECIABLE PLANT									
312.11	COLLECTING AND IMPOUNDING RESERVOIRS								
	WILD CREEK RESERVOIR	06-2091	125-R3	2,377,839.59	974,387	1,403,453	26,485	1.11	53.0
	PENN FOREST RESERVOIR	06-2108	125-R3	68,560,105.32	14,534,069	54,026,036	735,850	1.07	73.4
	TOTAL COLLECTING AND IMPOUNDING RESERVOIRS			70,937,944.91	15,508,456	55,429,489	762,335	1.07	72.7
312.12	LAKE, RIVER AND OTHER INTAKES								
	TUNKHANNOCK INTAKE	06-2044	65-S1.5	410,771.89	279,037	131,735	7,184	1.75	18.3
	MOISTURE CONTROL SYSTEM	06-2027	SQUARE	30,460.16	8,291	22,169	3,411	11.20	6.5
	TOTAL LAKE, RIVER AND OTHER INTAKES			441,232.05	287,328	153,904	10,595	2.40	14.5
312.13	WELLS AND SPRINGS		50-R3	472,997.65	75,508	397,490	10,367	2.19	38.3
312.2	POWER AND PUMPING STRUCTURES								
	SOUTH SIDE BOOSTER STATION	06-2058	SQUARE	754,728.74	143,175	611,554	16,308	2.16	37.5
	5TH AND WILLIAM ST. BOOSTER STATION	06-2054	SQUARE	478,397.41	133,636	344,761	10,291	2.15	33.5
	MOUNTAINTOP PUMP STATION		FULLY ACCRUED	14,828.71	14,829	0	0	-	-
	GOLF COURSE BOOSTER STATION		FULLY ACCRUED	10,400.00	10,400	0	0	-	-
	AIRPORT ROAD PUMPING STATION		FULLY ACCRUED	64,835.00	64,835	0	0	-	-
	TOTAL POWER AND PUMPING STRUCTURES			1,323,189.86	366,875	956,315	26,599	2.01	36.0
312.3	PURIFICATION BUILDINGS								
	WILD CREEK CHEMICAL HOUSE	06-2034	SQUARE	232,411.04	156,223	76,188	5,645	2.43	13.5
	PENNSVILLE TREATMENT PLANT	06-2069	SQUARE	18,963,303.24	6,291,491	12,671,813	261,275	1.38	48.5
	COUNTRY SQUIRE ESTATES TREATMENT BUILDING	06-2025	SQUARE	10,752.00	10,126	626	139	1.29	4.5
	EAST ALLEN GARDENS TREATMENT BUILDING	06-2025	SQUARE	26,312.50	16,817	9,496	2,110	8.02	4.5
	SHADY LANE TREATMENT BUILDING	06-2033	SQUARE	54,519.78	12,565	41,955	3,356	6.16	12.5
	WIL-MAR MANOR TREATMENT BUILDING	06-2023	SQUARE	22,579.00	21,295	1,284	514	2.28	2.5
	TOTAL PURIFICATION BUILDINGS			19,309,877.56	6,508,517	12,801,362	273,039	1.41	46.9
312.5	DISTRIBUTION RESERVOIRS AND STANDPIPES								
	12 MG LOW SERVICE RESERVOIR	06-2066	SQUARE	2,145,718.61	671,954	1,473,765	32,390	1.51	45.5
	2 MG HIGH SERVICE RESERVOIR	06-2034	SQUARE	683,939.55	502,039	181,901	13,473	1.97	13.5
	ONE MILLION GALLON STANDPIPE	06-2034	SQUARE	373,264.55	286,169	87,096	6,452	1.73	13.5
	500 THOUSAND GALLON STANDPIPE	06-2024	SQUARE	660,765.84	481,685	179,081	51,166	7.74	3.5
	FIVE MILLION GALLON S.E. STANDPIPE	06-2025	SQUARE	375,732.59	351,098	24,635	5,474	1.46	4.5
	FIVE MILLION GALLON N.E. STANDPIPE	06-2051	SQUARE	2,752,108.04	1,092,053	1,660,055	57,865	2.10	28.7
	FIVE MILLION GALLON S.W. STANDPIPE	06-2053	SQUARE	1,748,450.09	914,002	834,448	25,676	1.47	32.5
	TANK PAINTING		FULLY ACCRUED	796,561.14	796,561	0	0	-	-
	TOTAL DISTRIBUTION RESERVOIRS AND STANDPIPES			9,536,540.41	5,095,561	4,440,981	192,496	2.02	23.1



CITY OF BETHLEHEM - BUREAU OF WATER

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WATER PLANT AS OF DECEMBER 31, 2020

ACCOUNT (1)	PROBABLE RETIREMENT DATE (2)	SURVIVOR CURVE (3)	ORIGINAL COST (4)	BOOK DEPRECIATION RESERVE (5)	FUTURE ACCRUALS (6)	CALCULATED ANNUAL		COMPOSITE REMAINING LIFE (9)=(6)/(7)
						ACCRUAL AMOUNT (7)	ACCRUAL RATE (8)=(7)/(4)	
312.62								
STORES, SHOP AND GARAGE BUILDINGS								
STEEL STORAGE BUILDING		FULLY ACCRUED	35,520.78	35,521	0	0	-	-
WOOD STORAGE BUILDING		FULLY ACCRUED	15,661.20	15,661	0	0	-	-
VEHICLE STORAGE BUILDING	06-2025	SQUARE	28,473.73	24,135	4,339	964	3.39	4.5
STEFKO BLVD. STORAGE BUILDING	06-2053	SQUARE	35,449.00	5,758	29,691	913	2.58	32.5
EAST ALLEN TWP STORAGE BUILDING	06-2053	SQUARE	11,000.00	2,032	8,968	276	2.51	32.5
TOTAL STORES, SHOP AND GARAGE BUILDINGS			126,104.71	83,107	42,998	2,153	1.71	20.0
312.63								
MISCELLANEOUS STRUCTURES AND IMPROVEMENTS								
DWELLING AT WILD CREEK	06-2026	SQUARE	33,269.90	28,527	4,743	862	2.59	5.5
DWELLING AT PENN FOREST		FULLY ACCRUED	11,815.03	11,815	0	0	-	-
RADIO CONTROL TOWER		40-SQ	49,474.80	33,796	15,679	1,254	2.53	12.5
TOTAL MISCELLANEOUS STRUCTURES AND IMPROVEMENTS			94,559.73	74,138	20,422	2,116	2.24	9.7
316								
ELECTRIC PUMPING EQUIPMENT		50-R2	2,583,357.44	1,535,427	1,047,930	34,109	1.32	30.7
317								
OIL ENGINE PUMPING EQUIPMENT		45-S2.5	56,876.68	53,889	2,988	141	0.25	21.2
319								
GAS ENGINE PUMPING EQUIPMENT		40-R2.5	29,592.00	22,901	6,691	450	1.52	14.9
320								
PURIFICATION SYSTEM								
GENERAL EQUIPMENT		45-R2.5	7,987,631.09	3,928,118	4,059,513	164,616	2.06	24.7
SCADA EQUIPMENT		10-SQ	1,437,543.68	1,296,769	140,775	19,529	1.36	7.2
FILTERS, BASINS AND PIPING	06-2069	SQUARE	9,176,120.81	3,106,519	6,069,602	125,146	1.36	48.5
TOTAL PURIFICATION SYSTEM			18,601,295.58	8,331,406	10,269,890	309,291	1.66	33.2
321								
LABORATORY EQUIPMENT		20-SQ	296,095.34	276,071	20,024	2,162	0.73	9.3
322								
MAINS AND ACCESSORIES								
CAST IRON - 4 INCH AND UNDER		70-R3	152,157.05	103,004	49,153	1,821	1.20	27.0
CAST IRON - 6 INCH AND LARGER		110-R3	24,252,762.04	5,885,582	18,367,180	240,149	0.99	76.5
CAST IRON AND CONCRETE PRESSURE PIPE		110-R3	4,467,369.25	2,548,354	1,919,015	44,965	1.01	42.7
STEEL PIPE		75-R3	17,561,045.06	8,110,594	9,450,451	229,399	1.31	41.2
GALVANIZED STEEL		50-R4	62,888.34	57,930	4,958	350	0.56	14.2
VALVES AND VALVE BOXES		70-R3	3,146,973.75	1,334,061	1,812,912	42,876	1.36	42.3
TELEMETERING EQUIPMENT		20-R4	3,097,055.42	2,809,841	287,215	37,699	1.22	7.6
TOTAL MAINS AND ACCESSORIES			52,740,250.91	20,849,367	31,890,884	597,259	1.13	53.4
323								
SERVICES		65-R3	7,833,904.58	3,586,090	4,247,814	117,805	1.50	36.1
324								
METERS								
METERS - 1991 AND PRIOR		30-L5	149,926.34	139,164	10,762	2,934	1.96	3.7
METERS - 1992 AND SUBSEQUENT		25-R2.5	6,833,594.93	3,945,820	2,887,775	233,692	3.42	12.4
TOTAL METERS			6,983,521.27	4,084,984	2,898,537	236,626	3.39	12.2
325								
FIRE HYDRANTS		75-R3	2,909,742.75	928,474	1,981,268	38,912	1.34	50.9
328								
OFFICE FURNITURE AND EQUIPMENT								
OFFICE FURNITURE		40-SQ	29,754.03	13,793	15,961	769	2.58	20.8
OFFICE EQUIPMENT		15-SQ	50,388.31	41,497	8,891	900	1.79	9.9
MICROPROCESSOR		5-SQ	359,856.01	357,966	1,890	1,890	0.53	1.0
DIGITAL AERIAL MAPPING		FULLY ACCRUED	199,317.28	199,317	0	0	-	-
TOTAL OFFICE FURNITURE AND EQUIPMENT			639,315.63	612,573	26,742	3,559	0.56	7.5



CITY OF BETHLEHEM - BUREAU OF WATER

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WATER PLANT AS OF DECEMBER 31, 2020

ACCOUNT		PROBABLE RETIREMENT DATE	SURVIVOR CURVE	ORIGINAL COST	BOOK DEPRECIATION RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT		COMPOSITE REMAINING LIFE
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)=(7)/(4)	(9)=(6)/(7)
329	TRANSPORTATION EQUIPMENT								
	PASSENGER CARS		8-S3	203,511.90	201,120.75	2,391	1,485	0.73	1.6
	LIGHT TRUCKS		12-L3	1,140,183.37	942,168.46	198,015	24,909	2.18	7.9
	HEAVY TRUCKS		13-L3	999,134.70	753,490	245,645	29,522	2.95	8.3
	MARINE EQUIPMENT		FULLY ACCRUED	8,982.96	8,983	0	0	-	-
	TOTAL TRANSPORTATION EQUIPMENT			2,351,812.93	1,905,762	446,051	55,916	2.38	8.0
332	TOOLS AND WORK EQUIPMENT								
	CONSTRUCTION EQUIPMENT		15-L3	880,534.50	678,484	202,051	22,040	2.50	9.2
	TOOLS AND WORK EQUIPMENT		20-L1	676,162.52	495,349	180,814	18,909	2.80	9.6
	TOTAL TOOLS AND WORK EQUIPMENT			1,556,697.02	1,173,833	382,865	40,949	2.63	9.3
333	COMMUNICATION EQUIPMENT		15-SQ	784,037.24	641,788	142,249	26,156	3.34	5.4
334	MISCELLANEOUS EQUIPMENT		15-SQ	315,246.65	214,152	101,095	12,089	3.83	8.4
	TOTAL DEPRECIABLE PLANT			199,924,192.90	72,216,207	127,707,989	2,755,124	1.38	46.4
	TOTAL WATER PLANT IN SERVICE			201,950,540.11	72,216,207	127,707,989	2,755,124	1.36	46.4
	CUSTOMERS' ADVANCES FOR CONSTRUCTION								
322	MAINS AND ACCESSORIES		110-R3	311,897.34	95,410	216,487	2,980	0.96	72.6
	TOTAL CUSTOMERS' ADVANCES FOR CONSTRUCTION			311,897.34	95,410	216,487	2,980	0.96	72.6
	CONTRIBUTIONS IN AID OF CONSTRUCTION								
	NONDEPRECIABLE PLANT								
311.12	RESERVOIR LAND			52,715.13					
311.4	TRANSMISSION AND DISTRIBUTION LAND AND RIGHTS OF WAY			42,271.40					
	TOTAL NONDEPRECIABLE PLANT			94,986.53					
	DEPRECIABLE PLANT								
312.11	COLLECTING AND IMPOUNDING RESERVOIRS								
	WILD CREEK RESERVOIR	06-2091	125-R3	784,949.87	255,068	529,882	11,646	1.48	45.5
	TOTAL COLLECTING AND IMPOUNDING RESERVOIRS			784,949.87	255,068	529,882	11,646	1.48	45.5
312.12	LAKE, RIVER AND OTHER INTAKES								
	TUNKHANNOCK INTAKE	06-2044	65-S1.5	131,607.59	80,157	51,451	3,113	2.37	16.5
	TOTAL LAKE, RIVER AND OTHER INTAKES			131,607.59	80,157	51,451	3,113	2.37	16.5
312.13	WELLS AND SPRINGS		50-R3	13,047.00	12,077	970	83	0.64	11.7
312.2	POWER AND PUMPING STRUCTURES								
	MOUNTAINTOP PUMP STATION		FULLY ACCRUED	2,643.25	2,643	0	0	-	-
	TOTAL POWER AND PUMPING STRUCTURES			2,643.25	2,643	0	0	0.00	0.0



CITY OF BETHLEHEM - BUREAU OF WATER

TABLE 1. SUMMARY OF ESTIMATED SURVIVOR CURVES, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WATER PLANT AS OF DECEMBER 31, 2020

ACCOUNT (1)	PROBABLE RETIREMENT DATE (2)	SURVIVOR CURVE (3)	ORIGINAL COST (4)	BOOK DEPRECIATION RESERVE (5)	FUTURE ACCRUALS (6)	CALCULATED ANNUAL		COMPOSITE REMAINING LIFE (9)=(6)/(7)
						ACCRUAL AMOUNT (7)	ACCRUAL RATE (8)=(7)/(4)	
312.3 PURIFICATION BUILDINGS								
WILD CREEK CHEMICAL HOUSE	06-2034	SQUARE	41,822.43	38,706	3,117	231	0.55	13.5
COUNTRY SQUIRE ESTATES TREATMENT BUILDING	06-2025	SQUARE	10,752.00	10,569	183	41	0.38	4.5
EAST ALLEN GARDENS TREATMENT BUILDING	06-2025	SQUARE	10,752.00	10,569	183	41	0.38	4.5
SHADY LANE TREATMENT BUILDING	06-2033	SQUARE	4,086.00	3,602	484	39	0.95	12.4
WIL-MAR MANOR TREATMENT BUILDING		FULLY ACCRUED	21,219.00	21,219	0	0	-	-
TOTAL PURIFICATION BUILDINGS			88,631.43	84,665	3,967	352	0.40	11.3
312.5 DISTRIBUTION RESERVOIRS AND STANDPIPES								
ONE MILLION GALLON STANDPIPE	06-2034	SQUARE	149,506.00	142,988	6,518	483	0.32	13.5
500 THOUSAND GALLON STANDPIPE		FULLY ACCRUED	99,691.00	99,691	0	0	-	-
TOTAL DISTRIBUTION RESERVOIRS AND STANDPIPES			249,197.00	242,679	6,518	483	0.19	13.5
316 ELECTRIC PUMPING EQUIPMENT		FULLY ACCRUED	15,240.35	15,240	0	0	-	-
317 OIL ENGINE PUMPING EQUIPMENT		FULLY ACCRUED	5,354.12	5,354	0	0	-	-
322 MAINS AND ACCESSORIES								
CAST IRON - 4 INCH AND UNDER		70-R3	96,756.00	56,473	40,283	1,471	1.52	27.4
CAST IRON - 6 INCH AND LARGER		110-R3	2,883,077.02	675,217	2,207,860	28,351	0.98	77.9
CAST IRON AND CONCRETE PRESSURE PIPE		110-R3	1,081,994.83	671,181	410,813	10,727	0.99	38.3
STEEL PIPE		75-R3	1,117,147.08	748,143	369,004	13,842	1.24	26.7
GALVANIZED STEEL		50-R4	25,129.00	22,153	2,976	349	1.39	8.5
TOTAL MAINS AND ACCESSORIES			5,204,103.93	2,173,168	3,030,936	54,740	1.05	55.4
323 SERVICES		65-R3	318,671.00	168,784	149,887	4,747	1.49	31.6
325 FIRE HYDRANTS		75-R3	105,002.05	35,969	69,033	1,411	1.34	48.9
TOTAL DEPRECIABLE PLANT			6,918,447.59	3,075,803	3,842,644	76,575	1.11	50.2
TOTAL CONTRIBUTIONS IN AID OF CONSTRUCTION			7,013,434.12	3,075,803	3,842,644	76,575	1.09	50.2
TOTAL WATER PLANT			194,625,208.65	69,044,994	123,648,858	2,675,569	1.37	46.2



CITY OF BETHLEHEM - BUREAU OF WATER

TABLE 2. BRINGFORWARD TO DECEMBER 31, 2020 OF BOOK RESERVE AS OF DECEMBER 31, 2019

ACCOUNT		BOOK RESERVE AS OF DECEMBER 31, 2019	ANNUAL ACCRUALS	RETIREMENTS	COST OF REMOVAL	SALVAGE	TRANSFERS	BOOK RESERVE AS OF DECEMBER 31, 2020
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)
NONDEPRECIABLE PLANT								
311.12	RESERVOIR LAND							
311.2	POWER AND PUMPING LAND							
311.3	PURIFICATION LAND							
311.4	TRANSMISSION AND DISTRIBUTION LAND AND RIGHTS OF WAY							
311.5	DISTRIBUTION RESERVOIR AND STANDPIPE LAND							
TOTAL NONDEPRECIABLE PLANT								
DEPRECIABLE PLANT								
312.11	COLLECTING AND IMPOUNDING RESERVOIRS							
	WILD CREEK RESERVOIR	950,352	26,135	2,100	0	0	0	974,387
	PENN FOREST RESERVOIR	13,793,620	740,449	0	0	0	0	14,534,069
	TOTAL COLLECTING AND IMPOUNDING RESERVOIRS	14,743,972	766,584	2,100	0	0	0	15,508,456
312.12	LAKE, RIVER AND OTHER INTAKES							
	TUNKHANNOCK INTAKE	271,725	7,312	0	0	0	0	279,037
	MOISTURE CONTROL SYSTEM	4,883	3,408	0	0	0	0	8,291
	TOTAL LAKE, RIVER AND OTHER INTAKES	276,608	10,720	0	0	0	0	287,328
312.13	WELLS AND SPRINGS	69,418	9,290	3,200	0	0	0	75,508
312.2	POWER AND PUMPING STRUCTURES							
	SOUTH SIDE BOOSTER STATION	126,873	16,302	0	0	0	0	143,175
	5TH AND WILLIAM ST. BOOSTER STATION	123,350	10,286	0	0	0	0	133,636
	MOUNTAINTOP PUMP STATION	14,829	0	0	0	0	0	14,829
	GOLF COURSE BOOSTER STATION	10,400	0	0	0	0	0	10,400
	AIRPORT ROAD PUMPING STATION	64,835	0	0	0	0	0	64,835
	TOTAL POWER AND PUMPING STRUCTURES	340,287	26,588	0	0	0	0	366,875
312.3	PURIFICATION BUILDINGS							
	WILD CREEK CHEMICAL HOUSE	150,575	5,648	0	0	0	0	156,223
	PENNSVILLE TREATMENT PLANT	6,068,392	247,599	24,500	0	0	0	6,291,491
	COUNTRY SQUIRE ESTATES TREATMENT BUILDING	9,987	139	0	0	0	0	10,126
	EAST ALLEN GARDENS TREATMENT BUILDING	14,707	2,110	0	0	0	0	16,817
	SHADY LANE TREATMENT BUILDING	11,826	1,939	1,200	0	0	0	12,565
	WIL-MAR MANOR TREATMENT BUILDING	20,780	515	0	0	0	0	21,295
	TOTAL PURIFICATION BUILDINGS	6,276,267	257,950	25,700	0	0	0	6,508,517
312.5	DISTRIBUTION RESERVOIRS AND STANDPIPES							
	12 MG LOW SERVICE RESERVOIR	639,554	32,400	0	0	0	0	671,954
	2 MG HIGH SERVICE RESERVOIR	489,833	12,206	0	0	0	0	502,039
	ONE MILLION GALLON STANDPIPE	279,712	6,457	0	0	0	0	286,169
	500 THOUSAND GALLON STANDPIPE	437,814	43,837	0	0	0	34	481,685.00
	FIVE MILLION GALLON S.E. STANDPIPE	345,612	5,486	0	0	0	0	351,098
	FIVE MILLION GALLON N.E. STANDPIPE	1,036,451	55,602	0	0	0	0	1,092,053
	FIVE MILLION GALLON S.W. STANDPIPE	888,300	25,702	0	0	0	0	914,002
	TANK PAINTING	775,884	20,711	0	0	0	(34)	796,561
	TOTAL DISTRIBUTION RESERVOIRS AND STANDPIPES	4,893,160	202,401	0	0	0	0	5,095,561



CITY OF BETHLEHEM - BUREAU OF WATER

TABLE 2. BRINGFORWARD TO DECEMBER 31, 2020 OF BOOK RESERVE AS OF DECEMBER 31, 2019

ACCOUNT		BOOK RESERVE AS OF DECEMBER 31, 2019	ANNUAL ACCRUALS	RETIREMENTS	COST OF REMOVAL	SALVAGE	TRANSFERS	BOOK RESERVE AS OF DECEMBER 31, 2020
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)
312.62	STORES, SHOP AND GARAGE BUILDINGS							
	STEEL STORAGE BUILDING	35,521	0	0	0	0	0	35,521
	WOOD STORAGE BUILDING	15,661	0	0	0	0	0	15,661
	VEHICLE STORAGE BUILDING	23,170	965	0	0	0	0	24,135
	STEFKO BLVD. STORAGE BUILDING	4,843	915	0	0	0	0	5,758
	EAST ALLEN TWP STORAGE BUILDING	1,756	276	0	0	0	0	2,032
	TOTAL STORES, SHOP AND GARAGE BUILDINGS	80,951	2,156	0	0	0	0	83,107
312.63	MISCELLANEOUS STRUCTURES AND IMPROVEMENTS							
	DWELLING AT WILD CREEK	27,665	862	0	0	0	0	28,527
	DWELLING AT PENN FOREST	11,815	0	0	0	0	0	11,815
	RADIO CONTROL TOWER	32,544	1,252	0	0	0	0	33,796
	TOTAL MISCELLANEOUS STRUCTURES AND IMPROVEMENTS	72,024	2,114	0	0	0	0	74,138
316	ELECTRIC PUMPING EQUIPMENT	1,521,980	13,447	0	0	0	0	1,535,427
317	OIL ENGINE PUMPING EQUIPMENT	53,747	142	0	0	0	0	53,889
319	GAS ENGINE PUMPING EQUIPMENT	22,439	462	0	0	0	0	22,901
320	PURIFICATION SYSTEM							
	GENERAL EQUIPMENT	3,770,681	163,437	6,000	0	0	0	3,928,118
	SCADA EQUIPMENT	1,279,162	18,807	1,200	0	0	0	1,296,769
	FILTERS, BASINS AND PIPING	2,997,994	123,025	14,500	0	0	0	3,106,519
	TOTAL PURIFICATION SYSTEM	8,047,837	305,269	21,700	0	0	0	8,331,406
321	LABORATORY EQUIPMENT	273,702	2,369	0	0	0	0	276,071
322	MAINS AND ACCESSORIES							
	CAST IRON - 4 INCH AND UNDER	101,148	1,856	0	0	0	0	103,004
	CAST IRON - 6 INCH AND LARGER	5,661,137	235,545	11,100	0	0	0	5,885,582
	CAST IRON AND CONCRETE PRESSURE PIPE	2,502,787	45,567	0	0	0	0	2,548,354
	STEEL PIPE	7,878,788	231,806	0	0	0	0	8,110,594
	GALVANIZED STEEL	57,559	371	0	0	0	0	57,930
	VALVES AND VALVE BOXES	1,291,650	42,911	500	0	0	0	1,334,061
	TELEMETERING EQUIPMENT	2,784,195	35,996	10,350	0	0	0	2,809,841
	TOTAL MAINS AND ACCESSORIES	20,277,265	594,052	21,950	0	0	0	20,849,367
323	SERVICES	3,468,931	117,159	0	0	0	0	3,586,090
324	METERS							
	METERS - 1991 AND PRIOR	148,119	3,545	12,500	0	0	0	139,164
	METERS - 1992 AND SUBSEQUENT	3,716,862	236,558	7,600	0	0	0	3,945,820
	TOTAL METERS	3,864,981	240,103	20,100	0	0	0	4,084,984
325	FIRE HYDRANTS	892,594	37,380	1,500	0	0	0	928,474
328	OFFICE FURNITURE AND EQUIPMENT							
	OFFICE FURNITURE	13,848	695	750	0	0	0	13,793
	OFFICE EQUIPMENT	41,734	513	750	0	0	0	41,497
	MICROPROCESSOR	353,324	4,642	0	0	0	0	357,966
	DIGITAL AERIAL MAPPING	199,317	0	0	0	0	0	199,317
	TOTAL OFFICE FURNITURE AND EQUIPMENT	608,223	5,850	1,500	0	0	0	612,573
329	TRANSPORTATION EQUIPMENT							
	PASSENGER CARS	198,821	2,300	0	0	0	0	201,121
	LIGHT TRUCKS	927,394	19,774	5,000	0	0	0	942,168
	HEAVY TRUCKS	727,573	25,917	0	0	0	0	753,490
	MARINE EQUIPMENT	8,983	0	0	0	0	0	8,983
	TOTAL TRANSPORTATION EQUIPMENT	1,862,771	47,991	5,000	0	0	0	1,905,762



CITY OF BETHLEHEM - BUREAU OF WATER

TABLE 2. BRINGFORWARD TO DECEMBER 31, 2020 OF BOOK RESERVE AS OF DECEMBER 31, 2019

ACCOUNT		BOOK RESERVE AS OF DECEMBER 31, 2019	ANNUAL ACCRUALS	RETIREMENTS	COST OF REMOVAL	SALVAGE	TRANSFERS	BOOK RESERVE AS OF DECEMBER 31, 2020
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)
332	TOOLS AND WORK EQUIPMENT							
	CONSTRUCTION EQUIPMENT	668,813	19,671	10,000	0	0	0	678,484
	TOOLS AND WORK EQUIPMENT	474,658	20,691	0	0	0	0	495,349
	TOTAL TOOLS AND WORK EQUIPMENT	1,143,471	40,362	10,000	0	0	0	1,173,833
333	COMMUNICATION EQUIPMENT	611,367	30,421	0	0	0	0	641,788
334	MISCELLANEOUS EQUIPMENT	197,696	16,456	0	0	0	0	214,152
	TOTAL DEPRECIABLE PLANT	69,599,691	2,729,266	112,750	0	0	0	72,216,207
	TOTAL WATER PLANT IN SERVICE	69,599,691	2,729,266	112,750	0	0	0	72,216,207
CUSTOMERS' ADVANCES FOR CONSTRUCTION								
322	MAINS AND ACCESSORIES	92,416	2,994	0	0	0	0	95,410
	TOTAL CUSTOMERS' ADVANCES FOR CONSTRUCTION	92,416	2,994	0	0	0	0	95,410
CONTRIBUTIONS IN AID OF CONSTRUCTION								
NONDEPRECIABLE PLANT								
311.12	RESERVOIR LAND							
311.4	TRANSMISSION AND DISTRIBUTION LAND AND RIGHTS OF WAY							
	TOTAL NONDEPRECIABLE PLANT							
DEPRECIABLE PLANT								
312.11	COLLECTING AND IMPOUNDING RESERVOIRS							
	WILD CREEK RESERVOIR	243,451	11,617	0	0	0	0	255,068
	TOTAL COLLECTING AND IMPOUNDING RESERVOIRS	243,451	11,617	0	0	0	0	255,068
312.12	LAKE, RIVER AND OTHER INTAKES							
	TUNKHANNOCK INTAKE	76,959	3,198	0	0	0	0	80,157
	TOTAL LAKE, RIVER AND OTHER INTAKES	76,959	3,198	0	0	0	0	80,157
312.13	WELLS AND SPRINGS	11,990	87	0	0	0	0	12,077
312.2	POWER AND PUMPING STRUCTURES							
	MOUNTAINTOP PUMP STATION	2,643	0	0	0	0	0	2,643
	TOTAL POWER AND PUMPING STRUCTURES	2,643	0	0	0	0	0	2,643
312.3	PURIFICATION BUILDINGS							
	WILD CREEK CHEMICAL HOUSE	38,476	230	0	0	0	0	38,706
	COUNTRY SQUIRE ESTATES TREATMENT BUILDING	10,528	41	0	0	0	0	10,569
	EAST ALLEN GARDENS TREATMENT BUILDING	10,528	41	0	0	0	0	10,569
	SHADY LANE TREATMENT BUILDING	3,563	39	0	0	0	0	3,602
	WIL-MAR MANOR TREATMENT BUILDING	21,219	0	0	0	0	0	21,219
	TOTAL PURIFICATION BUILDINGS	84,314	351	0	0	0	0	84,665



CITY OF BETHLEHEM - BUREAU OF WATER

TABLE 2. BRINGFORWARD TO DECEMBER 31, 2020 OF BOOK RESERVE AS OF DECEMBER 31, 2019

ACCOUNT		BOOK RESERVE AS OF DECEMBER 31, 2019	ANNUAL ACCRUALS	RETIREMENTS	COST OF REMOVAL	SALVAGE	TRANSFERS	BOOK RESERVE AS OF DECEMBER 31, 2020
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)
312.5	DISTRIBUTION RESERVOIRS AND STANDPIPES							
	ONE MILLION GALLON STANDPIPE	142,510	478	0	0	0	0	142,988
	500 THOUSAND GALLON STANDPIPE	99,691	0	0	0	0	0	99,691
	TOTAL DISTRIBUTION RESERVOIRS AND STANDPIPES	242,201	478	0	0	0	0	242,679
316	ELECTRIC PUMPING EQUIPMENT	15,240	0	0	0	0	0	15,240
317	OIL ENGINE PUMPING EQUIPMENT	5,354	0	0	0	0	0	5,354
322	MAINS AND ACCESSORIES							
	CAST IRON - 4 INCH AND UNDER	54,983	1,490	0	0	0	0	56,473
	CAST IRON - 6 INCH AND LARGER	646,675	28,542	0	0	0	0	675,217
	CAST IRON AND CONCRETE PRESSURE PIPE	660,036	11,145	0	0	0	0	671,181
	STEEL PIPE	734,067	14,076	0	0	0	0	748,143
	GALVANIZED STEEL	21,769	384	0	0	0	0	22,153
	TOTAL MAINS AND ACCESSORIES	2,117,531	55,637	0	0	0	0	2,173,168
323	SERVICES	163,972	4,812	0	0	0	0	168,784
325	FIRE HYDRANTS	34,562	1,407	0	0	0	0	35,969
	TOTAL DEPRECIABLE PLANT	2,998,216	77,587	0	0	0	0	3,075,803
	TOTAL CONTRIBUTIONS IN AID OF CONSTRUCTION	2,998,216	77,587	0	0	0	0	3,075,803
	TOTAL WATER PLANT	66,509,059	2,648,685	112,750	0	0	0	69,044,994

CITY OF BETHLEHEM - BUREAU OF WATER

TABLE 3. CALCULATION OF DEPRECIATION ACCRUALS FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2020

ACCOUNT		ORIGINAL COST AS OF DECEMBER 31, 2019	ORIGINAL COST AS OF DECEMBER 31, 2020	ANNUAL ACCRUAL AMOUNT	COMPOSITE ACCRUAL RATE
(1)		(2)	(3)	(4)	(5)
NONDEPRECIABLE PLANT					
311.12	RESERVOIR LAND	686,402.00	686,402.00		
311.2	POWER AND PUMPING LAND	13,100.00	13,100.00		
311.3	PURIFICATION LAND	744,178.03	744,178.03		
311.4	TRANSMISSION AND DISTRIBUTION LAND AND RIGHTS OF WAY	574,482.28	574,482.28		
311.5	DISTRIBUTION RESERVOIR AND STANDPIPE LAND	8,184.90	8,184.90		
TOTAL NONDEPRECIABLE PLANT		2,026,347.21	2,026,347.21		
DEPRECIABLE PLANT					
312.11	COLLECTING AND IMPOUNDING RESERVOIRS				
	WILD CREEK RESERVOIR	2,331,139.59	2,377,839.59	26,135	1.11
	PENN FOREST RESERVOIR	68,560,105.32	68,560,105.32	740,449	1.08
	TOTAL COLLECTING AND IMPOUNDING RESERVOIRS	70,891,244.91	70,937,944.91	766,584	
312.12	LAKE, RIVER AND OTHER INTAKES				
	TUNKHANNOCK INTAKE	410,771.89	410,771.89	7,312	1.78
	MOISTURE CONTROL SYSTEM	30,460.16	30,460.16	3,408	11.19
	TOTAL LAKE, RIVER AND OTHER INTAKES	441,232.05	441,232.05	10,720	
312.13	WELLS AND SPRINGS	391,197.65	472,997.65	9,290	2.15
312.2	POWER AND PUMPING STRUCTURES				
	SOUTH SIDE BOOSTER STATION	754,728.74	754,728.74	16,302	2.16
	5TH AND WILLIAM ST. BOOSTER STATION	478,397.41	478,397.41	10,286	2.15
	MOUNTAINTOP PUMP STATION	14,828.71	14,828.71	0	0.00
	GOLF COURSE BOOSTER STATION	10,400.00	10,400.00	0	0.00
	AIRPORT ROAD PUMPING STATION	64,835.00	64,835.00	0	0.00
	TOTAL POWER AND PUMPING STRUCTURES	1,323,189.86	1,323,189.86	26,588	
312.3	PURIFICATION BUILDINGS				
	WILD CREEK CHEMICAL HOUSE	232,411.04	232,411.04	5,648	2.43
	PENNSVILLE TREATMENT PLANT	17,991,803.24	18,963,303.24	247,599	1.34
	COUNTRY SQUIRE ESTATES TREATMENT BUILDING	10,752.00	10,752.00	139	1.29
	EAST ALLEN GARDENS TREATMENT BUILDING	26,312.50	26,312.50	2,110	8.02
	SHADY LANE TREATMENT BUILDING	30,719.78	54,519.78	1,939	4.55
	WIL-MAR MANOR TREATMENT BUILDING	22,579.00	22,579.00	515	2.28
	TOTAL PURIFICATION BUILDINGS	18,314,577.56	19,309,877.56	257,950	
312.5	DISTRIBUTION RESERVOIRS AND STANDPIPES				
	12 MG LOW SERVICE RESERVOIR	2,145,718.61	2,145,718.61	32,400	1.51
	2 MG HIGH SERVICE RESERVOIR	664,739.55	683,939.55	12,206	1.81
	ONE MILLION GALLON STANDPIPE	373,264.55	373,264.55	6,457	1.73
	500 THOUSAND GALLON STANDPIPE	630,455.84	660,765.84	43,837	6.79
	FIVE MILLION GALLON S.E. STANDPIPE	375,732.59	375,732.59	5,486	1.46
	FIVE MILLION GALLON N.E. STANDPIPE	2,646,158.04	2,752,108.04	55,602	2.06
	FIVE MILLION GALLON S.W. STANDPIPE	1,748,450.09	1,748,450.09	25,702	1.47
	TANK PAINTING	796,561.14	796,561.14	20,711	2.60
	TOTAL DISTRIBUTION RESERVOIRS AND STANDPIPES	9,381,080.41	9,536,540.41	202,401	
312.62	STORES, SHOP AND GARAGE BUILDINGS				
	STEEL STORAGE BUILDING	35,520.78	35,520.78	0	0.00
	WOOD STORAGE BUILDING	15,661.20	15,661.20	0	0.00
	VEHICLE STORAGE BUILDING	28,473.73	28,473.73	965	3.39
	STEFKO BLVD. STORAGE BUILDING	35,449.00	35,449.00	915	2.58
	EAST ALLEN TWP STORAGE BUILDING	11,000.00	11,000.00	276	2.51
	TOTAL STORES, SHOP AND GARAGE BUILDINGS	126,104.71	126,104.71	2,156	
312.63	MISCELLANEOUS STRUCTURES AND IMPROVEMENTS				
	DWELLING AT WILD CREEK	33,269.90	33,269.90	862	2.59
	DWELLING AT PENN FOREST	11,815.03	11,815.03	0	0.00
	RADIO CONTROL TOWER	49,474.80	49,474.80	1,252	2.53
	TOTAL MISCELLANEOUS STRUCTURES AND IMPROVEMENTS	94,559.73	94,559.73	2,114	
316	ELECTRIC PUMPING EQUIPMENT	1,825,357.44	2,583,357.44	13,447	0.61
317	OIL ENGINE PUMPING EQUIPMENT	56,876.68	56,876.68	142	0.25
319	GAS ENGINE PUMPING EQUIPMENT	29,592.00	29,592.00	462	1.56
320	PURIFICATION SYSTEM				
	GENERAL EQUIPMENT	7,803,431.09	7,987,631.09	163,437	2.07
	SCADA EQUIPMENT	1,433,793.68	1,437,543.68	18,807	1.31
	FILTERS, BASINS AND PIPING	9,049,750.81	9,176,120.81	123,025	1.35
	TOTAL PURIFICATION SYSTEM	18,286,975.58	18,601,295.58	305,269	

CITY OF BETHLEHEM - BUREAU OF WATER

TABLE 3. CALCULATION OF DEPRECIATION ACCRUALS FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2020

	ACCOUNT	ORIGINAL COST AS OF DECEMBER 31, 2019	ORIGINAL COST AS OF DECEMBER 31, 2020	ANNUAL ACCRUAL AMOUNT	COMPOSITE ACCRUAL RATE
	(1)	(2)	(3)	(4)	(5)
321	LABORATORY EQUIPMENT	296,095.34	296,095.34	2,369	0.80
322	MAINS AND ACCESSORIES				
	CAST IRON - 4 INCH AND UNDER	152,157.05	152,157.05	1,856	1.22
	CAST IRON - 6 INCH AND LARGER	23,332,105.24	24,252,762.04	235,545	0.99
	CAST IRON AND CONCRETE PRESSURE PIPE	4,467,369.25	4,467,369.25	45,567	1.02
	STEEL PIPE	17,561,045.06	17,561,045.06	231,806	1.32
	GALVANIZED STEEL	62,888.34	62,888.34	371	0.59
	VALVES AND VALVE BOXES	3,117,348.55	3,146,973.75	42,911	1.37
	TELEMETERING EQUIPMENT	3,003,905.42	3,097,055.42	35,996	1.18
	TOTAL MAINS AND ACCESSORIES	51,696,818.91	52,740,250.91	594,052	
323	SERVICES	7,683,904.58	7,833,904.58	117,159	1.51
324	METERS				
	METERS - 1991 AND PRIOR	162,426.34	149,926.34	3,545	2.27
	METERS - 1992 AND SUBSEQUENT	6,456,194.93	6,833,594.93	236,558	3.56
	TOTAL METERS	6,618,621.27	6,983,521.27	240,103	
325	FIRE HYDRANTS	2,711,242.75	2,909,742.75	37,380	1.33
328	OFFICE FURNITURE AND EQUIPMENT				
	OFFICE FURNITURE	24,954.03	29,754.03	695	2.54
	OFFICE EQUIPMENT	45,588.31	50,388.31	513	1.07
	MICROPROCESSOR	359,856.01	359,856.01	4,642	1.29
	DIGITAL AERIAL MAPPING	199,317.28	199,317.28	0	0.00
	TOTAL OFFICE FURNITURE AND EQUIPMENT	629,715.63	639,315.63	5,850	
329	TRANSPORTATION EQUIPMENT				
	PASSENGER CARS	203,511.90	203,511.90	2,300	1.13
	LIGHT TRUCKS	1,094,173.37	1,140,183.37	19,774	1.77
	HEAVY TRUCKS	949,511.70	999,134.70	25,917	2.66
	MARINE EQUIPMENT	8,982.96	8,982.96	0	0.00
	TOTAL TRANSPORTATION EQUIPMENT	2,256,179.93	2,351,812.93	47,991	
332	TOOLS AND WORK EQUIPMENT				
	CONSTRUCTION EQUIPMENT	845,034.50	880,534.50	19,671	2.28
	TOOLS AND WORK EQUIPMENT	676,162.52	676,162.52	20,691	3.06
	TOTAL TOOLS AND WORK EQUIPMENT	1,521,197.02	1,556,697.02	40,362	
333	COMMUNICATION EQUIPMENT	784,037.24	784,037.24	30,421	3.88
334	MISCELLANEOUS EQUIPMENT	315,246.65	315,246.65	16,456	5.22
	TOTAL DEPRECIABLE PLANT	195,675,047.90	199,924,192.90	2,729,266	
	TOTAL WATER PLANT IN SERVICE	197,701,395.11	201,950,540.11	2,729,266	
CUSTOMERS' ADVANCES FOR CONSTRUCTION					
322	MAINS AND ACCESSORIES	311,897.34	311,897.34	2,994	0.96
	TOTAL CUSTOMERS' ADVANCES FOR CONSTRUCTION	311,897.34	311,897.34	2,994	
CONTRIBUTIONS IN AID OF CONSTRUCTION					
NONDEPRECIABLE PLANT					
311.12	RESERVOIR LAND	52,715.13	52,715.13		
311.4	TRANSMISSION AND DISTRIBUTION LAND AND RIGHTS OF WAY	42,271.40	42,271.40		
	TOTAL NONDEPRECIABLE PLANT	94,986.53	94,986.53		
DEPRECIABLE PLANT					
312.11	COLLECTING AND IMPOUNDING RESERVOIRS				
	WILD CREEK RESERVOIR	784,949.87	784,949.87	11,617	1.48
	TOTAL COLLECTING AND IMPOUNDING RESERVOIRS	784,949.87	784,949.87	11,617	
312.12	LAKE, RIVER AND OTHER INTAKES				
	TUNKHANNOCK INTAKE	131,607.59	131,607.59	3,198	2.43
	TOTAL LAKE, RIVER AND OTHER INTAKES	131,607.59	131,607.59	3,198	
312.13	WELLS AND SPRINGS	13,047.00	13,047.00	87	0.67
312.2	POWER AND PUMPING STRUCTURES				
	MOUNTAINTOP PUMP STATION	2,643.25	2,643.25	0	0.00
	TOTAL POWER AND PUMPING STRUCTURES	2,643.25	2,643.25	0	



CITY OF BETHLEHEM - BUREAU OF WATER

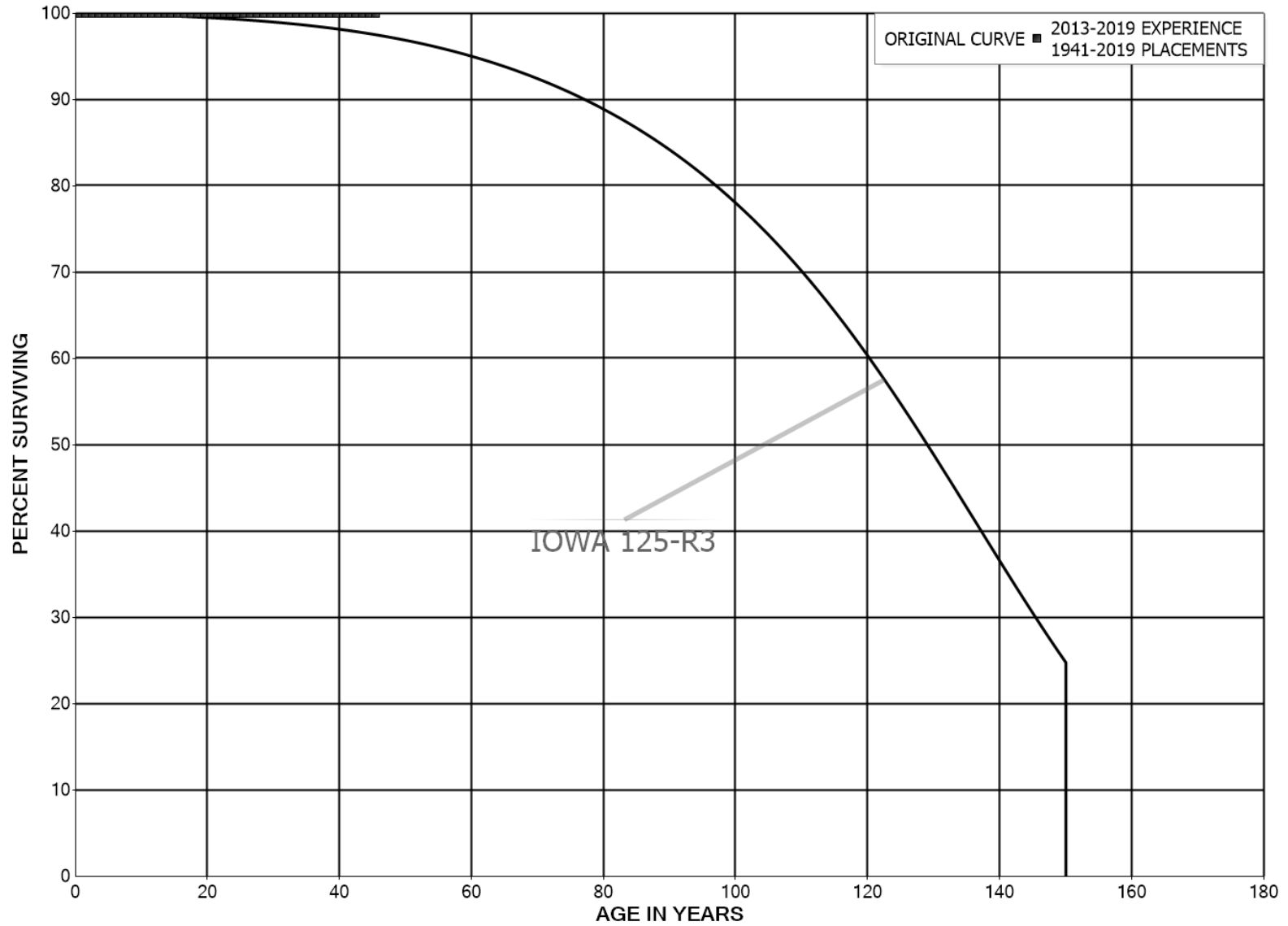
TABLE 3. CALCULATION OF DEPRECIATION ACCRUALS FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2020

ACCOUNT		ORIGINAL COST AS OF DECEMBER 31, 2019	ORIGINAL COST AS OF DECEMBER 31, 2020	ANNUAL ACCRUAL AMOUNT	COMPOSITE ACCRUAL RATE
(1)		(2)	(3)	(4)	(5)
312.3	PURIFICATION BUILDINGS				
	WILD CREEK CHEMICAL HOUSE	41,822.43	41,822.43	230	0.55
	COUNTRY SQUIRE ESTATES TREATMENT BUILDING	10,752.00	10,752.00	41	0.38
	EAST ALLEN GARDENS TREATMENT BUILDING	10,752.00	10,752.00	41	0.38
	SHADY LANE TREATMENT BUILDING	4,086.00	4,086.00	39	0.95
	WIL-MAR MANOR TREATMENT BUILDING	21,219.00	21,219.00	0	0.00
	TOTAL PURIFICATION BUILDINGS	88,631.43	88,631.43	351	
312.5	DISTRIBUTION RESERVOIRS AND STANDPIPES				
	ONE MILLION GALLON STANDPIPE	149,506.00	149,506.00	478	0.32
	500 THOUSAND GALLON STANDPIPE	99,691.00	99,691.00	0	0.00
	TOTAL DISTRIBUTION RESERVOIRS AND STANDPIPES	249,197.00	249,197.00	478	
316	ELECTRIC PUMPING EQUIPMENT	15,240.35	15,240.35	0	0.00
317	OIL ENGINE PUMPING EQUIPMENT	5,354.12	5,354.12	0	0.00
322	MAINS AND ACCESSORIES				
	CAST IRON - 4 INCH AND UNDER	96,756.00	96,756.00	1,490	1.54
	CAST IRON - 6 INCH AND LARGER	2,883,077.02	2,883,077.02	28,542	0.99
	CAST IRON AND CONCRETE PRESSURE PIPE	1,081,994.83	1,081,994.83	11,145	1.03
	STEEL PIPE	1,117,147.08	1,117,147.08	14,076	1.26
	GALVANIZED STEEL	25,129.00	25,129.00	384	1.53
	TOTAL MAINS AND ACCESSORIES	5,204,103.93	5,204,103.93	55,637	
323	SERVICES	318,671.00	318,671.00	4,812	1.51
325	FIRE HYDRANTS	105,002.05	105,002.05	1,407	1.34
TOTAL DEPRECIABLE PLANT		6,918,447.59	6,918,447.59	77,587	
TOTAL CONTRIBUTIONS IN AID OF CONSTRUCTION		7,013,434.12	7,013,434.12	77,587	
TOTAL WATER PLANT		190,376,063.65	194,625,208.65	2,648,685	

PART VI. SERVICE LIFE STATISTICS



CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 312.11 COLLECTING AND IMPOUNDING RESERVOIRS
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.11 COLLECTING AND IMPOUNDING RESERVOIRS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1941-2019

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	87,592		0.0000	1.0000	100.00
0.5	40,059		0.0000	1.0000	100.00
1.5	40,059		0.0000	1.0000	100.00
2.5	75,877		0.0000	1.0000	100.00
3.5	41,568		0.0000	1.0000	100.00
4.5	40,568		0.0000	1.0000	100.00
5.5	40,568		0.0000	1.0000	100.00
6.5	35,818		0.0000	1.0000	100.00
7.5	129,280		0.0000	1.0000	100.00
8.5	141,340		0.0000	1.0000	100.00
9.5	106,717		0.0000	1.0000	100.00
10.5	106,969		0.0000	1.0000	100.00
11.5	333,111		0.0000	1.0000	100.00
12.5	756,637		0.0000	1.0000	100.00
13.5	4,197,786		0.0000	1.0000	100.00
14.5	61,718,595		0.0000	1.0000	100.00
15.5	61,746,990		0.0000	1.0000	100.00
16.5	62,902,329		0.0000	1.0000	100.00
17.5	63,125,464		0.0000	1.0000	100.00
18.5	62,948,520		0.0000	1.0000	100.00
19.5	62,552,971		0.0000	1.0000	100.00
20.5	59,145,925		0.0000	1.0000	100.00
21.5	1,730,687		0.0000	1.0000	100.00
22.5	1,762,206		0.0000	1.0000	100.00
23.5	653,317		0.0000	1.0000	100.00
24.5	442,621		0.0000	1.0000	100.00
25.5	393,423		0.0000	1.0000	100.00
26.5	365,447		0.0000	1.0000	100.00
27.5	332,644		0.0000	1.0000	100.00
28.5	133,612		0.0000	1.0000	100.00
29.5	61,638		0.0000	1.0000	100.00
30.5	18,775		0.0000	1.0000	100.00
31.5	6,083		0.0000	1.0000	100.00
32.5	6,083		0.0000	1.0000	100.00
33.5	91,083		0.0000	1.0000	100.00
34.5	89,782		0.0000	1.0000	100.00
35.5	89,782		0.0000	1.0000	100.00
36.5	89,782		0.0000	1.0000	100.00
37.5	85,000		0.0000	1.0000	100.00
38.5	88,039		0.0000	1.0000	100.00

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.11 COLLECTING AND IMPOUNDING RESERVOIRS

ORIGINAL LIFE TABLE, CONT.

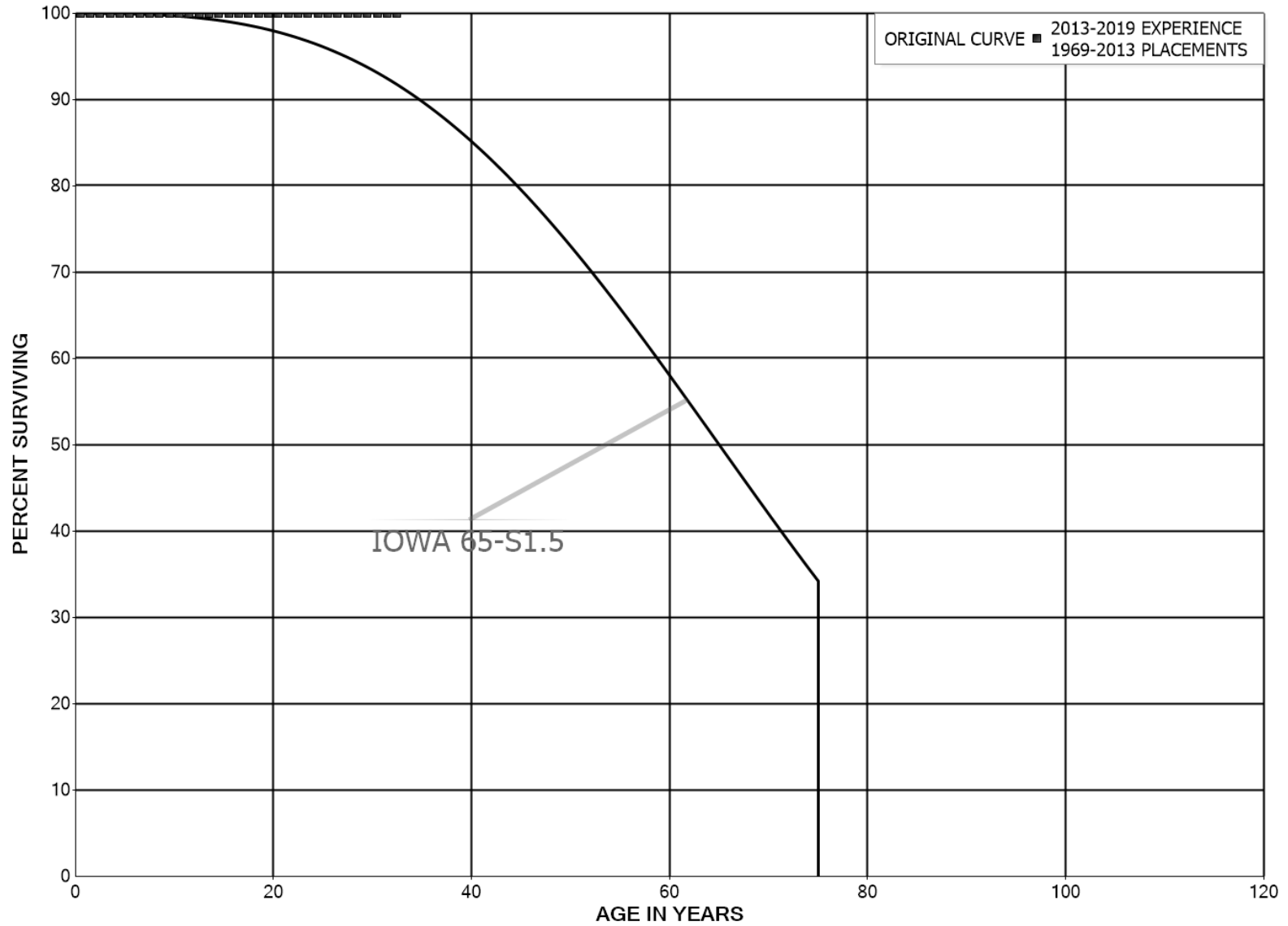
PLACEMENT BAND 1941-2019

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	88,039		0.0000	1.0000	100.00
40.5	3,039		0.0000	1.0000	100.00
41.5	3,039		0.0000	1.0000	100.00
42.5	3,039		0.0000	1.0000	100.00
43.5	3,039		0.0000	1.0000	100.00
44.5	3,039		0.0000	1.0000	100.00
45.5					100.00
46.5					
47.5					
48.5					
49.5					
50.5					
51.5					
52.5					
53.5					
54.5	5,484,347		0.0000		
55.5	5,484,347		0.0000		
56.5	5,484,347		0.0000		
57.5	5,484,347		0.0000		
58.5	5,484,347		0.0000		
59.5	5,484,347		0.0000		
60.5	5,484,347		0.0000		
61.5					
62.5					
63.5					
64.5					
65.5					
66.5					
67.5					
68.5					
69.5					
70.5					
71.5	1,515,304		0.0000		
72.5	1,515,304		0.0000		
73.5	1,515,304		0.0000		
74.5	1,515,304		0.0000		
75.5	1,515,304		0.0000		
76.5	1,515,304		0.0000		
77.5	1,515,304	992	0.0007		
78.5					



CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 312.12 LAKE, RIVER AND OTHER INTAKES
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.12 LAKE, RIVER AND OTHER INTAKES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1969-2013

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	250		0.0000	1.0000	100.00
0.5	6,350		0.0000	1.0000	100.00
1.5	6,350		0.0000	1.0000	100.00
2.5	6,350		0.0000	1.0000	100.00
3.5	6,350		0.0000	1.0000	100.00
4.5	6,350		0.0000	1.0000	100.00
5.5	6,350		0.0000	1.0000	100.00
6.5	6,100		0.0000	1.0000	100.00
7.5	15,203		0.0000	1.0000	100.00
8.5	26,369		0.0000	1.0000	100.00
9.5	37,594		0.0000	1.0000	100.00
10.5	37,594		0.0000	1.0000	100.00
11.5	47,388		0.0000	1.0000	100.00
12.5	47,388		0.0000	1.0000	100.00
13.5	51,951		0.0000	1.0000	100.00
14.5	42,079		0.0000	1.0000	100.00
15.5	30,913		0.0000	1.0000	100.00
16.5	19,688		0.0000	1.0000	100.00
17.5	19,688		0.0000	1.0000	100.00
18.5	49,479		0.0000	1.0000	100.00
19.5	49,479		0.0000	1.0000	100.00
20.5	44,915		0.0000	1.0000	100.00
21.5	39,585		0.0000	1.0000	100.00
22.5	39,585		0.0000	1.0000	100.00
23.5	39,585		0.0000	1.0000	100.00
24.5	41,181		0.0000	1.0000	100.00
25.5	50,620		0.0000	1.0000	100.00
26.5	50,620		0.0000	1.0000	100.00
27.5	50,620		0.0000	1.0000	100.00
28.5	50,620		0.0000	1.0000	100.00
29.5	50,620		0.0000	1.0000	100.00
30.5	50,620		0.0000	1.0000	100.00
31.5	49,025		0.0000	1.0000	100.00
32.5					100.00
33.5					
34.5					
35.5					
36.5					
37.5					
38.5					

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.12 LAKE, RIVER AND OTHER INTAKES

ORIGINAL LIFE TABLE, CONT.

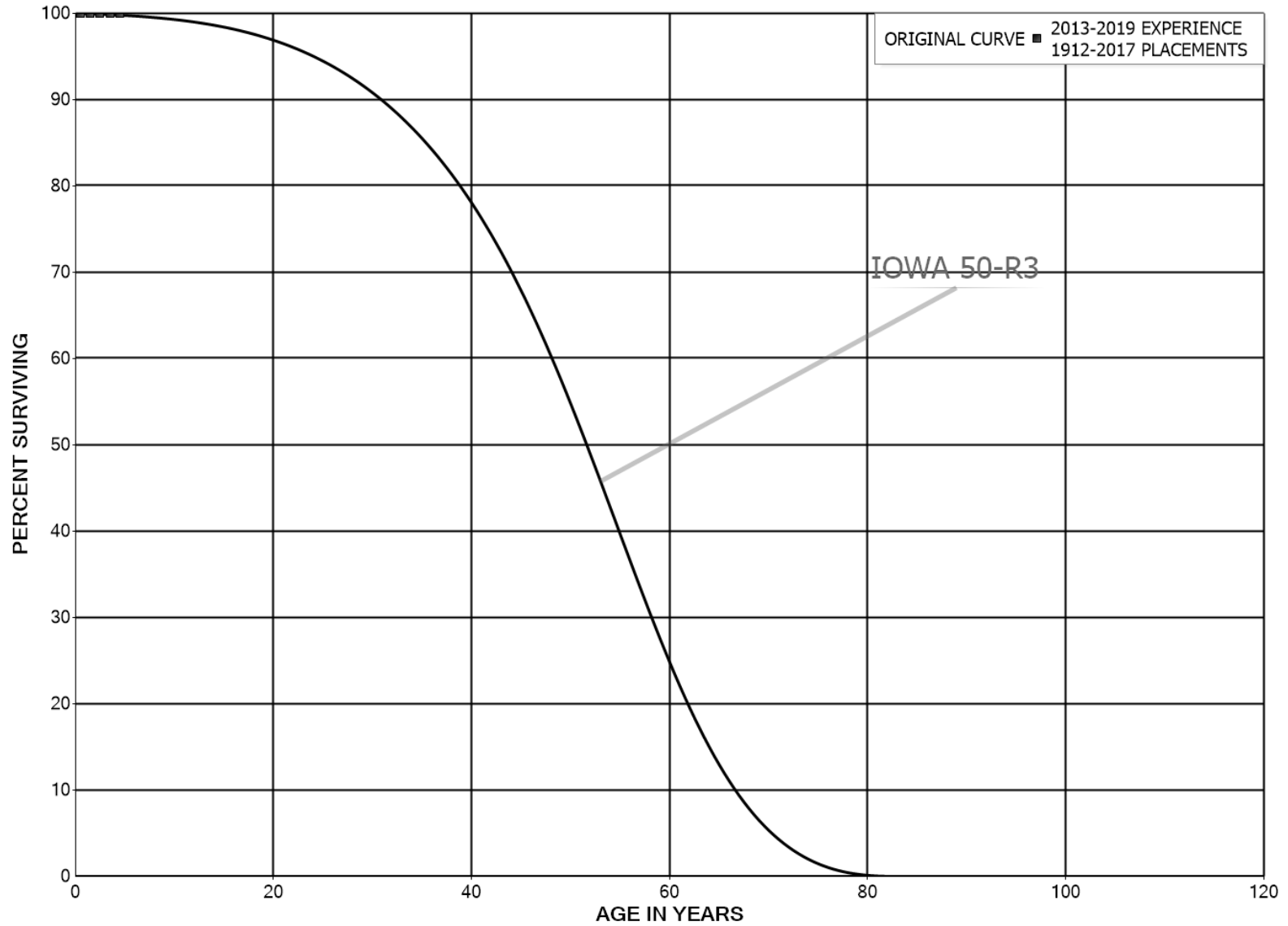
PLACEMENT BAND 1969-2013

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5					
40.5					
41.5					
42.5					
43.5	287,395		0.0000		
44.5	287,395		0.0000		
45.5	287,395		0.0000		
46.5	287,395		0.0000		
47.5	287,395		0.0000		
48.5	287,395		0.0000		
49.5	287,395		0.0000		
50.5					



CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 312.13 WELLS AND SPRINGS
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.13 WELLS AND SPRINGS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1912-2017

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	341,123		0.0000	1.0000	100.00
0.5	341,123		0.0000	1.0000	100.00
1.5	341,123		0.0000	1.0000	100.00
2.5	278,373		0.0000	1.0000	100.00
3.5	52,117		0.0000	1.0000	100.00
4.5					100.00
5.5					
6.5					
7.5					
8.5					
9.5					
10.5					
11.5					
12.5					
13.5	4,246		0.0000		
14.5	7,406		0.0000		
15.5	7,406		0.0000		
16.5	7,406		0.0000		
17.5	7,406		0.0000		
18.5	7,406		0.0000		
19.5	7,406		0.0000		
20.5	3,160		0.0000		
21.5					
22.5					
23.5					
24.5					
25.5					
26.5					
27.5					
28.5					
29.5					
30.5					
31.5					
32.5					
33.5					
34.5	5,305		0.0000		
35.5	5,305		0.0000		
36.5	5,305		0.0000		
37.5	5,305		0.0000		
38.5	5,305		0.0000		

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.13 WELLS AND SPRINGS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1912-2017

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	5,305		0.0000		
40.5	5,305		0.0000		
41.5					
42.5	6,720		0.0000		
43.5	6,720		0.0000		
44.5	6,720		0.0000		
45.5	33,070	322	0.0097		
46.5	32,748		0.0000		
47.5	33,770		0.0000		
48.5	33,770		0.0000		
49.5	27,372		0.0000		
50.5	27,372		0.0000		
51.5	27,372		0.0000		
52.5	1,022		0.0000		
53.5	1,022		0.0000		
54.5					
55.5					
56.5					
57.5					
58.5					
59.5					
60.5					
61.5					
62.5					
63.5					
64.5					
65.5					
66.5					
67.5					
68.5					
69.5					
70.5					
71.5					
72.5					
73.5					
74.5					
75.5					
76.5					
77.5					
78.5					

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.13 WELLS AND SPRINGS

ORIGINAL LIFE TABLE, CONT.

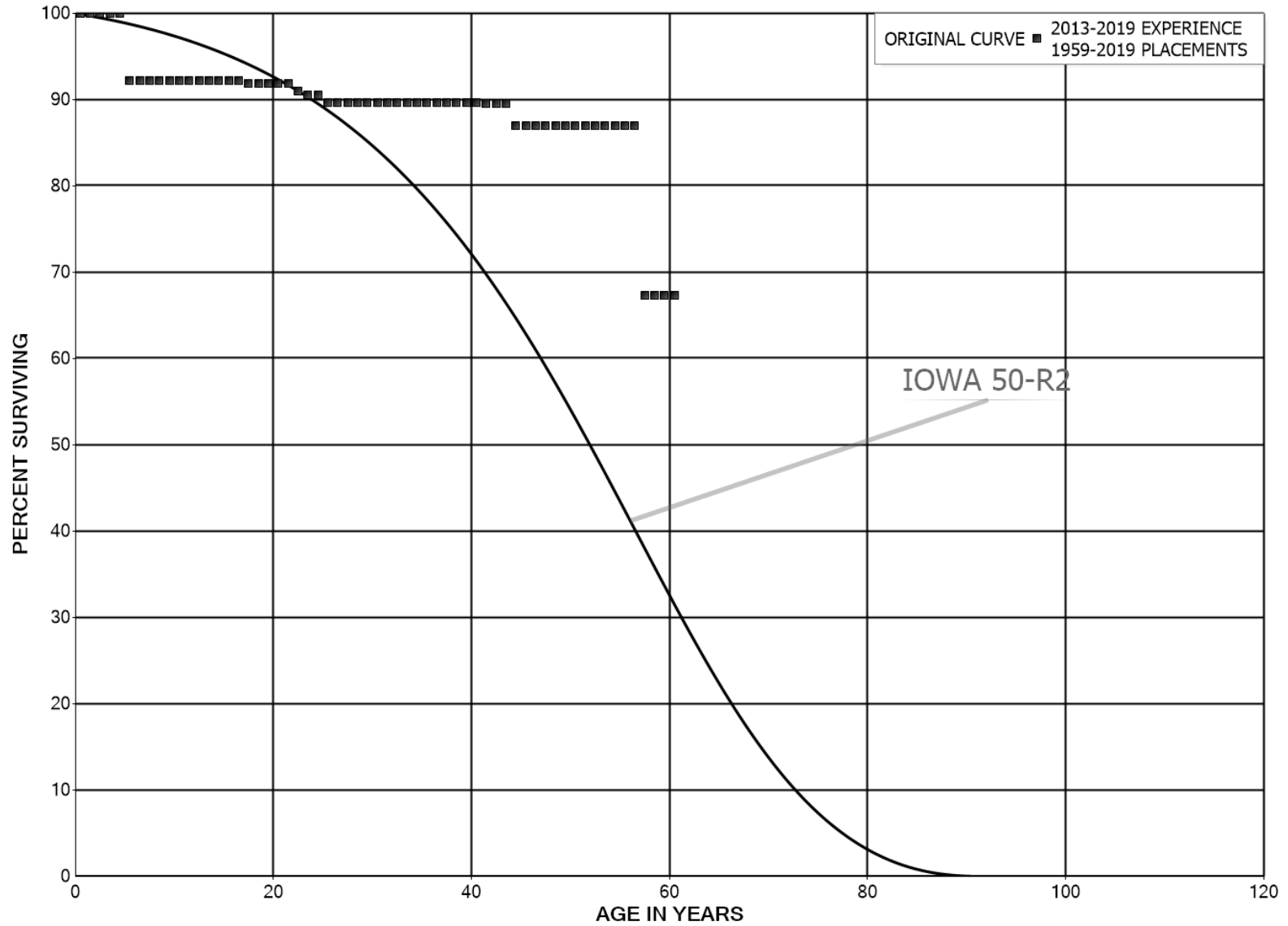
PLACEMENT BAND 1912-2017

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5					
80.5					
81.5					
82.5					
83.5					
84.5					
85.5					
86.5					
87.5					
88.5					
89.5					
90.5					
91.5					
92.5					
93.5					
94.5					
95.5					
96.5					
97.5	2,338		0.0000		
98.5	2,338		0.0000		
99.5	2,338		0.0000		
100.5	3,594		0.0000		
101.5	3,594		0.0000		
102.5	3,594		0.0000		
103.5	3,594		0.0000		
104.5	1,256		0.0000		
105.5	1,256		0.0000		
106.5	1,256		0.0000		
107.5					



CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 316 ELECTRIC PUMPING EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 316 ELECTRIC PUMPING EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1959-2019

EXPERIENCE BAND 2013-2019

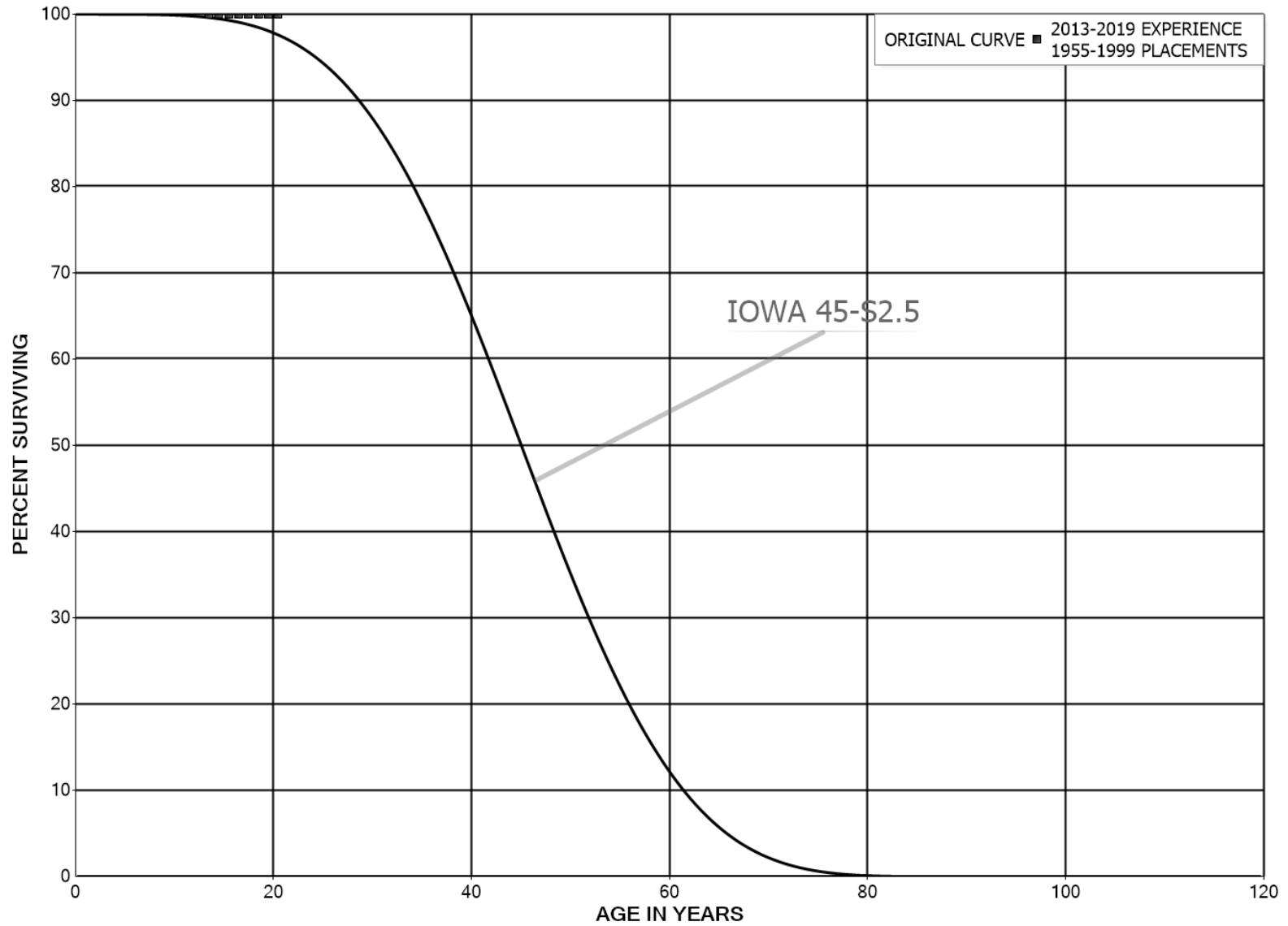
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	46,335		0.0000	1.0000	100.00
0.5	18,660		0.0000	1.0000	100.00
1.5	53,704		0.0000	1.0000	100.00
2.5	53,704		0.0000	1.0000	100.00
3.5	53,704		0.0000	1.0000	100.00
4.5	53,704	4,214	0.0785	0.9215	100.00
5.5	49,490		0.0000	1.0000	92.15
6.5	30,829		0.0000	1.0000	92.15
7.5	30,829		0.0000	1.0000	92.15
8.5	83,946		0.0000	1.0000	92.15
9.5	137,225		0.0000	1.0000	92.15
10.5	137,225		0.0000	1.0000	92.15
11.5	146,842		0.0000	1.0000	92.15
12.5	148,341		0.0000	1.0000	92.15
13.5	190,106		0.0000	1.0000	92.15
14.5	196,723		0.0000	1.0000	92.15
15.5	206,463		0.0000	1.0000	92.15
16.5	153,185	507	0.0033	0.9967	92.15
17.5	211,990		0.0000	1.0000	91.85
18.5	1,095,501		0.0000	1.0000	91.85
19.5	1,094,002		0.0000	1.0000	91.85
20.5	1,052,744		0.0000	1.0000	91.85
21.5	1,046,127	9,800	0.0094	0.9906	91.85
22.5	942,641	4,675	0.0050	0.9950	90.99
23.5	939,941		0.0000	1.0000	90.54
24.5	880,629	8,754	0.0099	0.9901	90.54
25.5	1,975		0.0000	1.0000	89.64
26.5	2,230		0.0000	1.0000	89.64
27.5	2,230		0.0000	1.0000	89.64
28.5	2,230		0.0000	1.0000	89.64
29.5	2,230		0.0000	1.0000	89.64
30.5	5,733		0.0000	1.0000	89.64
31.5	5,733		0.0000	1.0000	89.64
32.5	7,945		0.0000	1.0000	89.64
33.5	7,690		0.0000	1.0000	89.64
34.5	9,141		0.0000	1.0000	89.64
35.5	9,141		0.0000	1.0000	89.64
36.5	9,141		0.0000	1.0000	89.64
37.5	3,663		0.0000	1.0000	89.64
38.5	3,663		0.0000	1.0000	89.64

CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 316 ELECTRIC PUMPING EQUIPMENT
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1959-2019			EXPERIENCE BAND 2013-2019		
AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	1,450		0.0000	1.0000	89.64
40.5	434,910	500	0.0011	0.9989	89.64
41.5	432,959		0.0000	1.0000	89.53
42.5	432,959		0.0000	1.0000	89.53
43.5	432,959	12,347	0.0285	0.9715	89.53
44.5	420,612		0.0000	1.0000	86.98
45.5	465,174		0.0000	1.0000	86.98
46.5	502,467		0.0000	1.0000	86.98
47.5	81,855		0.0000	1.0000	86.98
48.5	81,855		0.0000	1.0000	86.98
49.5	88,613		0.0000	1.0000	86.98
50.5	88,613		0.0000	1.0000	86.98
51.5	88,613		0.0000	1.0000	86.98
52.5	44,051		0.0000	1.0000	86.98
53.5	17,729		0.0000	1.0000	86.98
54.5	17,729		0.0000	1.0000	86.98
55.5	17,729		0.0000	1.0000	86.98
56.5	10,971	2,489	0.2269	0.7731	86.98
57.5	8,482		0.0000	1.0000	67.25
58.5	8,482		0.0000	1.0000	67.25
59.5	8,482		0.0000	1.0000	67.25
60.5					67.25



CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 317 OIL ENGINE PUMPING EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 317 OIL ENGINE PUMPING EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1955-1999

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0					
0.5					
1.5					
2.5					
3.5					
4.5					
5.5					
6.5					
7.5					
8.5					
9.5					
10.5					
11.5					
12.5					
13.5	9,395		0.0000	1.0000	100.00
14.5	9,395		0.0000	1.0000	100.00
15.5	9,395		0.0000	1.0000	100.00
16.5	9,395		0.0000	1.0000	100.00
17.5	9,395		0.0000	1.0000	100.00
18.5	9,395		0.0000	1.0000	100.00
19.5	9,395		0.0000	1.0000	100.00
20.5					100.00
21.5					
22.5					
23.5					
24.5					
25.5					
26.5					
27.5					
28.5					
29.5					
30.5					
31.5					
32.5					
33.5					
34.5					
35.5					
36.5					
37.5					
38.5					

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 317 OIL ENGINE PUMPING EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

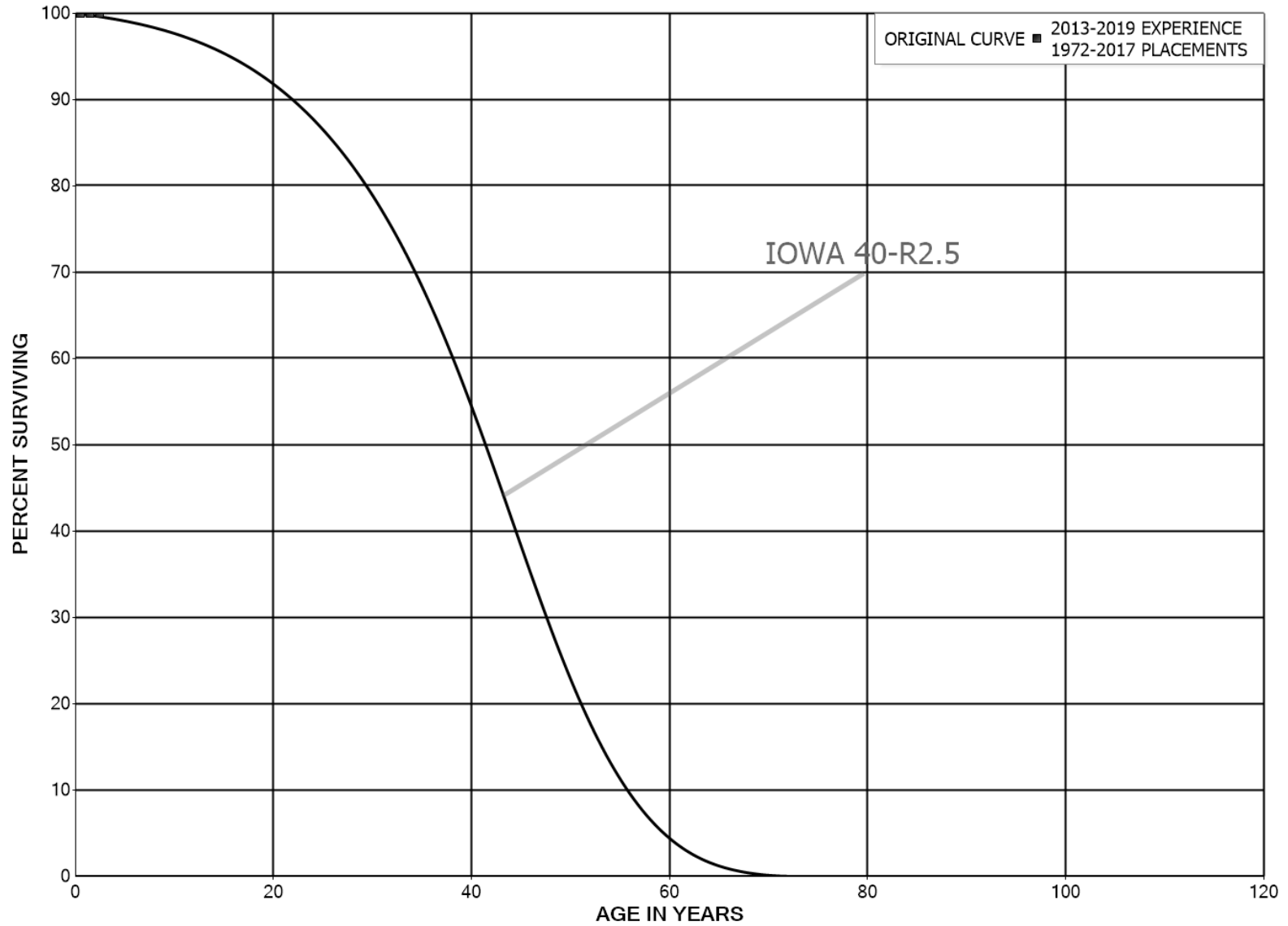
PLACEMENT BAND 1955-1999

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5					
40.5					
41.5					
42.5					
43.5					
44.5					
45.5					
46.5					
47.5					
48.5					
49.5					
50.5					
51.5					
52.5					
53.5	2,677		0.0000		
54.5	2,677		0.0000		
55.5	2,677		0.0000		
56.5	2,677		0.0000		
57.5	47,482		0.0000		
58.5	47,482		0.0000		
59.5	47,482		0.0000		
60.5	44,805		0.0000		
61.5	44,805		0.0000		
62.5	44,805		0.0000		
63.5	44,805		0.0000		
64.5					



CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 319 GAS ENGINE PUMPING EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 319 GAS ENGINE PUMPING EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1972-2017

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	1		0.0000	1.0000	100.00
0.5	1		0.0000	1.0000	100.00
1.5	1		0.0000	1.0000	100.00
2.5					100.00
3.5					
4.5					
5.5					
6.5					
7.5					
8.5					
9.5					
10.5					
11.5					
12.5					
13.5					
14.5					
15.5					
16.5					
17.5					
18.5					
19.5	29,592		0.0000		
20.5	29,592		0.0000		
21.5	29,592		0.0000		
22.5	29,592		0.0000		
23.5	29,592		0.0000		
24.5	29,592		0.0000		
25.5	29,592		0.0000		
26.5					
27.5					
28.5					
29.5					
30.5					
31.5					
32.5					
33.5					
34.5					
35.5					
36.5					
37.5					
38.5					

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 319 GAS ENGINE PUMPING EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

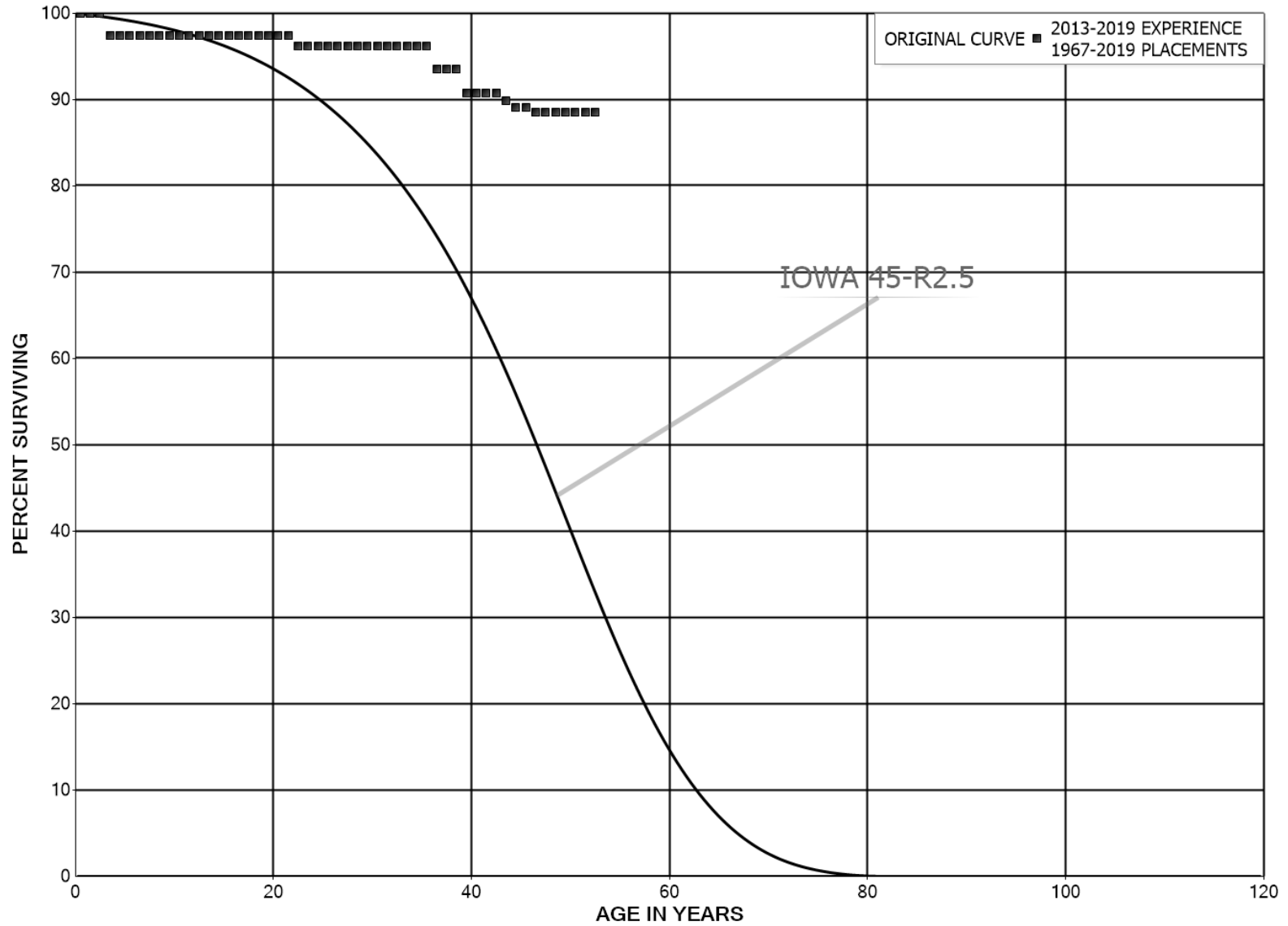
PLACEMENT BAND 1972-2017

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5					
40.5	12,912		0.0000		
41.5	12,912		0.0000		
42.5	12,912		0.0000		
43.5	12,912	12,912	1.0000		
44.5					



CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 320 PURIFICATION SYSTEM
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 320 PURIFICATION SYSTEM

ORIGINAL LIFE TABLE

PLACEMENT BAND 1967-2019

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	745,742		0.0000	1.0000	100.00
0.5	615,901		0.0000	1.0000	100.00
1.5	161,141		0.0000	1.0000	100.00
2.5	149,562	3,847	0.0257	0.9743	100.00
3.5	2,047,621		0.0000	1.0000	97.43
4.5	2,039,487		0.0000	1.0000	97.43
5.5	2,018,025		0.0000	1.0000	97.43
6.5	2,011,101		0.0000	1.0000	97.43
7.5	1,988,543		0.0000	1.0000	97.43
8.5	2,001,629		0.0000	1.0000	97.43
9.5	2,119,252		0.0000	1.0000	97.43
10.5	204,304		0.0000	1.0000	97.43
11.5	249,591		0.0000	1.0000	97.43
12.5	270,592		0.0000	1.0000	97.43
13.5	300,289		0.0000	1.0000	97.43
14.5	307,526		0.0000	1.0000	97.43
15.5	294,440		0.0000	1.0000	97.43
16.5	176,817		0.0000	1.0000	97.43
17.5	445,587		0.0000	1.0000	97.43
18.5	4,740,639		0.0000	1.0000	97.43
19.5	4,719,638		0.0000	1.0000	97.43
20.5	4,689,941		0.0000	1.0000	97.43
21.5	4,642,758	60,000	0.0129	0.9871	97.43
22.5	4,599,164		0.0000	1.0000	96.17
23.5	4,610,794		0.0000	1.0000	96.17
24.5	4,330,739	897	0.0002	0.9998	96.17
25.5	49,866		0.0000	1.0000	96.15
26.5	53,601		0.0000	1.0000	96.15
27.5	62,670		0.0000	1.0000	96.15
28.5	61,159		0.0000	1.0000	96.15
29.5	46,585		0.0000	1.0000	96.15
30.5	34,954		0.0000	1.0000	96.15
31.5	23,324		0.0000	1.0000	96.15
32.5	18,386		0.0000	1.0000	96.15
33.5	14,651		0.0000	1.0000	96.15
34.5	7,765		0.0000	1.0000	96.15
35.5	7,375	200	0.0271	0.9729	96.15
36.5	5,343		0.0000	1.0000	93.54
37.5	14,197		0.0000	1.0000	93.54
38.5	13,518	400	0.0296	0.9704	93.54

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 320 PURIFICATION SYSTEM

ORIGINAL LIFE TABLE, CONT.

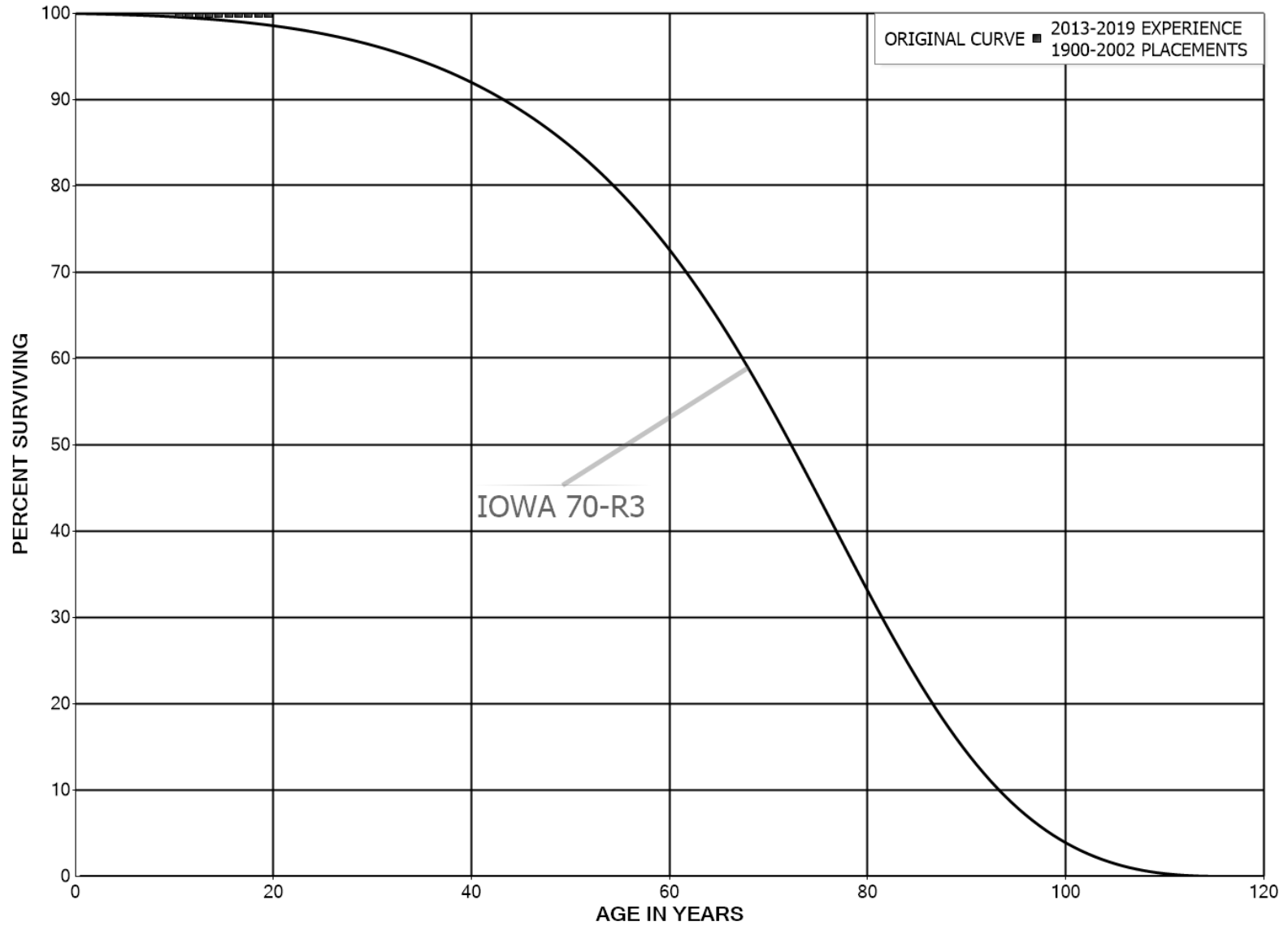
PLACEMENT BAND 1967-2019

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	11,781		0.0000	1.0000	90.77
40.5	11,781		0.0000	1.0000	90.77
41.5	19,236		0.0000	1.0000	90.77
42.5	49,072	500	0.0102	0.9898	90.77
43.5	48,572	400	0.0082	0.9918	89.85
44.5	39,718		0.0000	1.0000	89.11
45.5	41,368	300	0.0073	0.9927	89.11
46.5	41,068		0.0000	1.0000	88.46
47.5	41,068		0.0000	1.0000	88.46
48.5	32,130		0.0000	1.0000	88.46
49.5	1,350		0.0000	1.0000	88.46
50.5	1,350		0.0000	1.0000	88.46
51.5	1,350		0.0000	1.0000	88.46
52.5					88.46



CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 322 MAINS AND ACCESSORIES - 4 INCH AND UNDER
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES - 4 INCH AND UNDER

ORIGINAL LIFE TABLE

PLACEMENT BAND 1900-2002

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0					
0.5					
1.5					
2.5					
3.5					
4.5					
5.5					
6.5					
7.5					
8.5					
9.5					
10.5	2,947		0.0000	1.0000	100.00
11.5	2,947		0.0000	1.0000	100.00
12.5	3,317		0.0000	1.0000	100.00
13.5	3,317		0.0000	1.0000	100.00
14.5	3,317		0.0000	1.0000	100.00
15.5	3,317		0.0000	1.0000	100.00
16.5	3,317		0.0000	1.0000	100.00
17.5	370		0.0000	1.0000	100.00
18.5	370		0.0000	1.0000	100.00
19.5					100.00
20.5					
21.5					
22.5					
23.5	2,997		0.0000		
24.5	4,279		0.0000		
25.5	5,679		0.0000		
26.5	5,679		0.0000		
27.5	7,493		0.0000		
28.5	8,450		0.0000		
29.5	8,450		0.0000		
30.5	5,453		0.0000		
31.5	5,164		0.0000		
32.5	65,686		0.0000		
33.5	66,488		0.0000		
34.5	64,674		0.0000		
35.5	64,283		0.0000		
36.5	69,659		0.0000		
37.5	69,659		0.0000		
38.5	69,275		0.0000		

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES - 4 INCH AND UNDER

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1900-2002

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	7,353		0.0000		
40.5	6,550		0.0000		
41.5	6,550		0.0000		
42.5	41,549		0.0000		
43.5	36,172		0.0000		
44.5	37,616		0.0000		
45.5	37,008		0.0000		
46.5	37,008		0.0000		
47.5	37,008		0.0000		
48.5	37,008		0.0000		
49.5	1,444		0.0000		
50.5	1,444		0.0000		
51.5					
52.5					
53.5					
54.5					
55.5					
56.5					
57.5					
58.5					
59.5	1,446		0.0000		
60.5	3,888		0.0000		
61.5	4,904		0.0000		
62.5	4,904		0.0000		
63.5	4,904		0.0000		
64.5	4,904		0.0000		
65.5	5,661		0.0000		
66.5	4,215		0.0000		
67.5	1,773		0.0000		
68.5	1,262		0.0000		
69.5	1,262		0.0000		
70.5	1,262		0.0000		
71.5	1,262		0.0000		
72.5	1,601		0.0000		
73.5	3,172		0.0000		
74.5	3,362		0.0000		
75.5	3,786		0.0000		
76.5	3,786		0.0000		
77.5	3,786		0.0000		
78.5	3,786		0.0000		

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES - 4 INCH AND UNDER

ORIGINAL LIFE TABLE, CONT.

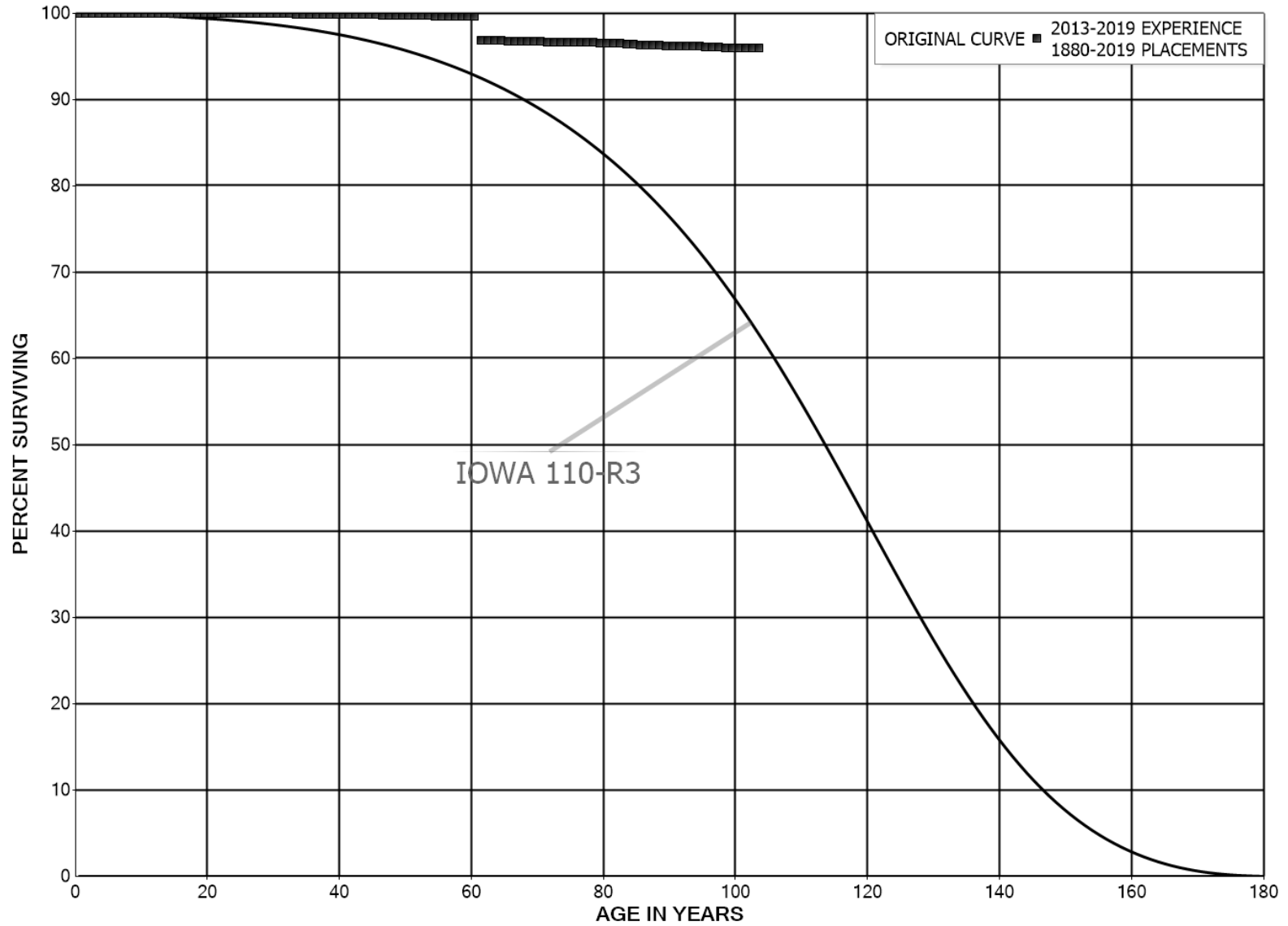
PLACEMENT BAND 1900-2002

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	2,778		0.0000		
80.5	1,250		0.0000		
81.5	1,361		0.0000		
82.5	528		0.0000		
83.5	528		0.0000		
84.5	528		0.0000		
85.5	587		0.0000		
86.5	632		0.0000		
87.5	1,388		0.0000		
88.5	3,012		0.0000		
89.5	3,023		0.0000		
90.5	3,144		0.0000		
91.5	3,162		0.0000		
92.5	3,103		0.0000		
93.5	3,062		0.0000		
94.5	2,263		0.0000		
95.5	531		0.0000		
96.5	425		0.0000		
97.5	304		0.0000		
98.5	285		0.0000		
99.5	285		0.0000		
100.5	193		0.0000		
101.5	193		0.0000		
102.5					
103.5					
104.5					
105.5					
106.5					
107.5					
108.5					
109.5					
110.5					
111.5					
112.5	19,187		0.0000		
113.5	19,187		0.0000		
114.5	19,187		0.0000		
115.5	19,187		0.0000		
116.5	19,187		0.0000		
117.5	19,187		0.0000		
118.5	19,187		0.0000		
119.5					



CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 322 MAINS AND ACCESSORIES - 6 INCH AND LARGER
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES - 6 INCH AND LARGER

ORIGINAL LIFE TABLE

PLACEMENT BAND 1880-2019

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	7,119,371		0.0000	1.0000	100.00
0.5	6,521,801	69	0.0000	1.0000	100.00
1.5	5,773,463	33	0.0000	1.0000	100.00
2.5	4,317,418	18	0.0000	1.0000	100.00
3.5	3,786,024	64	0.0000	1.0000	100.00
4.5	2,831,466	84	0.0000	1.0000	100.00
5.5	2,243,562	23	0.0000	1.0000	99.99
6.5	2,331,704	85	0.0000	1.0000	99.99
7.5	2,158,317	85	0.0000	1.0000	99.99
8.5	2,071,690	17	0.0000	1.0000	99.98
9.5	2,118,849	18	0.0000	1.0000	99.98
10.5	1,783,187	56	0.0000	1.0000	99.98
11.5	1,877,414	79	0.0000	1.0000	99.98
12.5	2,057,154	61	0.0000	1.0000	99.98
13.5	1,692,174	93	0.0001	0.9999	99.97
14.5	2,562,520	158	0.0001	0.9999	99.97
15.5	3,142,949	213	0.0001	0.9999	99.96
16.5	3,465,911	148	0.0000	1.0000	99.95
17.5	3,359,405	109	0.0000	1.0000	99.95
18.5	3,520,513	107	0.0000	1.0000	99.95
19.5	3,493,541	101	0.0000	1.0000	99.94
20.5	3,669,678	140	0.0000	1.0000	99.94
21.5	3,284,396	178	0.0001	0.9999	99.94
22.5	3,181,993	188	0.0001	0.9999	99.93
23.5	3,588,726	231	0.0001	0.9999	99.93
24.5	3,757,063	246	0.0001	0.9999	99.92
25.5	3,794,105	176	0.0000	1.0000	99.91
26.5	3,865,019	148	0.0000	1.0000	99.91
27.5	3,453,191	120	0.0000	1.0000	99.90
28.5	3,100,237	71	0.0000	1.0000	99.90
29.5	2,572,572	56	0.0000	1.0000	99.90
30.5	1,909,295	39	0.0000	1.0000	99.90
31.5	1,411,041	47	0.0000	1.0000	99.89
32.5	1,176,643	46	0.0000	1.0000	99.89
33.5	862,237	59	0.0001	0.9999	99.89
34.5	806,947	52	0.0001	0.9999	99.88
35.5	760,786	64	0.0001	0.9999	99.87
36.5	881,945	85	0.0001	0.9999	99.87
37.5	906,720	91	0.0001	0.9999	99.86
38.5	1,046,670	100	0.0001	0.9999	99.85

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES - 6 INCH AND LARGER

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1880-2019

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	1,031,725	99	0.0001	0.9999	99.84
40.5	1,010,136	63	0.0001	0.9999	99.83
41.5	932,731	37	0.0000	1.0000	99.82
42.5	886,722	39	0.0000	1.0000	99.82
43.5	779,292	168	0.0002	0.9998	99.81
44.5	729,012	58	0.0001	0.9999	99.79
45.5	738,947	107	0.0001	0.9999	99.78
46.5	697,848	114	0.0002	0.9998	99.77
47.5	786,890	89	0.0001	0.9999	99.75
48.5	782,760	83	0.0001	0.9999	99.74
49.5	749,690	35	0.0000	1.0000	99.73
50.5	740,654	133	0.0002	0.9998	99.73
51.5	687,673	104	0.0002	0.9998	99.71
52.5	499,265	37	0.0001	0.9999	99.69
53.5	431,175	88	0.0002	0.9998	99.69
54.5	360,720	46	0.0001	0.9999	99.66
55.5	381,962	72	0.0002	0.9998	99.65
56.5	407,400	65	0.0002	0.9998	99.63
57.5	416,571	81	0.0002	0.9998	99.62
58.5	431,605	71	0.0002	0.9998	99.60
59.5	477,259	73	0.0002	0.9998	99.58
60.5	561,140	15,318	0.0273	0.9727	99.57
61.5	564,251	115	0.0002	0.9998	96.85
62.5	622,687	171	0.0003	0.9997	96.83
63.5	631,159	110	0.0002	0.9998	96.80
64.5	694,038	134	0.0002	0.9998	96.79
65.5	708,293	136	0.0002	0.9998	96.77
66.5	669,202	159	0.0002	0.9998	96.75
67.5	579,809	66	0.0001	0.9999	96.73
68.5	470,294	54	0.0001	0.9999	96.71
69.5	476,453	62	0.0001	0.9999	96.70
70.5	445,639	119	0.0003	0.9997	96.69
71.5	358,424	85	0.0002	0.9998	96.66
72.5	291,991	51	0.0002	0.9998	96.64
73.5	275,264	26	0.0001	0.9999	96.62
74.5	287,056	32	0.0001	0.9999	96.62
75.5	298,493	32	0.0001	0.9999	96.60
76.5	206,045	24	0.0001	0.9999	96.59
77.5	138,260	9	0.0001	0.9999	96.58
78.5	123,013	26	0.0002	0.9998	96.58

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES - 6 INCH AND LARGER

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1880-2019

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	121,973	44	0.0004	0.9996	96.56
80.5	130,003	35	0.0003	0.9997	96.52
81.5	139,698	53	0.0004	0.9996	96.50
82.5	179,933	78	0.0004	0.9996	96.46
83.5	232,921	113	0.0005	0.9995	96.42
84.5	273,557	101	0.0004	0.9996	96.37
85.5	297,115	96	0.0003	0.9997	96.33
86.5	373,354	142	0.0004	0.9996	96.30
87.5	397,178	153	0.0004	0.9996	96.27
88.5	383,021	80	0.0002	0.9998	96.23
89.5	348,209	43	0.0001	0.9999	96.21
90.5	303,986	48	0.0002	0.9998	96.20
91.5	275,398	35	0.0001	0.9999	96.18
92.5	227,965	30	0.0001	0.9999	96.17
93.5	150,101	27	0.0002	0.9998	96.16
94.5	123,158	43	0.0004	0.9996	96.14
95.5	115,250	47	0.0004	0.9996	96.11
96.5	148,918	73	0.0005	0.9995	96.07
97.5	132,568	90	0.0007	0.9993	96.02
98.5	117,947		0.0000	1.0000	95.96
99.5	107,267		0.0000	1.0000	95.96
100.5	94,741		0.0000	1.0000	95.96
101.5	68,389		0.0000	1.0000	95.96
102.5	59,462		0.0000	1.0000	95.96
103.5					95.96
104.5					
105.5					
106.5					
107.5					
108.5					
109.5					
110.5					
111.5					
112.5	117,742	164	0.0014		
113.5	117,578	251	0.0021		
114.5	117,327		0.0000		
115.5	117,327		0.0000		
116.5	117,327		0.0000		
117.5	117,327		0.0000		
118.5	117,327		0.0000		

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES - 6 INCH AND LARGER

ORIGINAL LIFE TABLE, CONT.

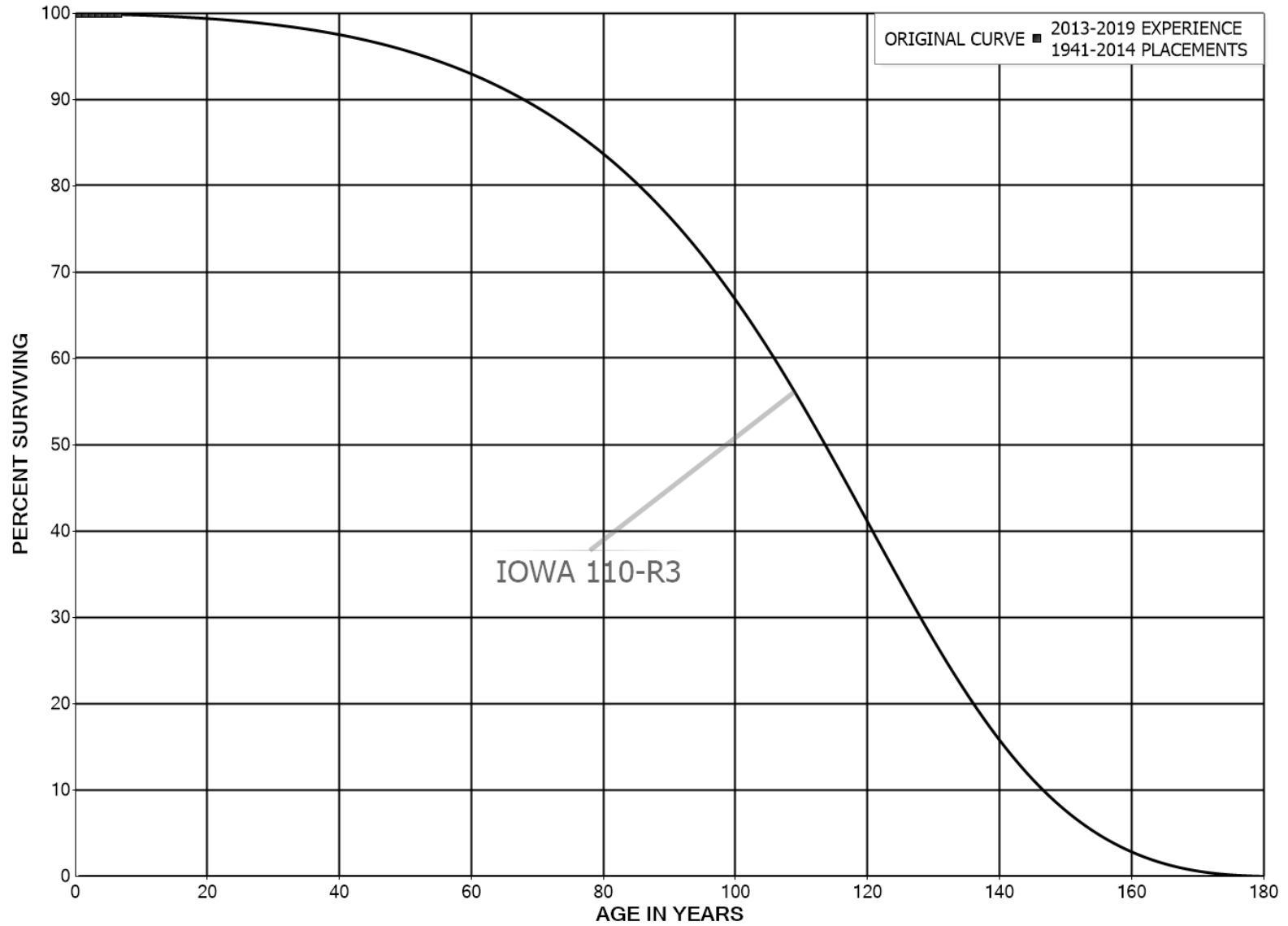
PLACEMENT BAND 1880-2019

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
119.5					
120.5					
121.5					
122.5					
123.5					
124.5					
125.5					
126.5					
127.5					
128.5					
129.5					
130.5					
131.5					
132.5	87,597	178	0.0020		
133.5	87,420	283	0.0032		
134.5	87,137		0.0000		
135.5	87,137		0.0000		
136.5	87,137		0.0000		
137.5	87,137		0.0000		
138.5	87,137		0.0000		
139.5					



CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 322 MAINS AND ACCESSORIES - CAST IRON AND CONCRETE PRESSURE PIPE
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES - CAST IRON AND CONCRETE PRESSURE PIPE

ORIGINAL LIFE TABLE

PLACEMENT BAND 1941-2014

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	116,639		0.0000	1.0000	100.00
0.5	116,639		0.0000	1.0000	100.00
1.5	116,639		0.0000	1.0000	100.00
2.5	116,639		0.0000	1.0000	100.00
3.5	116,639		0.0000	1.0000	100.00
4.5	116,639		0.0000	1.0000	100.00
5.5	7,924		0.0000	1.0000	100.00
6.5					100.00
7.5					
8.5					
9.5					
10.5					
11.5					
12.5					
13.5					
14.5					
15.5					
16.5					
17.5					
18.5					
19.5	2,599		0.0000		
20.5	2,599		0.0000		
21.5	2,599		0.0000		
22.5	111,999		0.0000		
23.5	111,999		0.0000		
24.5	111,999		0.0000		
25.5	189,733		0.0000		
26.5	197,105		0.0000		
27.5	215,947		0.0000		
28.5	215,947		0.0000		
29.5	106,547		0.0000		
30.5	106,547		0.0000		
31.5	114,054		0.0000		
32.5	42,062		0.0000		
33.5	32,090		0.0000		
34.5	13,249		0.0000		
35.5	13,249		0.0000		
36.5	16,958		0.0000		
37.5	16,958		0.0000		
38.5	9,451		0.0000		

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES - CAST IRON AND CONCRETE PRESSURE PIPE

ORIGINAL LIFE TABLE, CONT.

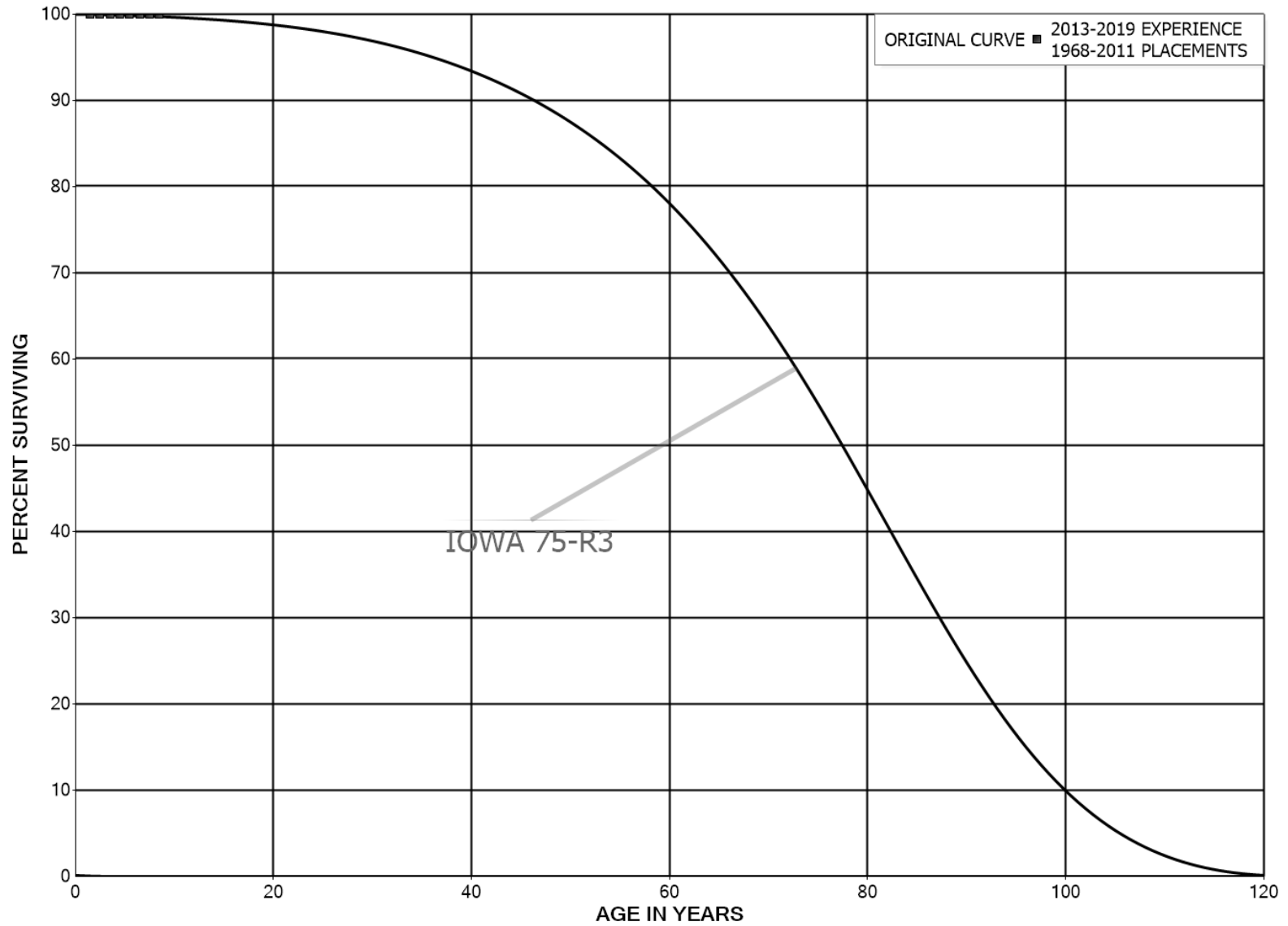
PLACEMENT BAND 1941-2014

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	3,709		0.0000		
40.5	3,709		0.0000		
41.5	3,709		0.0000		
42.5	3,709		0.0000		
43.5					
44.5					
45.5					
46.5					
47.5					
48.5					
49.5					
50.5					
51.5					
52.5					
53.5	140,936		0.0000		
54.5	140,936		0.0000		
55.5	140,936		0.0000		
56.5	140,936		0.0000		
57.5	140,936		0.0000		
58.5	140,936		0.0000		
59.5	1,462,375		0.0000		
60.5	1,321,439		0.0000		
61.5	1,321,439		0.0000		
62.5	1,321,439		0.0000		
63.5	1,321,439		0.0000		
64.5	1,321,439		0.0000		
65.5	1,321,439		0.0000		
66.5	658,121		0.0000		
67.5	658,121		0.0000		
68.5	658,121		0.0000		
69.5	778,469		0.0000		
70.5	778,469		0.0000		
71.5	2,652,851		0.0000		
72.5	2,652,851		0.0000		
73.5	1,994,730		0.0000		
74.5	1,994,730		0.0000		
75.5	1,994,730		0.0000		
76.5	1,874,382		0.0000		
77.5	1,874,382		0.0000		
78.5					



CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 322 MAINS AND ACCESSORIES - STEEL PIPE
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES - STEEL PIPE

ORIGINAL LIFE TABLE

PLACEMENT BAND 1968-2011

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0					
0.5					
1.5	647		0.0000	1.0000	100.00
2.5	647		0.0000	1.0000	100.00
3.5	647		0.0000	1.0000	100.00
4.5	647		0.0000	1.0000	100.00
5.5	647		0.0000	1.0000	100.00
6.5	647		0.0000	1.0000	100.00
7.5	647		0.0000	1.0000	100.00
8.5					100.00
9.5					
10.5	6,107		0.0000		
11.5	6,107		0.0000		
12.5	71,152		0.0000		
13.5	71,152		0.0000		
14.5	232,860		0.0000		
15.5	246,860		0.0000		
16.5	8,954,323		0.0000		
17.5	8,993,277		0.0000		
18.5	9,020,624		0.0000		
19.5	13,509,218		0.0000		
20.5	13,520,728		0.0000		
21.5	13,359,020		0.0000		
22.5	13,345,020		0.0000		
23.5	4,637,556		0.0000		
24.5	4,592,496		0.0000		
25.5	4,604,635		0.0000		
26.5	73,183		0.0000		
27.5	62,179		0.0000		
28.5	62,179		0.0000		
29.5	62,179		0.0000		
30.5	62,179		0.0000		
31.5	65,109		0.0000		
32.5	25,623		0.0000		
33.5	3,436		0.0000		
34.5	4,180		0.0000		
35.5	4,180		0.0000		
36.5	4,180		0.0000		
37.5	4,180		0.0000		
38.5	1,250		0.0000		

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES - STEEL PIPE

ORIGINAL LIFE TABLE, CONT.

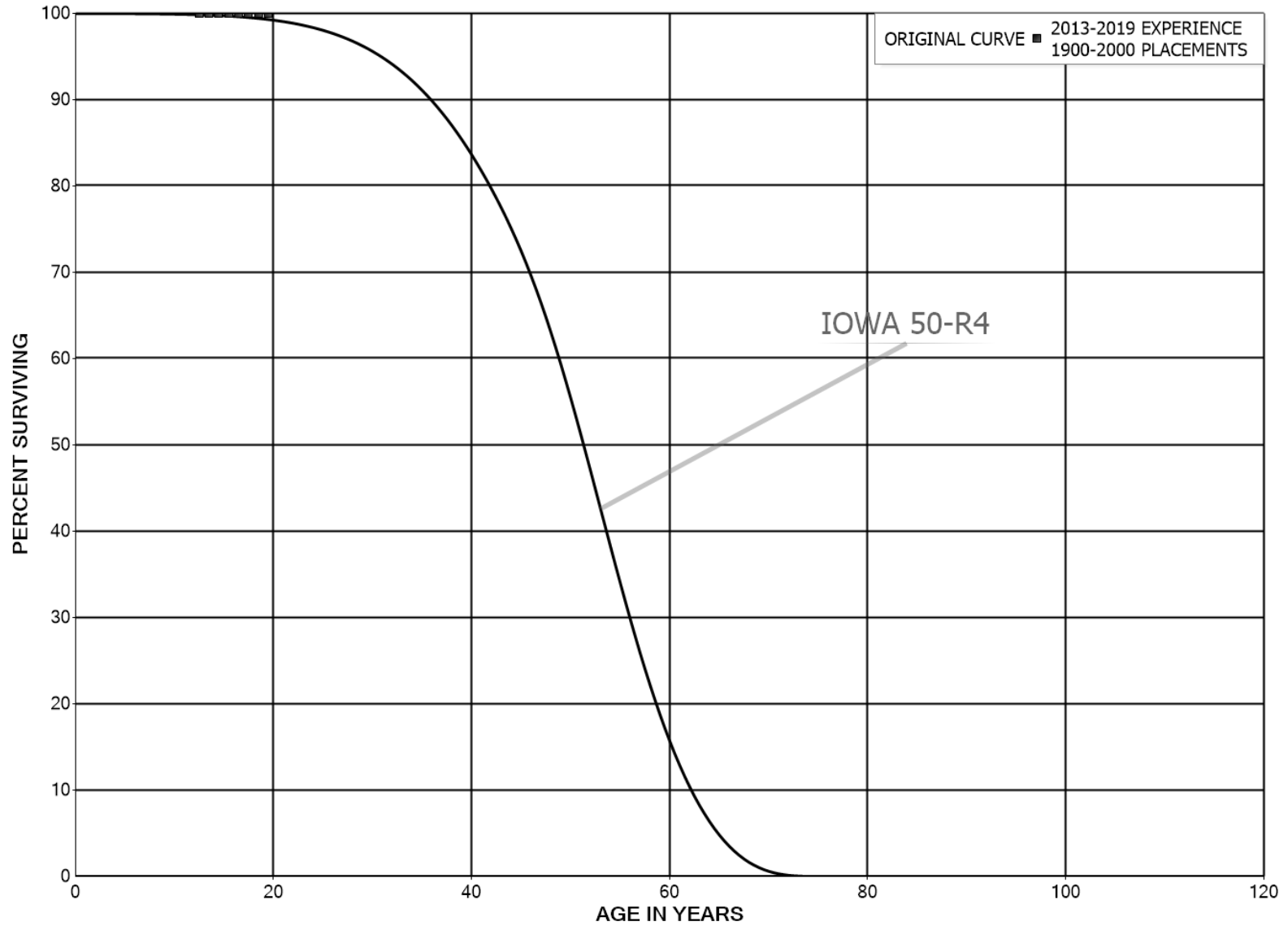
PLACEMENT BAND 1968-2011

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	1,250		0.0000		
40.5	1,250		0.0000		
41.5					
42.5	434,174		0.0000		
43.5	2,722,706		0.0000		
44.5	3,902,159		0.0000		
45.5	3,902,159		0.0000		
46.5	3,902,159		0.0000		
47.5	3,902,159		0.0000		
48.5	3,902,159		0.0000		
49.5	3,467,985		0.0000		
50.5	1,179,453		0.0000		
51.5					



CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 322 MAINS AND ACCESSORIES - GALVANIZED STEEL
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES - GALVANIZED STEEL

ORIGINAL LIFE TABLE

PLACEMENT BAND 1900-2000

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0					
0.5					
1.5					
2.5					
3.5					
4.5					
5.5					
6.5					
7.5					
8.5					
9.5					
10.5					
11.5					
12.5	4,305		0.0000	1.0000	100.00
13.5	4,305		0.0000	1.0000	100.00
14.5	4,305		0.0000	1.0000	100.00
15.5	4,305		0.0000	1.0000	100.00
16.5	4,305		0.0000	1.0000	100.00
17.5	4,305		0.0000	1.0000	100.00
18.5	4,305		0.0000	1.0000	100.00
19.5					100.00
20.5					
21.5					
22.5					
23.5					
24.5					
25.5					
26.5	287		0.0000		
27.5	1,100		0.0000		
28.5	1,100		0.0000		
29.5	1,100		0.0000		
30.5	1,100		0.0000		
31.5	1,100		0.0000		
32.5	1,100		0.0000		
33.5	813		0.0000		
34.5	11,894		0.0000		
35.5	11,894		0.0000		
36.5	11,894		0.0000		
37.5	13,213		0.0000		
38.5	14,354		0.0000		

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES - GALVANIZED STEEL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1900-2000

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	14,354		0.0000		
40.5	14,354		0.0000		
41.5	2,460		0.0000		
42.5	4,519		0.0000		
43.5	4,519		0.0000		
44.5	3,200		0.0000		
45.5	2,522		0.0000		
46.5	2,522		0.0000		
47.5	14,067		0.0000		
48.5	14,067		0.0000		
49.5	12,008		0.0000		
50.5	12,008		0.0000		
51.5	12,008		0.0000		
52.5	11,546		0.0000		
53.5	11,546		0.0000		
54.5					
55.5					
56.5					
57.5					
58.5					
59.5	248		0.0000		
60.5	1,616		0.0000		
61.5	2,109		0.0000		
62.5	3,963		0.0000		
63.5	5,720		0.0000		
64.5	6,713		0.0000		
65.5	7,936		0.0000		
66.5	9,971		0.0000		
67.5	8,677		0.0000		
68.5	8,273		0.0000		
69.5	6,419		0.0000		
70.5	5,208		0.0000		
71.5	4,215		0.0000		
72.5	3,113		0.0000		
73.5	1,035		0.0000		
74.5	1,150		0.0000		
75.5	1,687		0.0000		
76.5	1,687		0.0000		
77.5	1,309		0.0000		
78.5	1,405		0.0000		

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES - GALVANIZED STEEL

ORIGINAL LIFE TABLE, CONT.

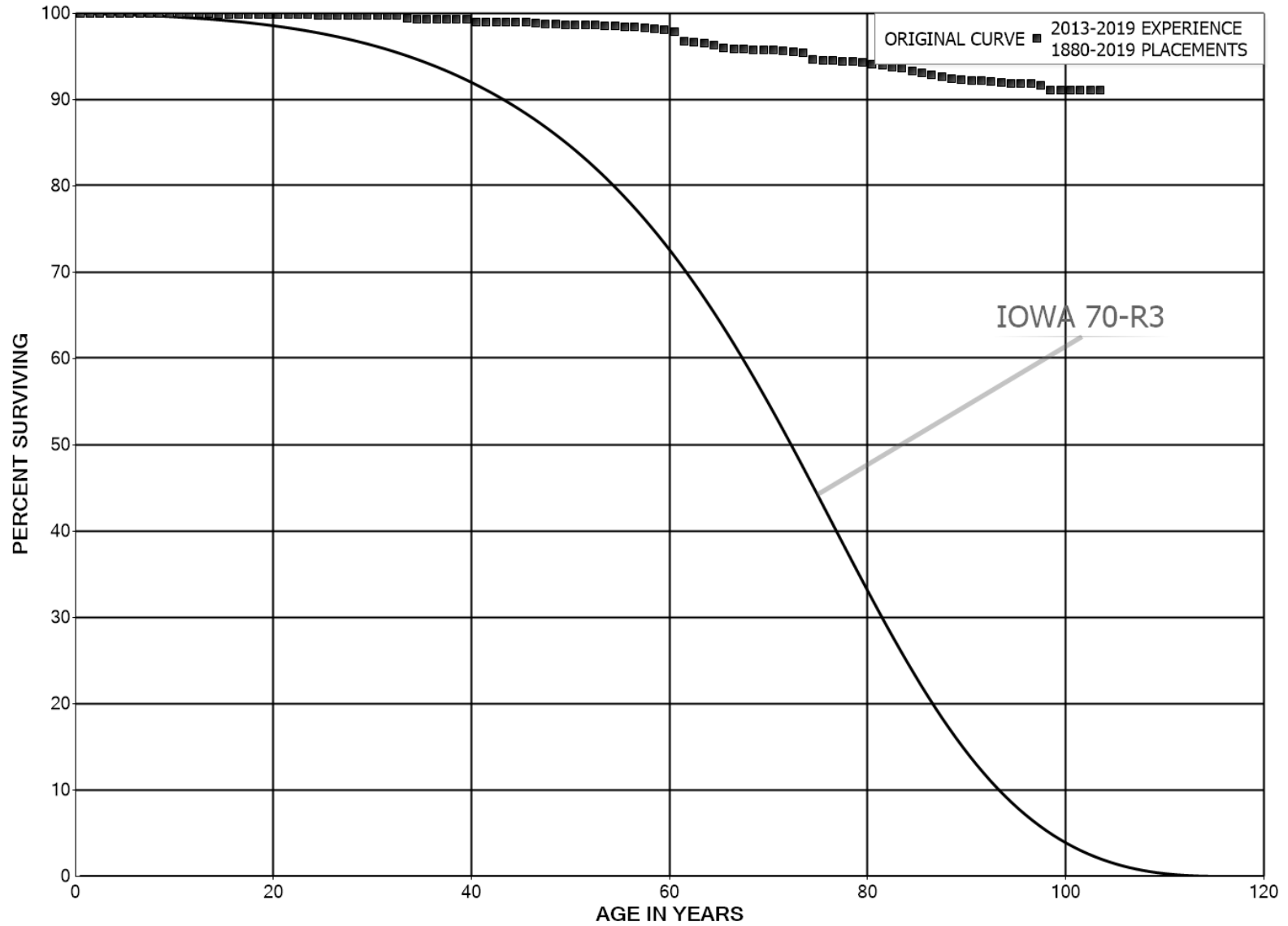
PLACEMENT BAND 1900-2000

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	1,285		0.0000		
80.5	1,079		0.0000		
81.5	1,394		0.0000		
82.5	1,251		0.0000		
83.5	1,251		0.0000		
84.5	5,312		0.0000		
85.5	5,216		0.0000		
86.5	5,340		0.0000		
87.5	5,698		0.0000		
88.5	5,573		0.0000		
89.5	5,861		0.0000		
90.5	7,086		0.0000		
91.5	4,232		0.0000		
92.5	4,984		0.0000		
93.5	4,860		0.0000		
94.5	4,502		0.0000		
95.5	4,123		0.0000		
96.5	3,351		0.0000		
97.5	2,126		0.0000		
98.5	752		0.0000		
99.5					
100.5					
101.5					
102.5					
103.5					
104.5					
105.5					
106.5					
107.5					
108.5					
109.5					
110.5					
111.5					
112.5	6,529		0.0000		
113.5	6,529		0.0000		
114.5	6,529		0.0000		
115.5	6,529		0.0000		
116.5	6,529		0.0000		
117.5	6,529		0.0000		
118.5	6,529		0.0000		
119.5					



CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 322 MAINS AND ACCESSORIES - VALVES AND VALVE BOXES
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES - VALVES AND VALVE BOXES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1880-2019

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	333,585		0.0000	1.0000	100.00
0.5	417,680	20	0.0000	1.0000	100.00
1.5	606,688	39	0.0001	0.9999	100.00
2.5	573,763	35	0.0001	0.9999	99.99
3.5	535,900		0.0000	1.0000	99.98
4.5	535,900		0.0000	1.0000	99.98
5.5	387,763		0.0000	1.0000	99.98
6.5	319,609		0.0000	1.0000	99.98
7.5	214,471		0.0000	1.0000	99.98
8.5	11,509	2	0.0002	0.9998	99.98
9.5	53,538	10	0.0002	0.9998	99.97
10.5	194,949	36	0.0002	0.9998	99.95
11.5	253,875	53	0.0002	0.9998	99.93
12.5	377,426	42	0.0001	0.9999	99.91
13.5	570,915	81	0.0001	0.9999	99.90
14.5	688,309	94	0.0001	0.9999	99.88
15.5	810,363	75	0.0001	0.9999	99.87
16.5	848,045	73	0.0001	0.9999	99.86
17.5	832,589	65	0.0001	0.9999	99.85
18.5	879,959	85	0.0001	0.9999	99.84
19.5	806,365	65	0.0001	0.9999	99.83
20.5	697,837	49	0.0001	0.9999	99.83
21.5	729,357	90	0.0001	0.9999	99.82
22.5	740,880	130	0.0002	0.9998	99.81
23.5	720,469	107	0.0001	0.9999	99.79
24.5	647,631	56	0.0001	0.9999	99.78
25.5	655,025	75	0.0001	0.9999	99.77
26.5	631,002	90	0.0001	0.9999	99.76
27.5	567,600	28	0.0000	1.0000	99.74
28.5	435,880	24	0.0001	0.9999	99.74
29.5	388,860	55	0.0001	0.9999	99.73
30.5	365,249	102	0.0003	0.9997	99.72
31.5	333,006	42	0.0001	0.9999	99.69
32.5	239,872	780	0.0033	0.9967	99.68
33.5	226,160	27	0.0001	0.9999	99.35
34.5	234,025	29	0.0001	0.9999	99.34
35.5	244,747	48	0.0002	0.9998	99.33
36.5	194,105	59	0.0003	0.9997	99.31
37.5	162,380	60	0.0004	0.9996	99.28
38.5	148,881	10	0.0001	0.9999	99.24

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES - VALVES AND VALVE BOXES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1880-2019

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	130,996	321	0.0024	0.9976	99.23
40.5	121,677	6	0.0001	0.9999	98.99
41.5	93,987	7	0.0001	0.9999	98.99
42.5	68,503	4	0.0001	0.9999	98.98
43.5	26,792	7	0.0003	0.9997	98.97
44.5	27,726	11	0.0004	0.9996	98.95
45.5	32,816	19	0.0006	0.9994	98.91
46.5	33,775	26	0.0008	0.9992	98.85
47.5	53,694	27	0.0005	0.9995	98.77
48.5	53,183	49	0.0009	0.9991	98.73
49.5	54,437	6	0.0001	0.9999	98.63
50.5	53,367	11	0.0002	0.9998	98.62
51.5	51,372	11	0.0002	0.9998	98.60
52.5	45,505	14	0.0003	0.9997	98.58
53.5	45,554	20	0.0004	0.9996	98.55
54.5	31,364	20	0.0006	0.9994	98.51
55.5	40,980	38	0.0009	0.9991	98.45
56.5	52,693	47	0.0009	0.9991	98.36
57.5	64,703	62	0.0010	0.9990	98.27
58.5	70,258	56	0.0008	0.9992	98.18
59.5	71,796	216	0.0030	0.9970	98.10
60.5	79,771	897	0.0112	0.9888	97.80
61.5	83,623	59	0.0007	0.9993	96.70
62.5	81,557	95	0.0012	0.9988	96.63
63.5	70,894	214	0.0030	0.9970	96.52
64.5	61,376	205	0.0033	0.9967	96.23
65.5	59,928	34	0.0006	0.9994	95.91
66.5	54,133	33	0.0006	0.9994	95.85
67.5	43,323	12	0.0003	0.9997	95.79
68.5	29,858	5	0.0002	0.9998	95.77
69.5	27,715	13	0.0005	0.9995	95.75
70.5	28,288	36	0.0013	0.9987	95.71
71.5	24,722	29	0.0012	0.9988	95.59
72.5	18,433	14	0.0008	0.9992	95.47
73.5	17,302	148	0.0086	0.9914	95.40
74.5	17,275	9	0.0005	0.9995	94.58
75.5	17,667	8	0.0004	0.9996	94.53
76.5	12,204	7	0.0006	0.9994	94.49
77.5	7,378	2	0.0003	0.9997	94.43
78.5	7,388	6	0.0009	0.9991	94.41

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES - VALVES AND VALVE BOXES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1880-2019

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	8,318	21	0.0025	0.9975	94.33
80.5	8,718	17	0.0020	0.9980	94.09
81.5	8,837	15	0.0017	0.9983	93.90
82.5	13,603	22	0.0016	0.9984	93.75
83.5	22,750	68	0.0030	0.9970	93.60
84.5	26,843	84	0.0031	0.9969	93.32
85.5	32,783	57	0.0018	0.9982	93.02
86.5	43,142	105	0.0024	0.9976	92.86
87.5	49,036	129	0.0026	0.9974	92.64
88.5	49,602	74	0.0015	0.9985	92.39
89.5	46,240	24	0.0005	0.9995	92.25
90.5	38,907	31	0.0008	0.9992	92.21
91.5	36,493	26	0.0007	0.9993	92.13
92.5	31,166	30	0.0009	0.9991	92.06
93.5	18,879	33	0.0018	0.9982	91.98
94.5	11,215		0.0000	1.0000	91.81
95.5	9,980	2	0.0002	0.9998	91.81
96.5	13,023	26	0.0020	0.9980	91.80
97.5	10,979	70	0.0064	0.9936	91.61
98.5	9,047		0.0000	1.0000	91.03
99.5	5,996		0.0000	1.0000	91.03
100.5	5,996		0.0000	1.0000	91.03
101.5	5,996		0.0000	1.0000	91.03
102.5	5,514		0.0000	1.0000	91.03
103.5					91.03
104.5					
105.5					
106.5					
107.5					
108.5					
109.5					
110.5					
111.5					
112.5	8,107	45	0.0055		
113.5	8,062	183	0.0227		
114.5	7,879		0.0000		
115.5	7,879		0.0000		
116.5	7,879		0.0000		
117.5	7,879		0.0000		
118.5	7,879		0.0000		

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES - VALVES AND VALVE BOXES

ORIGINAL LIFE TABLE, CONT.

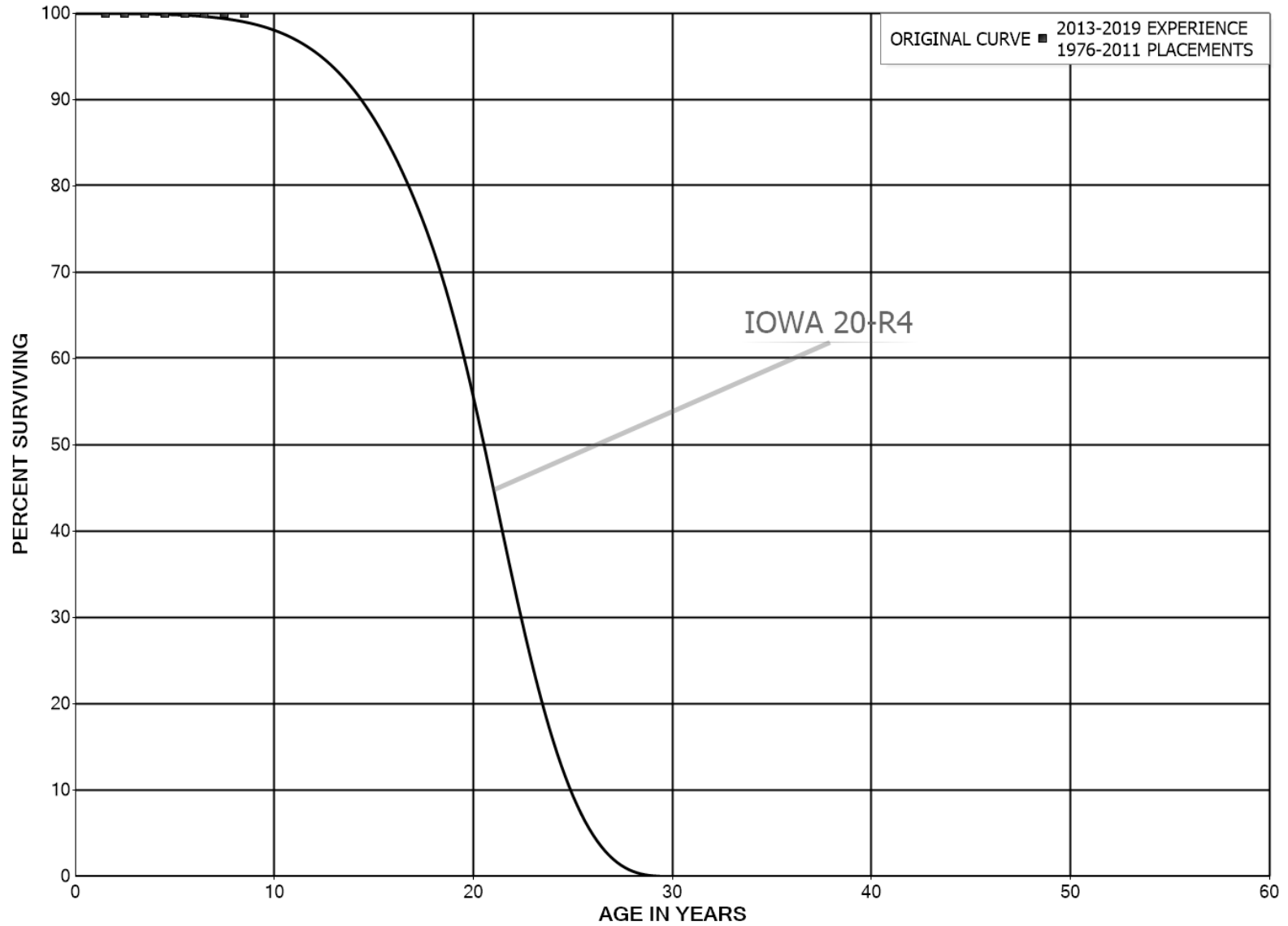
PLACEMENT BAND 1880-2019

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
119.5					
120.5					
121.5					
122.5					
123.5					
124.5					
125.5					
126.5					
127.5					
128.5					
129.5					
130.5					
131.5					
132.5	6,101	59	0.0097		
133.5	6,042	264	0.0436		
134.5	5,779		0.0000		
135.5	5,779		0.0000		
136.5	5,779		0.0000		
137.5	5,779		0.0000		
138.5	5,779		0.0000		
139.5					



CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 322 MAINS AND ACCESSORIES - TELEMETERING EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES - TELEMETERING EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1976-2011

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0					
0.5					
1.5	262,438		0.0000	1.0000	100.00
2.5	262,438		0.0000	1.0000	100.00
3.5	262,438		0.0000	1.0000	100.00
4.5	262,438		0.0000	1.0000	100.00
5.5	262,438		0.0000	1.0000	100.00
6.5	262,438		0.0000	1.0000	100.00
7.5	262,438		0.0000	1.0000	100.00
8.5					100.00
9.5	158,422		0.0000		
10.5	210,714		0.0000		
11.5	737,524		0.0000		
12.5	750,115		0.0000		
13.5	858,091		0.0000		
14.5	987,605		0.0000		
15.5	1,083,132		0.0000		
16.5	1,011,537		0.0000		
17.5	1,290,175		0.0000		
18.5	768,532		0.0000		
19.5	1,870,496		0.0000		
20.5	1,762,520		0.0000		
21.5	1,633,006		0.0000		
22.5	1,541,414		0.0000		
23.5	1,468,565		0.0000		
24.5	1,138,533		0.0000		
25.5	1,138,451		0.0000		
26.5	25,615		0.0000		
27.5	25,615		0.0000		
28.5	25,615		0.0000		
29.5	21,679		0.0000		
30.5	19,268		0.0000		
31.5	108,418		0.0000		
32.5	192,203		0.0000		
33.5	190,484		0.0000		
34.5	190,484		0.0000		
35.5	192,141		0.0000		
36.5	193,793	5,783	0.0298		
37.5	182,228	45,025	0.2471		
38.5	92,178	44,435	0.4821		

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES - TELEMETERING EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

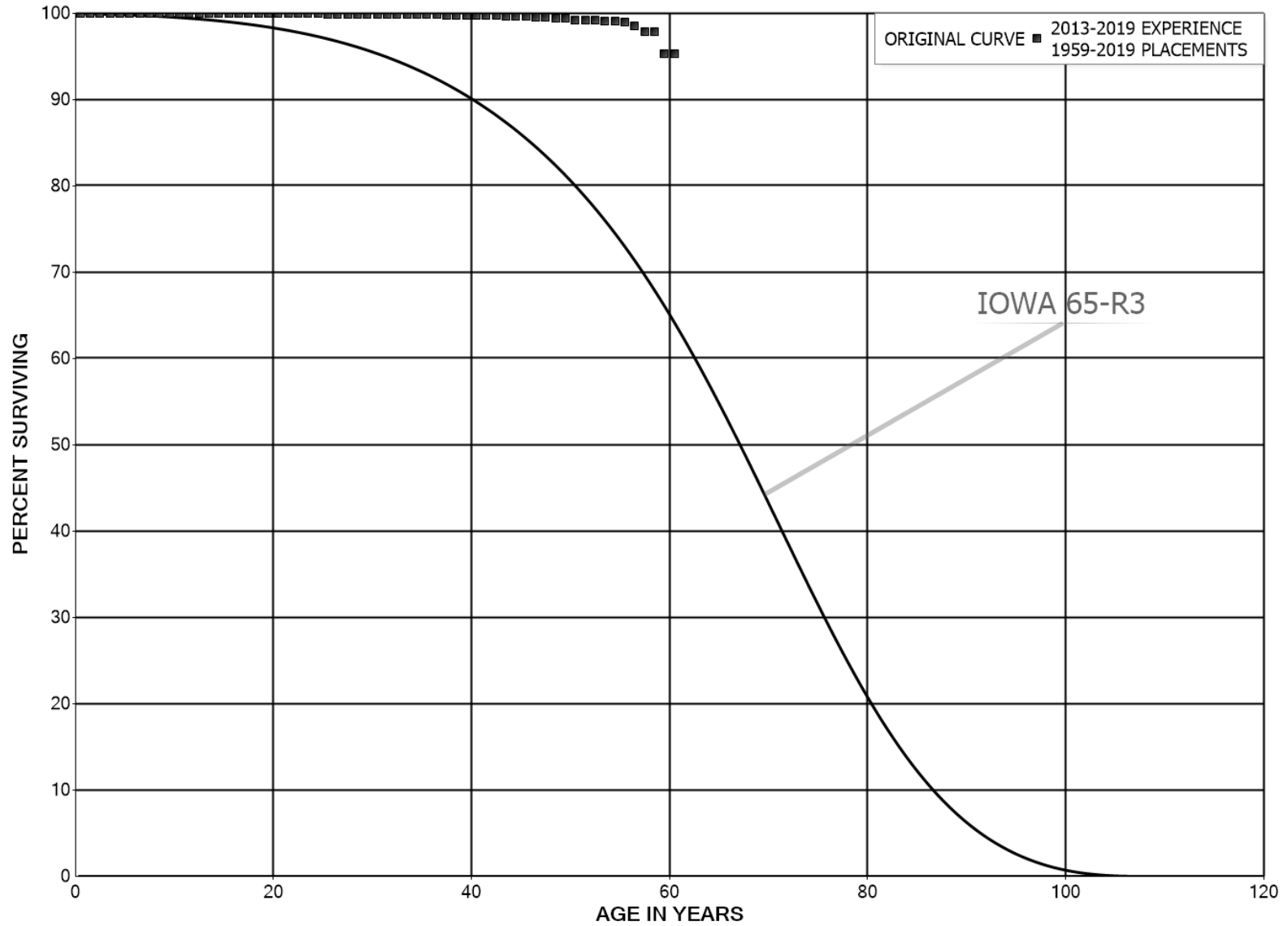
PLACEMENT BAND 1976-2011

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	3,309		0.0000		
40.5	3,309		0.0000		
41.5	3,309	1,657	0.5008		
42.5	1,652	1,652	1.0000		
43.5					



CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 323 SERVICES
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 323 SERVICES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1959-2019

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	874,732		0.0000	1.0000	100.00
0.5	902,618	23	0.0000	1.0000	100.00
1.5	881,903	20	0.0000	1.0000	100.00
2.5	874,071	19	0.0000	1.0000	100.00
3.5	960,444	27	0.0000	1.0000	99.99
4.5	975,953	31	0.0000	1.0000	99.99
5.5	894,219	20	0.0000	1.0000	99.99
6.5	926,308	27	0.0000	1.0000	99.98
7.5	849,405	27	0.0000	1.0000	99.98
8.5	791,821	12	0.0000	1.0000	99.98
9.5	783,409	18	0.0000	1.0000	99.98
10.5	720,442	27	0.0000	1.0000	99.97
11.5	663,340	27	0.0000	1.0000	99.97
12.5	735,680	28	0.0000	1.0000	99.97
13.5	616,472	30	0.0000	1.0000	99.96
14.5	691,013	29	0.0000	1.0000	99.96
15.5	745,259	36	0.0000	1.0000	99.95
16.5	772,332	36	0.0000	1.0000	99.95
17.5	720,966	32	0.0000	1.0000	99.94
18.5	742,520	30	0.0000	1.0000	99.94
19.5	660,969	27	0.0000	1.0000	99.94
20.5	870,302	63	0.0001	0.9999	99.93
21.5	907,549	85	0.0001	0.9999	99.92
22.5	1,028,931	78	0.0001	0.9999	99.92
23.5	1,260,965	120	0.0001	0.9999	99.91
24.5	1,484,584	138	0.0001	0.9999	99.90
25.5	1,642,011	123	0.0001	0.9999	99.89
26.5	1,878,226	126	0.0001	0.9999	99.88
27.5	1,821,127	122	0.0001	0.9999	99.88
28.5	1,909,118	118	0.0001	0.9999	99.87
29.5	1,810,992	96	0.0001	0.9999	99.86
30.5	1,869,824	146	0.0001	0.9999	99.86
31.5	1,825,755	180	0.0001	0.9999	99.85
32.5	1,827,034	147	0.0001	0.9999	99.84
33.5	1,762,285	267	0.0002	0.9998	99.83
34.5	1,766,679	139	0.0001	0.9999	99.82
35.5	1,761,809	322	0.0002	0.9998	99.81
36.5	1,801,576	295	0.0002	0.9998	99.79
37.5	1,456,681	251	0.0002	0.9998	99.77
38.5	1,222,313	198	0.0002	0.9998	99.76

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 323 SERVICES

ORIGINAL LIFE TABLE, CONT.

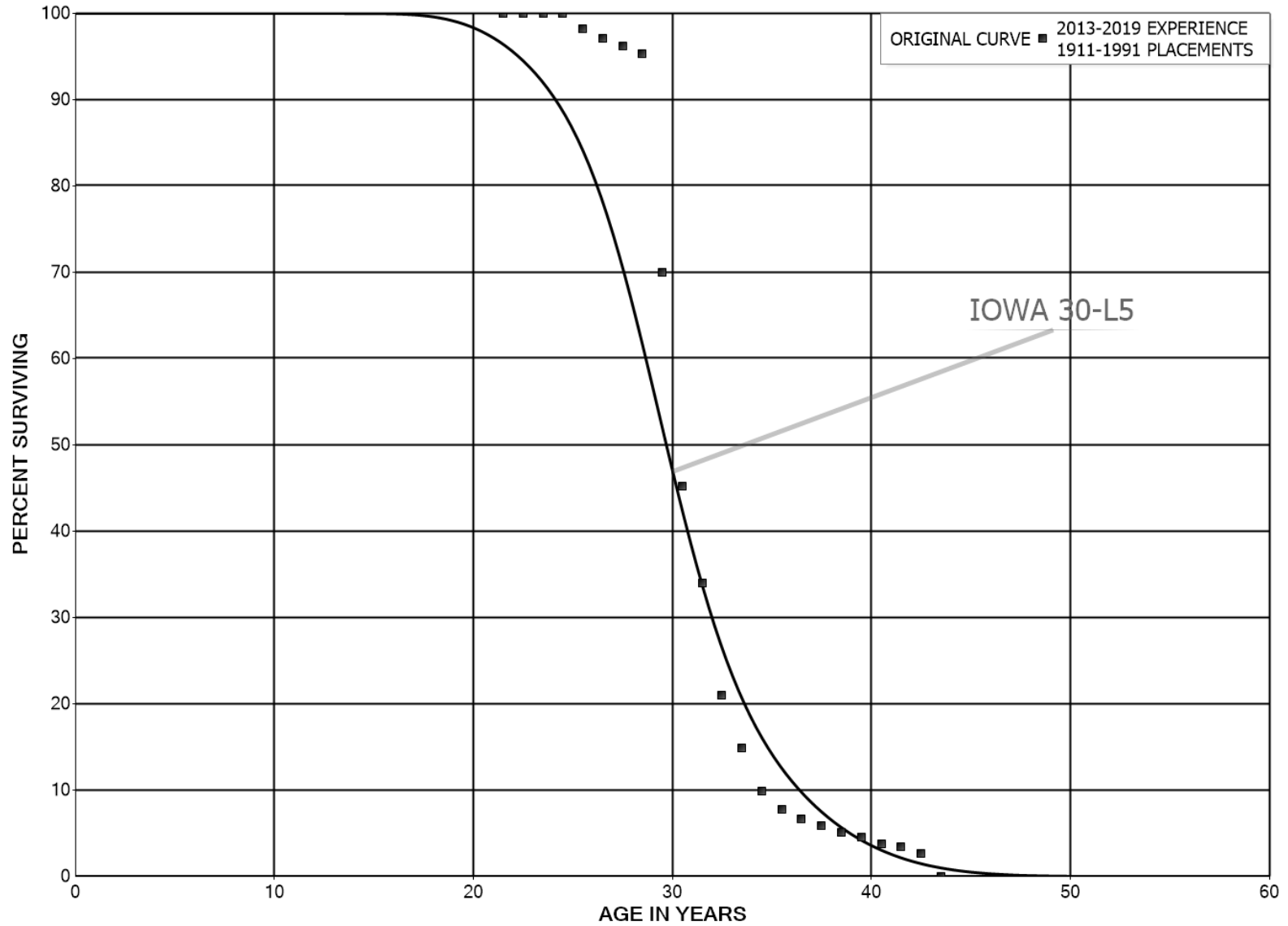
PLACEMENT BAND 1959-2019

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	1,035,180	226	0.0002	0.9998	99.74
40.5	834,767	234	0.0003	0.9997	99.72
41.5	627,624	20	0.0000	1.0000	99.69
42.5	439,761	209	0.0005	0.9995	99.69
43.5	283,914	29	0.0001	0.9999	99.64
44.5	256,995	23	0.0001	0.9999	99.63
45.5	245,215	313	0.0013	0.9987	99.62
46.5	193,555	14	0.0001	0.9999	99.49
47.5	188,421	168	0.0009	0.9991	99.49
48.5	166,980	12	0.0001	0.9999	99.40
49.5	123,444	222	0.0018	0.9982	99.39
50.5	103,497	5	0.0000	1.0000	99.21
51.5	70,340	55	0.0008	0.9992	99.21
52.5	60,386	39	0.0006	0.9994	99.13
53.5	41,034	2	0.0000	1.0000	99.06
54.5	22,162	37	0.0017	0.9983	99.06
55.5	15,451	62	0.0040	0.9960	98.89
56.5	5,282	37	0.0070	0.9930	98.50
57.5	5,245		0.0000	1.0000	97.81
58.5	2,651	68	0.0257	0.9743	97.81
59.5	804		0.0000	1.0000	95.30
60.5					95.30



CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 324 METERS - 1991 AND PRIOR
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 324 METERS - 1991 AND PRIOR

ORIGINAL LIFE TABLE

PLACEMENT BAND 1911-1991

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0					
0.5					
1.5					
2.5					
3.5					
4.5					
5.5					
6.5					
7.5					
8.5					
9.5					
10.5					
11.5					
12.5					
13.5					
14.5					
15.5					
16.5					
17.5					
18.5					
19.5					
20.5					
21.5	128,721		0.0000	1.0000	100.00
22.5	229,158		0.0000	1.0000	100.00
23.5	319,554		0.0000	1.0000	100.00
24.5	356,556	6,453	0.0181	0.9819	100.00
25.5	384,636	4,336	0.0113	0.9887	98.19
26.5	397,066	3,527	0.0089	0.9911	97.08
27.5	408,500	4,175	0.0102	0.9898	96.22
28.5	294,440	78,209	0.2656	0.7344	95.24
29.5	202,274	71,522	0.3536	0.6464	69.94
30.5	117,839	29,259	0.2483	0.7517	45.21
31.5	85,789	32,811	0.3825	0.6175	33.99
32.5	54,731	15,935	0.2912	0.7088	20.99
33.5	41,939	14,163	0.3377	0.6623	14.88
34.5	29,481	6,238	0.2116	0.7884	9.85
35.5	27,702	4,155	0.1500	0.8500	7.77
36.5	39,475	4,797	0.1215	0.8785	6.60
37.5	34,678	4,444	0.1281	0.8719	5.80
38.5	30,234	3,422	0.1132	0.8868	5.06

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 324 METERS - 1991 AND PRIOR

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1911-1991

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	26,812	4,228	0.1577	0.8423	4.48
40.5	22,584	2,196	0.0972	0.9028	3.78
41.5	20,387	4,459	0.2187	0.7813	3.41
42.5	15,929	15,929	1.0000		2.66
43.5					
44.5					
45.5					
46.5					
47.5					
48.5					
49.5	3,492		0.0000		
50.5	3,492		0.0000		
51.5	3,492		0.0000		
52.5	3,492		0.0000		
53.5	3,492		0.0000		
54.5	3,492		0.0000		
55.5	3,492	3,492	1.0000		
56.5					
57.5					
58.5					
59.5	173		0.0000		
60.5	1,487		0.0000		
61.5	2,178		0.0000		
62.5	2,699		0.0000		
63.5	2,876		0.0000		
64.5	6,283		0.0000		
65.5	7,050	173	0.0245		
66.5	7,077	1,314	0.1857		
67.5	5,763	691	0.1200		
68.5	5,071	521	0.1027		
69.5	4,551	177	0.0389		
70.5	5,202	3,407	0.6549		
71.5	2,059	767	0.3724		
72.5	1,511	200	0.1324		
73.5	1,500		0.0000		
74.5	1,606		0.0000		
75.5	1,719		0.0000		
76.5	1,820	829	0.4553		
77.5	1,449	264	0.1821		
78.5	1,413	219	0.1549		

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 324 METERS - 1991 AND PRIOR

ORIGINAL LIFE TABLE, CONT.

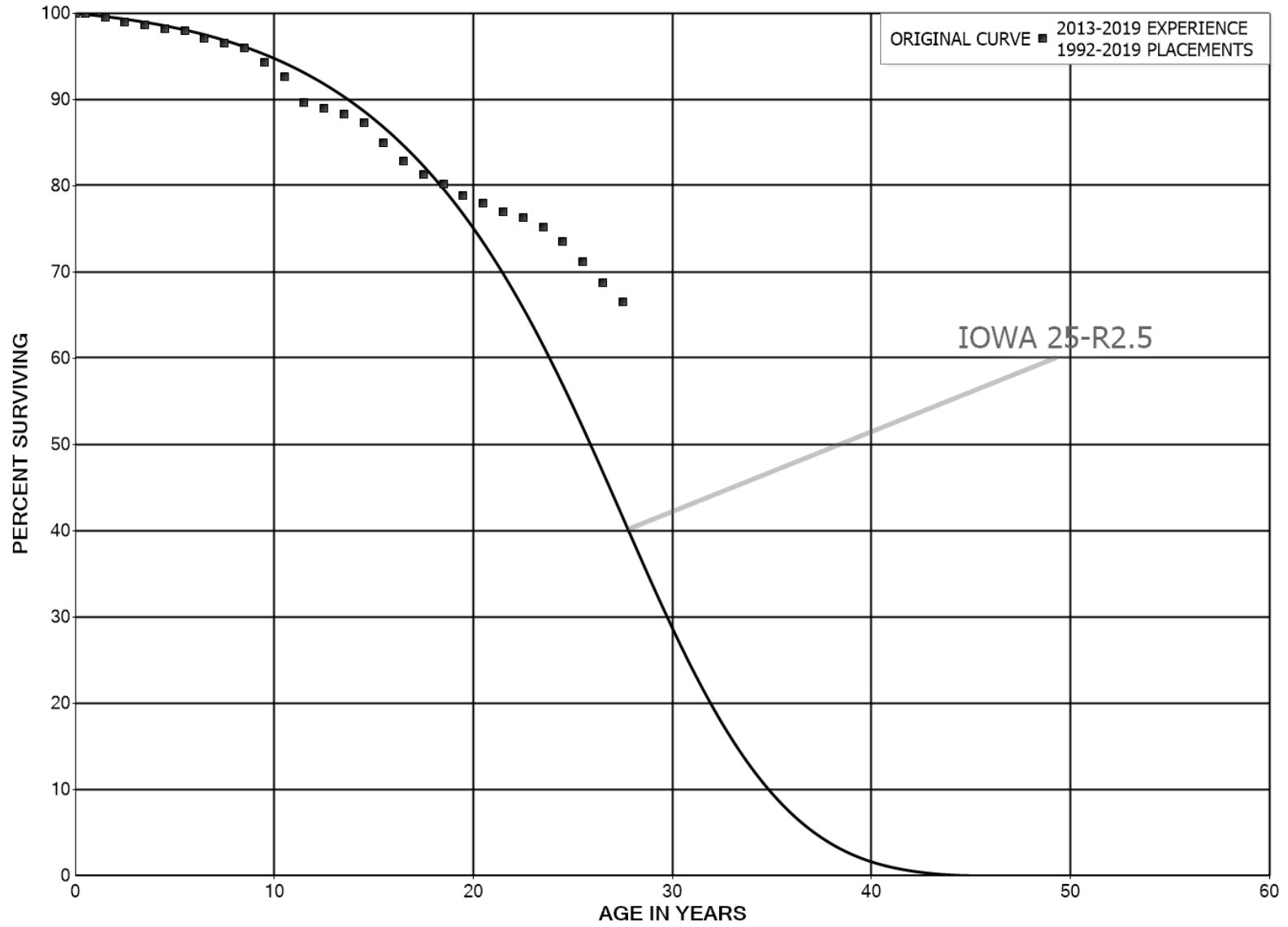
PLACEMENT BAND 1911-1991

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	1,194	189	0.1582		
80.5	1,102	106	0.0965		
81.5	1,161	116	0.0998		
82.5	1,045	101	0.0966		
83.5	1,349	554	0.4105		
84.5	795	390	0.4909		
85.5	405		0.0000		
86.5	405	405	1.0000		
87.5					



CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 324 METERS - 1992 AND SUBSEQUENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 324 METERS - 1992 AND SUBSEQUENT

ORIGINAL LIFE TABLE

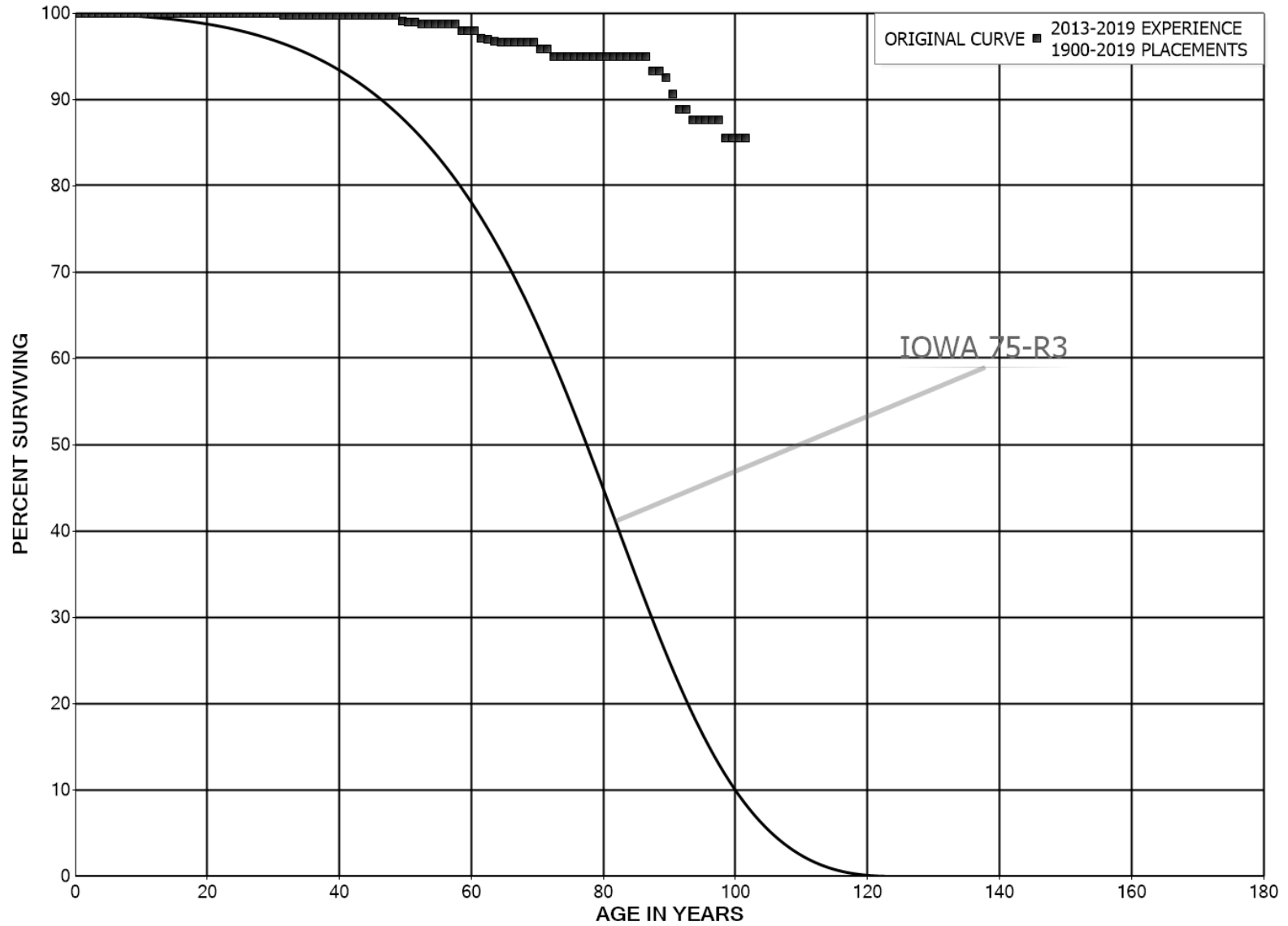
PLACEMENT BAND 1992-2019

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	2,119,025	1,180	0.0006	0.9994	100.00
0.5	1,748,943	7,013	0.0040	0.9960	99.94
1.5	1,367,169	7,759	0.0057	0.9943	99.54
2.5	1,107,373	4,638	0.0042	0.9958	98.98
3.5	708,717	2,648	0.0037	0.9963	98.56
4.5	523,310	1,014	0.0019	0.9981	98.20
5.5	517,764	5,227	0.0101	0.9899	98.01
6.5	448,356	2,174	0.0048	0.9952	97.02
7.5	457,277	2,817	0.0062	0.9938	96.55
8.5	492,827	8,613	0.0175	0.9825	95.95
9.5	532,963	9,258	0.0174	0.9826	94.27
10.5	587,192	19,103	0.0325	0.9675	92.64
11.5	738,097	5,173	0.0070	0.9930	89.62
12.5	858,186	6,566	0.0077	0.9923	88.99
13.5	932,200	10,459	0.0112	0.9888	88.31
14.5	907,773	24,899	0.0274	0.9726	87.32
15.5	907,631	22,437	0.0247	0.9753	84.93
16.5	1,312,813	23,883	0.0182	0.9818	82.83
17.5	2,078,579	30,505	0.0147	0.9853	81.32
18.5	2,039,089	31,835	0.0156	0.9844	80.13
19.5	2,697,395	30,283	0.0112	0.9888	78.88
20.5	3,467,046	48,641	0.0140	0.9860	77.99
21.5	3,390,164	27,984	0.0083	0.9917	76.90
22.5	3,293,808	46,965	0.0143	0.9857	76.26
23.5	2,773,729	61,306	0.0221	0.9779	75.18
24.5	1,949,156	60,756	0.0312	0.9688	73.51
25.5	1,695,795	60,422	0.0356	0.9644	71.22
26.5	811,714	25,453	0.0314	0.9686	68.68
27.5					66.53



CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 325 FIRE HYDRANTS
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 325 FIRE HYDRANTS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1900-2019

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	638,594		0.0000	1.0000	100.00
0.5	597,700		0.0000	1.0000	100.00
1.5	481,923		0.0000	1.0000	100.00
2.5	392,057		0.0000	1.0000	100.00
3.5	427,251		0.0000	1.0000	100.00
4.5	419,281		0.0000	1.0000	100.00
5.5	446,344		0.0000	1.0000	100.00
6.5	530,435		0.0000	1.0000	100.00
7.5	530,491		0.0000	1.0000	100.00
8.5	585,475		0.0000	1.0000	100.00
9.5	566,674		0.0000	1.0000	100.00
10.5	495,513		0.0000	1.0000	100.00
11.5	462,328		0.0000	1.0000	100.00
12.5	395,250		0.0000	1.0000	100.00
13.5	334,559		0.0000	1.0000	100.00
14.5	334,599		0.0000	1.0000	100.00
15.5	326,157		0.0000	1.0000	100.00
16.5	348,544		0.0000	1.0000	100.00
17.5	362,824		0.0000	1.0000	100.00
18.5	367,419		0.0000	1.0000	100.00
19.5	386,054		0.0000	1.0000	100.00
20.5	388,670		0.0000	1.0000	100.00
21.5	383,855		0.0000	1.0000	100.00
22.5	377,181		0.0000	1.0000	100.00
23.5	412,229		0.0000	1.0000	100.00
24.5	423,580		0.0000	1.0000	100.00
25.5	411,073		0.0000	1.0000	100.00
26.5	397,907		0.0000	1.0000	100.00
27.5	378,358		0.0000	1.0000	100.00
28.5	334,219		0.0000	1.0000	100.00
29.5	292,782		0.0000	1.0000	100.00
30.5	194,808	587	0.0030	0.9970	100.00
31.5	127,200		0.0000	1.0000	99.70
32.5	119,346		0.0000	1.0000	99.70
33.5	88,949		0.0000	1.0000	99.70
34.5	71,922		0.0000	1.0000	99.70
35.5	58,823		0.0000	1.0000	99.70
36.5	68,352		0.0000	1.0000	99.70
37.5	107,034		0.0000	1.0000	99.70
38.5	136,475		0.0000	1.0000	99.70

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 325 FIRE HYDRANTS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1900-2019

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	118,925		0.0000	1.0000	99.70
40.5	137,723		0.0000	1.0000	99.70
41.5	142,092		0.0000	1.0000	99.70
42.5	141,664		0.0000	1.0000	99.70
43.5	145,124		0.0000	1.0000	99.70
44.5	125,906		0.0000	1.0000	99.70
45.5	114,681		0.0000	1.0000	99.70
46.5	112,165		0.0000	1.0000	99.70
47.5	98,446		0.0000	1.0000	99.70
48.5	88,010	540	0.0061	0.9939	99.70
49.5	77,189	132	0.0017	0.9983	99.09
50.5	62,107		0.0000	1.0000	98.92
51.5	47,689	117	0.0025	0.9975	98.92
52.5	37,724		0.0000	1.0000	98.67
53.5	39,669		0.0000	1.0000	98.67
54.5	42,893		0.0000	1.0000	98.67
55.5	48,215		0.0000	1.0000	98.67
56.5	53,402		0.0000	1.0000	98.67
57.5	63,005	450	0.0071	0.9929	98.67
58.5	67,224		0.0000	1.0000	97.97
59.5	64,133		0.0000	1.0000	97.97
60.5	61,515	560	0.0091	0.9909	97.97
61.5	58,771	92	0.0016	0.9984	97.08
62.5	50,078	80	0.0016	0.9984	96.93
63.5	43,105	81	0.0019	0.9981	96.77
64.5	31,167		0.0000	1.0000	96.59
65.5	23,630		0.0000	1.0000	96.59
66.5	18,937		0.0000	1.0000	96.59
67.5	14,386		0.0000	1.0000	96.59
68.5	9,632		0.0000	1.0000	96.59
69.5	8,509	64	0.0075	0.9925	96.59
70.5	7,823		0.0000	1.0000	95.86
71.5	7,140	64	0.0090	0.9910	95.86
72.5	5,367		0.0000	1.0000	95.00
73.5	6,611		0.0000	1.0000	95.00
74.5	6,642		0.0000	1.0000	95.00
75.5	5,983		0.0000	1.0000	95.00
76.5	5,526		0.0000	1.0000	95.00
77.5	4,278		0.0000	1.0000	95.00
78.5	3,927		0.0000	1.0000	95.00

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 325 FIRE HYDRANTS

ORIGINAL LIFE TABLE, CONT.

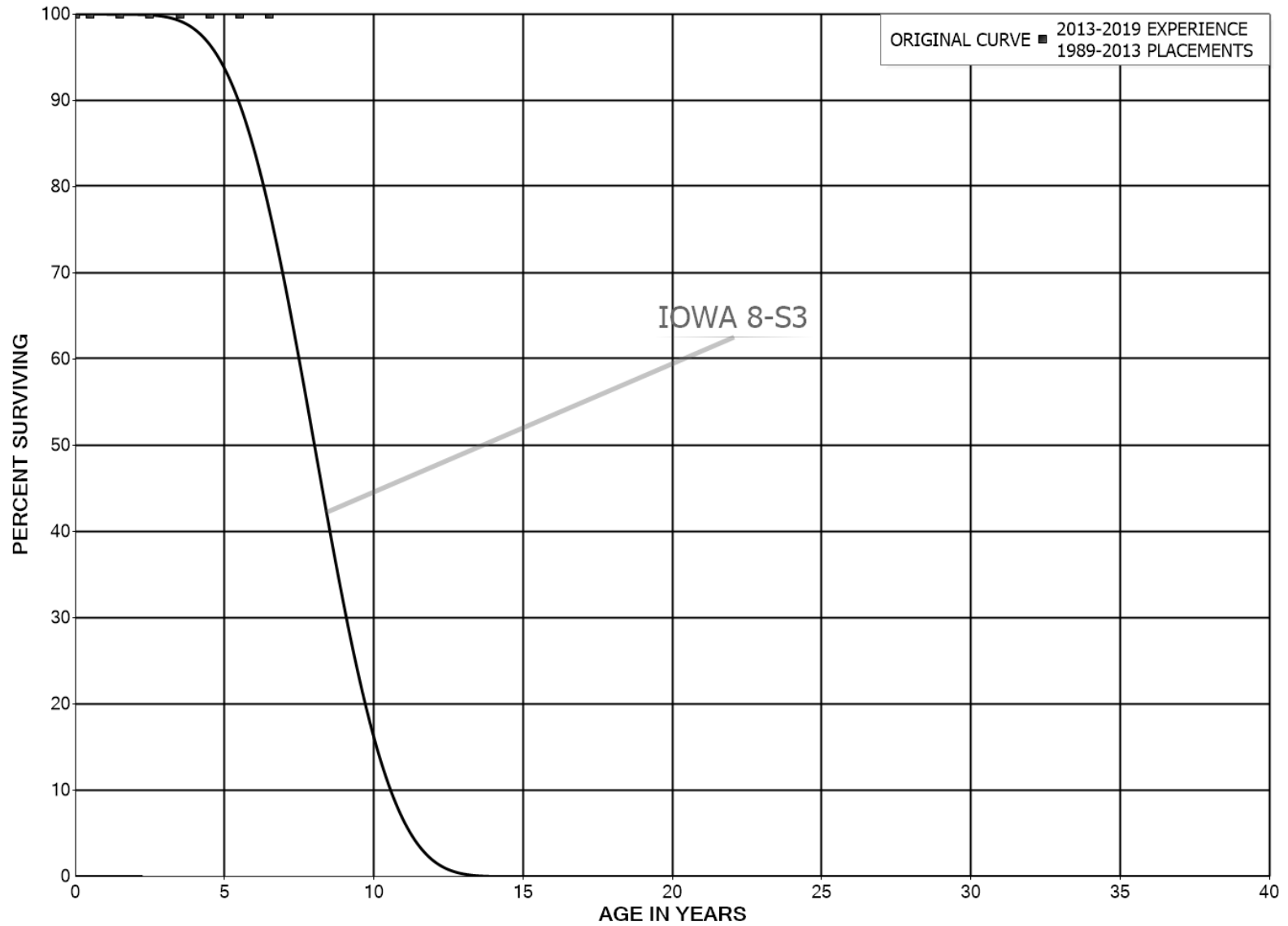
PLACEMENT BAND 1900-2019

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
79.5	3,720		0.0000	1.0000	95.00
80.5	3,171		0.0000	1.0000	95.00
81.5	3,403		0.0000	1.0000	95.00
82.5	5,007		0.0000	1.0000	95.00
83.5	9,140		0.0000	1.0000	95.00
84.5	10,396		0.0000	1.0000	95.00
85.5	11,603		0.0000	1.0000	95.00
86.5	14,721	270	0.0183	0.9817	95.00
87.5	16,697		0.0000	1.0000	93.26
88.5	16,921	131	0.0077	0.9923	93.26
89.5	16,442	334	0.0203	0.9797	92.54
90.5	13,080	270	0.0206	0.9794	90.66
91.5	12,287		0.0000	1.0000	88.79
92.5	12,419	160	0.0129	0.9871	88.79
93.5	10,801		0.0000	1.0000	87.64
94.5	9,481		0.0000	1.0000	87.64
95.5	8,498		0.0000	1.0000	87.64
96.5	6,922		0.0000	1.0000	87.64
97.5	6,002	145	0.0242	0.9758	87.64
98.5	5,123		0.0000	1.0000	85.52
99.5	3,156		0.0000	1.0000	85.52
100.5	1,569		0.0000	1.0000	85.52
101.5					85.52
102.5					
103.5					
104.5					
105.5					
106.5					
107.5					
108.5					
109.5					
110.5					
111.5					
112.5	1,409		0.0000		
113.5	1,409		0.0000		
114.5	1,409		0.0000		
115.5	1,409		0.0000		
116.5	1,409		0.0000		
117.5	1,409		0.0000		
118.5	1,409		0.0000		
119.5					



CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 329 TRANSPORTATION EQUIPMENT - PASSENGER CARS
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 329 TRANSPORTATION EQUIPMENT - PASSENGER CARS

ORIGINAL LIFE TABLE

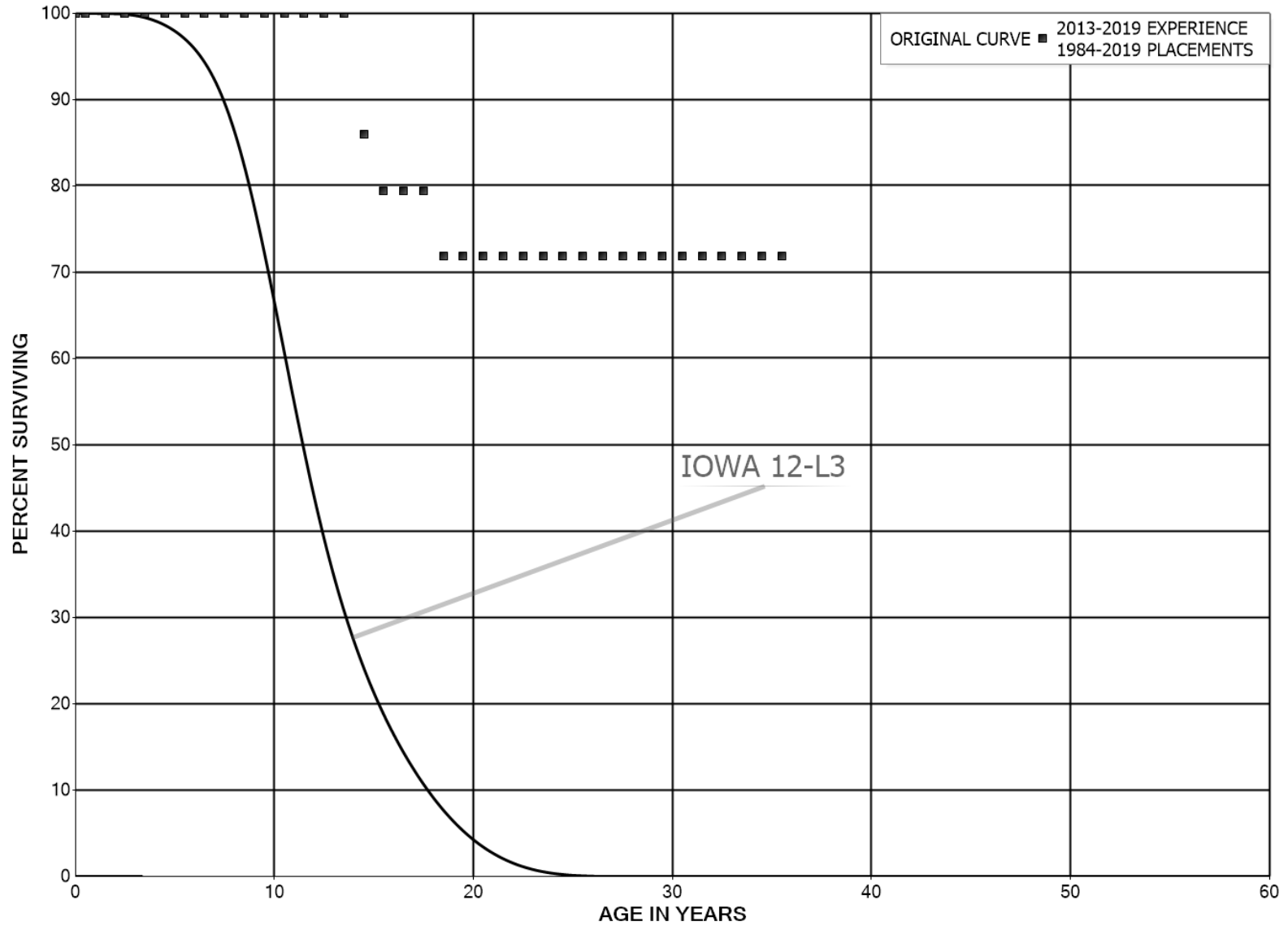
PLACEMENT BAND 1989-2013

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	32,405		0.0000	1.0000	100.00
0.5	32,405		0.0000	1.0000	100.00
1.5	32,405		0.0000	1.0000	100.00
2.5	32,405		0.0000	1.0000	100.00
3.5	32,405		0.0000	1.0000	100.00
4.5	32,405		0.0000	1.0000	100.00
5.5	32,405		0.0000	1.0000	100.00
6.5					100.00
7.5					
8.5	33,021		0.0000		
9.5	89,046		0.0000		
10.5	89,046		0.0000		
11.5	102,646		0.0000		
12.5	102,646	16,510	0.1608		
13.5	120,586	14,006	0.1162		
14.5	106,580		0.0000		
15.5	104,919		0.0000		
16.5	62,900		0.0000		
17.5	62,900		0.0000		
18.5	49,300		0.0000		
19.5	49,300		0.0000		
20.5	37,885		0.0000		
21.5	48,123		0.0000		
22.5	39,438		0.0000		
23.5	49,678		0.0000		
24.5	49,678		0.0000		
25.5	49,678		0.0000		
26.5	49,678		0.0000		
27.5	26,643		0.0000		
28.5	16,405		0.0000		
29.5	10,240		0.0000		
30.5					



CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 329 TRANSPORTATION EQUIPMENT - LIGHT TRUCKS
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 329 TRANSPORTATION EQUIPMENT - LIGHT TRUCKS

ORIGINAL LIFE TABLE

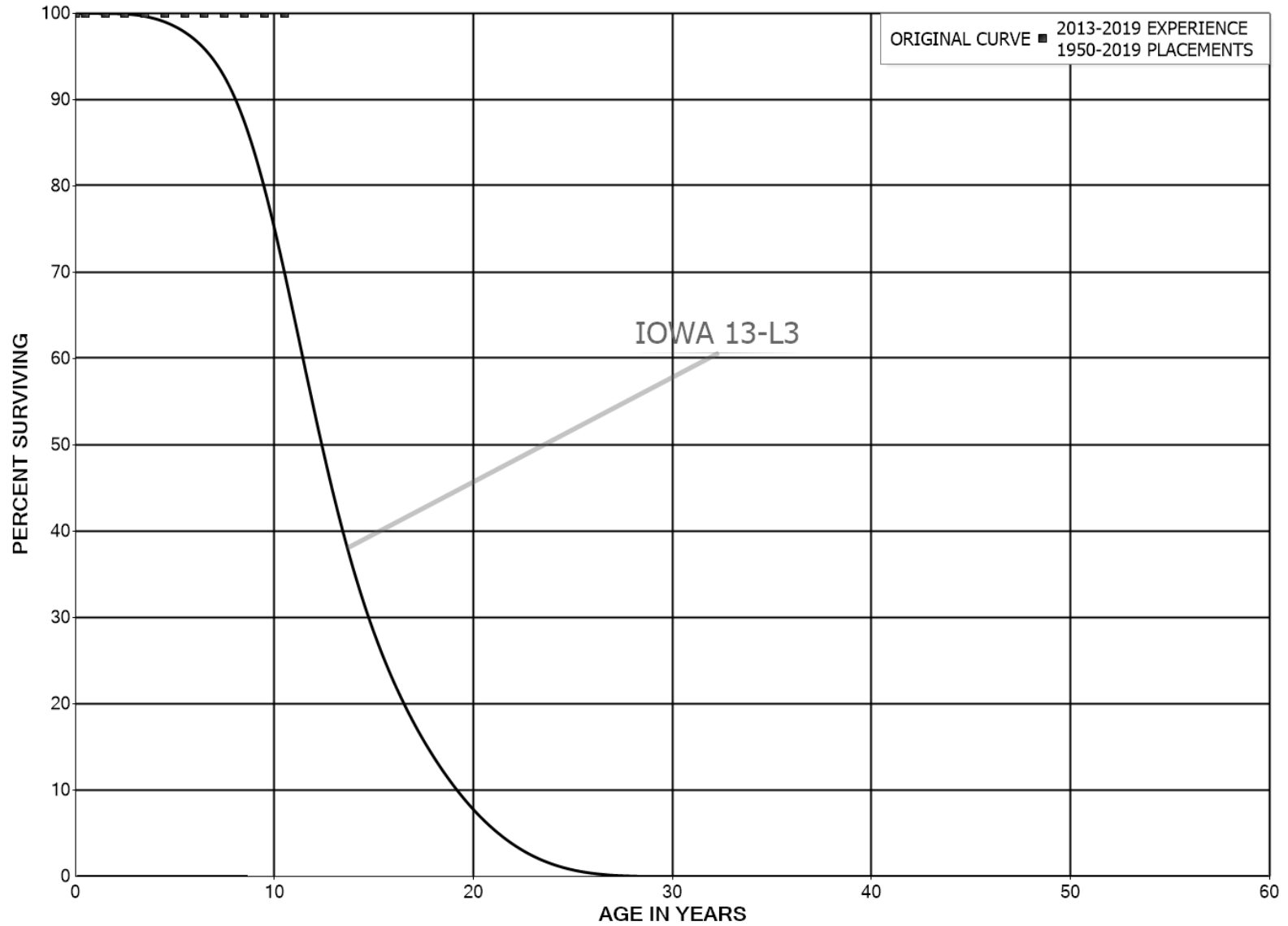
PLACEMENT BAND 1984-2019

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	274,998		0.0000	1.0000	100.00
0.5	377,661		0.0000	1.0000	100.00
1.5	311,519		0.0000	1.0000	100.00
2.5	223,097		0.0000	1.0000	100.00
3.5	223,137		0.0000	1.0000	100.00
4.5	367,802		0.0000	1.0000	100.00
5.5	367,801		0.0000	1.0000	100.00
6.5	335,396		0.0000	1.0000	100.00
7.5	216,126		0.0000	1.0000	100.00
8.5	238,585		0.0000	1.0000	100.00
9.5	293,271		0.0000	1.0000	100.00
10.5	246,406		0.0000	1.0000	100.00
11.5	116,939		0.0000	1.0000	100.00
12.5	116,939		0.0000	1.0000	100.00
13.5	174,940	24,595	0.1406	0.8594	100.00
14.5	200,532	15,199	0.0758	0.9242	85.94
15.5	182,899		0.0000	1.0000	79.43
16.5	255,662		0.0000	1.0000	79.43
17.5	328,126	31,500	0.0960	0.9040	79.43
18.5	314,005		0.0000	1.0000	71.80
19.5	314,005		0.0000	1.0000	71.80
20.5	274,990		0.0000	1.0000	71.80
21.5	256,303		0.0000	1.0000	71.80
22.5	267,063		0.0000	1.0000	71.80
23.5	152,243		0.0000	1.0000	71.80
24.5	79,779		0.0000	1.0000	71.80
25.5	62,400		0.0000	1.0000	71.80
26.5	77,731		0.0000	1.0000	71.80
27.5	58,745		0.0000	1.0000	71.80
28.5	73,643		0.0000	1.0000	71.80
29.5	42,859		0.0000	1.0000	71.80
30.5	30,229		0.0000	1.0000	71.80
31.5	30,229		0.0000	1.0000	71.80
32.5	30,229		0.0000	1.0000	71.80
33.5	14,898		0.0000	1.0000	71.80
34.5	14,898		0.0000	1.0000	71.80
35.5					71.80



CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 329 TRANSPORTATION EQUIPMENT - HEAVY TRUCKS
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 329 TRANSPORTATION EQUIPMENT - HEAVY TRUCKS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1950-2019

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	258,626		0.0000	1.0000	100.00
0.5	152,003		0.0000	1.0000	100.00
1.5	86,655		0.0000	1.0000	100.00
2.5	32,405		0.0000	1.0000	100.00
3.5	265,511		0.0000	1.0000	100.00
4.5	265,511		0.0000	1.0000	100.00
5.5	265,511		0.0000	1.0000	100.00
6.5	233,106		0.0000	1.0000	100.00
7.5	233,106		0.0000	1.0000	100.00
8.5	233,106		0.0000	1.0000	100.00
9.5	233,106		0.0000	1.0000	100.00
10.5					100.00
11.5					
12.5	35,550		0.0000		
13.5	98,732		0.0000		
14.5	98,732		0.0000		
15.5	146,428		0.0000		
16.5	146,428		0.0000		
17.5	195,402		0.0000		
18.5	237,389		0.0000		
19.5	201,839		0.0000		
20.5	177,343		0.0000		
21.5	177,343		0.0000		
22.5	175,409		0.0000		
23.5	219,268		0.0000		
24.5	237,293		0.0000		
25.5	195,306		0.0000		
26.5	195,306		0.0000		
27.5	156,620		0.0000		
28.5	156,620		0.0000		
29.5	135,143		0.0000		
30.5	91,284		0.0000		
31.5	24,285		0.0000		
32.5	24,285		0.0000		
33.5	24,285		0.0000		
34.5	24,285		0.0000		
35.5	24,285		0.0000		
36.5					
37.5					
38.5					

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 329 TRANSPORTATION EQUIPMENT - HEAVY TRUCKS

ORIGINAL LIFE TABLE, CONT.

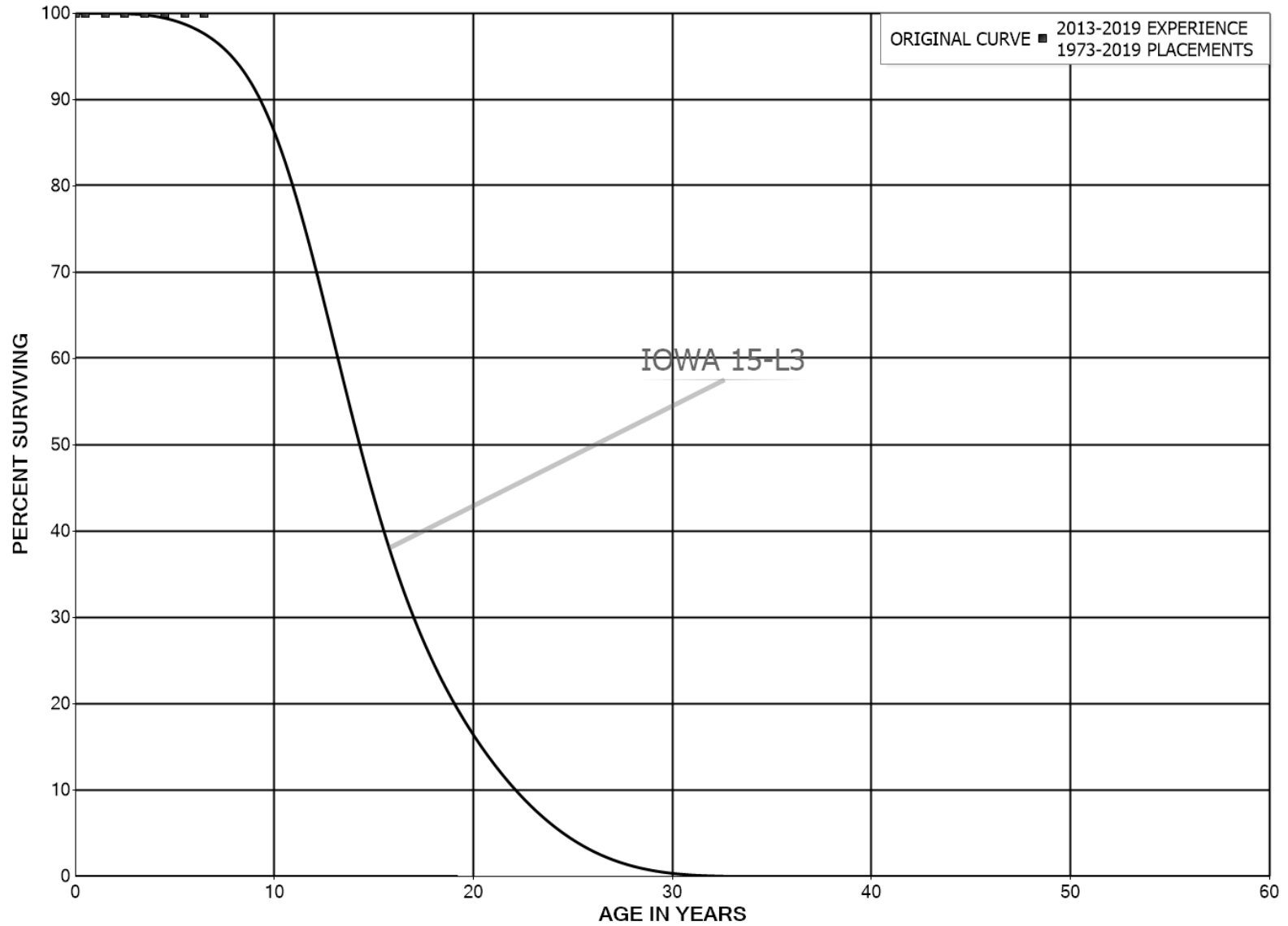
PLACEMENT BAND 1950-2019

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5					
40.5					
41.5					
42.5					
43.5					
44.5					
45.5					
46.5					
47.5					
48.5					
49.5					
50.5					
51.5					
52.5					
53.5					
54.5					
55.5					
56.5					
57.5					
58.5					
59.5					
60.5					
61.5					
62.5	800		0.0000		
63.5	800		0.0000		
64.5	800		0.0000		
65.5	800		0.0000		
66.5	800		0.0000		
67.5	800		0.0000		
68.5	800		0.0000		
69.5					



CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 332 CONSTRUCTION EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 332 CONSTRUCTION EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1973-2019

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	201,437		0.0000	1.0000	100.00
0.5	156,182		0.0000	1.0000	100.00
1.5	121,444		0.0000	1.0000	100.00
2.5	80,194		0.0000	1.0000	100.00
3.5	23,125		0.0000	1.0000	100.00
4.5	23,125		0.0000	1.0000	100.00
5.5	11,385		0.0000	1.0000	100.00
6.5					100.00
7.5	67,439		0.0000		
8.5	131,783		0.0000		
9.5	131,783		0.0000		
10.5	131,783		0.0000		
11.5	131,783		0.0000		
12.5	150,314		0.0000		
13.5	152,611		0.0000		
14.5	105,267		0.0000		
15.5	53,674		0.0000		
16.5	53,674		0.0000		
17.5	76,428		0.0000		
18.5	248,103		0.0000		
19.5	296,340		0.0000		
20.5	309,294		0.0000		
21.5	299,420		0.0000		
22.5	319,134		0.0000		
23.5	359,059		0.0000		
24.5	358,210		0.0000		
25.5	274,000		0.0000		
26.5	219,549		0.0000		
27.5	204,298		0.0000		
28.5	194,077		0.0000		
29.5	161,612		0.0000		
30.5	121,687		0.0000		
31.5	99,782	43,733	0.4383		
32.5	12,317		0.0000		
33.5	11,450		0.0000		
34.5	14,339		0.0000		
35.5	14,339		0.0000		
36.5	18,239		0.0000		
37.5	18,239		0.0000		
38.5	18,239		0.0000		

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 332 CONSTRUCTION EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

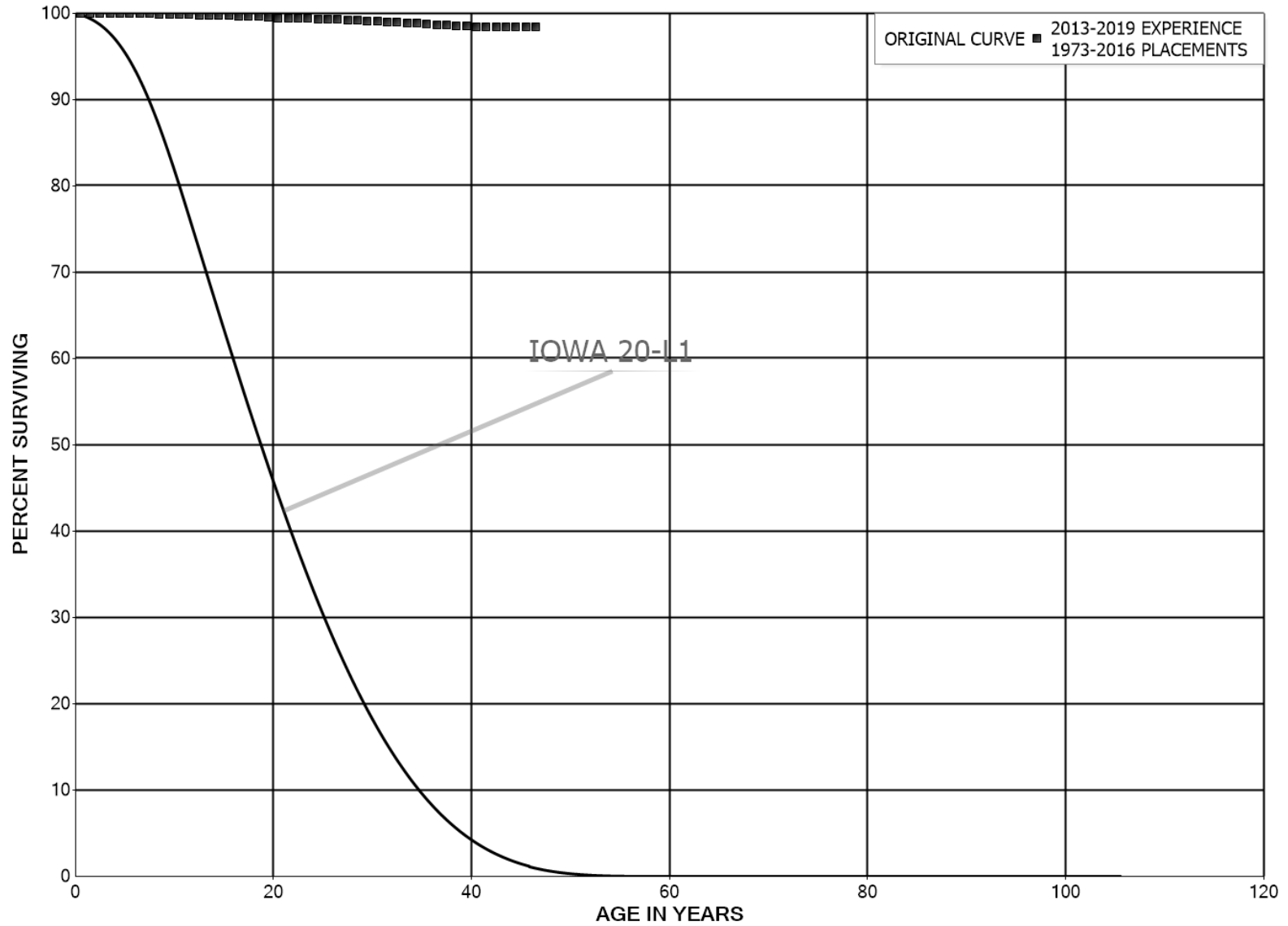
PLACEMENT BAND 1973-2019

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	21,126		0.0000		
40.5	9,676		0.0000		
41.5	6,787		0.0000		
42.5	6,787		0.0000		
43.5	2,887		0.0000		
44.5	2,887		0.0000		
45.5	2,887		0.0000		
46.5					



CITY OF BETHLEHEM - BUREAU OF WATER
ACCOUNT 332 TOOLS AND WORK EQUIPMENT
ORIGINAL AND SMOOTH SURVIVOR CURVES



CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 332 TOOLS AND WORK EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1973-2016

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
0.0	86,916		0.0000	1.0000	100.00
0.5	217,119	60	0.0003	0.9997	100.00
1.5	246,263	86	0.0004	0.9996	99.97
2.5	261,473	24	0.0001	0.9999	99.94
3.5	255,378	16	0.0001	0.9999	99.93
4.5	290,907	30	0.0001	0.9999	99.92
5.5	260,480	37	0.0001	0.9999	99.91
6.5	235,430	2	0.0000	1.0000	99.90
7.5	129,599	16	0.0001	0.9999	99.90
8.5	125,862	40	0.0003	0.9997	99.88
9.5	131,891	42	0.0003	0.9997	99.85
10.5	181,337	66	0.0004	0.9996	99.82
11.5	161,611	99	0.0006	0.9994	99.78
12.5	176,983	45	0.0003	0.9997	99.72
13.5	180,023	28	0.0002	0.9998	99.70
14.5	158,204	12	0.0001	0.9999	99.68
15.5	142,647	12	0.0001	0.9999	99.67
16.5	144,559	38	0.0003	0.9997	99.67
17.5	99,401	60	0.0006	0.9994	99.64
18.5	103,820	63	0.0006	0.9994	99.58
19.5	100,536	74	0.0007	0.9993	99.52
20.5	99,829	33	0.0003	0.9997	99.45
21.5	107,840	25	0.0002	0.9998	99.41
22.5	102,253	31	0.0003	0.9997	99.39
23.5	83,741	17	0.0002	0.9998	99.36
24.5	73,259	21	0.0003	0.9997	99.34
25.5	54,731	34	0.0006	0.9994	99.31
26.5	45,099	35	0.0008	0.9992	99.25
27.5	44,776	16	0.0003	0.9997	99.17
28.5	38,534	24	0.0006	0.9994	99.14
29.5	37,491	19	0.0005	0.9995	99.08
30.5	37,919	20	0.0005	0.9995	99.03
31.5	32,228	21	0.0007	0.9993	98.97
32.5	21,730	5	0.0002	0.9998	98.91
33.5	26,012	12	0.0005	0.9995	98.89
34.5	23,899	34	0.0014	0.9986	98.84
35.5	19,686	14	0.0007	0.9993	98.70
36.5	19,042	5	0.0003	0.9997	98.63
37.5	14,089	12	0.0009	0.9991	98.60
38.5	15,125	6	0.0004	0.9996	98.52

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 332 TOOLS AND WORK EQUIPMENT

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1973-2016

EXPERIENCE BAND 2013-2019

AGE AT BEGIN OF INTERVAL	EXPOSURES AT BEGINNING OF AGE INTERVAL	RETIREMENTS DURING AGE INTERVAL	RETMT RATIO	SURV RATIO	PCT SURV BEGIN OF INTERVAL
39.5	15,550	12	0.0008	0.9992	98.48
40.5	8,726	2	0.0003	0.9997	98.40
41.5	5,476		0.0000	1.0000	98.38
42.5	5,476		0.0000	1.0000	98.38
43.5	2,898		0.0000	1.0000	98.38
44.5	2,757		0.0000	1.0000	98.38
45.5	428		0.0000	1.0000	98.38
46.5					98.38

PART VII. DETAILED DEPRECIATION CALCULATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST

CITY OF BETHLEHEM - BUREAU OF WATER

**CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020**

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	AMOUNT (2) - (3) (4)	CUMULATIVE AMOUNT (5)	COL 4 TOTAL (6)
1880	92,139	87,291	4,848	4,848	0.0
1890	58,764	49,824	8,940	13,788	0.0
1900	151,692	139,473	12,219	26,008	0.0
1912	114	114	0	26,008	0.0
1915	1,087	1,087	0	26,008	0.0
1916	64,765	54,670	10,095	36,103	0.0
1917	9,572	8,072	1,500	37,603	0.0
1918	27,823	23,207	4,616	42,218	0.0
1919	23,317	21,019	2,298	44,516	0.0
1920	16,400	14,467	1,933	46,449	0.0
1921	18,470	15,720	2,750	49,198	0.0
1922	20,503	17,286	3,217	52,415	0.0
1923	30,824	25,756	5,068	57,483	0.1
1924	117,022	113,338	3,684	61,167	0.1
1925	64,840	53,492	11,348	72,514	0.1
1926	105,679	86,627	19,052	91,566	0.1
1927	68,368	55,639	12,729	104,295	0.1
1928	52,739	42,939	9,800	114,096	0.1
1929	73,617	59,917	13,700	127,795	0.1
1930	68,906	54,651	14,255	142,050	0.1
1931	33,393	25,863	7,530	149,579	0.1
1932	32,241	25,083	7,158	156,738	0.1
1933	16,469	12,884	3,585	160,322	0.1
1934	37,812	28,830	8,982	169,304	0.1
1935	2,757	2,102	655	169,959	0.1
1936	8,085	6,061	2,024	171,983	0.1
1937	23,498	17,725	5,773	177,756	0.1
1938	28,958	21,302	7,656	185,411	0.2
1939	26,123	19,772	6,351	191,763	0.2
1940	17,928	13,275	4,653	196,416	0.2
1941	1,766,333	1,209,930	556,403	752,819	0.6
1942	76,842	55,286	21,556	774,375	0.6
1943	226,616	149,644	76,972	851,347	0.7
1944	11,392	8,341	3,051	854,398	0.7
1945	10,756	7,589	3,167	857,565	0.7
1946	701,327	428,805	272,522	1,130,087	0.9
1947	92,934	64,388	28,546	1,158,633	0.9
1948	145,629	97,135	48,494	1,207,127	1.0
1949	109,088	73,080	36,008	1,243,135	1.0
1950	106,177	71,535	34,642	1,277,777	1.0
1951	139,817	94,121	45,696	1,323,473	1.1
1952	118,939	79,645	39,294	1,362,767	1.1
1953	1,413,474	802,338	611,136	1,973,903	1.6
1954	85,573	57,242	28,331	2,002,234	1.6
1955	147,891	114,854	33,037	2,035,272	1.7
1956	187,771	123,486	64,285	2,099,557	1.7
1957	55,841	38,508	17,333	2,116,889	1.7
1958	5,613,978	2,454,986	3,158,992	5,275,881	4.3
1959	(14,924)	(24,058)	9,134	5,285,016	4.3
1960	48,073	31,787	16,286	5,301,302	4.3

CITY OF BETHLEHEM - BUREAU OF WATER

**CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020**

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	AMOUNT (2) - (3) (4)	CUMULATIVE AMOUNT (5)	COL 4 TOTAL (6)
1961	92,942	57,490	35,452	5,336,754	4.3
1962	73,025	42,222	30,803	5,367,557	4.3
1963	84,477	50,508	33,969	5,401,526	4.4
1964	42,740	26,625	16,115	5,417,641	4.4
1965	516,467	427,376	89,091	5,506,732	4.5
1966	149,636	103,612	46,024	5,552,756	4.5
1967	344,560	224,242	120,318	5,673,074	4.6
1968	1,346,512	951,883	394,629	6,067,702	4.9
1969	1,556,816	1,153,751	403,065	6,470,767	5.2
1970	475,704	345,235	130,469	6,601,236	5.3
1971	89,099	59,066	30,033	6,631,269	5.4
1972	549,312	493,323	55,989	6,687,258	5.4
1973	83,569	51,164	32,405	6,719,663	5.4
1974	278,533	142,583	135,950	6,855,613	5.5
1975	194,198	115,883	78,315	6,933,928	5.6
1976	423,867	248,979	174,888	7,108,816	5.8
1977	433,319	259,848	173,471	7,282,287	5.9
1978	348,586	218,597	129,989	7,412,276	6.0
1979	878,432	482,263	396,169	7,808,445	6.3
1980	301,000	208,707	92,293	7,900,738	6.4
1981	406,424	256,244	150,180	8,050,918	6.5
1982	598,185	347,810	250,375	8,301,293	6.7
1983	468,669	318,778	149,891	8,451,184	6.8
1984	506,081	268,348	237,733	8,688,918	7.0
1985	503,694	275,184	228,510	8,917,427	7.2
1986	820,690	392,513	428,177	9,345,604	7.6
1987	964,734	460,109	504,625	9,850,229	8.0
1988	1,086,918	517,714	569,204	10,419,433	8.4
1989	1,054,789	526,349	528,440	10,947,873	8.9
1990	1,307,290	583,938	723,352	11,671,225	9.4
1991	2,672,613	1,412,452	1,260,161	12,931,386	10.5
1992	1,765,724	1,154,700	611,024	13,542,410	11.0
1993	9,038,588	5,134,436	3,904,152	17,446,563	14.1
1994	27,005,545	11,893,026	15,112,519	32,559,081	26.3
1995	4,131,970	2,390,141	1,741,829	34,300,911	27.7
1996	11,267,958	4,415,468	6,852,490	41,153,400	33.3
1997	1,766,794	915,260	851,534	42,004,934	34.0
1998	59,311,615	11,967,497	47,344,118	89,349,052	72.3
1999	5,167,865	1,610,036	3,557,829	92,906,881	75.1
2000	1,832,222	682,155	1,150,067	94,056,949	76.1
2001	1,961,693	1,231,530	730,163	94,787,112	76.7
2002	1,456,188	656,665	799,523	95,586,635	77.3
2003	992,507	672,924	319,583	95,906,219	77.6
2004	772,759	464,936	307,823	96,214,042	77.8
2005	818,982	459,640	359,342	96,573,383	78.1
2006	1,446,103	439,517	1,006,586	97,579,970	78.9
2007	1,929,296	537,130	1,392,166	98,972,136	80.0
2008	1,910,532	696,068	1,214,464	100,186,600	81.0
2009	2,687,949	1,097,929	1,590,020	101,776,621	82.3
2010	866,361	663,834	202,527	101,979,148	82.5

CITY OF BETHLEHEM - BUREAU OF WATER

**CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020**

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	AMOUNT (2) - (3) (4)	CUMULATIVE AMOUNT (5)	COL 4 TOTAL (6)
2011	2,522,568	669,853	1,852,715	103,831,862	84.0
2012	1,854,992	799,175	1,055,817	104,887,679	84.8
2013	2,033,544	478,014	1,555,530	106,443,209	86.1
2014	1,818,073	334,519	1,483,554	107,926,763	87.3
2015	2,230,642	385,364	1,845,278	109,772,041	88.8
2016	2,714,931	371,927	2,343,004	112,115,045	90.7
2017	2,809,060	361,233	2,447,827	114,562,872	92.7
2018	3,040,063	299,993	2,740,070	117,302,942	94.9
2019	2,187,117	129,814	2,057,303	119,360,245	96.5
2020	4,361,895	73,287	4,288,608	123,648,853	100.0
TOTAL	192,693,848	69,044,995	123,648,853		
NONDEPRECIABLE	1,931,361	0	1,931,361		
TOTAL	194,625,209	69,044,995	125,580,214		

UTILITY PLANT IN SERVICE

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.11 COLLECTING AND IMPOUNDING RESERVOIRS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
WILD CREEK RESERVOIR						
INTERIM SURVIVOR CURVE.. IOWA 125-R3						
PROBABLE RETIREMENT YEAR.. 6-2091						
1941	1,512,394.48	961,883	796,900	715,495	45.50	15,725
1982	4,780.21	1,859	1,540	3,240	60.51	54
1988	12,687.76	4,371	3,621	9,066	61.84	147
1989	47,631.20	16,052	13,299	34,332	61.96	554
1990	71,953.98	23,702	19,637	52,317	62.09	843
1991	18,195.13	5,797	4,803	13,392	63.09	212
1992	34,095.02	10,590	8,774	25,321	63.25	400
1993	27,969.03	8,461	7,010	20,959	63.41	331
1994	49,186.28	14,471	11,989	37,197	63.59	585
1995	223,335.71	63,785	52,845	170,491	63.79	2,673
1996	162,967.68	45,109	37,372	125,596	64.00	1,962
1997	40,446.32	10,929	9,054	31,392	63.46	495
2010	35,812.94	4,928	4,083	31,730	65.83	482
2013	4,749.48	484	401	4,348	66.03	66
2015	999.98	77	64	936	65.93	14
2016	34,305.66	2,192	1,816	32,490	65.92	493
2019	47,528.73	1,055	874	46,655	66.07	706
2020	48,800.00	371	307	48,493	65.29	743
	2,377,839.59	1,176,116	974,387	1,403,453		26,485

PENN FOREST RESERVOIR
INTERIM SURVIVOR CURVE.. IOWA 125-R3
PROBABLE RETIREMENT YEAR.. 6-2108

1958	5,484,346.50	2,845,279	2,370,006	3,114,340	57.98	53,714
1974	3,038.89	1,257	1,047	1,992	65.87	30
1979	85,000.00	32,096	26,735	58,265	68.40	852
1985	1,301.40	434	362	940	70.88	13
1991	180,831.86	52,278	43,546	137,286	72.54	1,893
1996	993,530.00	245,799	204,741	788,789	74.51	10,586
1998	57,614,270.62	13,354,988	11,124,184	46,490,086	74.58	623,359
1999	3,441,149.46	761,870	634,608	2,806,541	75.59	37,128
2000	423,525.37	90,296	75,213	348,312	75.65	4,604
2001	226,141.87	46,314	38,578	187,564	75.73	2,477
2002	252.35	49	41	212	75.84	3

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.11 COLLECTING AND IMPOUNDING RESERVOIRS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PENN FOREST RESERVOIR						
INTERIM SURVIVOR CURVE.. IOWA 125-R3						
PROBABLE RETIREMENT YEAR.. 6-2108						
2003	1,195.00	224	187	1,008	75.96	13
2004	12,060.00	2,149	1,790	10,270	76.09	135
2005	93,462.00	15,646	13,033	80,429	77.09	1,043
	68,560,105.32	17,448,679	14,534,069	54,026,036		735,850
	70,937,944.91	18,624,795	15,508,456	55,429,489		762,335
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						72.7 1.07

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.12 LAKE, RIVER AND OTHER INTAKES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
TUNKHANNOCK INTAKE						
INTERIM SURVIVOR CURVE.. IOWA 65-S1.5						
PROBABLE RETIREMENT YEAR.. 6-2044						
1969	287,394.85	217,558	216,565	70,830	16.53	4,285
1987	20,160.24	12,765	12,707	7,454	19.41	384
1994	39,585.00	22,342	22,240	17,345	20.45	848
1998	5,330.47	2,759	2,746	2,584	20.98	123
1999	4,563.08	2,305	2,294	2,269	21.06	108
2001	9,794.65	4,680	4,659	5,136	21.31	241
2003	11,225.00	5,029	5,006	6,219	21.56	288
2004	11,165.35	4,827	4,805	6,360	21.67	293
2005	15,203.25	6,315	6,286	8,917	21.81	409
2012	6,100.00	1,675	1,667	4,433	22.46	197
2013	250.00	62	62	188	22.53	8
	410,771.89	280,317	279,037	131,735		7,184

MOISTURE CONTROL SYSTEM
INTERIM SURVIVOR CURVE.. SQUARE
PROBABLE RETIREMENT YEAR.. 6-2027

1987	28,864.32	24,174	7,859	21,006	6.50	3,232
1988	1,595.84	1,330	432	1,163	6.50	179
	30,460.16	25,504	8,291	22,169		3,411
	441,232.05	305,821	287,328	153,904		10,595

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 14.5 2.40

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.13 WELLS AND SPRINGS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-R3						
1912	114.02	114	114			
1915	1,087.25	1,087	1,087			
1965	1,000.22	883	914	86	7.40	12
1967	25,857.05	22,547	23,343	2,514	7.85	320
1970	6,299.32	5,344	5,533	766	9.02	85
1978	5,256.15	4,021	4,163	1,093	13.06	84
1998	3,152.84	1,476	1,528	1,625	25.58	64
1999	4,236.97	1,904	1,971	2,266	26.34	86
2015	52,094.94	6,475	6,703	45,392	38.75	1,171
2016	226,169.95	23,115	23,931	202,239	39.55	5,114
2017	62,728.94	5,006	5,182	57,547	40.36	1,426
2020	85,000.00	1,003	1,039	83,961	41.87	2,005
	472,997.65	72,975	75,508	397,490		10,367

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 38.3 2.19

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.2 POWER AND PUMPING STRUCTURES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SOUTH SIDE BOOSTER STATION INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2058						
1919	9,164.00	6,692	9,164			
1978	160.00	85	160			
1987	1,498.43	707	1,498			
1995	5,325.00	2,155	5,204	121	37.50	3
2002	3,942.78	1,303	3,147	796	37.50	21
2015	44,703.11	5,718	13,809	30,894	37.50	824
2016	26,409.79	2,830	6,835	19,575	37.50	522
2017	57,991.85	4,951	11,957	46,035	37.50	1,228
2018	605,533.78	37,846	91,400	514,134	37.50	13,710
	754,728.74	62,287	143,175	611,554		16,308

5TH AND WILLIAM ST. BOOSTER STATION
INTERIM SURVIVOR CURVE.. SQUARE
PROBABLE RETIREMENT YEAR.. 6-2054

2014	64,921.15	10,550	21,201	43,720	33.50	1,305
2015	336,986.37	47,525	95,506	241,480	33.50	7,208
2016	49,910.03	5,910	11,877	38,033	33.50	1,135
2017	26,579.86	2,514	5,052	21,528	33.50	643
	478,397.41	66,499	133,636	344,761		10,291

MOUNTAINTOP PUMP STATION
FULLY ACCRUED

1959	2,418.25	2,418	2,418			
1976	631.94	632	632			
2002	11,778.52	11,779	11,779			
	14,828.71	14,829	14,829			

GOLF COURSE BOOSTER STATION
FULLY ACCRUED

1967	10,400.00	10,400	10,400			
	10,400.00	10,400	10,400			

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.2 POWER AND PUMPING STRUCTURES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
AIRPORT ROAD PUMPING STATION						
FULLY ACCRUED						
1997	64,835.00	64,835	64,835			
	64,835.00	64,835	64,835			
	1,323,189.86	218,850	366,875	956,315		26,599
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						36.0 2.01

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.3 PURIFICATION BUILDINGS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
WILD CREEK CHEMICAL HOUSE INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2034						
1941	81,370.60	69,559	71,552	9,818	13.50	727
1976	736.26	565	581	155	13.50	11
1977	941.18	718	739	203	13.50	15
1978	3,340.00	2,535	2,608	732	13.50	54
1982	3,000.00	2,221	2,285	715	13.50	53
1994	11,437.00	7,577	7,794	3,643	13.50	270
1997	52,687.13	33,464	34,423	18,264	13.50	1,353
1998	28,598.87	17,874	18,386	10,213	13.50	757
1999	11,392.52	6,998	7,199	4,194	13.50	311
2000	3,861.53	2,328	2,395	1,467	13.50	109
2002	1,419.25	820	843	576	13.50	43
2005	2,690.02	1,438	1,479	1,211	13.50	90
2011	6,655.75	2,749	2,828	3,828	13.50	284
2015	3,150.00	912	938	2,212	13.50	164
2019	21,130.93	2,113	2,174	18,957	13.50	1,404
	232,411.04	151,871	156,223	76,188		5,645

PENNSVILLE TREATMENT PLANT
INTERIM SURVIVOR CURVE.. SQUARE
PROBABLE RETIREMENT YEAR.. 6-2069

1994	15,223,608.08	5,378,957	5,523,948	9,699,660	48.50	199,993
1995	1,004,453.08	346,124	355,454	648,999	48.50	13,381
1997	17,704.14	5,778	5,934	11,770	48.50	243
1998	199,736.00	63,296	65,002	134,734	48.50	2,778
1999	120,768.05	37,093	38,093	82,675	48.50	1,705
2000	24,132.69	7,170	7,363	16,769	48.50	346
2001	4,215.49	1,209	1,242	2,974	48.50	61
2002	123,000.03	33,963	34,878	88,122	48.50	1,817
2003	6,271.63	1,663	1,708	4,564	48.50	94
2004	29,320.00	7,443	7,644	21,676	48.50	447
2006	64,445.01	14,833	15,233	49,212	48.50	1,015
2007	762,278.11	165,978	170,452	591,826	48.50	12,203
2008	8,956.00	1,835	1,884	7,072	48.50	146
2012	11,247.50	1,677	1,722	9,525	48.50	196
2013	367,167.43	49,175	50,501	316,667	48.50	6,529
2020	996,000.00	10,159	10,433	985,567	48.50	20,321
	18,963,303.24	6,126,353	6,291,491	12,671,813		261,275

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.3 PURIFICATION BUILDINGS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
COUNTRY SQUIRE ESTATES TREATMENT BUILDING						
INTERIM SURVIVOR CURVE.. SQUARE						
PROBABLE RETIREMENT YEAR.. 6-2025						
1970	10,752.00	9,872	10,126	626	4.50	139
	10,752.00	9,872	10,126	626		139
EAST ALLEN GARDENS TREATMENT BUILDING						
INTERIM SURVIVOR CURVE.. SQUARE						
PROBABLE RETIREMENT YEAR.. 6-2025						
1970	10,261.50	9,422	9,636	626	4.50	139
2017	16,051.00	7,022	7,181	8,870	4.50	1,971
	26,312.50	16,444	16,817	9,496		2,110
SHADY LANE TREATMENT BUILDING						
INTERIM SURVIVOR CURVE.. SQUARE						
PROBABLE RETIREMENT YEAR.. 6-2033						
1965	2,886.00	2,355	2,300	586	12.50	47
2013	13,335.13	5,001	4,883	8,452	12.50	676
2014	13,298.65	4,550	4,443	8,856	12.50	708
2020	25,000.00	962	939	24,061	12.50	1,925
	54,519.78	12,868	12,565	41,955		3,356
WIL-MAR MANOR TREATMENT BUILDING						
INTERIM SURVIVOR CURVE.. SQUARE						
PROBABLE RETIREMENT YEAR.. 6-2023						
1978	21,219.00	20,040	20,484	735	2.50	294
2017	1,360.00	793	811	549	2.50	220
	22,579.00	20,833	21,295	1,284		514
	19,309,877.56	6,338,241	6,508,517	12,801,362		273,039
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 46.9						1.41

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.5 DISTRIBUTION RESERVOIRS AND STANDPIPES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
12 MG LOW SERVICE RESERVOIR INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2066						
1890	58,764.00	43,572	49,824	8,940	45.50	196
1938	5,992.00	3,862	4,416	1,576	45.50	35
1956	71,398.19	41,865	47,872	23,526	45.50	517
1961	30,023.09	17,013	19,454	10,569	45.50	232
1971	1,249.90	651	744	505	45.50	11
1979	430,987.00	205,585	235,083	195,904	45.50	4,306
1984	7,815.95	3,479	3,978	3,838	45.50	84
1989	1,091.40	446	510	581	45.50	13
2003	8,997.77	2,499	2,858	6,140	45.50	135
2005	85,685.00	21,773	24,897	60,788	45.50	1,336
2011	1,281,865.11	221,417	253,186	1,028,679	45.50	22,608
2012	161,849.20	25,477	29,132	132,717	45.50	2,917
	2,145,718.61	587,639	671,954	1,473,765		32,390

2 MG HIGH SERVICE RESERVOIR
INTERIM SURVIVOR CURVE.. SQUARE
PROBABLE RETIREMENT YEAR.. 6-2034

1924	95,251.06	83,561	95,096	155	13.50	11
1982	1,214.48	899	1,023	191	13.50	14
1983	136,937.00	100,688	114,587	22,350	13.50	1,656
1984	5,913.38	4,317	4,913	1,000	13.50	74
1989	3,050.00	2,135	2,430	620	13.50	46
2000	6,500.00	3,919	4,460	2,040	13.50	151
2001	352,972.96	208,575	237,366	115,607	13.50	8,563
2002	62,900.67	36,364	41,384	21,517	13.50	1,594
2020	19,200.00	686	781	18,419	13.50	1,364
	683,939.55	441,144	502,039	181,901		13,473

ONE MILLION GALLON STANDPIPE
INTERIM SURVIVOR CURVE.. SQUARE
PROBABLE RETIREMENT YEAR.. 6-2034

1959	111,642.00	91,546	104,339	7,303	13.50	541
1995	9,865.42	6,451	7,352	2,513	13.50	186

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.5 DISTRIBUTION RESERVOIRS AND STANDPIPES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
ONE MILLION GALLON STANDPIPE INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2034						
1997	96,593.08	61,350	69,923	26,670	13.50	1,976
2000	3,877.02	2,338	2,665	1,212	13.50	90
2001	151,287.03	89,397	101,890	49,397	13.50	3,659
	373,264.55	251,082	286,169	87,096		6,452

500 THOUSAND GALLON STANDPIPE
INTERIM SURVIVOR CURVE.. SQUARE
PROBABLE RETIREMENT YEAR.. 6-2024

1959	99,691.00	94,323	99,691			
1989	6,430.00	5,787	6,422	8	3.50	2
2005	10,872.75	8,870	9,843	1,029	3.50	294
2011	112,049.98	81,883	90,869	21,181	3.50	6,052
2012	92,844.00	65,764	72,981	19,863	3.50	5,675
2013	92,844.00	63,303	70,250	22,594	3.50	6,455
2014	76,277.00	49,580	55,021	21,256	3.50	6,073
2015	19,930.50	12,180	13,517	6,414	3.50	1,833
2016	26,574.00	14,948	16,588	9,986	3.50	2,853
2017	33,948.29	16,974	18,837	15,111	3.50	4,317
2018	29,497.16	12,291	13,640	15,857	3.50	4,531
2019	29,497.16	8,849	9,820	19,677	3.50	5,622
2020	30,310.00	3,789	4,205	26,105	3.50	7,459
	660,765.84	438,541	481,685	179,081		51,166

FIVE MILLION GALLON S.E. STANDPIPE
INTERIM SURVIVOR CURVE.. SQUARE
PROBABLE RETIREMENT YEAR.. 6-2025

1965	271,412.68	251,057	271,413			
1969	4,553.39	4,187	4,553			
1970	13,496.03	12,392	13,496			
1987	842.49	743	842			
2014	14,202.00	8,392	11,434	2,768	4.50	615
2015	12,260.00	6,743	9,188	3,072	4.50	683
2016	58,966.00	29,483	40,172	18,794	4.50	4,176
	375,732.59	312,997	351,098	24,635		5,474

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.5 DISTRIBUTION RESERVOIRS AND STANDPIPES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FIVE MILLION GALLON N.E. STANDPIPE INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2051						
1991	1,375,679.14	737,859	841,070	534,609	25.50	20,965
2011	212,490.61	50,467	57,526	154,964	30.50	5,081
2012	335,695.35	73,165	83,399	252,296	30.50	8,272
2013	167,989.34	33,156	37,794	130,196	30.50	4,269
2014	85,991.20	15,107	17,220	68,771	30.50	2,255
2015	85,991.20	13,138	14,976	71,015	30.50	2,328
2016	90,720.72	11,664	13,296	77,425	30.50	2,539
2017	95,450.24	9,826	11,200	84,250	30.50	2,762
2018	95,450.24	7,231	8,242	87,208	30.50	2,859
2019	100,700.00	4,721	5,381	95,319	30.50	3,125
2020	105,950.00	1,709	1,948	104,002	30.50	3,410
	2,752,108.04	958,043	1,092,053	1,660,055		57,865

FIVE MILLION GALLON S.W. STANDPIPE
INTERIM SURVIVOR CURVE.. SQUARE
PROBABLE RETIREMENT YEAR.. 6-2053

1993	1,687,758.46	773,550	886,140	801,619	32.50	24,665
1994	12,223.18	5,490	6,289	5,934	32.50	183
1997	26,343.57	11,055	12,664	13,680	32.50	421
2002	20,302.38	7,365	8,437	11,865	32.50	365
2011	1,822.50	412	472	1,351	32.50	42
	1,748,450.09	797,872	914,002	834,448		25,676

TANK PAINTING
FULLY ACCRUED

1998	166,817.84	166,818	166,818			
1999	216,193.90	216,194	216,194			
2010	413,549.40	413,549	413,549			
	796,561.14	796,561	796,561			
	9,536,540.41	4,583,879	5,095,561	4,440,981		192,496

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 23.1 2.02

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.62 STORES, SHOP AND GARAGE BUILDINGS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
STEEL STORAGE BUILDING FULLY ACCRUED						
1965	31,830.40	31,830	31,830			
1995	3,690.38	3,690	3,691			
	35,520.78	35,520	35,521			
WOOD STORAGE BUILDING FULLY ACCRUED						
1970	15,661.20	15,661	15,661			
	15,661.20	15,661	15,661			
VEHICLE STORAGE BUILDING INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2025						
1985	15,783.73	14,008	13,812	1,971	4.50	438
1998	9,890.00	8,242	8,127	1,763	4.50	392
2003	2,800.00	2,227	2,196	604	4.50	134
	28,473.73	24,477	24,135	4,339		964
STEFKO BLVD. STORAGE BUILDING INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2053						
2013	16,600.00	3,112	3,068	13,532	32.50	416
2015	18,849.00	2,728	2,690	16,159	32.50	497
	35,449.00	5,840	5,758	29,691		913

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.62 STORES, SHOP AND GARAGE BUILDINGS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
EAST ALLEN TWP STORAGE BUILDING						
INTERIM SURVIVOR CURVE.. SQUARE						
PROBABLE RETIREMENT YEAR.. 6-2053						
2013	11,000.00	2,062	2,032	8,968	32.50	276
	11,000.00	2,062	2,032	8,968		276
	126,104.71	83,560	83,107	42,998		2,153
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 20.0						1.71

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 312.63 MISCELLANEOUS STRUCTURES AND IMPROVEMENTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
DWELLING AT WILD CREEK INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2026						
1941	12,200.00	11,411	11,362	838	5.50	152
1979	1,319.90	1,165	1,160	160	5.50	29
1995	5,750.00	4,730	4,710	1,040	5.50	189
1997	14,000.00	11,345	11,296	2,704	5.50	492
	33,269.90	28,651	28,527	4,743		862
DWELLING AT PENN FOREST FULLY ACCRUED						
1958	11,815.03	11,815	11,815			
	11,815.03	11,815	11,815			
RADIO CONTROL TOWER SURVIVOR CURVE.. 40-SQUARE						
1993	49,474.80	34,014	33,796	15,679	12.50	1,254
	49,474.80	34,014	33,796	15,679		1,254
	94,559.73	74,480	74,138	20,422		2,116
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 9.7						2.24

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 316 ELECTRIC PUMPING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-R2						
1959	8,482.17	7,459	8,482			
1963	6,758.18	5,790	6,758			
1966	37,293.00	31,095	37,293			
1967	44,562.00	36,715	44,562			
1972	420,612.38	330,475	420,612			
1978	1,450.30	1,054	1,450			
1980	2,212.37	1,568	2,212			
1982	5,477.83	3,754	5,478			
1986	254.80	162	255			
1989	1,975.05	1,176	1,879	96	21.41	4
1994	869,899.90	456,436	729,275	140,625	24.01	5,857
1995	59,312.36	30,095	48,085	11,227	24.75	454
1997	93,686.58	44,688	71,401	22,286	25.76	865
1998	6,617.06	3,052	4,876	1,741	26.28	66
1999	41,257.30	18,359	29,333	11,924	26.81	445
2000	1,499.50	642	1,026	474	27.35	17
2001	9,617.09	3,938	6,292	3,325	28.12	118
2003	53,278.73	19,953	31,880	21,399	29.23	732
2004	83,946.00	30,053	48,017	35,929	29.59	1,214
2011	30,829.41	6,826	10,906	19,923	33.42	596
2013	18,660.26	3,359	5,367	13,293	34.17	389
2019	27,675.17	1,140	1,821	25,854	34.87	741
2020	758,000.00	11,370	18,167	739,833	32.72	22,611
	2,583,357.44	1,049,159	1,535,427	1,047,930		34,109

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 30.7 1.32

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 317 OIL ENGINE PUMPING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 45-S2.5						
1955	44,804.62	41,964	44,805			
1959	2,677.06	2,470	2,677			
1999	9,395.00	4,727	6,407	2,988	21.24	141
	56,876.68	49,161	53,889	2,988		141
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						21.2 0.25

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 319 GAS ENGINE PUMPING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 40-R2.5						
1993	29,592.00	19,205	22,901	6,691	14.87	450
	29,592.00	19,205	22,901	6,691		450
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						14.9 1.52

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 320 PURIFICATION SYSTEM

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 45-R2.5						
1967	1,346.89	1,189	1,335	12	7.10	2
1970	30,724.92	26,534	29,786	939	7.98	118
1971	8,921.99	7,641	8,578	344	8.30	41
1975	8,440.79	6,952	7,804	637	9.75	65
1977	1,342.00	1,080	1,212	130	10.55	12
1978	1,980.61	1,574	1,767	214	10.97	20
1980	1,335.18	1,033	1,160	175	11.85	15
1981	678.10	517	580	98	12.31	8
1983	1,829.72	1,352	1,518	312	13.26	24
1984	1,731.90	1,258	1,412	320	13.75	23
1985	9,058.31	6,464	7,256	1,802	14.25	126
1986	3,730.74	2,613	2,933	798	14.76	54
1987	6,268.34	4,305	4,833	1,435	15.28	94
1988	12,295.75	8,232	9,241	3,055	16.04	190
1989	11,618.77	7,613	8,546	3,073	16.58	185
1990	16,389.07	10,497	11,784	4,605	17.12	269
1991	3,241.81	2,027	2,275	967	17.67	55
1994	4,282,392.53	2,473,938	2,777,169	1,505,224	19.37	77,709
1995	292,109.97	163,114	183,107	109,003	20.16	5,407
1998	50,387.55	25,506	28,632	21,756	21.95	991
1999	29,674.02	14,481	16,256	13,418	22.56	595
2000	20,985.73	9,851	11,058	9,928	23.17	428
2001	52,058.18	23,348	26,210	25,848	23.98	1,078
2002	23,577.50	10,119	11,359	12,218	24.60	497
2003	117,542.45	48,134	54,034	63,508	25.24	2,516
2004	13,077.45	5,092	5,716	7,361	25.87	285
2005	43,163.18	15,923	17,875	25,288	26.52	954
2008	6,805.75	2,076	2,330	4,476	28.48	157
2009	1,937,431.62	548,099	615,280	1,322,152	29.15	45,357
2012	65,715.61	14,129	15,861	49,855	31.03	1,607
2013	6,920.49	1,323	1,485	5,435	31.72	171
2014	21,450.71	3,597	4,038	17,413	32.26	540
2015	14,936.82	2,145	2,408	12,529	32.81	382
2016	36,619.38	4,350	4,883	31,736	33.38	951
2017	11,573.83	1,086	1,219	10,355	33.81	306
2018	454,564.02	31,001	34,801	419,763	34.13	12,299
2019	195,509.41	8,211	9,217	186,292	34.21	5,446
2020	190,200.00	2,815	3,160	187,040	33.17	5,639
	7,987,631.09	3,499,219	3,928,118	4,059,513		164,616

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 24.7 2.06

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 320.1 SCADA EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 10-SQUARE						
2002	134,280.19	134,280	134,280			
2003	173,057.12	173,057	173,057			
2004	154,938.23	154,938	154,938			
2005	20,027.76	20,028	20,028			
2008	71,790.61	71,791	71,791			
2009	141,063.88	141,064	141,064			
2010	178,798.41	178,798	178,798			
2012	263,976.43	224,380	263,976			
2013	6,043.50	4,533	6,044			
2014	3,794.68	2,467	3,795			
2015	34,885.00	19,187	31,390	3,495	4.50	777
2016	5,925.44	2,666	4,362	1,563	5.50	284
2017	144,287.64	50,501	82,621	61,667	6.50	9,487
2018	35,129.54	8,782	14,368	20,762	7.50	2,768
2019	64,595.25	9,689	15,851	48,744	8.50	5,735
2020	4,950.00	248	406	4,544	9.50	478
	1,437,543.68	1,196,409	1,296,769	140,775		19,529

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 7.2 1.36

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 320.2 FILTERS, BASINS AND PIPING

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2069						
1994	5,437,201.33	1,921,126	2,146,855	3,290,346	48.50	67,842
1995	370,092.46	127,530	142,515	227,577	48.50	4,692
1998	5,568.30	1,765	1,972	3,596	48.50	74
1999	156,378.55	48,030	53,673	102,706	48.50	2,118
2000	297,154.84	88,285	98,658	198,497	48.50	4,093
2006	918,279.31	211,351	236,185	682,094	48.50	14,064
2007	609,086.10	132,622	148,205	460,881	48.50	9,503
2008	1,184,396.89	242,707	271,225	913,172	48.50	18,828
2013	14,503.00	1,942	2,170	12,333	48.50	254
2014	4,435.53	524	586	3,850	48.50	79
2017	38,154.50	2,568	2,869	35,286	48.50	728
2020	140,870.00	1,437	1,606	139,264	48.50	2,871
	9,176,120.81	2,779,887	3,106,519	6,069,602		125,146
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 48.5						1.36

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 321 LABORATORY EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 20-SQUARE						
1976	746.55	747	747			
1979	1,384.00	1,384	1,384			
1982	186.50	186	186			
1983	13,017.04	13,017	13,017			
1984	1,673.43	1,673	1,673			
1985	28,276.00	28,276	28,276			
1986	7,667.94	7,668	7,668			
1987	6,156.47	6,156	6,156			
1988	3,860.53	3,861	3,861			
1989	8,039.43	8,039	8,039			
1990	73.64	74	74			
1991	39,914.18	39,914	39,914			
1992	5,508.94	5,509	5,509			
1993	2,800.78	2,801	2,801			
1994	14,252.11	14,252	14,252			
1995	15,397.28	15,397	15,397			
1996	18,984.42	18,984	18,984			
1997	61,194.52	61,195	61,195			
1998	15,774.01	15,774	15,774			
1999	2,522.15	2,522	2,522			
2000	3,307.08	3,307	3,307			
2001	5,217.50	5,087	5,073	144	0.50	144
2003	8,297.91	7,261	7,241	1,057	2.50	423
2005	1,428.61	1,107	1,104	325	4.50	72
2006	1,238.85	898	896	343	5.50	62
2009	9,386.82	5,397	5,382	4,005	8.50	471
2012	2,181.02	927	924	1,257	11.50	109
2013	617.78	232	231	387	12.50	31
2014	10,149.41	3,299	3,290	6,859	13.50	508
2017	6,840.44	1,197	1,194	5,646	16.50	342
	296,095.34	276,141	276,071	20,024		2,162

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 9.3 0.73

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
CAST IRON - 4 INCH AND UNDER						
SURVIVOR CURVE.. IOWA 70-R3						
1900	19,187.22	19,187	19,187			
1917	193.44	186	186	7	4.02	2
1919	91.98	89	89	3	3.77	1
1921	18.64	18	18	1	4.67	
1922	120.62	115	115	5	4.60	1
1923	106.59	102	102	4	4.54	1
1924	1,924.78	1,820	1,824	101	5.54	18
1925	799.47	756	758	42	5.52	8
1926	133.21	126	126	7	5.50	1
1927	58.92	56	56	3	5.50	1
1930	95.20	89	89	6	6.58	1
1931	301.65	281	282	20	6.65	3
1932	42.90	40	40	3	6.74	
1933	87.97	81	81	7	7.73	1
1937	928.66	845	847	82	8.24	10
1938	190.10	173	173	17	8.41	2
1939	1,570.88	1,408	1,411	160	9.41	17
1940	1,096.32	980	982	114	9.59	12
1944	504.78	444	445	60	10.45	6
1947	757.38	651	652	105	11.97	9
1951	1,015.75	854	856	160	13.14	12
1952	2,441.88	2,041	2,045	396	13.47	29
1953	1,446.13	1,191	1,194	253	14.47	17
1968	1,443.85	1,016	1,018	426	22.13	19
1970	35,564.00	24,425	24,478	11,086	23.03	481
1974	608.36	390	391	218	25.96	8
1976	5,376.22	3,349	3,356	2,020	26.93	75
1977	565.84	345	346	220	27.93	8
1979	802.31	473	474	328	28.92	11
1980	61,922.31	35,612	35,689	26,233	29.92	877
1981	992.10	560	561	431	30.43	14
1984	956.83	506	507	450	32.47	14
1985	1,814.60	941	943	872	32.99	26
1987	1,400.32	690	691	709	34.53	21
1988	1,281.53	616	617	664	35.07	19
1989	2,997.02	1,397	1,400	1,597	36.07	44
2000	370.20	118	118	252	44.01	6
2002	2,947.09	851	853	2,094	45.60	46
	152,157.05	102,822	103,004	49,153		1,821

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
CAST IRON - 6 INCH AND LARGER SURVIVOR CURVE.. IOWA 110-R3						
1880	86,369.98	80,091	81,521	4,849	11.02	440
1900	116,715.03	102,663	104,496	12,219	16.49	741
1916	59,255.75	48,299	49,162	10,094	23.71	426
1917	8,896.50	7,274	7,404	1,493	23.09	65
1918	26,264.68	21,269	21,649	4,616	24.08	192
1919	12,485.23	10,011	10,190	2,295	25.09	91
1920	10,646.20	8,560	8,713	1,933	24.50	79
1921	14,487.32	11,532	11,738	2,749	25.50	108
1922	16,227.56	12,787	13,015	3,212	26.50	121
1923	25,821.70	20,394	20,758	5,064	25.95	195
1924	16,766.46	13,105	13,339	3,427	26.96	127
1925	53,183.01	41,142	41,877	11,306	27.95	405
1926	90,146.66	69,855	71,102	19,044	27.45	694
1927	57,950.22	44,430	45,223	12,727	28.45	447
1928	42,993.23	32,610	33,192	9,801	29.45	333
1929	60,342.03	45,824	46,642	13,700	28.99	473
1930	60,535.83	45,475	46,287	14,249	29.98	475
1931	30,781.24	22,864	23,272	7,509	30.99	242
1932	29,407.63	21,862	22,252	7,155	30.55	234
1933	14,204.40	10,440	10,626	3,578	31.55	113
1934	34,483.66	25,056	25,503	8,980	32.55	276
1935	2,433.35	1,748	1,779	654	33.55	19
1936	7,525.55	5,405	5,502	2,024	33.15	61
1937	20,465.45	14,526	14,785	5,680	34.14	166
1938	21,137.79	14,822	15,087	6,051	35.15	172
1939	21,412.19	15,008	15,276	6,136	34.78	176
1940	15,246.71	10,555	10,743	4,503	35.78	126
1941	49,764.26	34,024	34,632	15,133	36.78	411
1942	70,079.68	47,864	48,719	21,361	36.44	586
1943	99,796.68	67,283	68,485	31,312	37.45	836
1944	9,054.64	6,027	6,135	2,920	38.44	76
1945	9,379.61	6,161	6,271	3,109	39.45	79
1946	38,100.28	24,979	25,425	12,675	39.14	324
1947	81,520.90	52,728	53,670	27,851	40.14	694
1948	136,815.84	87,289	88,848	47,968	41.14	1,166
1949	100,905.82	64,216	65,363	35,543	40.85	870
1950	93,758.04	58,824	59,874	33,884	41.87	809
1951	118,368.36	73,223	74,531	43,838	42.85	1,023
1952	98,510.83	60,052	61,124	37,386	43.87	852
1953	77,063.21	46,816	47,652	29,411	43.61	674
1954	67,271.41	40,262	40,981	26,290	44.61	589
1955	74,103.23	43,684	44,464	29,639	45.61	650
1956	92,415.45	53,647	54,605	37,810	46.61	811

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
CAST IRON - 6 INCH AND LARGER SURVIVOR CURVE.. IOWA 110-R3						
1957	35,445.02	20,480	20,846	14,599	46.40	315
1958	100,192.47	56,989	58,007	42,186	47.38	890
1959	14,818.81	8,293	8,441	6,378	48.40	132
1960	31,484.52	17,524	17,837	13,648	48.20	283
1961	52,255.68	28,605	29,116	23,140	49.20	470
1962	64,965.90	34,965	35,589	29,377	50.20	585
1963	67,093.01	35,492	36,126	30,967	51.20	605
1964	29,387.96	15,440	15,716	13,672	51.03	268
1965	170,667.93	88,099	89,672	80,996	52.02	1,557
1966	82,829.82	41,978	42,728	40,102	53.03	756
1967	219,665.44	109,306	111,258	108,407	54.02	2,007
1968	105,115.67	51,875	52,801	52,314	53.88	971
1969	74,024.01	35,835	36,475	37,549	54.88	684
1970	100,122.20	47,528	48,377	51,745	55.88	926
1971	33,454.94	15,567	15,845	17,610	56.88	310
1972	81,799.32	37,693	38,366	43,433	56.76	765
1973	123,869.31	55,890	56,888	66,981	57.77	1,159
1974	210,006.51	92,781	94,438	115,569	58.76	1,967
1975	155,285.60	67,114	68,313	86,973	59.77	1,455
1976	181,410.89	77,499	78,883	102,528	59.67	1,718
1977	146,145.58	61,030	62,120	84,026	60.67	1,385
1978	110,780.03	45,198	46,005	64,775	61.67	1,050
1979	103,339.78	41,171	41,906	61,434	62.67	980
1980	138,796.20	53,964	54,928	83,869	63.67	1,317
1981	70,298.47	26,938	27,419	42,879	63.59	674
1982	130,543.35	48,745	49,615	80,928	64.60	1,253
1983	60,368.39	21,962	22,354	38,014	65.59	580
1984	192,328.08	68,084	69,300	123,028	66.60	1,847
1985	166,055.92	57,771	58,803	107,253	66.54	1,612
1986	417,632.06	141,201	143,723	273,910	67.54	4,056
1987	373,132.15	122,499	124,687	248,446	68.54	3,625
1988	568,361.88	181,023	184,256	384,106	69.54	5,524
1989	793,587.99	244,981	249,356	544,232	70.54	7,715
1990	587,803.49	177,517	180,687	407,116	70.51	5,774
1991	545,141.33	159,181	162,024	383,118	71.52	5,357
1992	577,681.11	163,022	165,933	411,748	72.51	5,678
1993	346,768.08	94,390	96,076	250,692	73.52	3,410
1994	336,033.29	89,049	90,639	245,394	73.50	3,339
1995	400,100.67	102,026	103,848	296,253	74.50	3,977
1996	387,132.70	94,848	96,542	290,591	75.50	3,849
1997	690,252.72	162,209	165,106	525,147	76.50	6,865
1998	930,406.07	209,341	213,079	717,327	77.50	9,256
1999	401,720.51	87,254	88,812	312,908	77.50	4,038

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
CAST IRON - 6 INCH AND LARGER SURVIVOR CURVE.. IOWA 110-R3						
2000	373,758.58	77,368	78,750	295,009	78.51	3,758
2001	174,978.60	34,471	35,087	139,892	79.50	1,760
2002	506,580.63	94,629	96,319	410,262	80.51	5,096
2003	64,157.79	11,343	11,546	52,612	81.50	646
2004	110,013.86	18,515	18,846	91,168	81.54	1,118
2005	60,430.73	9,554	9,725	50,706	82.54	614
2006	766,700.46	113,395	115,420	651,280	83.54	7,796
2007	194,082.77	26,725	27,202	166,881	84.54	1,974
2008	80,761.11	10,402	10,588	70,173	84.58	830
2009	842,313.69	99,730	101,511	740,803	85.59	8,655
2010	17,006.31	1,840	1,873	15,133	86.58	175
2011	196,572.18	19,225	19,568	177,004	87.59	2,021
2012	233,724.48	20,661	21,030	212,695	87.65	2,427
2013	678,728.15	52,941	53,886	624,842	88.65	7,048
2014	781,877.10	52,855	53,799	728,078	89.65	8,121
2015	1,035,159.90	59,211	60,268	974,892	90.65	10,754
2016	1,373,806.25	64,844	66,002	1,307,804	90.74	14,413
2017	1,472,869.30	54,202	55,170	1,417,699	91.73	15,455
2018	944,803.12	25,037	25,484	919,319	91.84	10,010
2019	831,281.77	13,301	13,539	817,743	91.96	8,892
2020	931,756.80	5,031	5,121	926,636	91.25	10,155
	24,252,762.04	5,782,323	5,885,582	18,367,180		240,149

CAST IRON AND CONCRETE PRESSURE PIPE
SURVIVOR CURVE.. IOWA 110-R3

1941	1,874,381.54	1,281,515	1,183,410	690,971	36.78	18,787
1943	120,348.55	81,139	74,927	45,421	37.45	1,213
1946	658,120.86	431,464	398,434	259,687	39.14	6,635
1953	1,321,438.50	802,774	741,319	580,120	43.61	13,302
1959	140,936.37	78,868	72,830	68,106	48.40	1,407
1976	3,708.99	1,584	1,463	2,246	59.67	38
1980	5,741.60	2,232	2,061	3,680	63.67	58
1981	7,506.91	2,877	2,657	4,850	63.59	76
1985	18,841.90	6,555	6,053	12,789	66.54	192
1986	9,971.60	3,371	3,113	6,859	67.54	102
1987	77,733.71	25,520	23,566	54,167	68.54	790
1990	109,400.00	33,039	30,510	78,890	70.51	1,119

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
CAST IRON AND CONCRETE PRESSURE PIPE SURVIVOR CURVE.. IOWA 110-R3						
1993	2,599.42	708	654	1,946	73.52	26
2013	7,924.00	618	571	7,353	88.65	83
2014	108,715.30	7,349	6,786	101,929	89.65	1,137
	4,467,369.25	2,759,613	2,548,354	1,919,015		44,965

STEEL PIPE
SURVIVOR CURVE.. IOWA 75-R3

1968	1,179,453.36	792,593	850,972	328,482	25.62	12,821
1969	2,288,531.43	1,508,600	1,619,716	668,815	26.62	25,125
1970	434,174.44	282,821	303,652	130,522	27.02	4,831
1978	1,249.71	712	764	485	32.13	15
1981	2,930.34	1,562	1,677	1,253	34.58	36
1985	505.60	246	264	241	37.49	6
1986	22,187.42	10,563	11,341	10,846	37.96	286
1987	39,486.02	18,254	19,599	19,888	38.96	510
1992	11,509.26	4,624	4,965	6,545	42.43	154
1993	4,553,639.84	1,778,196	1,909,169	2,644,471	42.92	61,614
1994	27,347.23	10,291	11,049	16,298	43.92	371
1995	45,060.13	16,429	17,639	27,421	44.43	617
1996	8,707,463.67	3,051,095	3,275,824	5,431,640	45.43	119,561
1997	13,999.68	4,737	5,086	8,914	45.94	194
1998	161,707.79	52,393	56,252	105,456	46.94	2,247
2000	65,045.82	19,332	20,756	44,290	48.47	914
2002	6,106.52	1,649	1,770	4,336	49.99	87
2011	646.80	92	99	548	57.17	10
	17,561,045.06	7,554,189	8,110,594	9,450,451		229,399

GALVANIZED STEEL
SURVIVOR CURVE.. IOWA 50-R4

1900	6,529.45	6,529	6,529
1920	751.57	752	752
1921	1,374.39	1,374	1,374
1922	1,224.89	1,225	1,225
1923	771.70	772	772
1924	379.40	379	379
1925	358.04	358	358
1926	123.63	124	124
1928	4,228.67	4,229	4,229

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
GALVANIZED STEEL						
SURVIVOR CURVE.. IOWA 50-R4						
1930	483.57	484	484			
1931	503.94	504	504			
1934	95.44	95	95			
1935	168.44	168	168			
1937	626.20	626	626			
1938	189.25	189	189			
1939	205.21	205	205			
1940	120.15	120	120			
1942	546.34	546	546			
1944	89.52	90	90			
1945	73.43	73	73			
1946	2,283.25	2,279	2,283			
1947	1,222.54	1,213	1,223			
1948	993.19	986	993			
1949	1,757.38	1,734	1,757			
1950	1,853.25	1,829	1,853			
1951	493.75	484	494			
1952	1,367.28	1,339	1,367			
1953	248.41	241	248			
1965	11,545.74	10,574	11,337	209	5.10	41
1967	462.53	418	448	14	5.67	2
1970	2,059.00	1,820	1,951	108	6.64	16
1974	1,141.04	966	1,036	105	8.45	12
1975	1,319.18	1,098	1,177	142	9.15	16
1978	11,894.00	9,453	10,135	1,759	10.97	160
1985	813.07	566	607	206	15.52	13
1986	286.50	195	209	77	16.26	5
2000	4,305.00	1,836	1,968	2,337	27.58	85
	62,888.34	55,873	57,930	4,958		350

VALVES AND VALVE BOXES
SURVIVOR CURVE.. IOWA 70-R3

1880	5,769.44	5,769	5,769
1900	7,870.08	7,870	7,870
1916	5,508.88	5,354	5,509
1917	482.04	464	482
1920	3,048.20	2,910	3,048
1921	1,860.68	1,777	1,861
1922	2,016.13	1,926	2,016
1923	2,558.18	2,444	2,558

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
VALVES AND VALVE BOXES SURVIVOR CURVE.. IOWA 70-R3						
1924	1,722.92	1,629	1,723			
1925	7,626.18	7,210	7,626			
1926	12,248.04	11,574	12,248			
1927	8,389.02	7,923	8,389			
1928	4,267.50	3,987	4,268			
1929	9,347.35	8,724	9,347			
1930	5,876.77	5,478	5,877			
1931	1,050.38	978	1,050			
1932	1,722.69	1,601	1,723			
1933	1,980.34	1,820	1,980			
1934	2,461.88	2,257	2,460	1	7.84	
1935	154.95	142	155			
1936	281.23	257	280	1	8.09	
1937	1,158.32	1,054	1,149	9	8.24	1
1938	923.75	838	914	10	8.41	1
1939	1,319.26	1,183	1,290	30	9.41	3
1940	1,062.10	949	1,035	28	9.59	3
1941	2,471.23	2,200	2,398	73	9.79	7
1942	4,972.71	4,411	4,809	164	10.00	16
1943	5,736.35	5,068	5,525	212	10.22	21
1944	767.09	675	736	31	10.45	3
1945	808.98	709	773	36	10.71	3
1946	2,445.25	2,113	2,303	142	11.71	12
1947	7,326.34	6,301	6,869	457	11.97	38
1948	6,017.40	5,148	5,612	405	12.25	33
1949	4,560.76	3,880	4,230	331	12.54	26
1950	7,911.20	6,693	7,296	615	12.83	48
1951	14,219.75	11,959	13,037	1,183	13.14	90
1952	11,585.95	9,682	10,555	1,031	13.47	77
1953	8,217.71	6,767	7,377	841	14.47	58
1954	8,610.24	7,043	7,678	933	14.80	63
1955	15,350.32	12,468	13,592	1,759	15.15	116
1956	15,149.04	12,213	13,314	1,835	15.50	118
1957	9,957.26	7,967	8,685	1,272	15.87	80
1958	9,722.34	7,718	8,414	1,309	16.24	81
1959	3,631.75	2,836	3,092	540	17.24	31
1960	6,661.38	5,159	5,624	1,037	17.62	59
1961	3,032.41	2,328	2,538	495	18.02	27
1962	3,395.81	2,583	2,816	580	18.42	31
1963	3,643.18	2,723	2,968	675	19.42	35
1964	1,221.36	904	985	236	19.83	12
1965	23,925.36	17,528	19,108	4,818	20.26	238
1966	3,581.96	2,596	2,830	752	20.69	36

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
VALVES AND VALVE BOXES SURVIVOR CURVE.. IOWA 70-R3						
1967	12,538.86	8,923	9,727	2,812	21.68	130
1968	5,026.39	3,536	3,855	1,172	22.13	53
1969	4,470.44	3,108	3,388	1,082	22.58	48
1970	2,352.13	1,615	1,761	592	23.03	26
1971	1,709.41	1,151	1,255	455	24.03	19
1972	4,053.43	2,693	2,936	1,118	24.50	46
1973	2,615.20	1,714	1,868	747	24.96	30
1974	7,471.50	4,794	5,226	2,245	25.96	86
1975	4,099.13	2,592	2,826	1,274	26.45	48
1976	46,179.01	28,770	31,363	14,816	26.93	550
1977	27,828.84	16,948	18,475	9,353	27.93	335
1978	29,390.90	17,611	19,198	10,193	28.43	359
1979	13,059.22	7,696	8,390	4,670	28.92	161
1980	20,491.97	11,785	12,847	7,645	29.92	256
1981	20,923.35	11,818	12,883	8,040	30.43	264
1982	35,767.08	19,829	21,616	14,151	30.94	457
1983	97,158.08	52,465	57,193	39,965	31.94	1,251
1984	17,128.43	9,064	9,881	7,248	32.47	223
1985	21,548.85	11,169	12,176	9,373	32.99	284
1986	26,009.19	13,101	14,282	11,728	33.99	345
1987	113,599.94	55,937	60,978	52,622	34.53	1,524
1988	53,089.73	25,536	27,837	25,252	35.07	720
1989	59,369.73	27,678	30,172	29,197	36.07	809
1990	145,026.78	65,900	71,839	73,188	36.62	1,999
1991	148,823.51	65,423	71,319	77,504	37.61	2,061
1992	84,876.80	36,285	39,555	45,322	38.17	1,187
1993	49,983.71	20,753	22,623	27,360	38.73	706
1994	106,274.59	42,531	46,364	59,911	39.72	1,508
1995	125,867.13	48,786	53,183	72,684	40.29	1,804
1996	79,705.88	29,682	32,357	47,349	41.29	1,147
1997	133,551.29	48,025	52,353	81,198	41.86	1,940
1998	117,391.90	40,406	44,047	73,344	42.86	1,711
1999	193,399.82	64,035	69,806	123,594	43.44	2,845
2000	123,524.73	39,256	42,794	80,731	44.01	1,834
2001	58,926.86	17,808	19,413	39,514	45.02	878
2002	141,338.87	40,790	44,466	96,873	45.60	2,124
2003	42,007.81	11,468	12,502	29,506	46.60	633
2004	11,503.14	2,979	3,247	8,256	47.20	175
2011	214,453.60	32,597	35,535	178,919	53.00	3,376
2012	105,129.90	14,382	15,678	89,452	53.61	1,669
2013	68,149.01	8,232	8,974	59,175	54.61	1,084
2014	148,126.13	15,598	17,004	131,122	55.23	2,374
2016	37,826.17	2,776	3,026	34,800	56.85	612

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 322 MAINS AND ACCESSORIES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
VALVES AND VALVE BOXES SURVIVOR CURVE.. IOWA 70-R3						
2017	32,883.22	1,887	2,057	30,826	57.48	536
2018	25,499.06	1,051	1,146	24,353	58.11	419
2019	21,068.39	527	574	20,494	58.38	351
2020	30,125.20	256	279	29,846	58.32	512
	3,146,973.75	1,226,756	1,334,061	1,812,912		42,876

TELEMETERING EQUIPMENT
SURVIVOR CURVE.. IOWA 20-R4

1980	43,469.22	43,469	43,469			
1981	44,145.27	44,145	44,145			
1982	5,680.90	5,681	5,681			
1986	1,699.34	1,699	1,699			
1987	5,032.88	5,033	5,033			
1988	891.22	891	891			
1989	13,867.01	13,867	13,867			
1990	3,908.54	3,909	3,909			
1993	1,109,436.80	1,089,245	1,109,437			
1994	5,145.60	5,005	5,146			
1995	329,795.11	317,065	329,795			
1996	86,570.57	82,294	86,571			
1997	95,286.67	89,341	95,287			
1998	129,235.44	119,517	128,664	571	1.83	312
1999	107,779.72	97,789	105,273	2,506	2.20	1,139
2000	12,571.99	11,185	12,041	531	2.54	209
2001	526,129.53	456,575	491,520	34,610	2.97	11,653
2002	52,236.23	43,972	47,337	4,899	3.48	1,408
2003	158,279.60	128,523	138,360	19,920	4.05	4,919
2011	262,393.78	128,888	138,753	123,641	9.84	12,565
2020	103,500.00	2,753	2,964	100,536	18.30	5,494
	3,097,055.42	2,690,846	2,809,841	287,215		37,699
	52,740,250.91	20,172,422	20,849,367	31,890,884		597,259

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 53.4 1.13

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 323 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 65-R3						
1959	803.50	657	701	102	13.68	7
1960	1,779.07	1,442	1,538	241	14.13	17
1961	2,594.78	2,084	2,222	373	14.58	26
1963	10,106.74	7,962	8,490	1,617	15.49	104
1964	6,673.41	5,203	5,548	1,125	15.96	70
1965	18,870.79	14,557	15,522	3,349	16.45	204
1966	20,221.79	15,320	16,336	3,886	17.44	223
1967	11,742.52	8,795	9,378	2,365	17.93	132
1968	35,786.75	26,489	28,246	7,541	18.43	409
1969	19,724.64	14,425	15,382	4,343	18.92	230
1970	53,678.27	38,766	41,337	12,341	19.43	635
1971	28,005.88	19,963	21,287	6,719	19.94	337
1972	24,008.34	16,883	18,003	6,005	20.47	293
1973	71,799.61	49,793	53,095	18,705	20.99	891
1974	23,510.27	15,961	17,019	6,491	21.99	295
1975	62,856.07	42,038	44,826	18,030	22.53	800
1976	175,379.28	115,505	123,165	52,214	23.07	2,263
1977	241,857.10	156,772	167,169	74,688	23.61	3,163
1978	234,936.73	149,772	159,704	75,233	24.17	3,113
1979	224,213.59	139,573	148,829	75,385	25.17	2,995
1980	258,964.35	158,383	168,887	90,077	25.72	3,502
1981	257,643.77	154,689	164,948	92,696	26.29	3,526
1982	407,697.40	240,134	256,059	151,638	26.86	5,645
1983	135,596.81	78,307	83,500	52,097	27.44	1,899
1984	246,909.86	138,788	147,992	98,918	28.44	3,478
1985	230,592.58	126,872	135,286	95,307	29.02	3,284
1986	289,109.80	155,599	165,918	123,192	29.60	4,162
1987	257,827.05	135,617	144,611	113,216	30.19	3,750
1988	301,708.91	153,932	164,140	137,569	31.20	4,409
1989	349,115.70	173,755	185,278	163,838	31.79	5,154
1990	233,674.64	113,332	120,848	112,827	32.39	3,483
1991	158,920.95	74,534	79,477	79,444	33.40	2,379
1992	287,676.23	131,180	139,879	147,797	34.00	4,347
1993	52,907.89	23,428	24,982	27,926	34.61	807
1994	100,375.94	43,091	45,949	54,427	35.23	1,545
1995	78,101.93	32,264	34,404	43,698	36.23	1,206
1996	117,147.96	46,789	49,892	67,256	36.85	1,825
1997	112,302.34	43,281	46,151	66,151	37.48	1,765
1998	121,671.99	44,897	47,874	73,798	38.48	1,918
1999	78,424.16	27,825	29,670	48,754	39.10	1,247
2000	134,447.54	45,470	48,485	85,963	40.11	2,143
2001	78,825.21	25,516	27,208	51,617	40.74	1,267
2002	129,457.54	40,002	42,655	86,803	41.38	2,098
2003	90,077.12	26,321	28,067	62,010	42.38	1,463

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 323 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 65-R3						
2004	58,062.41	16,095	17,162	40,900	43.02	951
2005	47,136.96	12,350	13,169	33,968	43.67	778
2006	197,626.21	48,418	51,629	145,997	44.67	3,268
2007	62,117.00	14,256	15,201	46,916	45.32	1,035
2008	135,921.36	28,883	30,798	105,123	46.32	2,269
2009	192,439.05	37,834	40,343	152,096	46.98	3,237
2010	98,499.77	17,789	18,969	79,531	47.64	1,669
2011	115,633.13	18,894	20,147	95,486	48.64	1,963
2012	124,023.45	18,231	19,440	104,583	49.31	2,121
2013	165,558.80	21,490	22,915	142,644	50.30	2,836
2014	143,833.10	16,268	17,347	126,486	50.97	2,482
2015	120,411.39	11,584	12,352	108,059	51.65	2,092
2016	106,083.79	8,402	8,959	97,125	52.32	1,856
2017	106,329.30	6,592	7,029	99,300	52.99	1,874
2018	136,344.53	6,067	6,470	129,875	53.68	2,419
2019	96,157.53	2,577	2,748	93,410	54.37	1,718
2020	150,000.00	1,365	1,455	148,545	54.45	2,728
	7,833,904.58	3,363,061	3,586,090	4,247,814		117,805
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						36.1 1.50

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 324 METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
1991 AND PRIOR SURVIVOR CURVE.. IOWA 30-L5						
1985	591.88	544	567	25	3.11	8
1986	683.78	625	651	33	3.24	10
1987	1,450.75	1,317	1,372	79	3.40	23
1988	6,266.03	5,682	5,918	348	3.34	104
1989	15,774.22	14,211	14,801	973	3.47	280
1990	16,565.15	14,803	15,418	1,147	3.63	316
1991	108,594.53	96,432	100,438	8,157	3.72	2,193
	149,926.34	133,614	139,164	10,762		2,934
1992 AND SUBSEQUENT SURVIVOR CURVE.. IOWA 25-R2.5						
1992	784,921.08	682,253	713,468	71,453	4.29	16,656
1993	822,309.70	705,542	737,823	84,487	4.55	18,569
1994	192,302.16	162,572	170,010	22,292	4.85	4,596
1995	762,110.13	631,637	660,536	101,574	5.27	19,274
1996	472,425.34	384,271	401,852	70,573	5.62	12,557
1997	68,277.10	54,233	56,714	11,563	6.09	1,899
1998	28,202.90	21,829	22,828	5,375	6.57	818
1999	98,607.62	74,409	77,813	20,794	6.99	2,975
2000	209,929.69	153,627	160,656	49,274	7.51	6,561
2001	208,664.56	147,693	154,450	54,214	8.05	6,735
2002	68,686.98	46,886	49,031	19,656	8.60	2,286
2003	79,082.88	51,894	54,268	24,815	9.17	2,706
2004	81,653.43	51,327	53,675	27,978	9.75	2,870
2005	71,125.12	42,661	44,613	26,512	10.34	2,564
2006	51,865.51	29,553	30,905	20,960	10.95	1,914
2007	100,896.63	54,343	56,829	44,067	11.56	3,812
2008	74,476.14	37,700	39,425	35,051	12.19	2,875
2009	22,654.39	10,706	11,196	11,459	12.83	893
2010	39,753.16	17,404	18,200	21,553	13.48	1,599
2011	47,175.49	18,955	19,822	27,353	14.14	1,934
2012	69,728.06	25,423	26,586	43,142	14.81	2,913
2013	120,229.18	39,315	41,114	79,115	15.44	5,124
2014	117,329.85	33,709	35,251	82,079	16.12	5,092
2015	272,485.59	67,304	70,383	202,102	16.77	12,051
2016	419,215.52	86,191	90,134	329,081	17.38	18,934
2017	299,862.77	48,908	51,146	248,717	17.96	13,848

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 324 METERS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
1992 AND SUBSEQUENT SURVIVOR CURVE.. IOWA 25-R2.5						
2018	422,920.23	50,328	52,631	370,290	18.51	20,005
2019	441,703.72	32,465	33,950	407,753	18.91	21,563
2020	385,000.00	10,048	10,508	374,492	18.66	20,069
	6,833,594.93	3,773,186	3,945,820	2,887,775		233,692
	6,983,521.27	3,906,800	4,084,984	2,898,537		236,626
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 12.2						3.39

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 325 FIRE HYDRANTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R3						
1900	1,390.43	1,374	1,390			
1918	1,557.88	1,469	1,558			
1919	1,575.50	1,487	1,576			
1920	1,953.75	1,846	1,954			
1921	728.64	681	729			
1922	913.70	855	914			
1923	1,565.75	1,466	1,566			
1924	976.95	905	977			
1925	2,873.01	2,662	2,873			
1926	3,027.16	2,803	3,027			
1927	1,970.16	1,824	1,970			
1928	1,249.89	1,145	1,250			
1929	3,927.24	3,593	3,927			
1930	1,914.34	1,750	1,914			
1931	755.30	683	755			
1932	1,067.87	964	1,068			
1933	196.21	177	196			
1934	770.61	693	771			
1936	278.59	247	279			
1937	318.95	282	318	1	10.84	
1938	524.87	463	523	2	10.95	
1939	1,615.76	1,409	1,590	26	11.96	2
1940	403.07	350	395	8	12.09	1
1941	1,120.77	971	1,096	25	12.24	2
1942	1,243.43	1,074	1,212	31	12.41	2
1943	733.92	626	707	27	13.41	2
1944	976.29	829	936	40	13.59	3
1945	494.10	418	472	22	13.79	2
1946	377.47	318	359	18	14.00	1
1947	2,107.10	1,750	1,975	132	14.99	9
1948	1,802.25	1,490	1,682	120	15.22	8
1949	1,864.49	1,533	1,730	134	15.46	9
1950	1,854.31	1,516	1,711	143	15.71	9
1951	5,719.18	4,611	5,204	515	16.71	31
1952	5,033.09	4,034	4,553	480	16.97	28
1953	5,059.94	4,030	4,549	511	17.25	30
1954	9,691.55	7,605	8,583	1,109	18.25	61
1955	13,633.32	10,626	11,993	1,640	18.54	88
1956	8,808.30	6,818	7,695	1,113	18.83	59
1957	10,438.36	7,954	8,977	1,461	19.83	74
1958	7,901.57	5,975	6,744	1,158	20.15	57
1959	7,648.14	5,738	6,476	1,172	20.47	57
1960	8,148.01	6,014	6,788	1,360	21.47	63
1961	5,036.41	3,686	4,160	876	21.80	40

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 325 FIRE HYDRANTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R3						
1962	4,662.88	3,382	3,817	846	22.15	38
1963	3,634.15	2,591	2,924	710	23.15	31
1964	5,332.34	3,766	4,251	1,081	23.50	46
1965	5,134.97	3,591	4,053	1,082	23.87	45
1966	5,709.45	3,921	4,425	1,284	24.87	52
1967	17,984.68	12,219	13,791	4,194	25.24	166
1968	19,435.49	13,061	14,741	4,694	25.62	183
1969	19,594.65	12,917	14,579	5,016	26.62	188
1970	13,902.89	9,056	10,221	3,682	27.02	136
1971	15,757.09	10,062	11,357	4,400	28.02	157
1972	18,838.58	11,878	13,406	5,433	28.42	191
1973	8,225.11	5,118	5,777	2,448	28.84	85
1974	29,859.52	18,190	20,530	9,330	29.83	313
1975	38,639.64	23,207	26,193	12,447	30.26	411
1976	16,276.53	9,561	10,791	5,486	31.26	175
1977	14,334.58	8,294	9,361	4,974	31.68	157
1978	11,396.94	6,491	7,326	4,071	32.13	127
1979	64.02	36	41	23	33.13	1
1980	25,761.83	14,087	15,899	9,863	33.57	294
1981	451.53	241	272	180	34.58	5
1983	6,759.98	3,448	3,892	2,868	36.03	80
1984	27,427.12	13,714	15,478	11,949	36.50	327
1985	28,414.79	13,821	15,599	12,816	37.49	342
1986	30,439.87	14,492	16,357	14,083	37.96	371
1987	33,616.30	15,541	17,541	16,075	38.96	413
1988	67,430.58	30,465	34,385	33,046	39.44	838
1989	97,914.25	43,180	48,736	49,178	39.93	1,232
1990	48,174.58	20,571	23,218	24,957	40.93	610
1991	71,548.48	29,764	33,593	37,955	41.42	916
1992	47,959.32	19,270	21,749	26,210	42.43	618
1993	43,604.26	17,027	19,218	24,386	42.92	568
1994	46,123.68	17,356	19,589	26,535	43.92	604
1995	56,683.72	20,667	23,326	33,358	44.43	751
1996	62,898.73	22,040	24,876	38,023	45.43	837
1997	54,852.89	18,562	20,950	33,903	45.94	738
1998	76,372.86	24,745	27,929	48,444	46.94	1,032
1999	45,352.04	14,041	15,848	29,504	47.94	615
2000	24,981.76	7,425	8,380	16,602	48.47	343
2001	41,536.63	11,747	13,258	28,279	49.46	572
2002	42,416.57	11,457	12,931	29,486	49.99	590
2003	40,526.04	10,354	11,686	28,840	50.99	566
2004	63,299.39	15,356	17,332	45,967	51.52	892
2005	76,342.44	17,391	19,629	56,713	52.53	1,080
2006	106,032.09	22,754	25,682	80,350	53.07	1,514

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 325 FIRE HYDRANTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R3						
2007	92,046.60	18,391	20,757	71,290	54.07	1,318
2008	74,718.13	13,913	15,703	59,015	54.62	1,080
2009	113,566.45	19,465	21,969	91,597	55.61	1,647
2010	59,327.48	9,279	10,473	48,854	56.62	863
2011	8,331.64	1,187	1,340	6,992	57.17	122
2012	76,293.74	9,727	10,978	65,316	58.17	1,123
2013	21,964.19	2,486	2,806	19,158	58.73	326
2014	64,995.24	6,383	7,204	57,791	59.72	968
2015	82,692.88	6,913	7,803	74,890	60.29	1,242
2016	78,385.73	5,393	6,087	72,299	60.86	1,188
2017	149,185.92	7,996	9,025	140,161	61.86	2,266
2018	124,093.75	4,778	5,393	118,701	62.44	1,901
2019	117,188.13	2,742	3,094	114,094	62.60	1,823
2020	200,000.00	1,580	1,783	198,217	62.79	3,157
	2,909,742.75	823,834	928,474	1,981,268		38,912
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 50.9						1.34

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 328 OFFICE FURNITURE AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
OFFICE FURNITURE						
SURVIVOR CURVE.. 40-SQUARE						
1969	225.00	225	225			
1981	232.00	229	223	9	0.50	9
1987	685.00	574	559	126	6.50	19
1988	611.32	497	484	127	7.50	17
1989	514.80	405	395	120	8.50	14
1990	1,058.80	807	786	273	9.50	29
1991	882.00	650	633	249	10.50	24
1992	1,343.35	957	932	411	11.50	36
1994	2,578.96	1,709	1,665	914	13.50	68
1996	3,632.84	2,225	2,167	1,465	15.50	95
1997	1,041.93	612	596	446	16.50	27
2000	3,476.53	1,782	1,736	1,741	19.50	89
2001	2,348.92	1,145	1,115	1,234	20.50	60
2002	1,529.00	707	689	840	21.50	39
2003	1,794.05	785	765	1,029	22.50	46
2006	1,438.29	521	508	931	25.50	37
2008	811.24	254	247	564	27.50	21
2020	5,550.00	69	67	5,483	39.50	139
	29,754.03	14,153	13,793	15,961		769

OFFICE EQUIPMENT
SURVIVOR CURVE.. 15-SQUARE

1964	125.00	125	125			
1968	250.00	250	250			
1969	725.00	725	725			
1973	573.40	573	573			
1975	343.80	344	344			
1976	727.50	728	728			
1977	674.10	674	674			
1994	249.00	249	249			
1995	6,635.69	6,636	6,636			
1996	797.33	797	797			
1998	1,220.00	1,220	1,220			
1999	6,974.80	6,975	6,975			
2000	2,707.00	2,707	2,707			
2001	525.00	525	525			
2002	13,479.20	13,479	13,479			
2005	836.00	836	836			
2008	2,795.96	2,330	2,336	460	2.50	184

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 328 OFFICE FURNITURE AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
OFFICE EQUIPMENT SURVIVOR CURVE.. 15-SQUARE						
2013	1,650.00	825	827	823	7.50	110
2015	3,549.53	1,302	1,305	2,244	9.50	236
2020	5,550.00	185	185	5,365	14.50	370
	50,388.31	41,485	41,497	8,891		900
MICROPROCESSOR SURVIVOR CURVE.. 5-SQUARE						
1990	3,023.00	3,023	3,023			
1991	4,965.50	4,966	4,966			
1992	5,689.00	5,689	5,689			
1993	17,675.00	17,675	17,675			
1994	4,526.00	4,526	4,526			
1995	26,383.00	26,383	26,383			
1996	4,985.12	4,985	4,985			
1997	16,590.65	16,591	16,591			
1998	58,449.76	58,450	58,450			
1999	35,407.66	35,408	35,408			
2000	17,636.87	17,637	17,637			
2001	9,542.28	9,542	9,542			
2002	10,007.94	10,008	10,008			
2003	12,858.22	12,858	12,858			
2004	9,402.16	9,402	9,402			
2005	11,367.92	11,368	11,368			
2006	2,832.12	2,832	2,832			
2007	4,166.87	4,167	4,167			
2008	34,121.21	34,121	34,121			
2009	982.64	983	983			
2010	8,334.27	8,334	8,334			
2012	11,641.93	11,642	11,642			
2013	5,935.00	5,935	5,935			
2014	9,685.94	9,686	9,686			
2015	12,888.30	12,888	12,888			
2016	20,757.65	18,682	18,868	1,890	0.50	1,890
	359,856.01	357,781	357,966	1,890		1,890

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 328 OFFICE FURNITURE AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
DIGITAL AERIAL MAPPING FULLY ACCRUED						
1995	156,570.50	156,570	156,571			
1996	14,003.54	14,004	14,004			
1997	12,687.50	12,688	12,688			
2001	6,231.65	6,232	6,232			
2002	9,824.09	9,824	9,824			
	199,317.28	199,318	199,317			
	639,315.63	612,737	612,573	26,742		3,559
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						7.5 0.56

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 329 TRANSPORTATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
PASSENGER CARS						
SURVIVOR CURVE.. IOWA 8-S3						
1989	10,240.00	10,240	10,240			
1990	6,164.72	6,165	6,165			
1991	10,238.00	10,238	10,238			
1992	23,035.00	23,035	23,035			
1997	14,850.00	14,850	14,850			
1999	34,450.00	34,450	34,450			
2001	13,600.00	13,600	13,600			
2003	42,018.75	42,019	42,019			
2004	16,510.76	16,511	16,511			
2013	32,404.67	26,685	30,014	2,391	1.61	1,485
	203,511.90	197,793	201,121	2,391		1,485
LIGHT TRUCKS						
SURVIVOR CURVE.. IOWA 12-L3						
1984	14,898.00	14,898	14,898			
1986	15,331.00	15,331	15,331			
1989	12,630.00	12,630	12,630			
1990	28,783.66	28,784	28,784			
1992	18,986.00	18,722	18,986			
1994	17,379.00	17,224	17,379			
1995	72,464.00	71,145	72,464			
1996	127,450.00	123,958	127,450			
1997	20,024.40	19,294	20,024			
1998	18,687.00	17,827	18,687			
1999	58,001.00	54,620	58,001			
2003	51,686.12	45,949	51,686			
2004	22,459.00	19,602	22,459			
2008	144,665.49	116,456	144,665			
2009	46,865.22	36,808	46,865			
2012	143,865.73	99,052	140,646	3,220	3.85	836
2013	32,404.67	20,561	29,195	3,210	4.32	743
2014	1.00	1	1			
2016	46,825.34	19,301	27,406	19,419	6.42	3,025
2017	88,422.70	28,782	40,868	47,555	7.25	6,559
2018	66,141.20	15,530	22,051	44,090	8.15	5,410
2019	41,202.84	5,826	8,272	32,930	9.10	3,619
2020	51,010.00	2,408	3,419	47,591	10.09	4,717
	1,140,183.37	804,709	942,168	198,015		24,909

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 329 TRANSPORTATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
HEAVY TRUCKS						
SURVIVOR CURVE.. IOWA 13-L3						
1950	800.00	800	800			
1983	24,285.00	24,285	24,285			
1988	66,999.00	66,999	66,999			
1989	43,859.00	43,859	43,859			
1990	45,762.00	45,643	45,762			
1992	38,686.00	38,260	38,686			
1994	41,987.00	40,837	41,987			
1995	48,974.00	47,206	48,974			
1997	47,696.00	45,058	47,696			
1999	63,182.00	58,279	63,182			
2000	35,550.00	32,358	35,550			
2009	233,106.00	178,279	215,820	17,286	3.54	4,883
2013	32,404.66	19,372	23,451	8,953	5.05	1,773
2017	54,250.00	16,351	19,794	34,456	8.11	4,249
2018	65,348.77	14,181	17,167	48,182	9.02	5,342
2019	106,622.27	13,925	16,857	89,765	9.98	8,994
2020	49,623.00	2,164	2,620	47,003	10.98	4,281
	999,134.70	687,856	753,490	245,645		29,522

MARINE EQUIPMENT
FULLY ACCRUED

1976	550.00	550	550			
1984	724.63	725	725			
1987	1,395.00	1,395	1,395			
2000	6,313.33	6,313	6,313			
	8,982.96	8,983	8,983			
	2,351,812.93	1,699,341	1,905,762	446,051		55,916

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 8.0 2.38

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 332 TOOLS AND WORK EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
CONSTRUCTION EQUIPMENT SURVIVOR CURVE.. IOWA 15-L3						
1973	2,887.20	2,887	2,887			
1976	3,900.00	3,900	3,900			
1978	2,889.00	2,889	2,889			
1979	11,450.00	11,450	11,450			
1986	12,317.00	12,280	12,317			
1987	33,732.50	33,449	33,733			
1988	21,905.00	21,572	21,905			
1989	39,925.28	38,987	39,925			
1990	32,465.16	31,488	32,465			
1991	10,220.86	9,859	10,221			
1992	15,250.90	14,562	15,251			
1993	66,768.00	63,163	66,768			
1994	171,675.00	161,048	171,675			
1995	22,754.00	21,120	22,754			
1997	12,750.99	11,566	12,736	15	2.41	6
1998	20,095.31	17,995	19,815	281	2.63	107
1999	2,297.08	2,030	2,235	62	2.83	22
2000	18,531.00	16,144	17,776	755	3.03	249
2004	64,344.00	52,447	57,750	6,594	3.74	1,763
2005	67,439.00	54,147	59,622	7,817	3.81	2,052
2013	11,385.00	6,063	6,676	4,709	6.58	716
2014	11,740.00	5,518	6,076	5,664	7.33	773
2016	57,069.04	19,084	21,014	36,055	8.96	4,024
2017	41,250.00	10,816	11,910	29,340	9.85	2,979
2018	34,737.73	6,538	7,199	27,539	10.78	2,555
2019	45,255.45	5,123	5,641	39,614	11.75	3,371
2020	45,500.00	1,720	1,894	43,606	12.74	3,423
	880,534.50	637,845	678,484	202,051		22,040

TOOLS AND WORK EQUIPMENT
SURVIVOR CURVE.. IOWA 20-L1

1973	428.00	405	428
1974	2,328.92	2,199	2,329
1975	141.04	132	141
1976	2,578.14	2,409	2,578
1978	3,247.16	2,995	3,247
1979	6,812.34	6,248	6,812
1981	1,297.38	1,174	1,297
1982	5,090.13	4,586	5,090
1983	3,225.14	2,878	3,225

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 332 TOOLS AND WORK EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
TOOLS AND WORK EQUIPMENT						
SURVIVOR CURVE.. IOWA 20-L1						
1984	4,178.23	3,706	4,178			
1985	5,368.58	4,726	5,369			
1986	2,565.29	2,239	2,565			
1987	10,477.24	9,055	10,477			
1988	6,975.63	5,985	6,976			
1989	4,670.03	3,972	4,670			
1990	4,260.91	3,587	4,261			
1991	10,425.27	8,673	10,393	32	5.96	5
1992	5,680.95	4,663	5,588	93	6.22	15
1993	12,176.08	9,877	11,836	340	6.40	53
1994	29,028.51	23,232	27,839	1,189	6.61	180
1995	17,469.80	13,810	16,549	921	6.76	136
1996	23,169.11	18,051	21,631	1,538	6.95	221
1997	9,839.09	7,538	9,033	806	7.17	112
1998	2,418.43	1,823	2,185	234	7.35	32
1999	6,332.67	4,684	5,613	720	7.57	95
2000	15,437.25	11,203	13,425	2,013	7.75	260
2001	24,640.07	17,490	20,959	3,682	7.97	462
2002	62,640.12	43,460	52,079	10,561	8.17	1,293
2003	21,309.90	14,431	17,293	4,017	8.34	482
2004	25,409.89	16,730	20,048	5,362	8.56	626
2005	24,214.64	15,502	18,576	5,638	8.71	647
2006	3,262.74	2,020	2,421	842	8.92	94
2008	44,351.76	25,449	30,496	13,856	9.29	1,491
2009	13,274.63	7,297	8,744	4,531	9.42	481
2010	15,279.32	7,973	9,554	5,725	9.62	595
2011	29,174.37	14,383	17,235	11,939	9.77	1,222
2012	130,082.74	59,812	71,674	58,409	9.99	5,847
2013	28,279.85	11,962	14,334	13,946	10.23	1,363
2014	30,397.08	11,636	13,944	16,453	10.48	1,570
2015	8,863.09	2,993	3,587	5,277	10.79	489
2016	19,361.00	5,568	6,672	12,689	11.15	1,138
	676,162.52	416,556	495,349	180,814		18,909
	1,556,697.02	1,054,401	1,173,833	382,865		40,949

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 9.3 2.63

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 333 COMMUNICATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 15-SQUARE						
1986	2,518.00	2,518	2,518			
1989	958.04	958	958			
1993	166,542.86	166,543	166,543			
1994	4,226.50	4,226	4,226			
1996	15,596.00	15,596	15,596			
1998	1,903.13	1,903	1,903			
1999	11,505.15	11,505	11,505			
2000	9,216.97	9,217	9,217			
2001	20,839.00	20,839	20,839			
2002	29,484.00	29,484	29,484			
2003	7,392.40	7,392	7,392			
2004	4,183.98	4,184	4,184			
2005	88,371.73	88,372	88,372			
2006	50,000.00	48,334	48,430	1,570	0.50	1,570
2007	90,256.00	81,230	81,391	8,865	1.50	5,910
2008	47,895.00	39,912	39,991	7,904	2.50	3,162
2009	8,100.00	6,210	6,222	1,878	3.50	537
2012	2,121.00	1,202	1,204	917	6.50	141
2013	105,846.04	52,923	53,028	52,818	7.50	7,042
2014	106,852.00	46,302	46,393	60,459	8.50	7,113
2017	10,229.44	2,387	2,392	7,837	11.50	681
	784,037.24	641,237	641,788	142,249		26,156
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 5.4						3.34

CITY OF BETHLEHEM - BUREAU OF WATER

ACCOUNT 334 MISCELLANEOUS EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. 15-SQUARE						
1974	567.57	568	568			
1975	658.80	659	659			
1989	199.98	200	200			
1991	3,285.18	3,285	3,285			
1994	789.00	789	789			
1995	668.82	669	669			
1996	3,596.64	3,597	3,597			
2000	74.44	74	74			
2003	8,151.17	8,151	8,151			
2004	1,410.00	1,410	1,410			
2005	99,184.67	99,185	99,185			
2006	31,000.64	29,967	29,960	1,041	0.50	1,041
2007	14,366.00	12,929	12,926	1,440	1.50	960
2008	1,065.83	888	888	178	2.50	71
2009	367.99	282	282	86	3.50	25
2011	2,473.44	1,567	1,567	906	5.50	165
2012	18,771.70	10,637	10,634	8,138	6.50	1,252
2015	69,804.05	25,595	25,589	44,215	9.50	4,654
2017	58,810.73	13,722	13,719	45,092	11.50	3,921
	315,246.65	214,174	214,152	101,095		12,089

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 8.4 3.83

CUSTOMERS' ADVANCES FOR CONSTRUCTION

CITY OF BETHLEHEM - BUREAU OF WATER
CUSTOMERS' ADVANCES FOR CONSTRUCTION

ACCOUNT 322 MAINS AND ACCESSORIES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 110-R3						
1983	7,400.00	2,692	2,938	4,462	65.59	68
1984	12,736.47	4,509	4,921	7,815	66.60	117
1985	22,147.45	7,705	8,409	13,738	66.54	206
1986	19,825.48	6,703	7,316	12,509	67.54	185
1987	45,359.87	14,892	16,253	29,107	68.54	425
1988	37,500.00	11,944	13,036	24,464	69.54	352
1989	27,823.15	8,589	9,374	18,449	70.54	262
1990	5,350.89	1,616	1,764	3,587	70.51	51
1991	6,394.68	1,867	2,038	4,357	71.52	61
1992	3,058.92	863	942	2,117	72.51	29
1993	3,418.43	930	1,015	2,403	73.52	33
1994	20,282.00	5,375	5,866	14,416	73.50	196
1995	7,000.00	1,785	1,948	5,052	74.50	68
1996	14,100.00	3,454	3,770	10,330	75.50	137
1998	3,500.00	788	860	2,640	77.50	34
1999	13,100.00	2,845	3,105	9,995	77.50	129
2000	10,500.00	2,174	2,373	8,127	78.51	104
2001	16,400.00	3,231	3,526	12,874	79.50	162
2002	2,000.00	374	408	1,592	80.51	20
2003	9,500.00	1,680	1,834	7,666	81.50	94
2006	16,000.00	2,366	2,582	13,418	83.54	161
2008	3,000.00	386	421	2,579	84.58	30
2009	5,500.00	651	711	4,789	85.59	56
	311,897.34	87,419	95,410	216,487		2,980

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 72.6 0.96

CONTRIBUTIONS IN AID OF CONSTRUCTION

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 312.11 COLLECTING AND IMPOUNDING RESERVOIRS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
WILD CREEK RESERVOIR						
INTERIM SURVIVOR CURVE.. IOWA 125-R3						
PROBABLE RETIREMENT YEAR.. 6-2091						
1941	784,949.87	499,228	255,068	529,882	45.50	11,646
	784,949.87	499,228	255,068	529,882		11,646
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 45.5						1.48

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 312.12 LAKE, RIVER AND OTHER INTAKES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
TUNKHANNOCK INTAKE						
INTERIM SURVIVOR CURVE.. IOWA 65-S1.5						
PROBABLE RETIREMENT YEAR.. 6-2044						
1969	131,607.59	99,627	80,157	51,451	16.53	3,113
	131,607.59	99,627	80,157	51,451		3,113
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 16.5						2.37

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 312.13 WELLS AND SPRINGS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 50-R3						
1965	1,022.00	902	1,022			
1970	6,720.00	5,701	6,458	262	9.02	29
1978	5,305.00	4,058	4,597	708	13.06	54
	13,047.00	10,661	12,077	970		83

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 11.7 0.64

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 312.2 POWER AND PUMPING STRUCTURES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
MOUNTAINTOP PUMP STATION FULLY ACCRUED						
1959	2,643.25	2,643	2,643			
	2,643.25	2,643	2,643			
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						0.0 0.00

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 312.3 PURIFICATION BUILDINGS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
WILD CREEK CHEMICAL HOUSE						
INTERIM SURVIVOR CURVE.. SQUARE						
PROBABLE RETIREMENT YEAR.. 6-2034						
1941	41,822.43	35,751	38,706	3,117	13.50	231
	41,822.43	35,751	38,706	3,117		231
COUNTRY SQUIRE ESTATES TREATMENT BUILDING						
INTERIM SURVIVOR CURVE.. SQUARE						
PROBABLE RETIREMENT YEAR.. 6-2025						
1970	10,752.00	9,872	10,569	183	4.50	41
	10,752.00	9,872	10,569	183		41
EAST ALLEN GARDENS TREATMENT BUILDING						
INTERIM SURVIVOR CURVE.. SQUARE						
PROBABLE RETIREMENT YEAR.. 6-2025						
1970	10,752.00	9,872	10,569	183	4.50	41
	10,752.00	9,872	10,569	183		41
SHADY LANE TREATMENT BUILDING						
INTERIM SURVIVOR CURVE.. SQUARE						
PROBABLE RETIREMENT YEAR.. 6-2033						
1965	4,086.00	3,335	3,602	484	12.50	39
	4,086.00	3,335	3,602	484		39
WIL-MAR MANOR TREATMENT BUILDING						
FULLY ACCRUED						
1978	21,219.00	21,219	21,219			
	21,219.00	21,219	21,219			
	88,631.43	80,049	84,665	3,967		352
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 11.3 0.40						

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 312.5 DISTRIBUTION RESERVOIRS AND STANDPIPES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
ONE MILLION GALLON STANDPIPE INTERIM SURVIVOR CURVE.. SQUARE PROBABLE RETIREMENT YEAR.. 6-2034						
1959	149,506.00	122,595	142,988	6,518	13.50	483
	149,506.00	122,595	142,988	6,518		483
500 THOUSAND GALLON STANDPIPE FULLY ACCRUED						
1959	99,691.00	99,691	99,691			
	99,691.00	99,691	99,691			
	249,197.00	222,286	242,679	6,518		483
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 13.5						0.19

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 316 ELECTRIC PUMPING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
1959	8,482.17	8,482	8,482			
1963	6,758.18	6,758	6,758			
	15,240.35	15,240	15,240			

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 0.0 0.00

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 317 OIL ENGINE PUMPING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
FULLY ACCRUED						
1959	5,354.12	5,354	5,354			
	5,354.12	5,354	5,354			
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						0.0 0.00

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 322 MAINS AND ACCESSORIES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
CAST IRON - 4 INCH AND UNDER SURVIVOR CURVE.. IOWA 70-R3						
1970	35,564.00	24,425	23,137	12,427	23.03	540
1980	61,192.00	35,192	33,336	27,856	29.92	931
	96,756.00	59,617	56,473	40,283		1,471
CAST IRON - 6 INCH AND LARGER SURVIVOR CURVE.. IOWA 110-R3						
1970	53,448.00	25,372	27,035	26,413	55.88	473
1973	87,037.00	39,271	41,845	45,192	57.77	782
1975	74,611.00	32,247	34,360	40,251	59.77	673
1978	38,525.00	15,718	16,748	21,777	61.67	353
1980	133,404.00	51,867	55,266	78,138	63.67	1,227
1989	354,027.00	109,288	116,451	237,576	70.54	3,368
1990	41,847.00	12,638	13,466	28,381	70.51	403
1991	11,900.00	3,475	3,703	8,197	71.52	115
1992	174,116.02	49,136	52,356	121,760	72.51	1,679
1997	3,700.00	870	927	2,773	76.50	36
1998	439,522.00	98,892	105,373	334,149	77.50	4,312
2006	703,454.00	104,041	110,860	592,594	83.54	7,094
2009	767,486.00	90,870	96,826	670,660	85.59	7,836
	2,883,077.02	633,685	675,217	2,207,860		28,351
CAST IRON AND CONCRETE PRESSURE PIPE SURVIVOR CURVE.. IOWA 110-R3						
1941	940,597.83	643,087	597,647	342,951	36.78	9,324
1959	460.63	258	240	221	48.40	5
1959	140,936.37	78,868	73,295	67,641	48.40	1,398
	1,081,994.83	722,213	671,181	410,813		10,727
STEEL PIPE SURVIVOR CURVE.. IOWA 75-R3						
1969	1,010,820.08	666,333	677,701	333,120	26.62	12,514
1970	106,327.00	69,261	70,443	35,884	27.02	1,328
	1,117,147.08	735,594	748,143	369,004		13,842

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 322 MAINS AND ACCESSORIES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
GALVANIZED STEEL						
SURVIVOR CURVE.. IOWA 50-R4						
1965	11,176.00	10,235	10,542	634	5.10	124
1970	2,059.00	1,820	1,875	184	6.64	28
1978	11,894.00	9,453	9,737	2,157	10.97	197
	25,129.00	21,508	22,153	2,976		349
	5,204,103.93	2,172,617	2,173,168	3,030,936		54,740
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						55.4 1.05

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

ACCOUNT 323 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 65-R3						
1965	4,523.00	3,489	3,606	917	16.45	56
1970	27,722.00	20,021	20,695	7,027	19.43	362
1973	37,365.00	25,913	26,785	10,580	20.99	504
1976	14,334.00	9,440	9,758	4,576	23.07	198
1977	370.00	240	248	122	23.61	5
1978	13,662.00	8,710	9,003	4,659	24.17	193
1980	57,357.00	35,080	36,261	21,096	25.72	820
1981	675.00	405	419	256	26.29	10
1982	1,253.00	738	763	490	26.86	18
1983	3,108.00	1,795	1,855	1,253	27.44	46
1984	2,868.00	1,612	1,666	1,202	28.44	42
1985	3,126.00	1,720	1,778	1,348	29.02	46
1986	1,889.00	1,017	1,051	838	29.60	28
1987	3,265.00	1,717	1,775	1,490	30.19	49
1988	1,543.00	787	814	729	31.20	23
1989	66,223.00	32,959	34,069	32,154	31.79	1,011
1997	1,000.00	385	398	602	37.48	16
1998	10,722.00	3,956	4,089	6,633	38.48	172
2009	67,666.00	13,303	13,751	53,915	46.98	1,148
	318,671.00	163,287	168,784	149,887		4,747

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 31.6 1.49

CITY OF BETHLEHEM - BUREAU OF WATER
CONTRIBUTIONS IN AID OF CONSTRUCTION

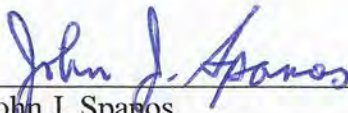
ACCOUNT 325 FIRE HYDRANTS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2020

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
SURVIVOR CURVE.. IOWA 75-R3						
1959	599.05	449	512	87	20.47	4
1973	2,427.00	1,510	1,723	704	28.84	24
1975	2,975.00	1,787	2,039	936	30.26	31
1980	5,742.00	3,140	3,582	2,160	33.57	64
1989	22,597.00	9,965	11,369	11,228	39.93	281
1998	8,547.00	2,769	3,159	5,388	46.94	115
2006	29,164.00	6,259	7,141	22,023	53.07	415
2009	32,951.00	5,648	6,444	26,507	55.61	477
	105,002.05	31,527	35,969	69,033		1,411
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 48.9						1.34

VERIFICATION

I, John J. Spanos, President of Gannett Fleming Valuation and Rate Consultants, LLC, hereby state, as Depreciation Consultant for the City of Bethlehem, that the facts set forth in the foregoing Depreciation Study, Exhibit JJS-2, filed with the Public Utility Commission on July 31, 2020 and docketed at PaPUC Docket No. R-2020-3020256 are true and correct to the best of my knowledge, information and belief and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements herein are made subject to the penalties of 18 Pa. C.S. § 4904 (relating to unsworn falsification to authorities).



John J. Spanos
Gannett Fleming Valuation and Rate Consultants, LLC

Dated: July 31, 2020

NOTICE TO CUSTOMERS



July 31, 2020

NOTICE OF PROPOSED RATE CHANGES

TO OUR CUSTOMERS:

The City of Bethlehem is filing a request with the Pennsylvania Public Utility Commission (PUC) to increase your water rates as of September 29, 2020. This notice describes the City's rate request, the PUC's role, and what actions you can take.

The City of Bethlehem has requested an overall rate increase of \$908,421 per year. If the City's entire request is approved, the total bill for a residential customer using 12,000 gallons per quarter with a 5/8-inch meter would increase from \$75.94 to \$85.55 per quarter or by 12.7%.

The total bill for a commercial customer using 65,000 gallons per month with a 2-inch meter would increase from \$301.93 to \$349.57 per month or by 15.8%.

Rates for an industrial customer using 228,000 gallons per month with a 1 1/2-inch meter would increase from \$812.96 to \$980.09 per month or by 20.6%.

To find out your customer class or how the requested increase may affect your water bill, contact the City of Bethlehem at (610) 865-7070. The rates requested by the City may be found in Supplement No. 15 to Tariff Water-Pa. P.U.C. No. 6. You may examine the material filed with the PUC which explains the requested increase and the reasons for it. A copy of this material is kept at the City of Bethlehem's office and also can be accessed via the City's website at <https://www.bethlehem-pa.gov/>. Upon request, the City will send you the Statement of Reasons for Supplement No. 15 to Tariff Water-Pa. P.U.C. No. 6, explaining why the rate increase has been requested.

The state agency which approves rates for public utilities is the PUC. The PUC will examine the requested rate increase and can prevent existing rates from changing until it investigates and/or holds hearings on the request. The City must prove that the requested rates are reasonable. After examining the evidence, the PUC may grant all, some, or none of the request or may reduce existing rates.

The PUC may change the amount of the rate increase or decrease requested by the utility for each customer class. As a result, the rate charged to you may be different than the rate requested by the City and shown above.

There are three ways to challenge the City's request to change its rates:

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 rate increase request. All complaints should be filed with the PUC before September 29, 2020. If no formal complaints are filed, the Commission may grant all, some or none of the request without holding a hearing before a judge.

2. You can send us a letter telling why you object to the requested rate increase. Sometimes there is information in these letters that makes us aware of problems with the City's service or management. This information can be helpful when we investigate the rate request.

Send your letter or request for a formal complaint form to the Pennsylvania Public Utility Commission, P.O. Box 3265, Harrisburg, PA 17105-3265.

3. You can be a witness at a public input hearing. Public input hearings are held if the Commission opens an investigation of the City's rate increase 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 rate case record. These hearings are held in the service area of the City.

Edward J. Boscola, PE
Director, Water and Sewer Resources
City of Bethlehem