

PENNSYLVANIA-AMERICAN WATER COMPANY

**2022 GENERAL BASE RATE CASE
R-2022-3031672 (WATER)
R-2022-3031673 (WASTEWATER)**

**EXHIBITS NO. 11-J, 11-K, 11-L, 11-M
DEPRECIATION STUDY**

**UPPER POTTSGROVE WASTEWATER OPERATIONS
YORK WASTEWATER OPERATIONS
AS OF DECEMBER 31, 2022 2023**

EXHIBIT NO. 11-J - DEPRECIATION STUDY

**UPPER POTTSGROVE
WASTEWATER OPERATIONS**

AS OF DECEMBER 31, 2022

Exhibit No. 11-J
Witness: J. J. Spanos

PENNSYLVANIA-AMERICAN WATER COMPANY

MECHANICSBURG, PENNSYLVANIA

UPPER POTTSGROVE WASTEWATER OPERATIONS

2022 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS

RELATED TO WASTEWATER PLANT

AS OF DECEMBER 31, 2022

Prepared by:



GANNETT FLEMING

Excellence Delivered As Promised

Exhibit No. 11-J
Witness: J. J. Spanos

PENNSYLVANIA-AMERICAN WATER COMPANY

Mechanicsburg, Pennsylvania

UPPER POTTSBGROVE WASTEWATER OPERATIONS

2022 DEPRECIATION STUDY
CALCULATED ANNUAL DEPRECIATION ACCRUALS
RELATED TO WASTEWATER PLANT
AS OF DECEMBER 31, 2022

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

Camp Hill, Pennsylvania



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April 20, 2022

Pennsylvania-American Water Company
852 Wesley Drive
Mechanicsburg, PA 17055

Attention Ms. Stacey Gress
Director, Rates and Regulatory

Ladies and Gentlemen:

Pursuant to your request, we have determined the annual depreciation accruals applicable to wastewater plant. The results of our study as of December 31, 2022, are presented in the attached report. The results of our study as of December 31, 2023, are presented in our report, "2023 Depreciation Study - Calculated Annual Depreciation Accruals Related to Wastewater Plant as of December 31, 2023." 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, 2022.

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

A handwritten signature in black ink that reads "John J. Spanos".

JOHN J. SPANOS
President

JJS:mle
070800.100

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PART I. INTRODUCTION

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTSBGROVE WASTEWATER OPERATIONS

DEPRECIATION STUDY

PART I. INTRODUCTION

SCOPE

This report sets forth the results of the depreciation study for Pennsylvania-American Water Company to determine the annual depreciation accrual rates and amounts applicable to the original cost of wastewater plant as of December 31, 2022. 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 wastewater plant in service as of December 31, 2022.

Part I, Introduction, contains statements with respect to the basis of the study and the development of net 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, Part VII, Detailed Depreciation Calculations presents the detailed tabulations of annual depreciation and Part VIII, Experienced and Estimated Net Salvage presents the cost of removal and gross salvage recorded for the period 2018-2022.

BASIS OF THE STUDY

The purpose of the depreciation study was to determine the annual depreciation accruals applicable to the original cost of wastewater plant in service as of December 31, 2022. 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 wastewater property for all Pennsylvania-American Water Company Wastewater Operations; (2) consideration of the character, use and location of the property; (3) probable future events and management plans; and (4) a general knowledge of wastewater 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 NET ORIGINAL COST

The original cost data used in this study were obtained from the Company's continuing property records and work order system which show in detail the original cost of the property including descriptions, locations and years of installation of property units. The net original cost was developed from the original cost data by deducting contributions in aid of construction. The development of net original cost by plant account is set forth in Table 1 on page V-4.

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.

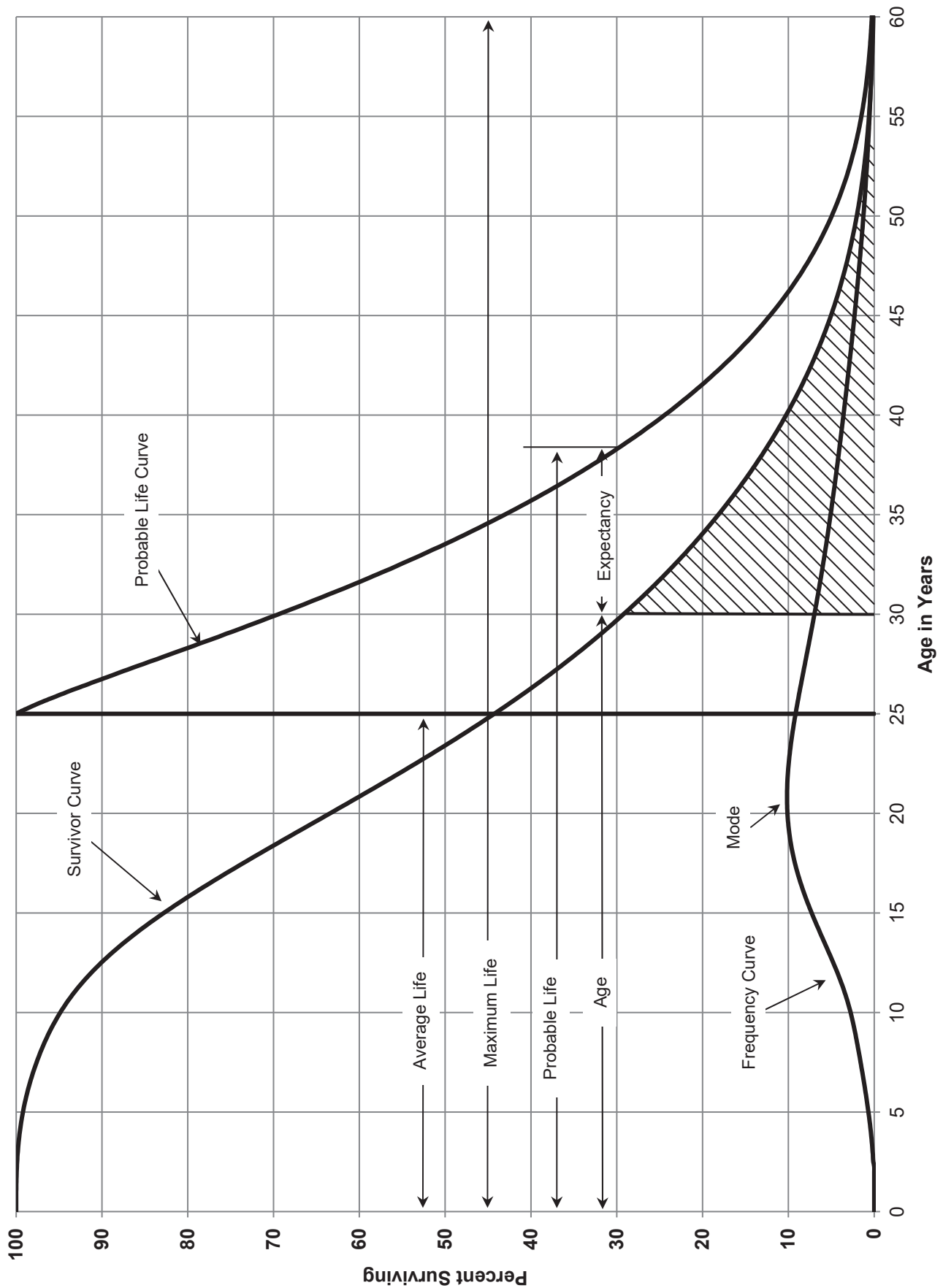


FIGURE 1. TYPICAL SURVIVOR CURVE AND DERIVED CURVES

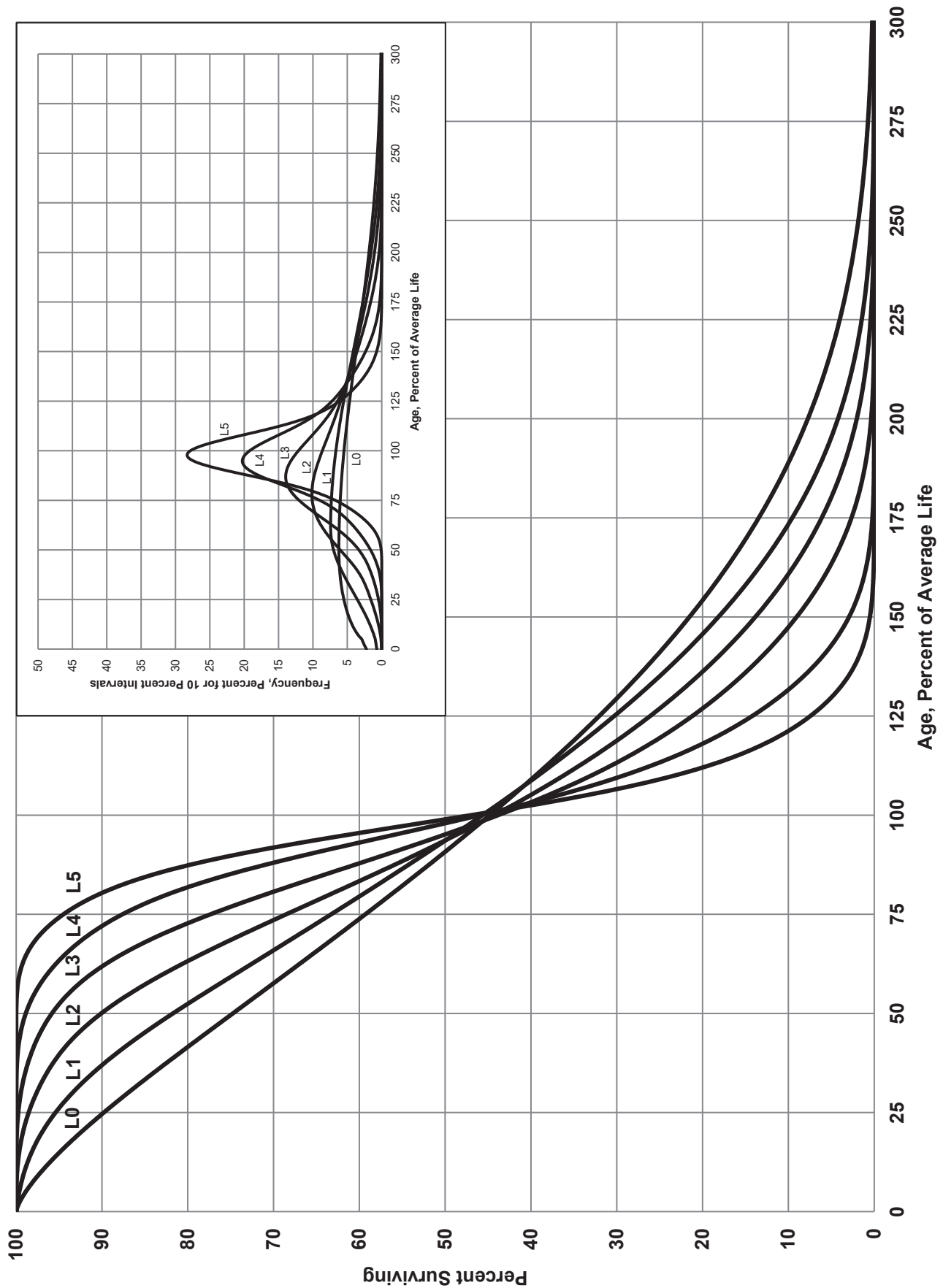


FIGURE 2. LEFT MODAL OR "L" IOWA TYPE SURVIVOR CURVES

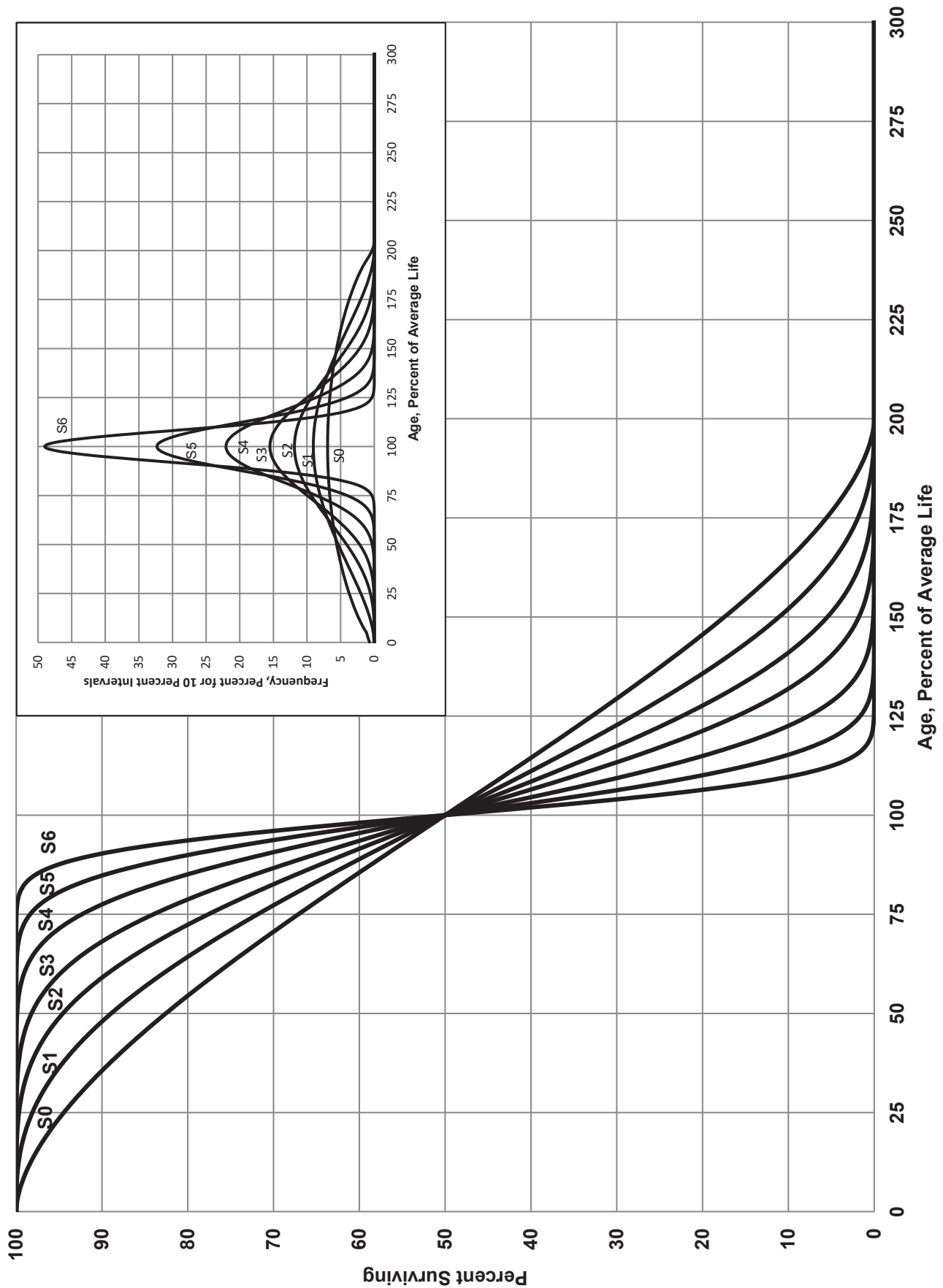


FIGURE 3. SYMMETRICAL OR "S" IOWA TYPE SURVIVOR CURVES

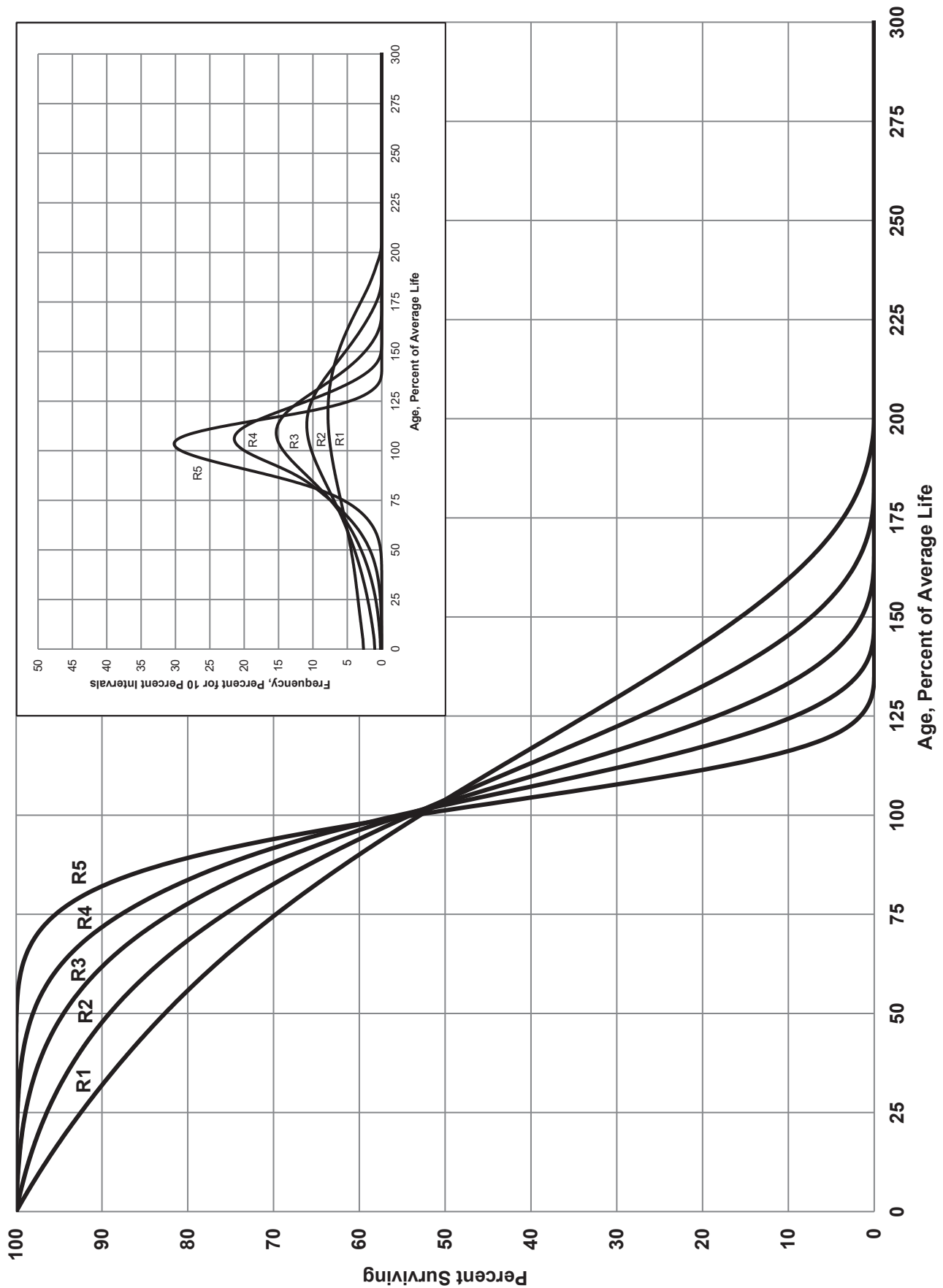


FIGURE 4. RIGHT MODAL OR "R" IOWA TYPE SURVIVOR CURVES

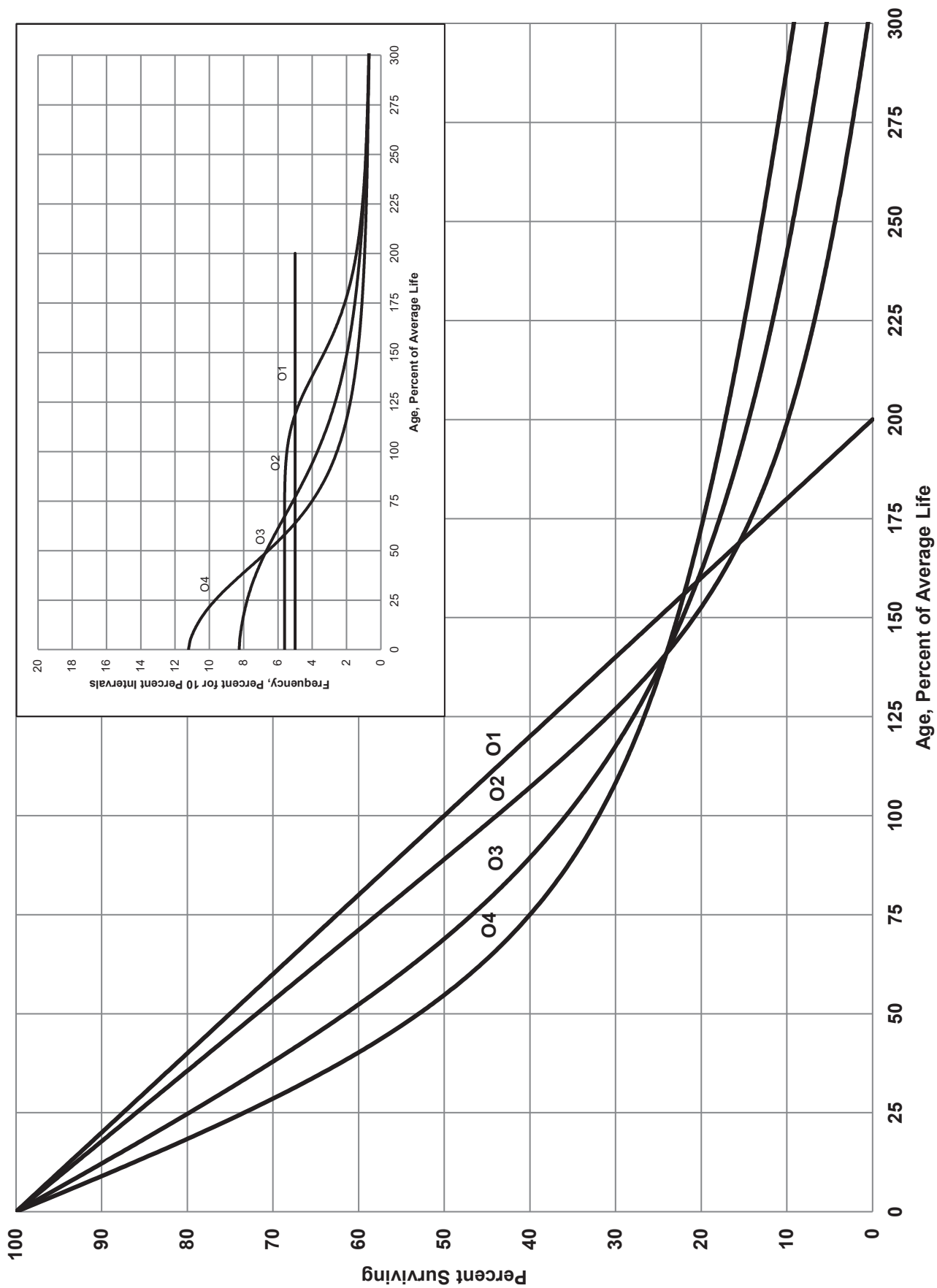


FIGURE 5. ORIGIN MODAL OR "O" IOWA TYPE SURVIVOR CURVES

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. 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.

Schedules of Annual Transactions in Plant Records

The property group used to illustrate the retirement rate method is observed for the experience band 2012-2021 for which there were placements during the years 2007-2021. 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, the year of installation (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 2007 were retired in 2012. 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 2012 retirements of 2007 installations and ending with the 2021 retirements of the 2016 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 2012-2021
SUMMARIZED BY AGE INTERVAL

Experience Band 2012-2021

Placement Band 2007-2021

Year Placed (1)	Retirements, Thousands of Dollars										Total During Age Interval (12)	Age Interval (13)
	2012 (2)	2013 (3)	2014 (4)	2015 (5)	2016 (6)	2017 (7)	2018 (8)	2019 (9)	2020 (10)	2021 (11)		
2007	10	11	12	13	14	16	23	24	25	26	26	13½-14½
2008	11	12	13	15	16	18	20	21	22	19	44	12½-13½
2009	11	12	13	14	16	17	19	21	22	18	64	11½-12½
2010	8	9	10	11	11	13	14	15	16	17	83	10½-11½
2011	9	10	11	12	13	14	16	17	19	20	93	9½-10½
2012	4	9	10	11	12	13	14	15	16	20	105	8½-9½
2013		5	11	12	13	14	15	16	18	20	113	7½-8½
2014			6	12	13	15	16	17	19	19	124	6½-7½
2015				6	13	15	16	17	19	19	131	5½-6½
2016					7	14	16	17	19	20	143	4½-5½
2017						8	18	20	22	23	146	3½-4½
2018							9	20	22	25	150	2½-3½
2019								11	23	25	151	1½-2½
2020									11	24	153	½-1½
2021										13	80	0-½
Total	53	68	86	106	128	157	196	231	273	308	1,606	

SCHEDULE 2. OTHER TRANSACTIONS FOR EACH YEAR 2012-2021
SUMMARIZED BY AGE INTERVAL

Experience Band 2012-2021		Placement Band 2007-2021									
		Acquisitions, Transfers and Sales, Thousands of Dollars									
		During Year									
Year		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Placed		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1)		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2007	-	-	-	-	-	-	-	60 ^a	-	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	(5) ^b	-	-
2011	-	-	-	-	-	-	-	-	6 ^a	-	-
2012	-	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-	-	(12) ^b	-	-
2016	-	-	-	-	-	-	-	-	-	22 ^a	-
2017	-	-	-	-	-	-	-	-	(19) ^b	-	-
2018	-	-	-	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-	-	-	(102) ^c
2020	-	-	-	-	-	-	-	-	-	-	-
2021	-	-	-	-	-	-	-	-	-	-	-
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 2012 through 2021 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 2017 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 2012-2021
SUMMARIZED BY AGE INTERVAL

Experience Band 2012-2021												Placement Band 2007-2021	
Year	Exposures, Thousands of Dollars											Total at Beginning of Age Interval	Age Interval
	Annual Survivors at the Beginning of the Year												
	2012 (2)	2013 (3)	2014 (4)	2015 (5)	2016 (6)	2017 (7)	2018 (8)	2019 (9)	2020 (10)	2021 (11)	(12)		
Placed (1)													
2007	255	245	234	222	209	195	239	216	192	167	167	167	13½-14½
2008	279	268	256	243	228	212	194	174	153	131	131	323	12½-13½
2009	307	296	284	271	257	241	224	205	184	162	162	531	11½-12½
2010	338	330	321	311	300	289	276	262	242	226	226	823	10½-11½
2011	376	367	357	346	334	321	307	297	280	261	261	1,097	9½-10½
2012	420 ^a	416	407	397	386	374	361	347	332	316	316	1,503	8½-9½
2013		460 ^a	455	444	432	419	405	390	374	356	356	1,952	7½-8½
2014			510 ^a	504	492	479	464	448	431	412	412	2,463	6½-7½
2015				580 ^a	574	561	546	530	501	482	482	3,057	5½-6½
2016					660 ^a	653	639	623	628	609	609	3,789	4½-5½
2017						750 ^a	742	724	685	663	663	4,332	3½-4½
2018							850 ^a	841	821	799	799	4,955	2½-3½
2019								960 ^a	949	926	926	5,719	1½-2½
2020									1,080 ^a	1,069	1,069	6,579	½-1½
2021										1,220 ^a	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	7,799	44,780	

^aAdditions during the year

For the entire experience band 2012-2021, 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 ÷ 3,789,000	= 0.0377
Survivor Ratio	=	1.000 - 0.0377	= 0.9623
Percent surviving at age 5½	=	(88.15) x (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 2012-2021

Placement Band 2007-2021

(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	<u>167</u>	<u>26</u>	0.1557	0.8443	42.24
					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

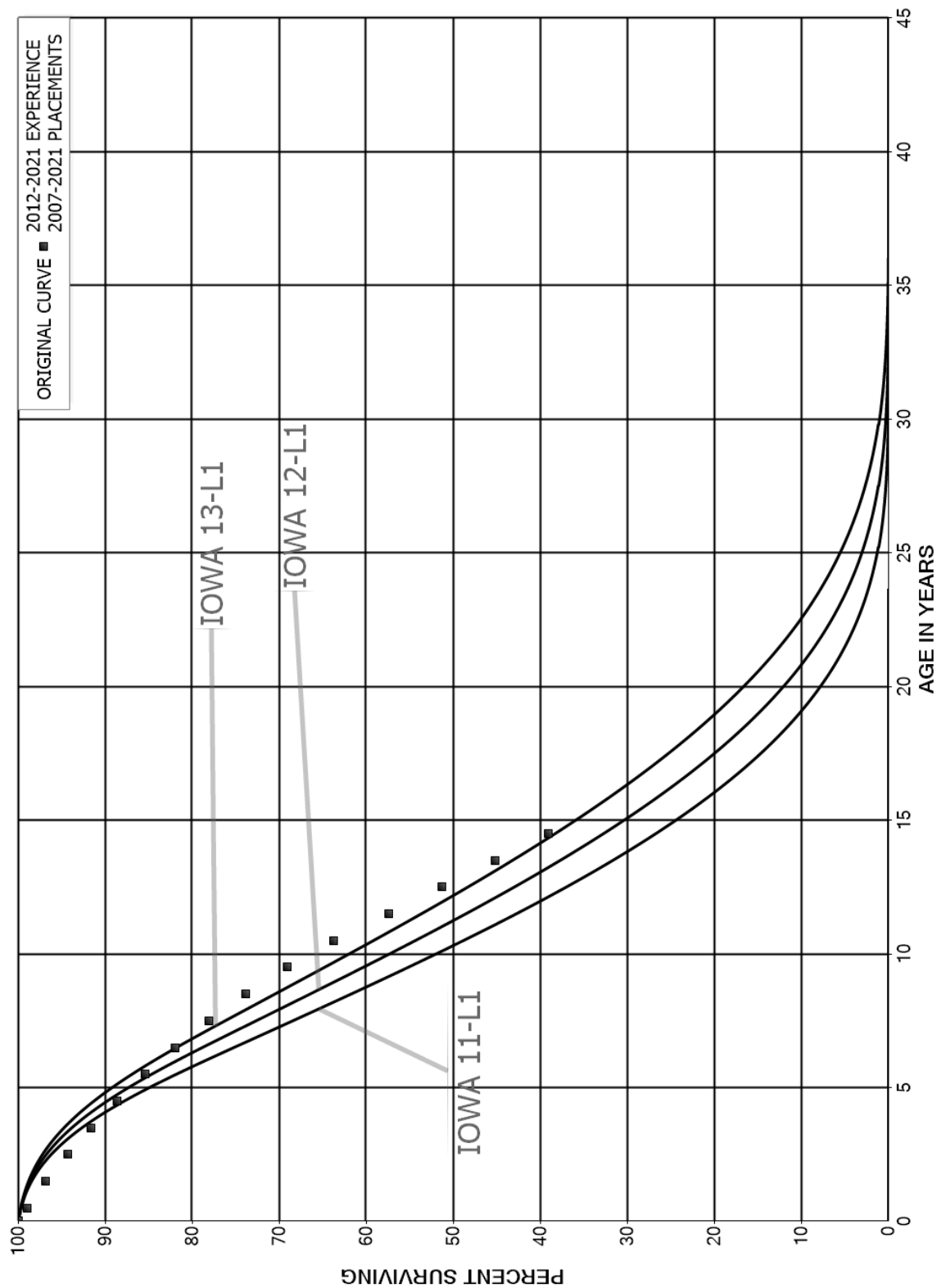


FIGURE 7. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN S0 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

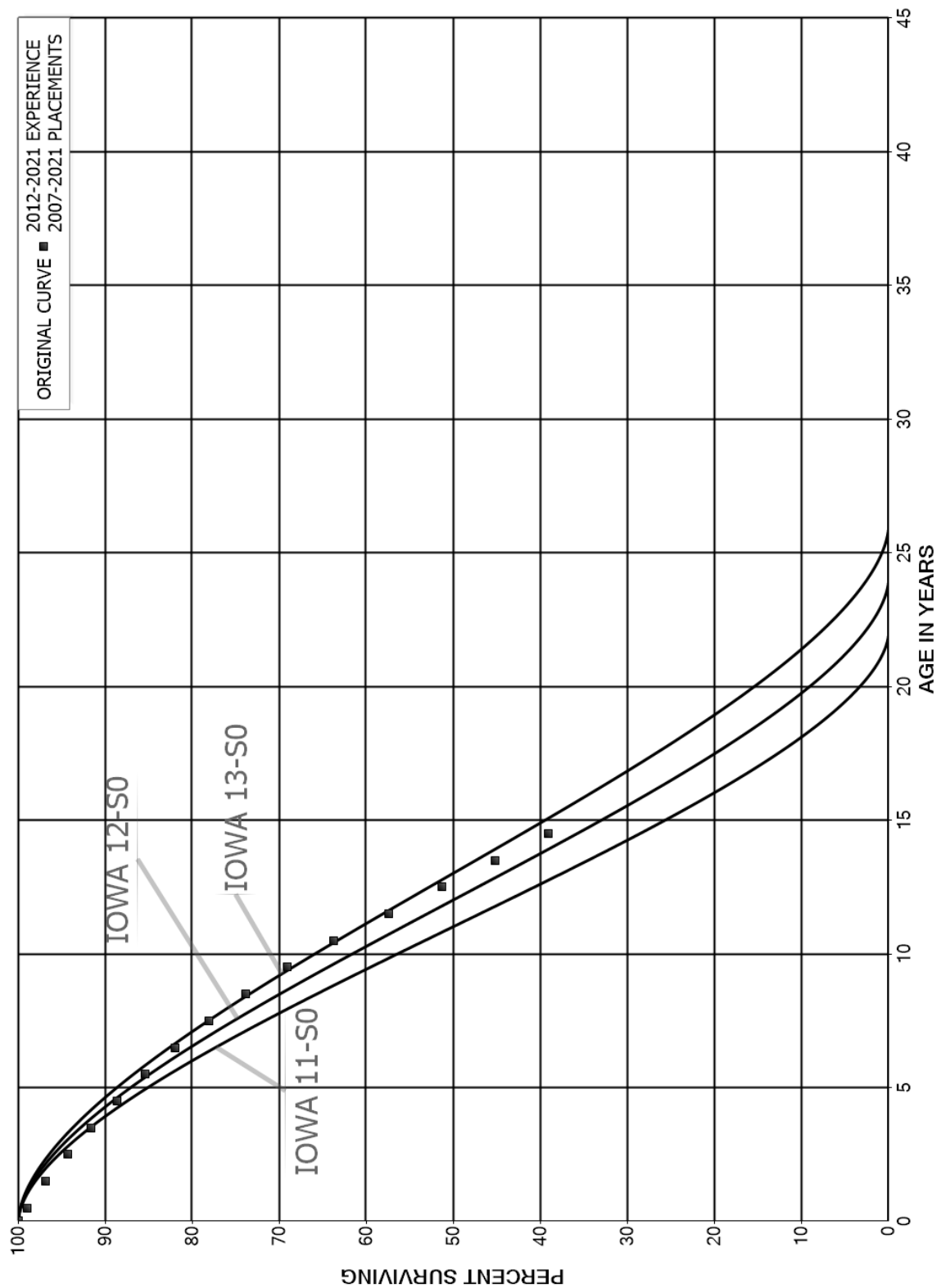


FIGURE 8. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN R1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

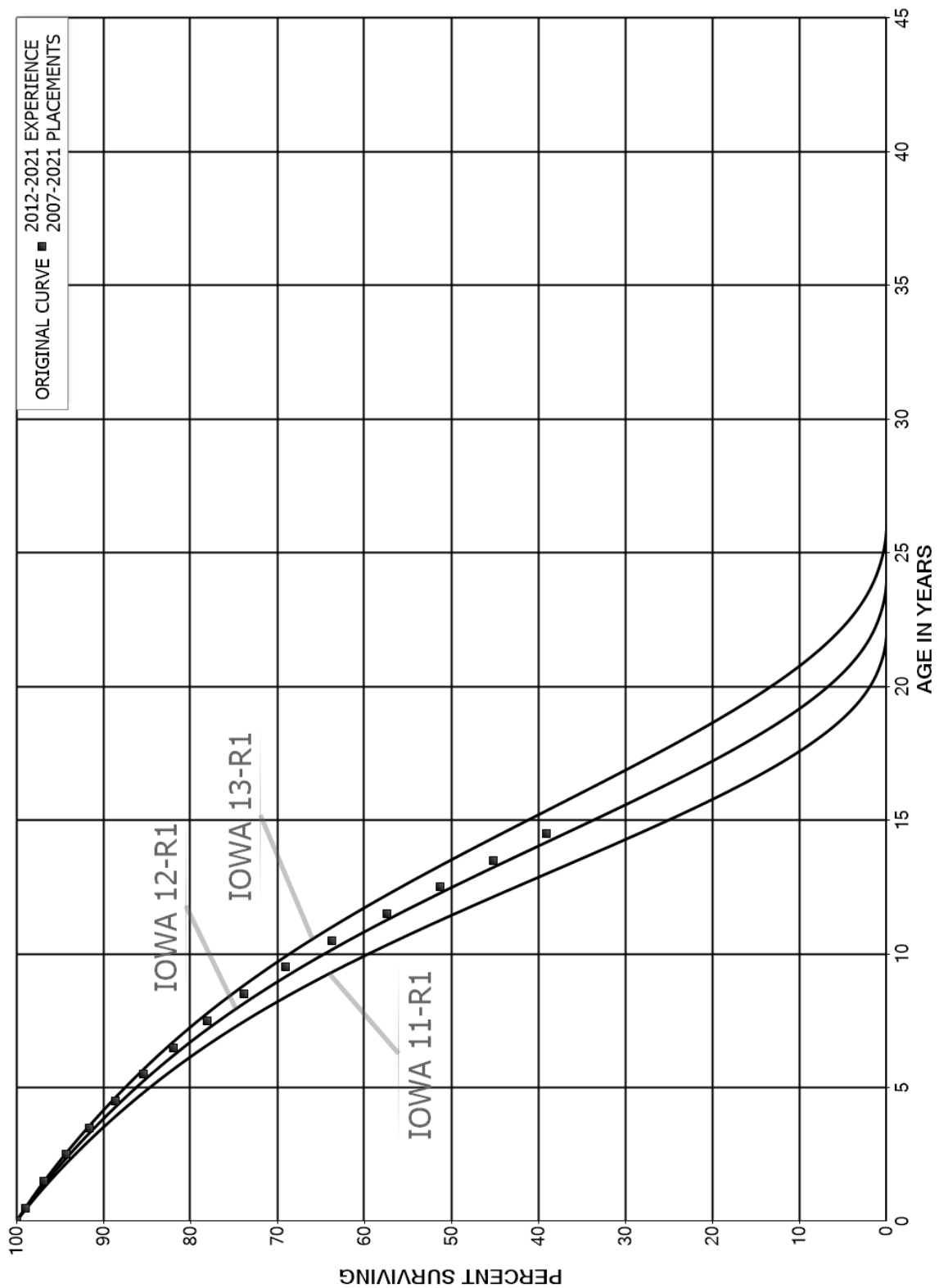
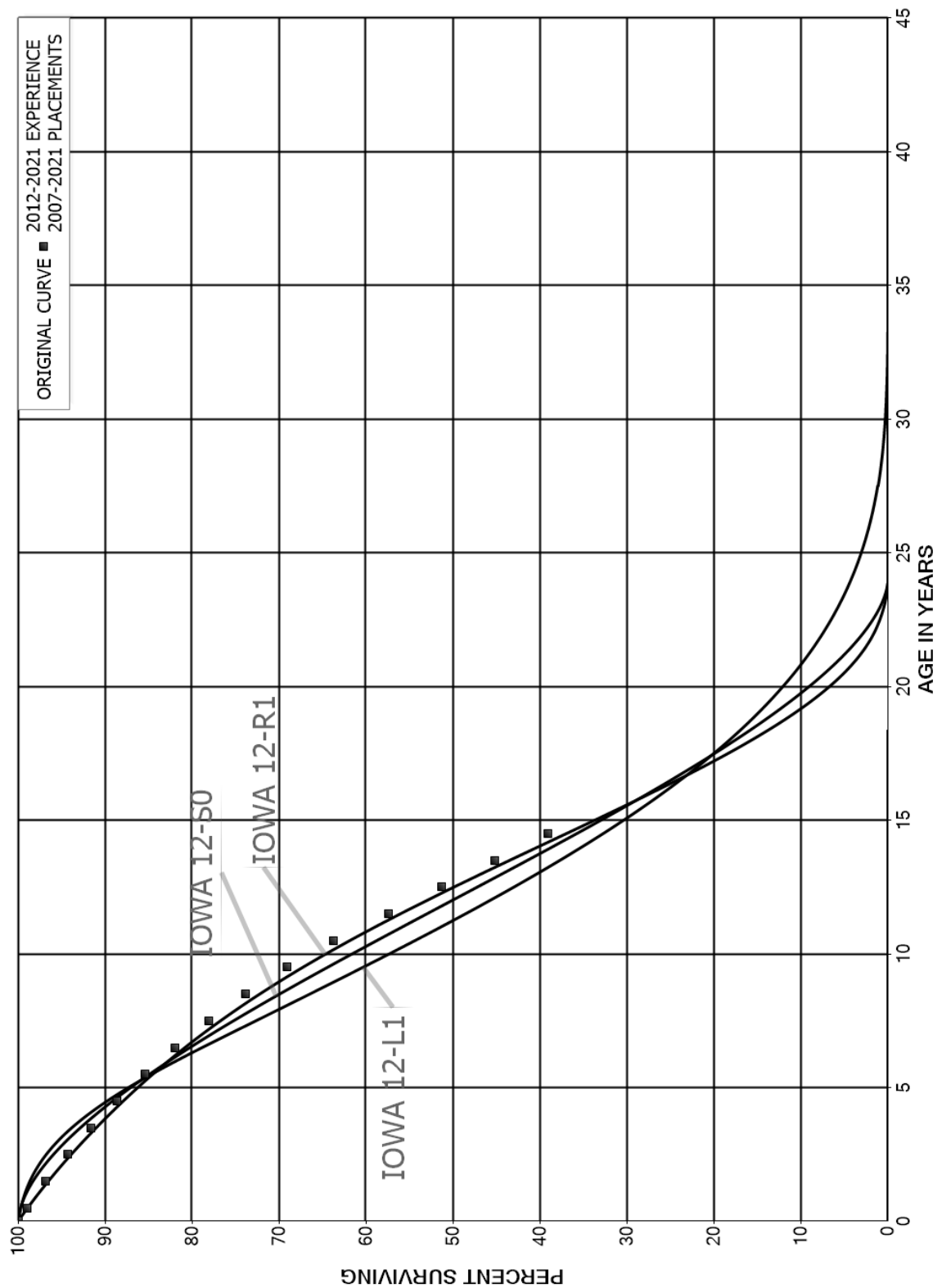


FIGURE 9. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN L1, S0 AND R1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES



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 of other Pennsylvania-American wastewater systems. 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.

The amortization period selected for general plant Account 393 is 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, 2021, is the result of a bringforward of the book reserves established by the Commission for the Upper Pottsgrove wastewater operation at the time of acquisition which was August 2022. The projected book reserve as of December 31, 2022, is a bringforward of the December 31, 2021 book reserve based on projected accruals, retirements, cost of removal, salvage and other credits.

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, 2022, 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, 2022, are set forth in the Results of Study section of the report.

Average Service Life Procedure

In the average service life procedure, the remaining life annual accrual for each vintage is determined by dividing future book accruals (original cost less book reserve) by the average remaining life of the vintage. The average remaining life is a directly weighted average derived from the estimated future survivor curve in accordance with the average service life procedure.

The calculated accrued depreciation for each depreciable property group represents that portion of the depreciable cost of the group which would not be allocated to expense through future depreciation accruals if current forecasts of life characteristics

are used as the basis for such accruals. The accrued depreciation calculation consists of applying an appropriate ratio to the surviving original cost of each vintage of each account based upon the attained age and service life. The straight line accrued depreciation ratios are calculated as follows for the average service life procedure:

$$\text{Ratio} = 1 - \frac{\text{Average Remaining Life}}{\text{Average Service Life}}.$$

AMORTIZATION OF GENERAL PLANT ACCOUNTS

In order to use a more efficient and cost effective accounting process for equipment recorded in general plant Account 393; amounts capitalized in this account 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 wastewater 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>
393	Tools, Shop and Garage Equipment	20

NET SALVAGE

Experienced net salvage is incorporated in the results of the study as it was reported on the Company's books and records for the period January 1, 2018 through December 31, 2021, and estimated for the period January 1, 2022 through December 31, 2022. The calculation of the amortization is shown in Table 5 on page V-8. The amounts of gross salvage and removal cost by account for each year are set forth in the section beginning on page VIII-2.

Net salvage is presented in this manner to determine the amount of net salvage to be amortized to the cost of service for ratemaking purposes. In order to be consistent with this manner of recognizing net salvage, no adjustments for net salvage were made to the annual depreciation calculated for the individual accounts.

PART V. RESULTS OF STUDY

PART V. RESULTS OF STUDY

DESCRIPTION OF SUMMARY TABULATIONS

Table 1 presents the development of the net original cost used in the study. The results of the depreciation study are summarized in Table 2 which sets forth, by depreciable group, the estimated survivor curve, calculated annual accruals and book reserve related to net original cost and the annual amortization of net salvage. Table 3 presents the bringforward to December 31, 2022 of the book reserve as of December 31, 2021. Table 4 sets forth the calculation of estimated depreciation accruals for the twelve months ended December 31, 2022. Table 5 presents the amortization of experienced and estimated net salvage, by account, based on the five-year period, 2018-2022. The total amortization amount is incorporated in the total annual accrual in Table 2.

DESCRIPTION OF DETAILED TABULATIONS

Supporting statistical data for the estimates of average service lives and survivor curves, the annual depreciation calculations, and gross salvage and cost of removal for the years 2018-2022 are presented in three 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-3. The tabulations of experienced and estimated net salvage, by year and account for the five-year period 2018-2022, are presented in the section beginning on page VIII-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 net 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.

Detailed tabulations setting forth the cost of removal, gross salvage and net salvage amounts, by account and year, are presented in the third section. The net salvage amounts, by account and year, are carried forward to Table 5, which presents the five-year amortization of net salvage.

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

TABLE 1. DEVELOPMENT OF NET ORIGINAL COST AS OF DECEMBER 31, 2022

DEPRECIABLE GROUP (1)	ORIGINAL COST AS OF DECEMBER 31, 2022 (2)	CUSTOMER ADVANCES (3)	CONTRIBUTIONS IN AID OF CONSTRUCTION (4)	EXCLUDED PROPERTY (5)	NET ORIGINAL COST AS OF DECEMBER 31, 2022 (6)
DEPRECIABLE PLANT					
354.30 STRUCTURES AND IMPROVEMENTS - SPP	1,412,677.78				1,412,677.78
354.40 STRUCTURES AND IMPROVEMENTS - TDP	2,190,765.35				2,190,765.35
355.00 POWER GENERATION EQUIPMENT	57,802.32				57,802.32
360.10 COLLECTION SEWERS - FORCE MAINS	756,805.00				756,805.00
361.10 COLLECTION SEWERS - GRAVITY MAINS	7,646,315.95				7,646,315.95
361.20 MANHOLES	1,859,330.67				1,859,330.67
363.00 SERVICES	2,032,146.93				2,032,146.93
371.00 PUMPING EQUIPMENT	470,892.59				470,892.59
380.00 TREATMENT EQUIPMENT	1,460,510.24				1,460,510.24
391.00 TRANSPORTATION EQUIPMENT	40,000.00				40,000.00
393.00 TOOLS, SHOP AND GARAGE EQUIPMENT	2,500.00				2,500.00
TOTAL DEPRECIABLE PLANT	17,929,746.83	0.00	0.00	0.00	17,929,746.83
NONDEPRECIABLE PLANT					
353.10 LAND AND LAND RIGHTS	10,356.37				10,356.37
TOTAL NONDEPRECIABLE PLANT	10,356.37	0.00	0.00	0.00	10,356.37
TOTAL PLANT	17,940,103.20	0.00	0.00	0.00	17,940,103.20



PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

TABLE 2. SUMMARY OF ESTIMATED SURVIVOR CURVE, ORIGINAL COST, BOOK DEPRECIATION RESERVE, AND
CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WASTEWATER PLANT AS OF DECEMBER 31, 2022

DEPRECIABLE GROUP (1)	SURVIVOR CURVE (2)	ORIGINAL COST AS OF DECEMBER 31, 2022 (3)	BOOK DEPRECIATION RESERVE (4)	FUTURE ACCRUALS (5)	CALCULATED ANNUAL ACCRUAL AMOUNT (6)	ANNUAL ACCRAU RATE (7)=(6)/(3)	COMPOSITE REMAINING LIFE (8)
DEPRECIABLE PLANT							
354.30 STRUCTURES AND IMPROVEMENTS - SPP	55-S0	1,412,677.78	377,771	1,034,907	32,755	2.32	31.6
354.40 STRUCTURES AND IMPROVEMENTS - TDP	55-S0	2,190,765.35	794,776	1,395,989	46,086	2.10	30.3
355.00 POWER GENERATION EQUIPMENT	35-S0.5	57,802.32	28,291	29,511	1,798	3.11	16.4
360.10 COLLECTION SEWERS - FORCE MAINS	75-R3	756,805.00	134,232	622,573	11,972	1.58	52.0
361.10 COLLECTION SEWERS - GRAVITY MAINS	80-R2.5	7,646,315.95	1,387,180	6,259,136	117,025	1.53	53.5
361.20 MANHOLES	50-S2.5	1,859,330.67	328,887	1,530,443	53,282	2.87	28.7
363.00 SERVICES	47-R3	2,032,148.93	409,691	1,622,456	60,321	2.97	26.9
371.00 PUMPING EQUIPMENT	30-S0.5	470,892.59	125,924	344,969	23,370	4.96	14.8
380.00 TREATMENT EQUIPMENT	35-S1.5	1,460,510.24	529,851	930,660	61,834	4.23	15.1
391.00 TRANSPORTATION EQUIPMENT	14-L4	40,000.00	0	40,000	3,152	7.88	12.7
393.00 TOOLS, SHOP AND GARAGE EQUIPMENT	20-SQ	2,500.00	0	2,500	128	5.12	19.5
TOTAL DEPRECIABLE PLANT		17,929,746.83	4,116,603	13,813,144	411,723	2.30	
NONDEPRECIABLE PLANT							
353.10 LAND AND LAND RIGHTS		10,356.37					
TOTAL NONDEPRECIABLE PLANT		10,356.37			0		
AMORTIZATION OF NET SALVAGE							
TOTAL UTILITY PLANT		17,940,103.20	4,116,603	13,813,144	411,723		



PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

TABLE 3. BRINGFORWARD TO DECEMBER 31, 2022, OF BOOK RESERVE AS OF DECEMBER 31, 2021

ACCOUNT (1)	BOOK RESERVE BALANCE AS OF 12/31/2021 (2)	+	PROJECTED DEPRECIATION ACCRUALS (3)	-	PROJECTED RETIREMENTS (4)	-	PROJECTED COST OF REMOVAL (5)	+	PROJECTED SALVAGE (6)	+	ACQUISITIONS (7)	=	PROJECTED BOOK RESERVE BALANCE AS OF 12/31/2022 (8)
354.30	0		0		0		0		0		377,771		377,771
354.40	0		0		0		0		0		794,776		794,776
355.00	0		0		203		0		0		28,494		28,291
360.10	0		0		0		0		0		134,232		134,232
361.10	0		0		1,014		0		0		1,388,194		1,387,180
361.20	0		0		284		0		0		329,171		328,887
363.00	0		0		406		0		0		410,097		409,691
371.00	0		0		0		0		0		125,924		125,924
380.00	0		0		0		0		0		529,851		529,851
391.00	0		0		0		0		0		0		0
393.00	0		0		0		0		0		0		0
TOTAL	0		0		1,907		0		0		4,118,510		4,116,603



PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

TABLE 4. CALCULATION OF DEPRECIATION ACCRUALS FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2022

ACCOUNT (1)	NET ORIGINAL COST AS OF 12/31/2021 (2)	NET ORIGINAL COST AS OF 12/31/2022 (3)	ACCRUAL RATE (4)	AVERAGE ACCRUALS (5)=[(2)+(3)]/2*(4)	AMORTIZATION OF NET SALVAGE (6)	PROJECTED DEPRECIATION ACCRUALS (7)=(5)+(6)
354.30	0.00	1,412,677.79	0.00	0	0	0
354.40	0.00	2,190,765.35	0.00	0	0	0
355.00	0.00	57,802.32	0.00	0	0	0
360.10	0.00	756,805.00	0.00	0	0	0
361.10	0.00	7,646,315.95	0.00	0	0	0
361.20	0.00	1,859,330.67	0.00	0	0	0
363.00	0.00	2,032,146.93	0.00	0	0	0
371.00	0.00	470,892.59	0.00	0	0	0
380.00	0.00	1,460,510.24	0.00	0	0	0
391.00	0.00	40,000.00	0.00	0	0	0
393.00	0.00	2,500.00	0.00	0	0	0
TOTAL	0.00	17,929,746.83		0	0	0



PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

TABLE 5. AMORTIZATION OF EXPERIENCED AND ESTIMATED NET SALVAGE

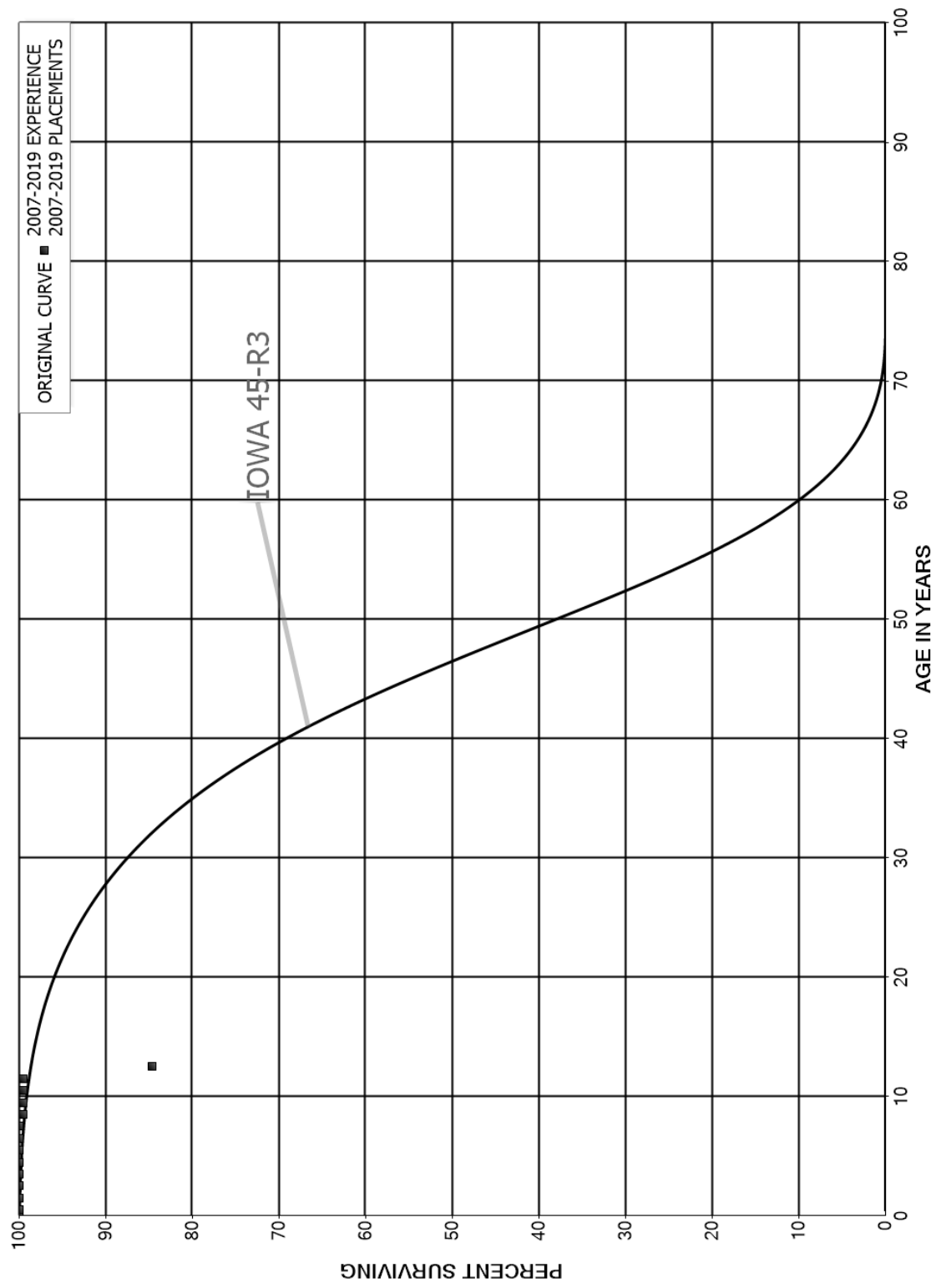
ACCOUNT (1)	2018		2019		2020		2021		PROJECTED 2022		NET SALVAGE (12)*	SALVAGE ACCRUAL (13)=(12)/5
	GROSS SALVAGE (2)	COST OF REMOVAL (3)	GROSS SALVAGE (4)	COST OF REMOVAL (5)	GROSS SALVAGE (6)	COST OF REMOVAL (7)	GROSS SALVAGE (8)	COST OF REMOVAL (9)	GROSS SALVAGE (10)	COST OF REMOVAL (11)		
		+		+		+		+		=		
354.30											0	0
354.40											0	0
355.00											0	0
360.10											0	0
361.10											0	0
361.20											0	0
363.00											0	0
371.00											0	0
380.00											0	0
391.00											0	0
393.00											0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0

* Column (12) equals the summation of Columns (2) through (11).



PART VI. SERVICE LIFE STATISTICS

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 354.20 STRUCTURES AND IMPROVEMENTS - COLLECTION
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 354.20 STRUCTURES AND IMPROVEMENTS - COLLECTION

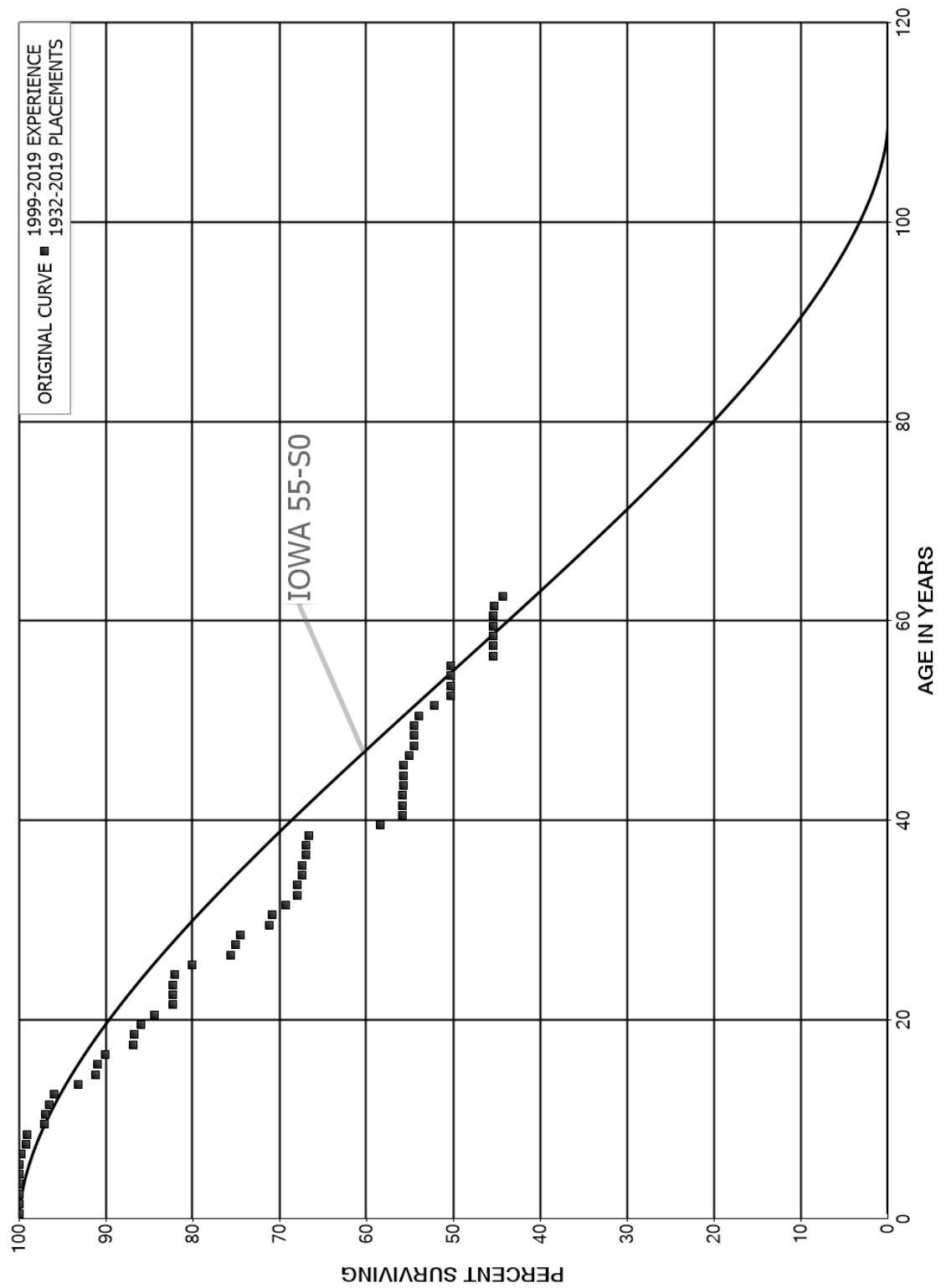
ORIGINAL LIFE TABLE

PLACEMENT BAND 2007-2019

EXPERIENCE BAND 2007-2019

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	4,844,636		0.0000	1.0000	100.00
0.5	3,478,774		0.0000	1.0000	100.00
1.5	1,864,154		0.0000	1.0000	100.00
2.5	516,452	0	0.0000	1.0000	100.00
3.5	479,797		0.0000	1.0000	100.00
4.5	437,900	416	0.0010	0.9990	100.00
5.5	422,717		0.0000	1.0000	99.90
6.5	321,516		0.0000	1.0000	99.90
7.5	321,516	1,408	0.0044	0.9956	99.90
8.5	311,522		0.0000	1.0000	99.47
9.5	311,522		0.0000	1.0000	99.47
10.5	134,415		0.0000	1.0000	99.47
11.5	20,659	3,076	0.1489	0.8511	99.47
12.5					84.66

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNTS 354.30 AND 354.40 STRUCTURES AND IMPROVEMENTS - SPP AND TDP
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNTS 354.30 AND 354.40 STRUCTURES AND IMPROVEMENTS - SPP AND TDP

ORIGINAL LIFE TABLE

PLACEMENT BAND 1932-2019

EXPERIENCE BAND 1999-2019

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	70,500,767		0.0000	1.0000	100.00
0.5	76,131,665		0.0000	1.0000	100.00
1.5	80,233,751	6,642	0.0001	0.9999	100.00
2.5	105,447,960		0.0000	1.0000	99.99
3.5	85,605,007	28,836	0.0003	0.9997	99.99
4.5	79,002,174	4,425	0.0001	0.9999	99.96
5.5	46,624,214	105,422	0.0023	0.9977	99.95
6.5	51,444,895	277,564	0.0054	0.9946	99.73
7.5	50,906,335	75,090	0.0015	0.9985	99.19
8.5	50,793,050	1,027,715	0.0202	0.9798	99.04
9.5	34,780,266	28,544	0.0008	0.9992	97.04
10.5	15,695,508	65,025	0.0041	0.9959	96.96
11.5	15,618,899	88,716	0.0057	0.9943	96.56
12.5	20,002,643	601,564	0.0301	0.9699	96.01
13.5	17,169,269	353,428	0.0206	0.9794	93.12
14.5	16,203,968	41,247	0.0025	0.9975	91.20
15.5	16,204,082	163,309	0.0101	0.9899	90.97
16.5	13,585,539	481,677	0.0355	0.9645	90.06
17.5	12,995,837	17,548	0.0014	0.9986	86.86
18.5	12,210,208	114,143	0.0093	0.9907	86.74
19.5	7,393,964	134,551	0.0182	0.9818	85.93
20.5	6,513,761	157,405	0.0242	0.9758	84.37
21.5	6,711,244	2,801	0.0004	0.9996	82.33
22.5	7,374,817	1,543	0.0002	0.9998	82.30
23.5	6,783,698	15,823	0.0023	0.9977	82.28
24.5	6,921,413	166,617	0.0241	0.9759	82.09
25.5	6,763,696	380,532	0.0563	0.9437	80.11
26.5	5,899,041	38,147	0.0065	0.9935	75.60
27.5	4,281,769	34,820	0.0081	0.9919	75.12
28.5	3,967,252	175,318	0.0442	0.9558	74.50
29.5	4,051,668	21,732	0.0054	0.9946	71.21
30.5	5,300,696	114,682	0.0216	0.9784	70.83
31.5	4,027,463	76,382	0.0190	0.9810	69.30
32.5	2,813,504	2,190	0.0008	0.9992	67.98
33.5	2,649,698	20,846	0.0079	0.9921	67.93
34.5	1,122,954		0.0000	1.0000	67.40
35.5	398,615	2,457	0.0062	0.9938	67.40
36.5	369,394		0.0000	1.0000	66.98
37.5	339,885	1,942	0.0057	0.9943	66.98
38.5	249,055	30,753	0.1235	0.8765	66.60

PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNTS 354.30 AND 354.40 STRUCTURES AND IMPROVEMENTS - SPP AND TDP

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1932-2019

EXPERIENCE BAND 1999-2019

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	877,505	37,754	0.0430	0.9570	58.37
40.5	1,351,121		0.0000	1.0000	55.86
41.5	19,298,436	4,893	0.0003	0.9997	55.86
42.5	19,293,543	30,808	0.0016	0.9984	55.85
43.5	32,745,779		0.0000	1.0000	55.76
44.5	14,343,608	10,968	0.0008	0.9992	55.76
45.5	14,332,640	153,806	0.0107	0.9893	55.72
46.5	14,199,715	156,087	0.0110	0.9890	55.12
47.5	552,598		0.0000	1.0000	54.51
48.5	1,223,925		0.0000	1.0000	54.51
49.5	1,265,936	12,500	0.0099	0.9901	54.51
50.5	1,284,936	43,517	0.0339	0.9661	53.98
51.5	570,093	20,853	0.0366	0.9634	52.15
52.5	524,823		0.0000	1.0000	50.24
53.5	524,823		0.0000	1.0000	50.24
54.5	447,474		0.0000	1.0000	50.24
55.5	447,474	42,843	0.0957	0.9043	50.24
56.5	13,313,486	1,903	0.0001	0.9999	45.43
57.5	13,311,583		0.0000	1.0000	45.42
58.5	13,049,341	13	0.0000	1.0000	45.42
59.5	140,486		0.0000	1.0000	45.42
60.5	140,486	363	0.0026	0.9974	45.42
61.5	140,123	3,040	0.0217	0.9783	45.31
62.5					44.32
63.5					
64.5					
65.5					
66.5					
67.5					
68.5	39,928		0.0000		
69.5	39,928		0.0000		
70.5	39,928		0.0000		
71.5	39,928		0.0000		
72.5	40,428		0.0000		
73.5	39,928		0.0000		
74.5	39,928		0.0000		
75.5	39,928		0.0000		
76.5	602		0.0000		
77.5	602		0.0000		
78.5	602		0.0000		

PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNTS 354.30 AND 354.40 STRUCTURES AND IMPROVEMENTS - SPP AND TDP

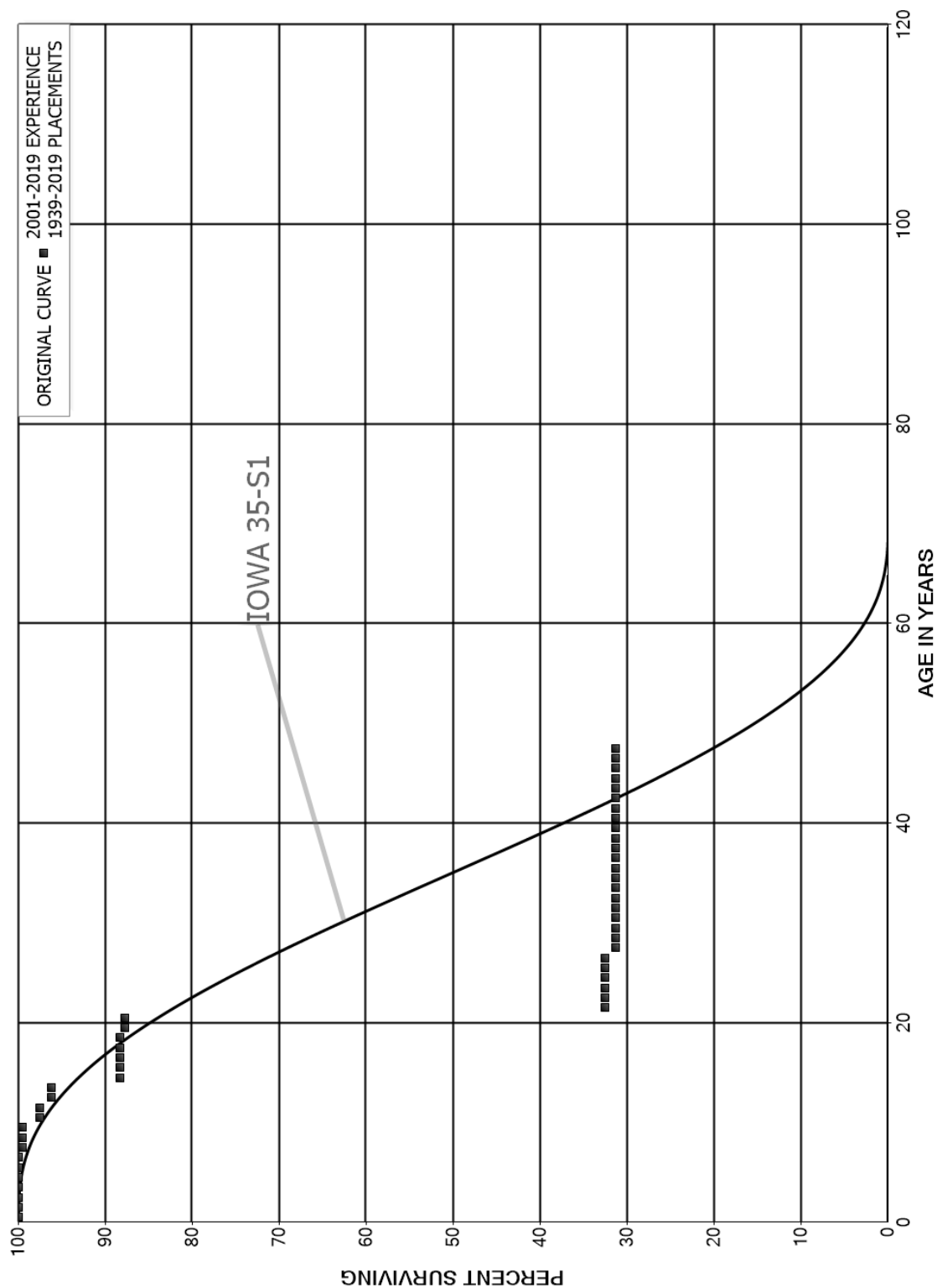
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1932-2019

EXPERIENCE BAND 1999-2019

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	602		0.0000		
80.5	602		0.0000		
81.5	602		0.0000		
82.5	602		0.0000		
83.5	602		0.0000		
84.5	602		0.0000		
85.5	602		0.0000		
86.5	602		0.0000		
87.5					

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 354.70 STRUCTURES AND IMPROVEMENTS - GENERAL
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 354.70 STRUCTURES AND IMPROVEMENTS - GENERAL

ORIGINAL LIFE TABLE

PLACEMENT BAND 1939-2019

EXPERIENCE BAND 2001-2019

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	2,331,347		0.0000	1.0000	100.00
0.5	2,248,872	400	0.0002	0.9998	100.00
1.5	2,139,519		0.0000	1.0000	99.98
2.5	2,007,976		0.0000	1.0000	99.98
3.5	1,998,798		0.0000	1.0000	99.98
4.5	978,189		0.0000	1.0000	99.98
5.5	566,034		0.0000	1.0000	99.98
6.5	540,776	2,524	0.0047	0.9953	99.98
7.5	668,631		0.0000	1.0000	99.52
8.5	661,526		0.0000	1.0000	99.52
9.5	622,592	12,303	0.0198	0.9802	99.52
10.5	529,371	373	0.0007	0.9993	97.55
11.5	209,362	2,752	0.0131	0.9869	97.48
12.5	204,311		0.0000	1.0000	96.20
13.5	220,425	18,073	0.0820	0.9180	96.20
14.5	208,207		0.0000	1.0000	88.31
15.5	208,207		0.0000	1.0000	88.31
16.5	165,317		0.0000	1.0000	88.31
17.5	193,471		0.0000	1.0000	88.31
18.5	210,457	1,510	0.0072	0.9928	88.31
19.5	223,914		0.0000	1.0000	87.68
20.5	223,914	140,772	0.6287	0.3713	87.68
21.5	67,028		0.0000	1.0000	32.56
22.5	73,481		0.0000	1.0000	32.56
23.5	73,481		0.0000	1.0000	32.56
24.5	73,481		0.0000	1.0000	32.56
25.5	44,261		0.0000	1.0000	32.56
26.5	27,275	1,047	0.0384	0.9616	32.56
27.5	11,260		0.0000	1.0000	31.31
28.5	11,260		0.0000	1.0000	31.31
29.5	11,260		0.0000	1.0000	31.31
30.5	11,260		0.0000	1.0000	31.31
31.5	11,260		0.0000	1.0000	31.31
32.5	11,260		0.0000	1.0000	31.31
33.5	11,260		0.0000	1.0000	31.31
34.5	11,260		0.0000	1.0000	31.31
35.5	450		0.0000	1.0000	31.31
36.5	450		0.0000	1.0000	31.31
37.5	450		0.0000	1.0000	31.31
38.5	450		0.0000	1.0000	31.31

PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 354.70 STRUCTURES AND IMPROVEMENTS - GENERAL

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1939-2019			EXPERIENCE BAND 2001-2019		
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	450		0.0000	1.0000	31.31
40.5	450		0.0000	1.0000	31.31
41.5	450		0.0000	1.0000	31.31
42.5	450		0.0000	1.0000	31.31
43.5	450		0.0000	1.0000	31.31
44.5	450		0.0000	1.0000	31.31
45.5	450		0.0000	1.0000	31.31
46.5	450		0.0000	1.0000	31.31
47.5					31.31
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					
63.5					
64.5					
65.5					
66.5					
67.5					
68.5	3,802		0.0000		
69.5	3,802		0.0000		
70.5	3,802	283	0.0744		
71.5	3,519		0.0000		
72.5	3,519		0.0000		
73.5	3,519		0.0000		
74.5	3,519		0.0000		
75.5	3,519		0.0000		
76.5	3,519		0.0000		
77.5	3,519		0.0000		
78.5	3,519		0.0000		

PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 354.70 STRUCTURES AND IMPROVEMENTS - GENERAL

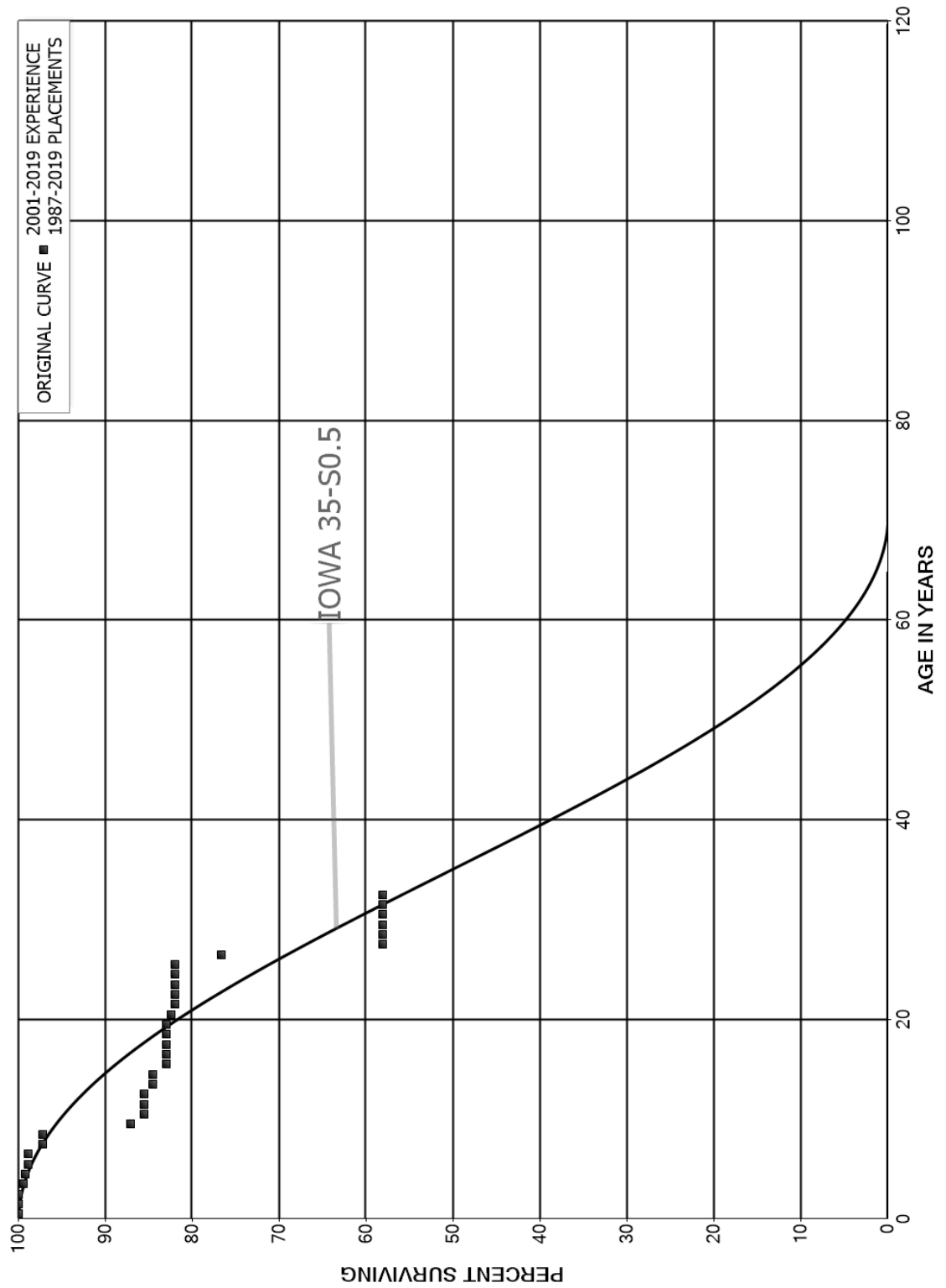
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1939-2019

EXPERIENCE BAND 2001-2019

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	3,519		0.0000		
80.5					

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 355.00 POWER GENERATION EQUIPMENT
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 355.00 POWER GENERATION EQUIPMENT

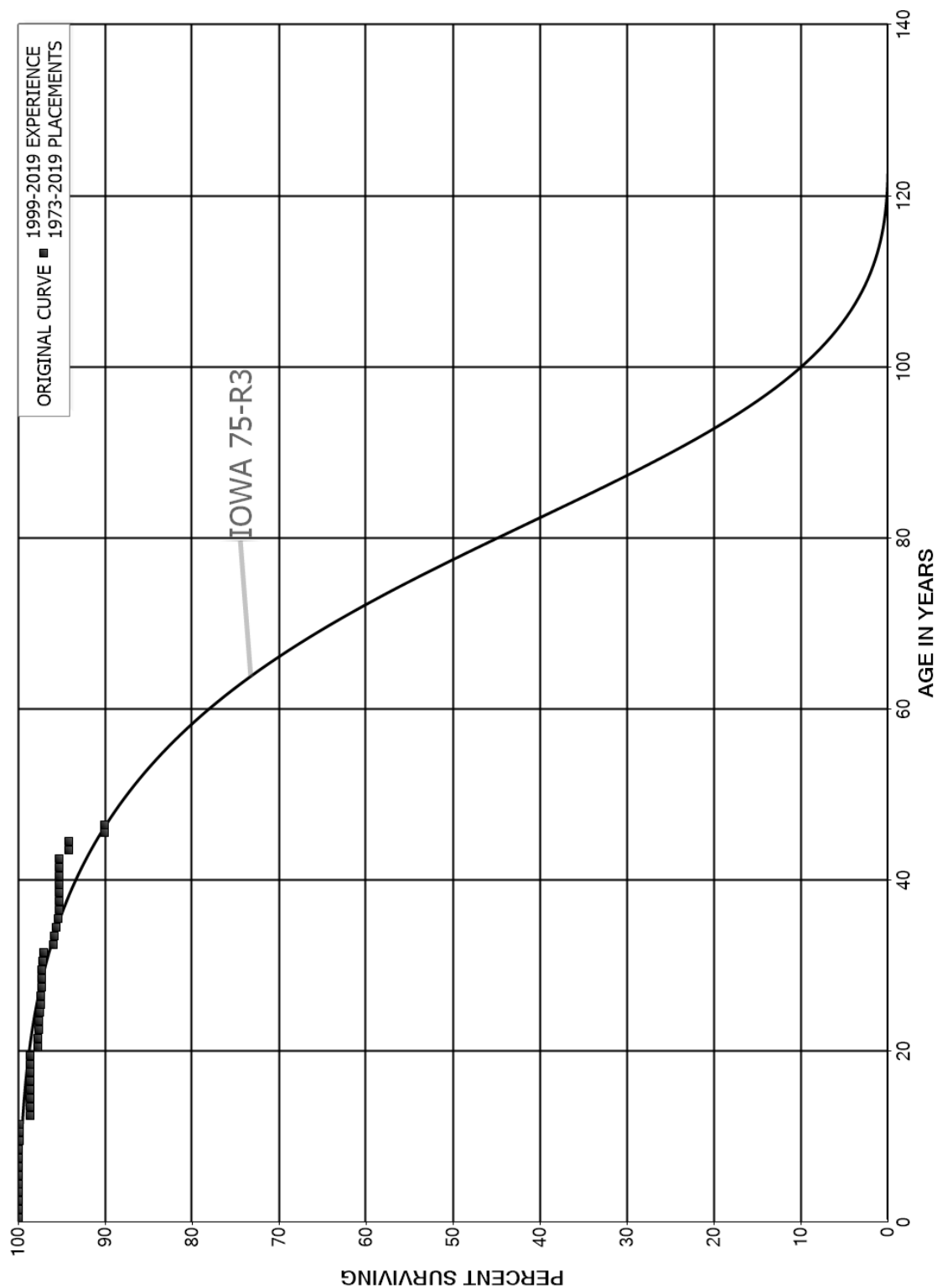
ORIGINAL LIFE TABLE

PLACEMENT BAND 1987-2019

EXPERIENCE BAND 2001-2019

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	3,656,122		0.0000	1.0000	100.00
0.5	3,685,338		0.0000	1.0000	100.00
1.5	4,385,880		0.0000	1.0000	100.00
2.5	4,494,639	26,926	0.0060	0.9940	100.00
3.5	4,479,665	10,161	0.0023	0.9977	99.40
4.5	4,398,000	14,523	0.0033	0.9967	99.18
5.5	3,773,674	1,387	0.0004	0.9996	98.85
6.5	3,828,658	61,470	0.0161	0.9839	98.81
7.5	3,336,361		0.0000	1.0000	97.23
8.5	3,321,984	347,576	0.1046	0.8954	97.23
9.5	2,953,727	51,388	0.0174	0.9826	87.05
10.5	328,249		0.0000	1.0000	85.54
11.5	144,528		0.0000	1.0000	85.54
12.5	267,555	3,097	0.0116	0.9884	85.54
13.5	327,093		0.0000	1.0000	84.55
14.5	278,538	5,336	0.0192	0.9808	84.55
15.5	281,064		0.0000	1.0000	82.93
16.5	293,645		0.0000	1.0000	82.93
17.5	241,944		0.0000	1.0000	82.93
18.5	203,466		0.0000	1.0000	82.93
19.5	203,466	1,204	0.0059	0.9941	82.93
20.5	202,262	1,103	0.0055	0.9945	82.44
21.5	432,455		0.0000	1.0000	81.99
22.5	402,008		0.0000	1.0000	81.99
23.5	402,008		0.0000	1.0000	81.99
24.5	402,008		0.0000	1.0000	81.99
25.5	402,978	26,388	0.0655	0.9345	81.99
26.5	174,978	42,310	0.2418	0.7582	76.62
27.5	89,880		0.0000	1.0000	58.09
28.5	68,585		0.0000	1.0000	58.09
29.5	68,585		0.0000	1.0000	58.09
30.5	19,246		0.0000	1.0000	58.09
31.5	19,246		0.0000	1.0000	58.09
32.5					58.09

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 360.10 COLLECTION SEWERS - FORCE MAINS
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 360.10 COLLECTION SEWERS - FORCE MAINS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1973-2019

EXPERIENCE BAND 1999-2019

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	31,766,704	19	0.0000	1.0000	100.00
0.5	28,215,316	26	0.0000	1.0000	100.00
1.5	35,558,986	33	0.0000	1.0000	100.00
2.5	23,783,577	70	0.0000	1.0000	100.00
3.5	21,373,939	350	0.0000	1.0000	100.00
4.5	18,774,036	315	0.0000	1.0000	100.00
5.5	14,425,014	397	0.0000	1.0000	100.00
6.5	14,188,090	1,611	0.0001	0.9999	99.99
7.5	14,122,868	1,747	0.0001	0.9999	99.98
8.5	13,850,582	16,747	0.0012	0.9988	99.97
9.5	13,465,099	64	0.0000	1.0000	99.85
10.5	13,318,392	82	0.0000	1.0000	99.85
11.5	10,748,868	127,626	0.0119	0.9881	99.85
12.5	9,661,386		0.0000	1.0000	98.66
13.5	7,868,737	3,291	0.0004	0.9996	98.66
14.5	7,779,655	99	0.0000	1.0000	98.62
15.5	5,905,707	9	0.0000	1.0000	98.62
16.5	5,774,986	949	0.0002	0.9998	98.62
17.5	5,344,267	1,253	0.0002	0.9998	98.60
18.5	4,614,847	826	0.0002	0.9998	98.58
19.5	4,197,905	37,017	0.0088	0.9912	98.56
20.5	3,986,776	70	0.0000	1.0000	97.69
21.5	4,475,797	1,897	0.0004	0.9996	97.69
22.5	3,907,599	569	0.0001	0.9999	97.65
23.5	4,900,347	3,932	0.0008	0.9992	97.64
24.5	6,419,851	13,411	0.0021	0.9979	97.56
25.5	6,580,720	788	0.0001	0.9999	97.35
26.5	6,033,834	1,095	0.0002	0.9998	97.34
27.5	6,011,515	2,049	0.0003	0.9997	97.32
28.5	5,991,855	3,135	0.0005	0.9995	97.29
29.5	6,011,945	3,365	0.0006	0.9994	97.24
30.5	5,911,879	4,784	0.0008	0.9992	97.19
31.5	5,517,306	65,876	0.0119	0.9881	97.11
32.5	5,225,480	4,106	0.0008	0.9992	95.95
33.5	5,192,765	13,636	0.0026	0.9974	95.87
34.5	4,869,190	12,733	0.0026	0.9974	95.62
35.5	4,856,457	2,869	0.0006	0.9994	95.37
36.5	4,661,206	15	0.0000	1.0000	95.31
37.5	4,607,713		0.0000	1.0000	95.31
38.5	4,446,768	1,883	0.0004	0.9996	95.31

PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 360.10 COLLECTION SEWERS - FORCE MAINS

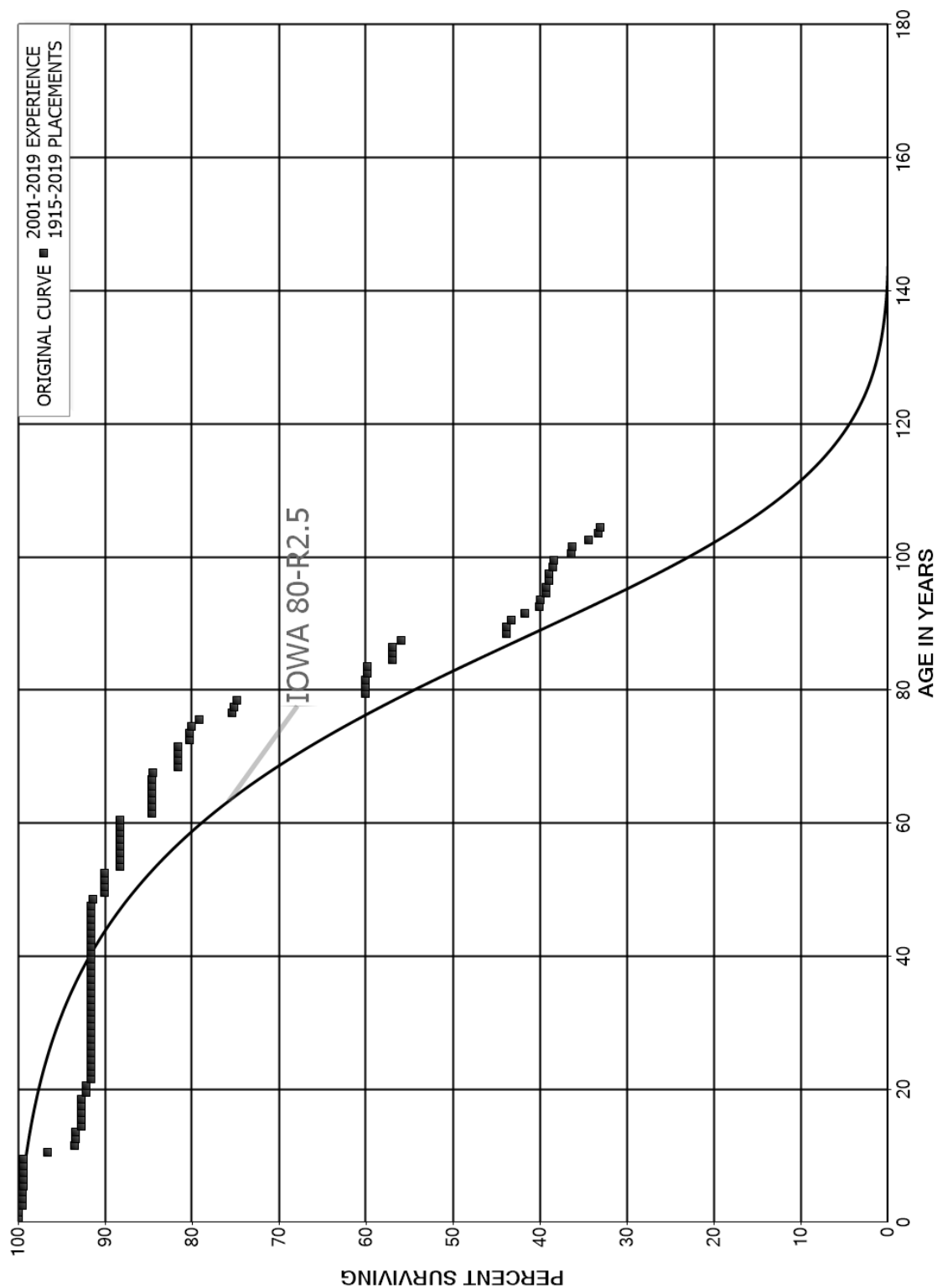
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1973-2019

EXPERIENCE BAND 1999-2019

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	4,369,779	82	0.0000	1.0000	95.27
40.5	4,295,948	6	0.0000	1.0000	95.27
41.5	4,025,587	0	0.0000	1.0000	95.27
42.5	3,566,737	42,283	0.0119	0.9881	95.27
43.5	2,553,034		0.0000	1.0000	94.14
44.5	1,703,254	73,783	0.0433	0.9567	94.14
45.5	125,695		0.0000	1.0000	90.06
46.5					90.06

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 361.10 COLLECTION SEWERS - GRAVITY MAINS
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 361.10 COLLECTION SEWERS - GRAVITY MAINS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1915-2019

EXPERIENCE BAND 2001-2019

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	123,698,865	1,489	0.0000	1.0000	100.00
0.5	80,968,134	1,744	0.0000	1.0000	100.00
1.5	71,427,735	349,743	0.0049	0.9951	100.00
2.5	61,491,291		0.0000	1.0000	99.51
3.5	47,985,505		0.0000	1.0000	99.51
4.5	43,496,282	26,093	0.0006	0.9994	99.51
5.5	34,622,702	11,064	0.0003	0.9997	99.45
6.5	36,236,717	10,556	0.0003	0.9997	99.42
7.5	44,473,440	0	0.0000	1.0000	99.39
8.5	44,403,805	13,334	0.0003	0.9997	99.39
9.5	42,579,956	1,180,167	0.0277	0.9723	99.36
10.5	27,257,562	886,763	0.0325	0.9675	96.60
11.5	23,041,413	10,064	0.0004	0.9996	93.46
12.5	15,696,984	13,300	0.0008	0.9992	93.42
13.5	13,197,516	82,522	0.0063	0.9937	93.34
14.5	9,898,866	187	0.0000	1.0000	92.76
15.5	8,175,329	367	0.0000	1.0000	92.75
16.5	11,005,722	1,374	0.0001	0.9999	92.75
17.5	22,668,123		0.0000	1.0000	92.74
18.5	22,367,436	144,378	0.0065	0.9935	92.74
19.5	21,841,271		0.0000	1.0000	92.14
20.5	10,429,000	56,430	0.0054	0.9946	92.14
21.5	13,494,984		0.0000	1.0000	91.64
22.5	12,095,717		0.0000	1.0000	91.64
23.5	13,846,891		0.0000	1.0000	91.64
24.5	14,182,481		0.0000	1.0000	91.64
25.5	19,071,002		0.0000	1.0000	91.64
26.5	16,170,692		0.0000	1.0000	91.64
27.5	36,060,280		0.0000	1.0000	91.64
28.5	35,923,542		0.0000	1.0000	91.64
29.5	33,683,971		0.0000	1.0000	91.64
30.5	8,391,683	866	0.0001	0.9999	91.64
31.5	8,167,272	21	0.0000	1.0000	91.63
32.5	8,027,418		0.0000	1.0000	91.63
33.5	7,266,714		0.0000	1.0000	91.63
34.5	5,540,059		0.0000	1.0000	91.63
35.5	3,406,034		0.0000	1.0000	91.63
36.5	3,951,146		0.0000	1.0000	91.63
37.5	4,287,296		0.0000	1.0000	91.63
38.5	4,273,219		0.0000	1.0000	91.63

PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 361.10 COLLECTION SEWERS - GRAVITY MAINS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1915-2019

EXPERIENCE BAND 2001-2019

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	4,243,666		0.0000	1.0000	91.63
40.5	41,503,891	5,447	0.0001	0.9999	91.63
41.5	41,043,016	49	0.0000	1.0000	91.62
42.5	41,341,828		0.0000	1.0000	91.62
43.5	20,516,395		0.0000	1.0000	91.62
44.5	17,262,745	4,573	0.0003	0.9997	91.62
45.5	17,447,879		0.0000	1.0000	91.60
46.5	16,922,111	1,617	0.0001	0.9999	91.60
47.5	1,493,981	2,878	0.0019	0.9981	91.59
48.5	1,491,103	21,283	0.0143	0.9857	91.41
49.5	995,707	187	0.0002	0.9998	90.11
50.5	1,249,631		0.0000	1.0000	90.09
51.5	1,214,773		0.0000	1.0000	90.09
52.5	1,253,366	24,618	0.0196	0.9804	90.09
53.5	28,374,663		0.0000	1.0000	88.32
54.5	38,998,170		0.0000	1.0000	88.32
55.5	39,986,553		0.0000	1.0000	88.32
56.5	13,005,874		0.0000	1.0000	88.32
57.5	59,432,346		0.0000	1.0000	88.32
58.5	60,820,282	557	0.0000	1.0000	88.32
59.5	59,761,303	747	0.0000	1.0000	88.32
60.5	2,094,297	87,761	0.0419	0.9581	88.32
61.5	22,663,762	8	0.0000	1.0000	84.62
62.5	21,213,491	61	0.0000	1.0000	84.62
63.5	21,215,934	289	0.0000	1.0000	84.62
64.5	46,353		0.0000	1.0000	84.62
65.5	1,102,303		0.0000	1.0000	84.62
66.5	1,102,303	1,673	0.0015	0.9985	84.62
67.5	1,100,630	37,140	0.0337	0.9663	84.49
68.5	1,259,440		0.0000	1.0000	81.64
69.5	290,689		0.0000	1.0000	81.64
70.5	962,463	168	0.0002	0.9998	81.64
71.5	962,295	15,230	0.0158	0.9842	81.62
72.5	1,042,298	993	0.0010	0.9990	80.33
73.5	946,072	2,053	0.0022	0.9978	80.25
74.5	683,176	7,508	0.0110	0.9890	80.08
75.5	675,668	32,767	0.0485	0.9515	79.20
76.5	642,901	1,310	0.0020	0.9980	75.36
77.5	1,531,686	8,017	0.0052	0.9948	75.20
78.5	1,523,669	299,242	0.1964	0.8036	74.81

PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 361.10 COLLECTION SEWERS - GRAVITY MAINS

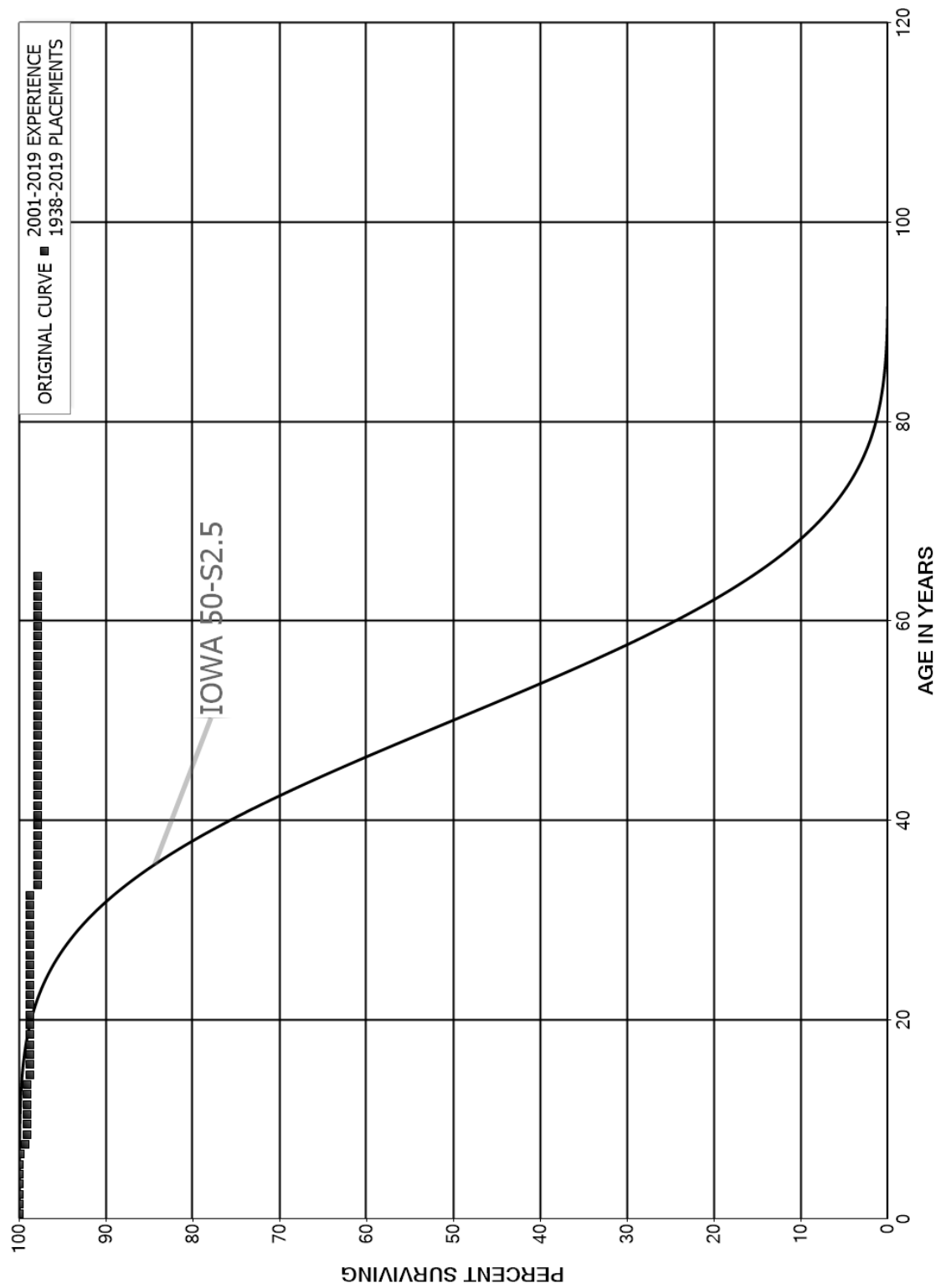
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1915-2019

EXPERIENCE BAND 2001-2019

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	1,224,427	291	0.0002	0.9998	60.12
80.5	1,522,508		0.0000	1.0000	60.10
81.5	632,413	2,303	0.0036	0.9964	60.10
82.5	648,868		0.0000	1.0000	59.89
83.5	648,868	31,252	0.0482	0.9518	59.89
84.5	601,981	10	0.0000	1.0000	57.00
85.5	722,814		0.0000	1.0000	57.00
86.5	722,814	13,485	0.0187	0.9813	57.00
87.5	709,329	153,014	0.2157	0.7843	55.94
88.5	556,315	264	0.0005	0.9995	43.87
89.5	329,027	4,352	0.0132	0.9868	43.85
90.5	306,175	11,276	0.0368	0.9632	43.27
91.5	294,898	11,132	0.0377	0.9623	41.68
92.5	283,767	1,273	0.0045	0.9955	40.10
93.5	282,494	4,366	0.0155	0.9845	39.92
94.5	278,128	221	0.0008	0.9992	39.31
95.5	277,906	1,967	0.0071	0.9929	39.27
96.5	275,939	42	0.0002	0.9998	39.00
97.5	3,804,626	42,906	0.0113	0.9887	38.99
98.5	3,761,720	15,091	0.0040	0.9960	38.55
99.5	3,616,599	191,754	0.0530	0.9470	38.40
100.5	3,424,846	6,012	0.0018	0.9982	36.36
101.5	96,405	5,167	0.0536	0.9464	36.30
102.5	91,238	2,967	0.0325	0.9675	34.35
103.5	88,271	309	0.0035	0.9965	33.23
104.5					33.12

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 361.20 MANHOLES
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 361.20 MANHOLES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1938-2019

EXPERIENCE BAND 2001-2019

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	14,379,651		0.0000	1.0000	100.00
0.5	10,176,887		0.0000	1.0000	100.00
1.5	10,661,285	0	0.0000	1.0000	100.00
2.5	11,952,425		0.0000	1.0000	100.00
3.5	12,083,028	911	0.0001	0.9999	100.00
4.5	7,585,455		0.0000	1.0000	99.99
5.5	5,573,639	6,667	0.0012	0.9988	99.99
6.5	4,589,383	27,566	0.0060	0.9940	99.87
7.5	4,569,090	10,961	0.0024	0.9976	99.27
8.5	5,066,097		0.0000	1.0000	99.03
9.5	5,304,644		0.0000	1.0000	99.03
10.5	5,838,060		0.0000	1.0000	99.03
11.5	5,353,439		0.0000	1.0000	99.03
12.5	4,555,554		0.0000	1.0000	99.03
13.5	4,114,028	12,188	0.0030	0.9970	99.03
14.5	2,635,311		0.0000	1.0000	98.74
15.5	2,105,291	0	0.0000	1.0000	98.74
16.5	2,247,105	472	0.0002	0.9998	98.74
17.5	2,934,821		0.0000	1.0000	98.72
18.5	2,849,242		0.0000	1.0000	98.72
19.5	2,782,656		0.0000	1.0000	98.72
20.5	2,425,509	0	0.0000	1.0000	98.72
21.5	1,772,096		0.0000	1.0000	98.72
22.5	970,343		0.0000	1.0000	98.72
23.5	1,299,611		0.0000	1.0000	98.72
24.5	1,741,110		0.0000	1.0000	98.72
25.5	2,636,710		0.0000	1.0000	98.72
26.5	3,361,749		0.0000	1.0000	98.72
27.5	3,450,899		0.0000	1.0000	98.72
28.5	3,240,536		0.0000	1.0000	98.72
29.5	2,574,979		0.0000	1.0000	98.72
30.5	1,538,799		0.0000	1.0000	98.72
31.5	1,635,548		0.0000	1.0000	98.72
32.5	1,551,747	13,277	0.0086	0.9914	98.72
33.5	1,328,056		0.0000	1.0000	97.88
34.5	1,038,030		0.0000	1.0000	97.88
35.5	1,093,592		0.0000	1.0000	97.88
36.5	1,326,879		0.0000	1.0000	97.88
37.5	1,450,927		0.0000	1.0000	97.88
38.5	1,304,196		0.0000	1.0000	97.88

PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 361.20 MANHOLES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1938-2019

EXPERIENCE BAND 2001-2019

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	994,944		0.0000	1.0000	97.88
40.5	2,263,935		0.0000	1.0000	97.88
41.5	2,043,826		0.0000	1.0000	97.88
42.5	2,216,232		0.0000	1.0000	97.88
43.5	2,406,018		0.0000	1.0000	97.88
44.5	2,040,304		0.0000	1.0000	97.88
45.5	2,008,665		0.0000	1.0000	97.88
46.5	1,708,150		0.0000	1.0000	97.88
47.5	301,817		0.0000	1.0000	97.88
48.5	301,817		0.0000	1.0000	97.88
49.5	170,327		0.0000	1.0000	97.88
50.5	201,568		0.0000	1.0000	97.88
51.5	166,180		0.0000	1.0000	97.88
52.5	172,781		0.0000	1.0000	97.88
53.5	1,995,623		0.0000	1.0000	97.88
54.5	1,827,036		0.0000	1.0000	97.88
55.5	1,951,871		0.0000	1.0000	97.88
56.5	131,436		0.0000	1.0000	97.88
57.5	10,950,272		0.0000	1.0000	97.88
58.5	10,950,272		0.0000	1.0000	97.88
59.5	10,825,437		0.0000	1.0000	97.88
60.5	89,564		0.0000	1.0000	97.88
61.5	89,564		0.0000	1.0000	97.88
62.5	89,564		0.0000	1.0000	97.88
63.5	89,564		0.0000	1.0000	97.88
64.5					97.88
65.5	100,437		0.0000		
66.5	100,437		0.0000		
67.5	123,426		0.0000		
68.5	167,059	22,989	0.1376		
69.5	43,633		0.0000		
70.5	84,331		0.0000		
71.5	84,331		0.0000		
72.5	90,699		0.0000		
73.5	84,331		0.0000		
74.5	43,633		0.0000		
75.5	43,633		0.0000		
76.5	43,633		0.0000		
77.5	306,691		0.0000		
78.5	306,691		0.0000		

PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 361.20 MANHOLES

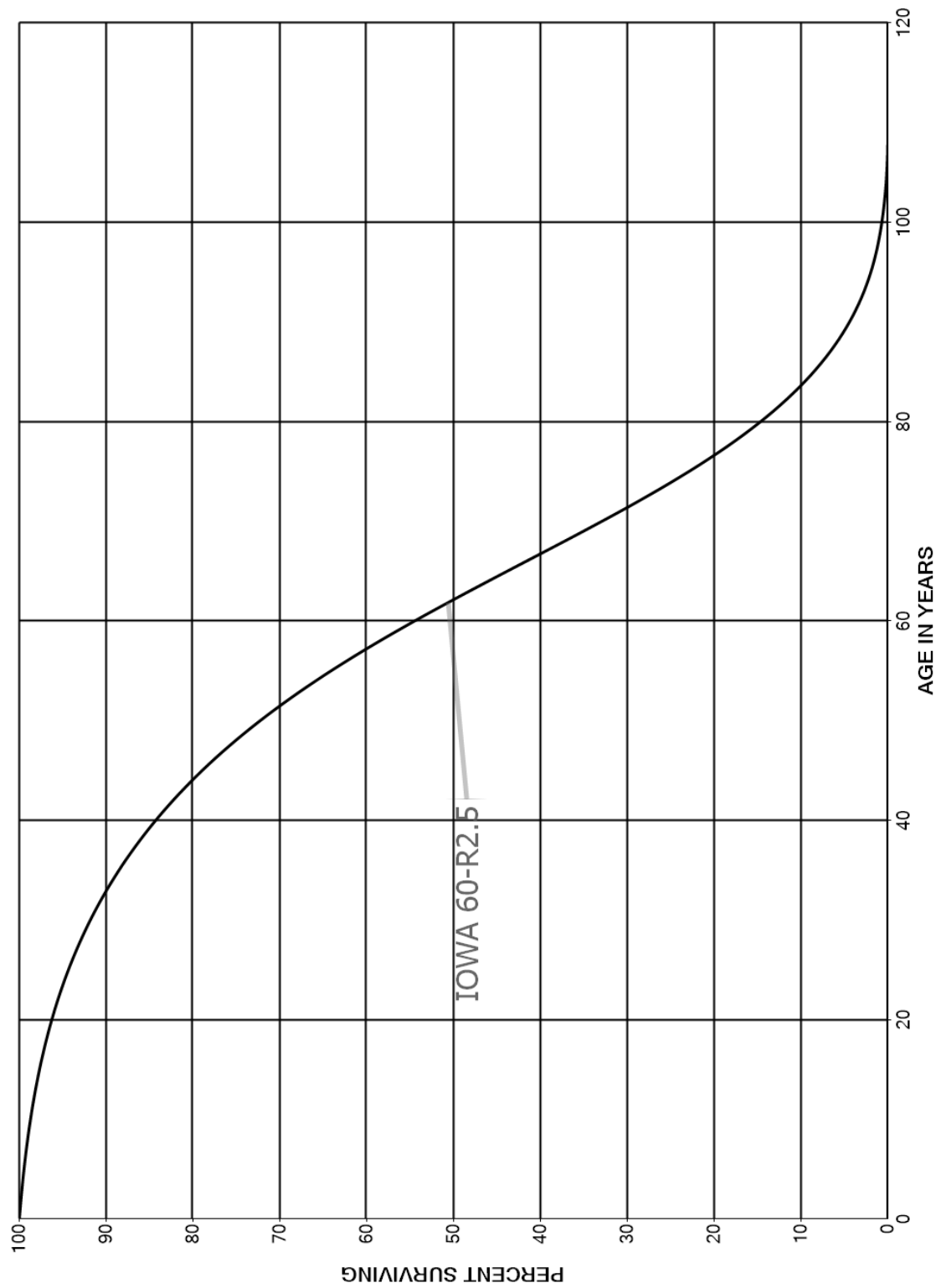
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1938-2019

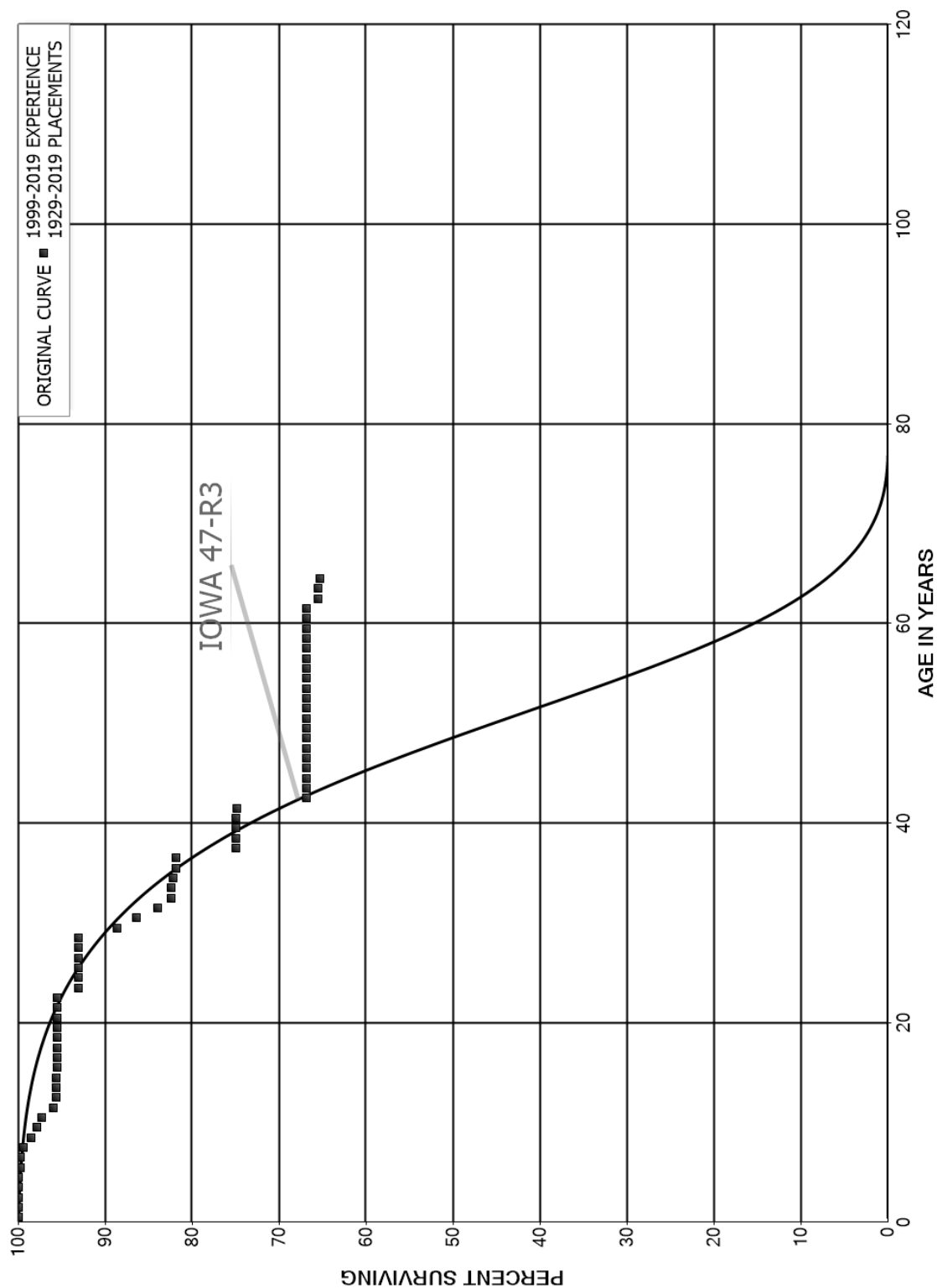
EXPERIENCE BAND 2001-2019

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	306,691	1,171	0.0038		
80.5	263,058		0.0000		
81.5					

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 362.00 SPECIAL COLLECTION STRUCTURES
 SMOOTH SURVIVOR CURVE



PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 363.00 SERVICES
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 363.00 SERVICES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1929-2019

EXPERIENCE BAND 1999-2019

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	10,615,796	0	0.0000	1.0000	100.00
0.5	10,038,138	0	0.0000	1.0000	100.00
1.5	9,510,472	60	0.0000	1.0000	100.00
2.5	8,790,677	5,668	0.0006	0.9994	100.00
3.5	8,679,530	421	0.0000	1.0000	99.93
4.5	7,932,683	12,635	0.0016	0.9984	99.93
5.5	6,966,530	2,890	0.0004	0.9996	99.77
6.5	8,411,000	31,963	0.0038	0.9962	99.73
7.5	8,278,555	65,894	0.0080	0.9920	99.35
8.5	8,313,922	64,649	0.0078	0.9922	98.56
9.5	8,351,147	42,617	0.0051	0.9949	97.79
10.5	6,470,010	87,729	0.0136	0.9864	97.29
11.5	6,246,021	19,892	0.0032	0.9968	95.98
12.5	5,858,877	0	0.0000	1.0000	95.67
13.5	4,698,450	4,942	0.0011	0.9989	95.67
14.5	4,095,435	871	0.0002	0.9998	95.57
15.5	3,284,377		0.0000	1.0000	95.55
16.5	3,511,888	0	0.0000	1.0000	95.55
17.5	3,953,464	0	0.0000	1.0000	95.55
18.5	3,909,166	55	0.0000	1.0000	95.55
19.5	3,630,733		0.0000	1.0000	95.55
20.5	3,925,137		0.0000	1.0000	95.55
21.5	3,646,749		0.0000	1.0000	95.55
22.5	3,395,484	87,997	0.0259	0.9741	95.55
23.5	3,780,922		0.0000	1.0000	93.07
24.5	4,115,954	497	0.0001	0.9999	93.07
25.5	5,003,579		0.0000	1.0000	93.06
26.5	5,176,777		0.0000	1.0000	93.06
27.5	4,635,070		0.0000	1.0000	93.06
28.5	4,421,930	209,578	0.0474	0.9526	93.06
29.5	3,596,999	92,585	0.0257	0.9743	88.65
30.5	2,947,708	80,733	0.0274	0.9726	86.37
31.5	2,783,645	51,927	0.0187	0.9813	84.00
32.5	2,491,265	1,241	0.0005	0.9995	82.43
33.5	2,228,511	4,871	0.0022	0.9978	82.39
34.5	1,965,612	8,461	0.0043	0.9957	82.21
35.5	1,925,423	503	0.0003	0.9997	81.86
36.5	1,973,278	167,021	0.0846	0.9154	81.84
37.5	1,839,375	192	0.0001	0.9999	74.91
38.5	1,657,395		0.0000	1.0000	74.90

PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 363.00 SERVICES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1929-2019

EXPERIENCE BAND 1999-2019

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	1,207,182		0.0000	1.0000	74.90
40.5	1,197,802	385	0.0003	0.9997	74.90
41.5	1,022,673	110,064	0.1076	0.8924	74.88
42.5	886,687		0.0000	1.0000	66.82
43.5	1,408,938		0.0000	1.0000	66.82
44.5	900,914		0.0000	1.0000	66.82
45.5	855,938		0.0000	1.0000	66.82
46.5	736,586		0.0000	1.0000	66.82
47.5	156,414		0.0000	1.0000	66.82
48.5	155,860		0.0000	1.0000	66.82
49.5	82,277		0.0000	1.0000	66.82
50.5	145,022		0.0000	1.0000	66.82
51.5	132,653		0.0000	1.0000	66.82
52.5	134,754	0	0.0000	1.0000	66.82
53.5	137,757		0.0000	1.0000	66.82
54.5	20,119		0.0000	1.0000	66.82
55.5	100,869		0.0000	1.0000	66.82
56.5	100,869		0.0000	1.0000	66.82
57.5	97,866		0.0000	1.0000	66.82
58.5	256,316		0.0000	1.0000	66.82
59.5	180,162	20	0.0001	0.9999	66.82
60.5	228,822		0.0000	1.0000	66.81
61.5	228,822	4,595	0.0201	0.9799	66.81
62.5	50,781		0.0000	1.0000	65.47
63.5	50,781	162	0.0032	0.9968	65.47
64.5					65.26
65.5	60,144		0.0000		
66.5	60,144		0.0000		
67.5	60,144		0.0000		
68.5	70,211		0.0000		
69.5	13,932	819	0.0588		
70.5	36,101		0.0000		
71.5	36,101	4,521	0.1252		
72.5	31,580	1,251	0.0396		
73.5	30,329	442	0.0146		
74.5	6,899	644	0.0933		
75.5	6,255		0.0000		
76.5	6,255		0.0000		
77.5	151,010		0.0000		
78.5	151,010		0.0000		

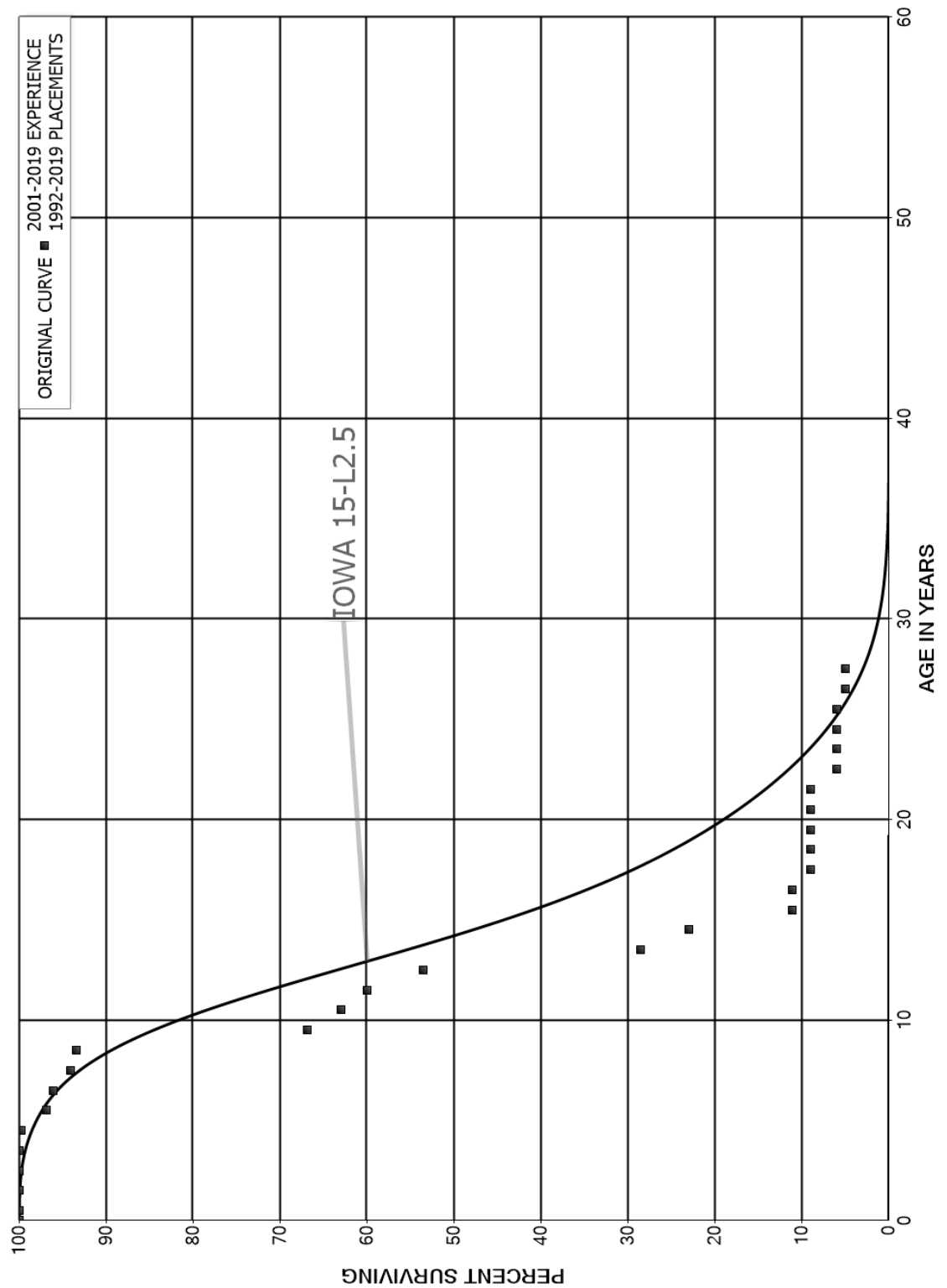
PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 363.00 SERVICES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1929-2019			EXPERIENCE BAND 1999-2019		
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	151,010		0.0000		
80.5	144,755	1,628	0.0112		
81.5					
82.5	717		0.0000		
83.5	717		0.0000		
84.5	717		0.0000		
85.5	717		0.0000		
86.5	717		0.0000		
87.5	717		0.0000		
88.5	717		0.0000		
89.5	717		0.0000		
90.5					

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 364.00 FLOW MEASURING DEVICES
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 364.00 FLOW MEASURING DEVICES

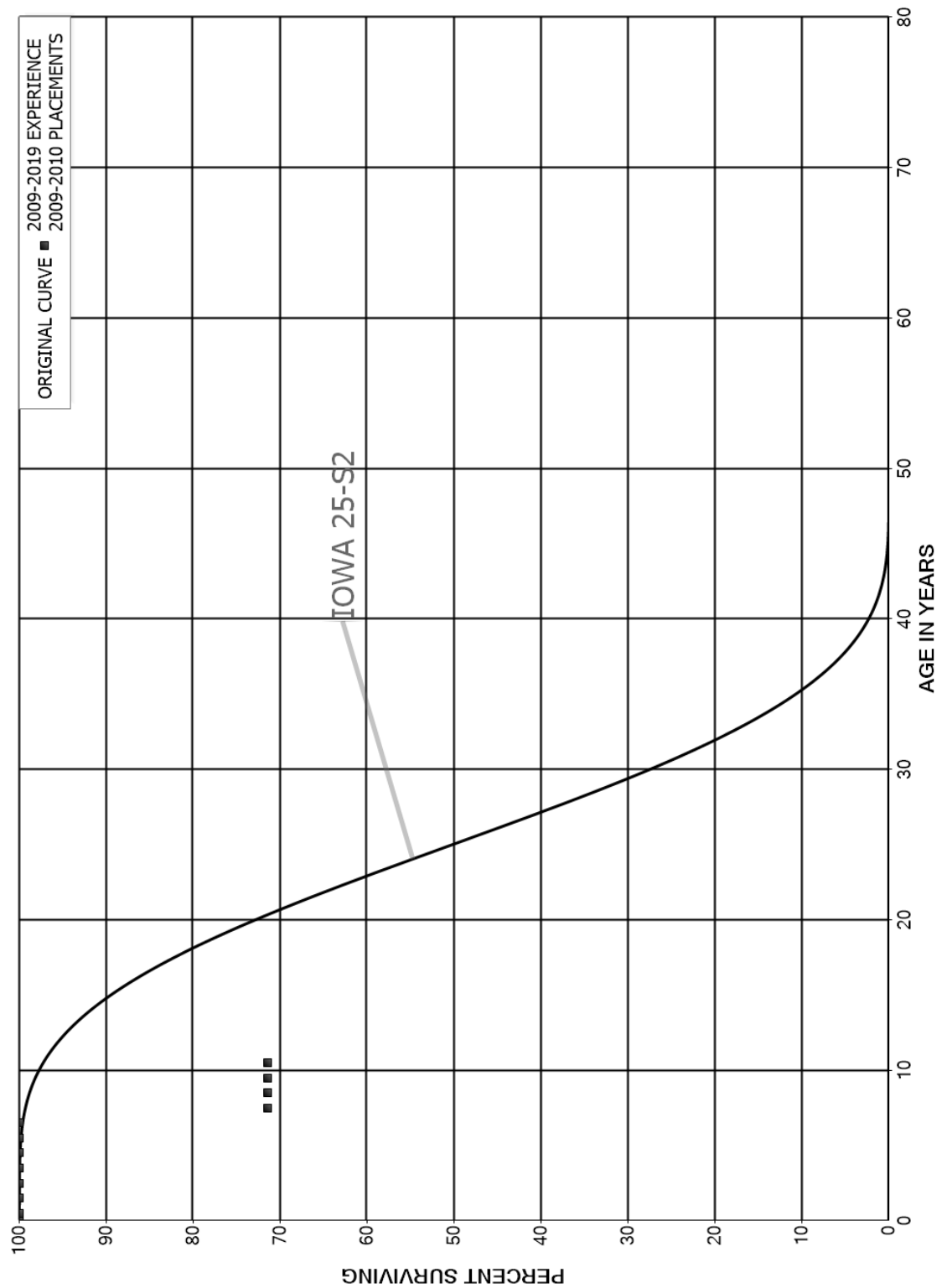
ORIGINAL LIFE TABLE

PLACEMENT BAND 1992-2019

EXPERIENCE BAND 2001-2019

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	1,359,184		0.0000	1.0000	100.00
0.5	993,961		0.0000	1.0000	100.00
1.5	1,007,023		0.0000	1.0000	100.00
2.5	1,088,761		0.0000	1.0000	100.00
3.5	829,368	2,564	0.0031	0.9969	100.00
4.5	790,917	22,463	0.0284	0.9716	99.69
5.5	745,466	5,882	0.0079	0.9921	96.86
6.5	575,156	12,254	0.0213	0.9787	96.10
7.5	576,785	4,337	0.0075	0.9925	94.05
8.5	639,652	181,670	0.2840	0.7160	93.34
9.5	332,968	19,182	0.0576	0.9424	66.83
10.5	221,704	10,816	0.0488	0.9512	62.98
11.5	90,287	9,617	0.1065	0.8935	59.91
12.5	71,639	33,466	0.4671	0.5329	53.53
13.5	31,704	6,133	0.1934	0.8066	28.52
14.5	16,849	8,739	0.5187	0.4813	23.00
15.5	16,281		0.0000	1.0000	11.07
16.5	16,281	3,203	0.1967	0.8033	11.07
17.5	13,078		0.0000	1.0000	8.90
18.5	13,078		0.0000	1.0000	8.90
19.5	13,078		0.0000	1.0000	8.90
20.5	13,078		0.0000	1.0000	8.90
21.5	13,078	4,272	0.3266	0.6734	8.90
22.5	8,806		0.0000	1.0000	5.99
23.5	8,806		0.0000	1.0000	5.99
24.5	8,806		0.0000	1.0000	5.99
25.5	8,806	1,522	0.1728	0.8272	5.99
26.5	7,285		0.0000	1.0000	4.95
27.5					4.95

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 365.00 FLOW MEASURING INSTALLATIONS
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 365.00 FLOW MEASURING INSTALLATIONS

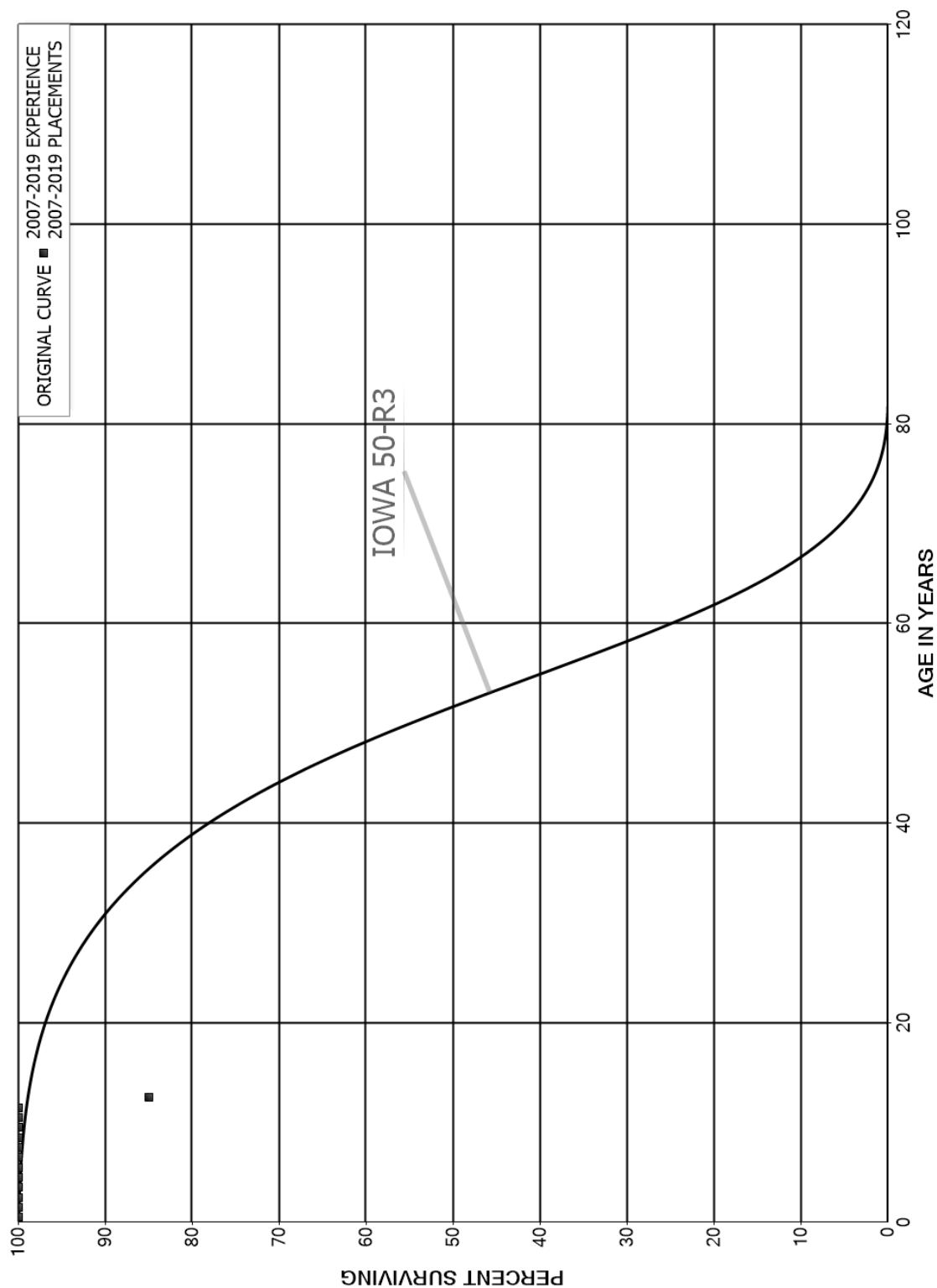
ORIGINAL LIFE TABLE

PLACEMENT BAND 2009-2010

EXPERIENCE BAND 2009-2019

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	20,918		0.0000	1.0000	100.00
0.5	20,918		0.0000	1.0000	100.00
1.5	20,918		0.0000	1.0000	100.00
2.5	20,918		0.0000	1.0000	100.00
3.5	20,918		0.0000	1.0000	100.00
4.5	20,918		0.0000	1.0000	100.00
5.5	20,918		0.0000	1.0000	100.00
6.5	20,918	5,980	0.2859	0.7141	100.00
7.5	14,938		0.0000	1.0000	71.41
8.5	14,938		0.0000	1.0000	71.41
9.5	14,938		0.0000	1.0000	71.41
10.5					71.41

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 370.00 RECEIVING WELLS
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 370.00 RECEIVING WELLS

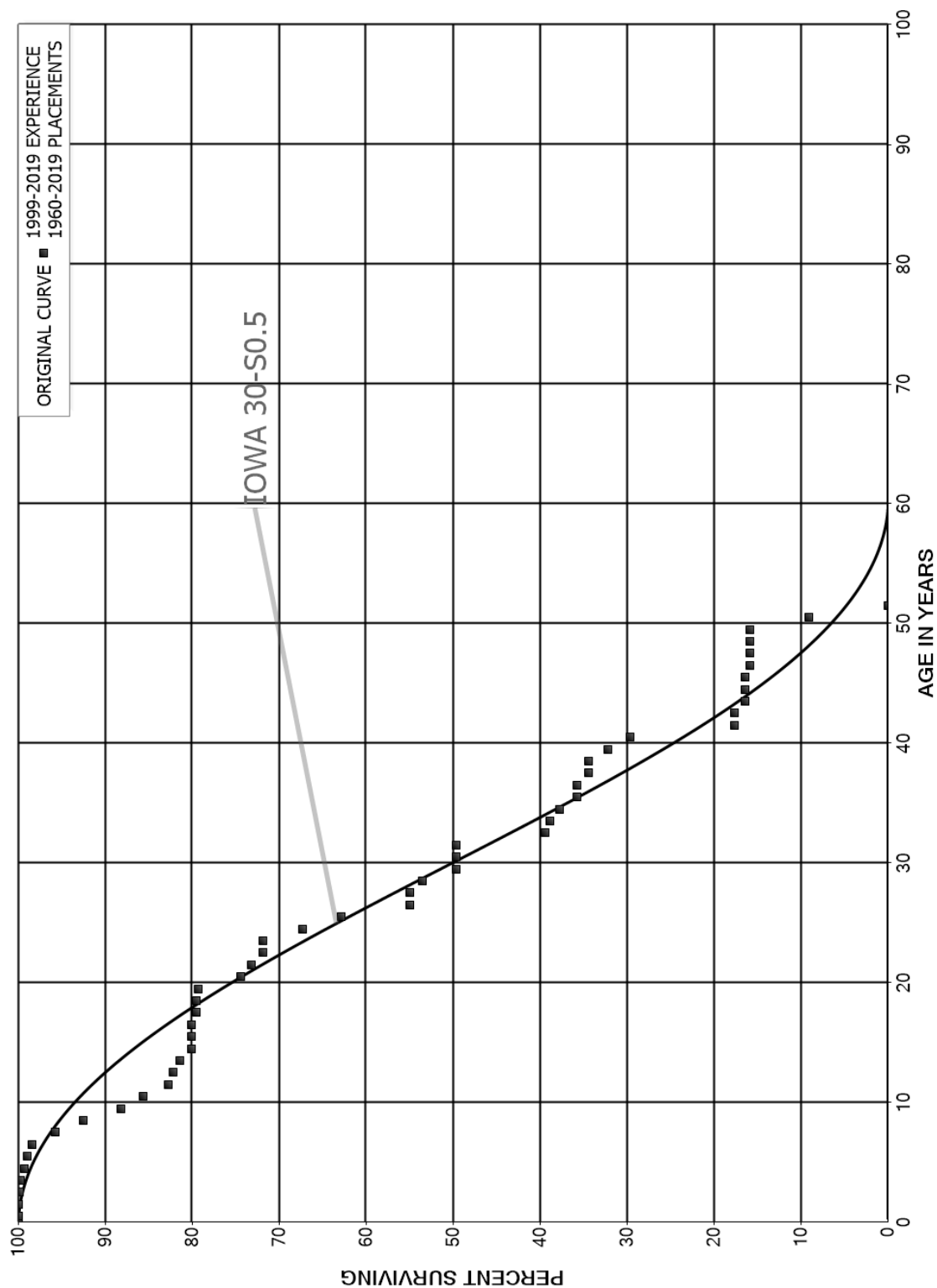
ORIGINAL LIFE TABLE

PLACEMENT BAND 2007-2019

EXPERIENCE BAND 2007-2019

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	121,180		0.0000	1.0000	100.00
0.5	111,148		0.0000	1.0000	100.00
1.5	111,148		0.0000	1.0000	100.00
2.5	132,949		0.0000	1.0000	100.00
3.5	132,949		0.0000	1.0000	100.00
4.5	132,949		0.0000	1.0000	100.00
5.5	132,949		0.0000	1.0000	100.00
6.5	99,482		0.0000	1.0000	100.00
7.5	99,482		0.0000	1.0000	100.00
8.5	99,482		0.0000	1.0000	100.00
9.5	99,482		0.0000	1.0000	100.00
10.5	7,370		0.0000	1.0000	100.00
11.5	7,370	1,109	0.1505	0.8495	100.00
12.5					84.95

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 371.00 PUMPING EQUIPMENT
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 371.00 PUMPING EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1960-2019

EXPERIENCE BAND 1999-2019

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	13,928,914		0.0000	1.0000	100.00
0.5	8,653,630	5,419	0.0006	0.9994	100.00
1.5	11,021,964	12,306	0.0011	0.9989	99.94
2.5	10,781,219	12,096	0.0011	0.9989	99.83
3.5	9,453,412	44,345	0.0047	0.9953	99.71
4.5	6,817,321	23,246	0.0034	0.9966	99.25
5.5	5,785,361	27,560	0.0048	0.9952	98.91
6.5	5,413,591	148,677	0.0275	0.9725	98.44
7.5	3,768,518	126,794	0.0336	0.9664	95.73
8.5	3,446,810	160,001	0.0464	0.9536	92.51
9.5	2,549,487	73,710	0.0289	0.9711	88.22
10.5	1,455,129	50,056	0.0344	0.9656	85.67
11.5	1,043,502	7,445	0.0071	0.9929	82.72
12.5	1,137,255	10,025	0.0088	0.9912	82.13
13.5	837,345	14,096	0.0168	0.9832	81.41
14.5	784,395		0.0000	1.0000	80.04
15.5	677,887		0.0000	1.0000	80.04
16.5	534,434	3,610	0.0068	0.9932	80.04
17.5	610,401	101	0.0002	0.9998	79.50
18.5	664,971	1,413	0.0021	0.9979	79.48
19.5	663,558	41,426	0.0624	0.9376	79.31
20.5	588,736	9,514	0.0162	0.9838	74.36
21.5	638,927	11,409	0.0179	0.9821	73.16
22.5	599,786		0.0000	1.0000	71.85
23.5	517,501	33,177	0.0641	0.9359	71.85
24.5	484,324	31,555	0.0652	0.9348	67.25
25.5	497,723	62,415	0.1254	0.8746	62.87
26.5	428,133		0.0000	1.0000	54.98
27.5	312,603	8,673	0.0277	0.9723	54.98
28.5	241,647	17,595	0.0728	0.9272	53.46
29.5	235,281		0.0000	1.0000	49.56
30.5	280,168		0.0000	1.0000	49.56
31.5	280,168	57,666	0.2058	0.7942	49.56
32.5	222,502	2,887	0.0130	0.9870	39.36
33.5	140,599	3,932	0.0280	0.9720	38.85
34.5	136,159	7,170	0.0527	0.9473	37.77
35.5	183,946		0.0000	1.0000	35.78
36.5	183,946	7,008	0.0381	0.9619	35.78
37.5	176,938		0.0000	1.0000	34.41
38.5	127,299	8,408	0.0660	0.9340	34.41

PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 371.00 PUMPING EQUIPMENT

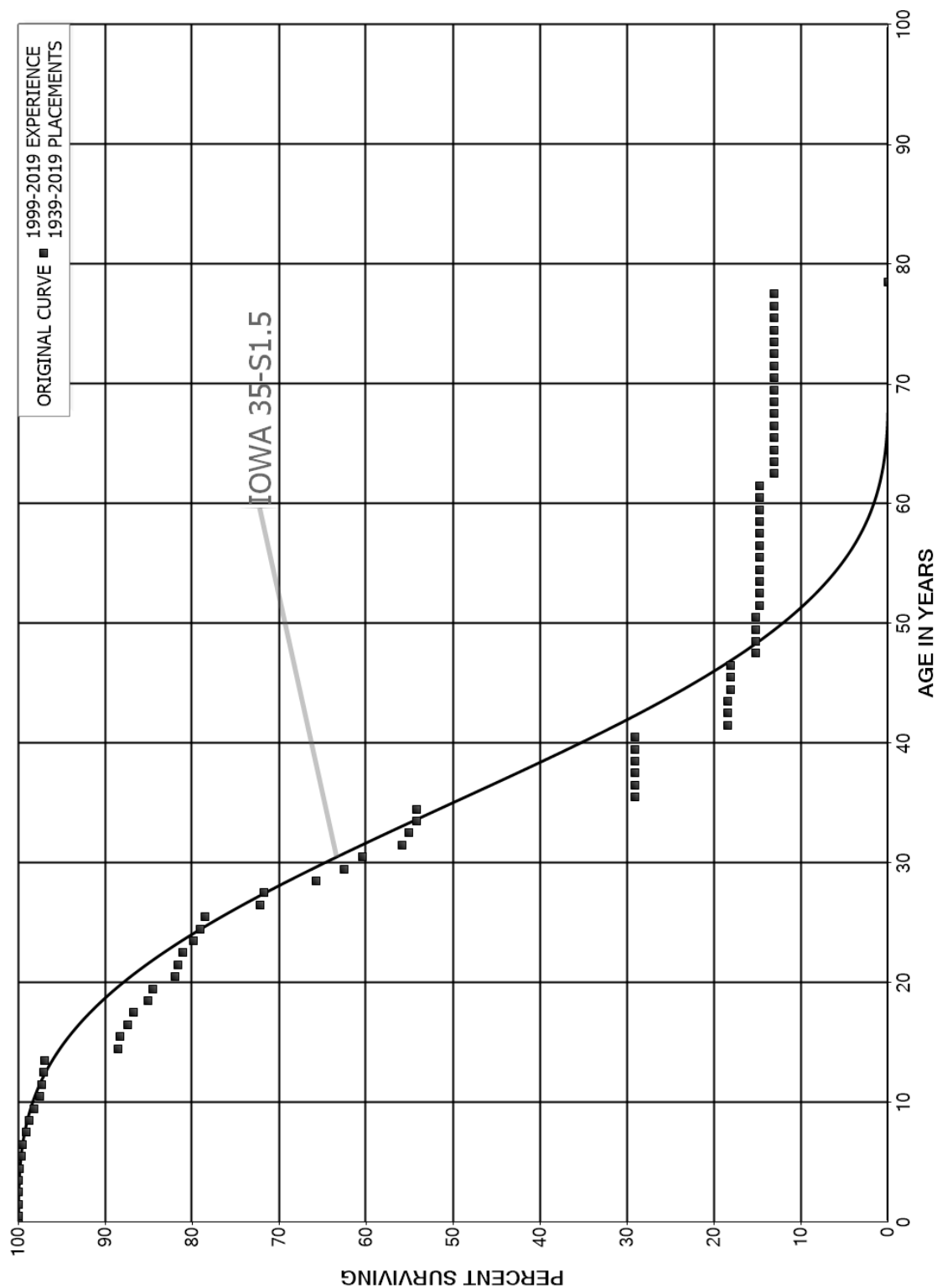
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1960-2019

EXPERIENCE BAND 1999-2019

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	128,004	9,910	0.0774	0.9226	32.14
40.5	140,361	56,891	0.4053	0.5947	29.65
41.5	83,470		0.0000	1.0000	17.63
42.5	83,470	6,122	0.0733	0.9267	17.63
43.5	28,842		0.0000	1.0000	16.34
44.5	28,842		0.0000	1.0000	16.34
45.5	28,842	860	0.0298	0.9702	16.34
46.5	27,983		0.0000	1.0000	15.85
47.5	21,408		0.0000	1.0000	15.85
48.5	5,141		0.0000	1.0000	15.85
49.5	5,141	2,187	0.4255	0.5745	15.85
50.5	2,953	2,953	1.0000		9.11
51.5					

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 380.00 TREATMENT EQUIPMENT
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 380.00 TREATMENT EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1939-2019

EXPERIENCE BAND 1999-2019

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	52,484,979		0.0000	1.0000	100.00
0.5	52,338,297		0.0000	1.0000	100.00
1.5	64,377,580	1,853	0.0000	1.0000	100.00
2.5	61,280,085	2,456	0.0000	1.0000	100.00
3.5	56,645,719	97,216	0.0017	0.9983	99.99
4.5	44,542,853	95,360	0.0021	0.9979	99.82
5.5	39,192,994	29,279	0.0007	0.9993	99.61
6.5	37,993,990	195,343	0.0051	0.9949	99.53
7.5	37,038,634	104,008	0.0028	0.9972	99.02
8.5	38,046,057	237,211	0.0062	0.9938	98.74
9.5	28,856,102	179,693	0.0062	0.9938	98.13
10.5	11,015,164	26,343	0.0024	0.9976	97.52
11.5	15,100,040	30,352	0.0020	0.9980	97.28
12.5	16,280,292	28,816	0.0018	0.9982	97.09
13.5	16,807,417	1,468,058	0.0873	0.9127	96.92
14.5	14,676,816	22,218	0.0015	0.9985	88.45
15.5	11,808,330	121,942	0.0103	0.9897	88.32
16.5	11,627,778	92,492	0.0080	0.9920	87.41
17.5	12,550,432	231,211	0.0184	0.9816	86.71
18.5	10,724,551	78,054	0.0073	0.9927	85.11
19.5	10,812,422	322,982	0.0299	0.9701	84.49
20.5	9,468,414	37,906	0.0040	0.9960	81.97
21.5	9,609,732	62,020	0.0065	0.9935	81.64
22.5	9,543,450	153,592	0.0161	0.9839	81.11
23.5	9,334,263	87,607	0.0094	0.9906	79.81
24.5	9,070,811	59,133	0.0065	0.9935	79.06
25.5	8,792,217	707,485	0.0805	0.9195	78.54
26.5	4,703,706	32,521	0.0069	0.9931	72.22
27.5	4,778,474	397,707	0.0832	0.9168	71.72
28.5	6,059,797	298,086	0.0492	0.9508	65.75
29.5	6,184,153	215,062	0.0348	0.9652	62.52
30.5	5,152,304	387,965	0.0753	0.9247	60.35
31.5	5,356,247	72,674	0.0136	0.9864	55.80
32.5	3,421,800	52,448	0.0153	0.9847	55.05
33.5	2,753,091		0.0000	1.0000	54.20
34.5	2,272,767	1,055,181	0.4643	0.5357	54.20
35.5	635,826		0.0000	1.0000	29.04
36.5	779,480		0.0000	1.0000	29.04
37.5	801,627		0.0000	1.0000	29.04
38.5	778,140		0.0000	1.0000	29.04

PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 380.00 TREATMENT EQUIPMENT

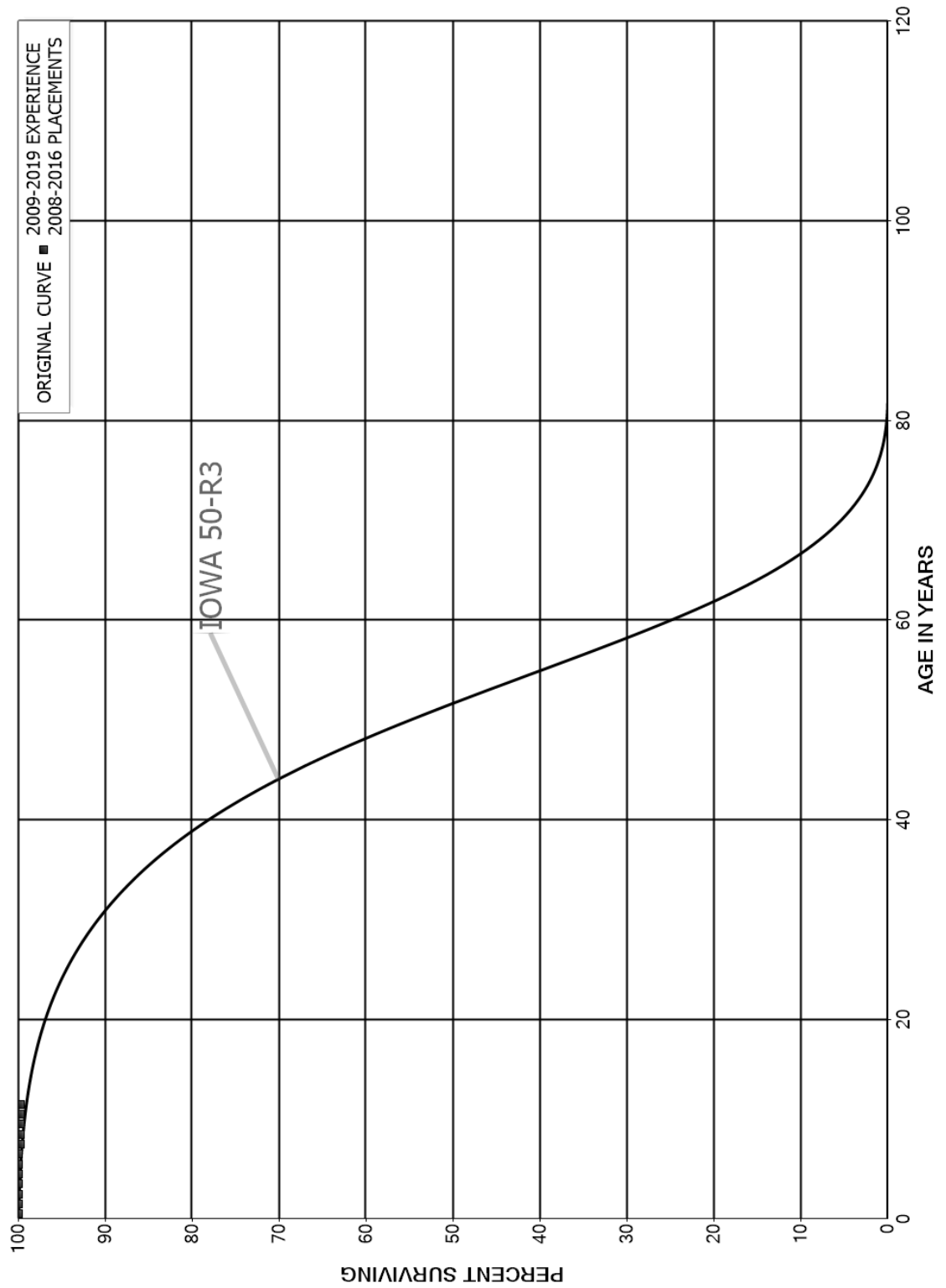
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1939-2019

EXPERIENCE BAND 1999-2019

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	778,140	411	0.0005	0.9995	29.04
40.5	777,730	285,407	0.3670	0.6330	29.02
41.5	15,823,498		0.0000	1.0000	18.37
42.5	15,823,498		0.0000	1.0000	18.37
43.5	15,823,498	268,317	0.0170	0.9830	18.37
44.5	515,644		0.0000	1.0000	18.06
45.5	515,644		0.0000	1.0000	18.06
46.5	371,038	60,316	0.1626	0.8374	18.06
47.5	288,575		0.0000	1.0000	15.12
48.5	288,575		0.0000	1.0000	15.12
49.5	288,575		0.0000	1.0000	15.12
50.5	288,575	6,818	0.0236	0.9764	15.12
51.5	281,757	315	0.0011	0.9989	14.77
52.5	107,182		0.0000	1.0000	14.75
53.5	107,182	462	0.0043	0.9957	14.75
54.5	23,321		0.0000	1.0000	14.69
55.5	23,321		0.0000	1.0000	14.69
56.5	298,010		0.0000	1.0000	14.69
57.5	298,010		0.0000	1.0000	14.69
58.5	298,010		0.0000	1.0000	14.69
59.5	25,215		0.0000	1.0000	14.69
60.5	25,215		0.0000	1.0000	14.69
61.5	25,215	2,761	0.1095	0.8905	14.69
62.5	1,894		0.0000	1.0000	13.08
63.5	1,894		0.0000	1.0000	13.08
64.5	1,894		0.0000	1.0000	13.08
65.5	1,894		0.0000	1.0000	13.08
66.5	1,894		0.0000	1.0000	13.08
67.5	1,894		0.0000	1.0000	13.08
68.5	1,894		0.0000	1.0000	13.08
69.5	1,894		0.0000	1.0000	13.08
70.5	1,894		0.0000	1.0000	13.08
71.5	1,894		0.0000	1.0000	13.08
72.5	1,894		0.0000	1.0000	13.08
73.5	1,894		0.0000	1.0000	13.08
74.5	1,894		0.0000	1.0000	13.08
75.5	1,894		0.0000	1.0000	13.08
76.5	1,894		0.0000	1.0000	13.08
77.5	1,894	1,894	1.0000		13.08
78.5					

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 381.00 PLANT SEWERS
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 381.00 PLANT SEWERS

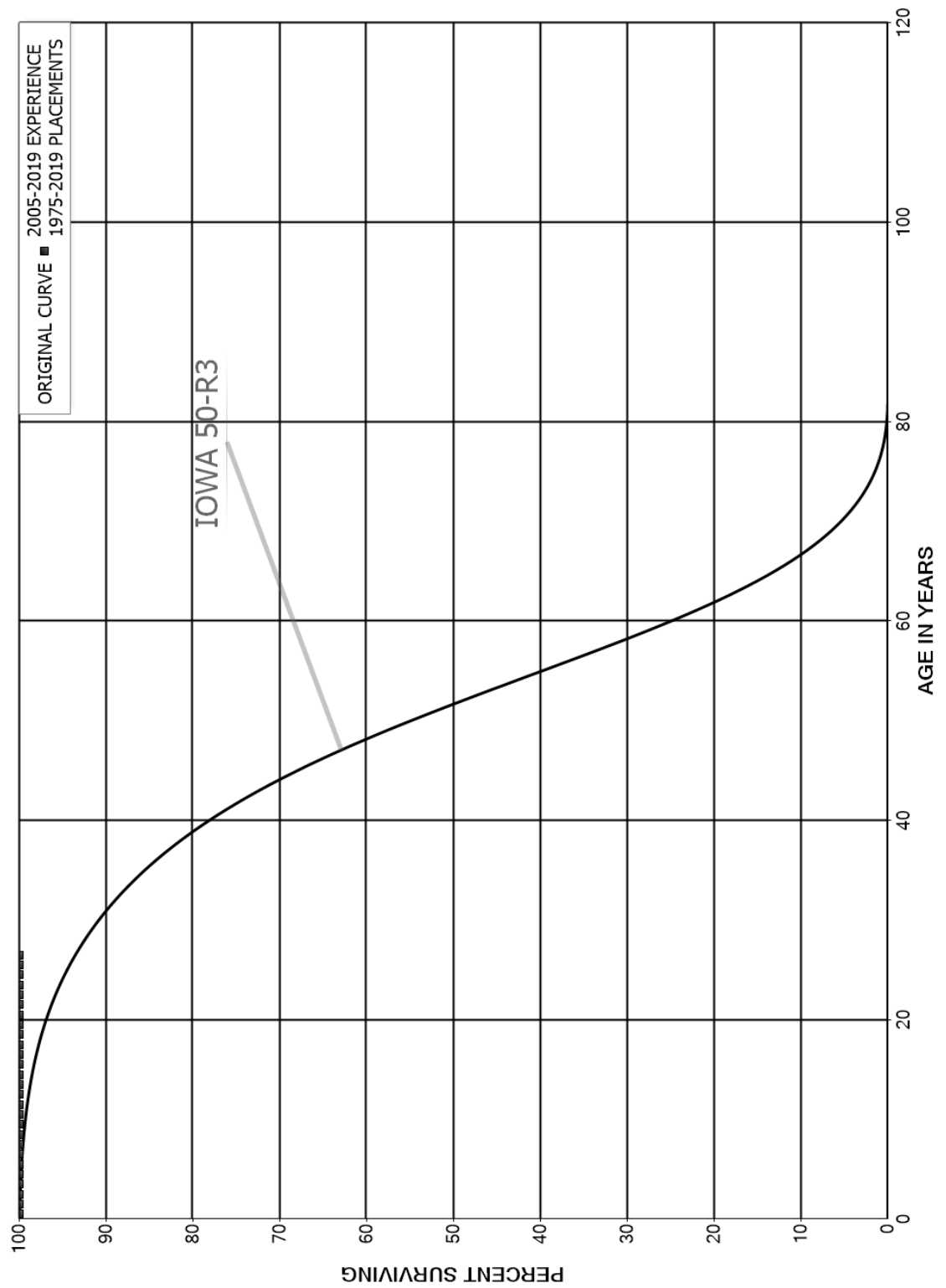
ORIGINAL LIFE TABLE

PLACEMENT BAND 2008-2016

EXPERIENCE BAND 2009-2019

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	5,524,134		0.0000	1.0000	100.00
0.5	6,227,961		0.0000	1.0000	100.00
1.5	6,227,961		0.0000	1.0000	100.00
2.5	6,227,961		0.0000	1.0000	100.00
3.5	6,182,721		0.0000	1.0000	100.00
4.5	6,175,263		0.0000	1.0000	100.00
5.5	5,940,945		0.0000	1.0000	100.00
6.5	5,940,945	13,300	0.0022	0.9978	100.00
7.5	5,925,961	2,120	0.0004	0.9996	99.78
8.5	5,917,243		0.0000	1.0000	99.74
9.5	4,729,279		0.0000	1.0000	99.74
10.5	294,412		0.0000	1.0000	99.74
11.5					99.74

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 382.00 OUTFALL SEWER LINES
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 382.00 OUTFALL SEWER LINES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1975-2019

EXPERIENCE BAND 2005-2019

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	1,700,716		0.0000	1.0000	100.00
0.5	1,605,061		0.0000	1.0000	100.00
1.5	360,675		0.0000	1.0000	100.00
2.5	355,425		0.0000	1.0000	100.00
3.5	355,425		0.0000	1.0000	100.00
4.5	355,425		0.0000	1.0000	100.00
5.5	255,003		0.0000	1.0000	100.00
6.5	264,243		0.0000	1.0000	100.00
7.5	265,939		0.0000	1.0000	100.00
8.5	265,939		0.0000	1.0000	100.00
9.5	238,111		0.0000	1.0000	100.00
10.5	212,060		0.0000	1.0000	100.00
11.5	244,789	6	0.0000	1.0000	100.00
12.5	244,783		0.0000	1.0000	100.00
13.5	43,666		0.0000	1.0000	100.00
14.5	34,425		0.0000	1.0000	100.00
15.5	32,729		0.0000	1.0000	100.00
16.5	32,729		0.0000	1.0000	100.00
17.5	32,729		0.0000	1.0000	100.00
18.5	32,729		0.0000	1.0000	100.00
19.5	32,729		0.0000	1.0000	100.00
20.5	32,729		0.0000	1.0000	100.00
21.5	202,476		0.0000	1.0000	100.00
22.5	202,476		0.0000	1.0000	100.00
23.5	202,476		0.0000	1.0000	100.00
24.5	202,476		0.0000	1.0000	100.00
25.5	202,476		0.0000	1.0000	100.00
26.5					100.00
27.5					
28.5					
29.5					
30.5					
31.5					
32.5					
33.5					
34.5					
35.5					
36.5	4,984		0.0000		
37.5	4,984		0.0000		
38.5	4,984		0.0000		

PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 382.00 OUTFALL SEWER LINES

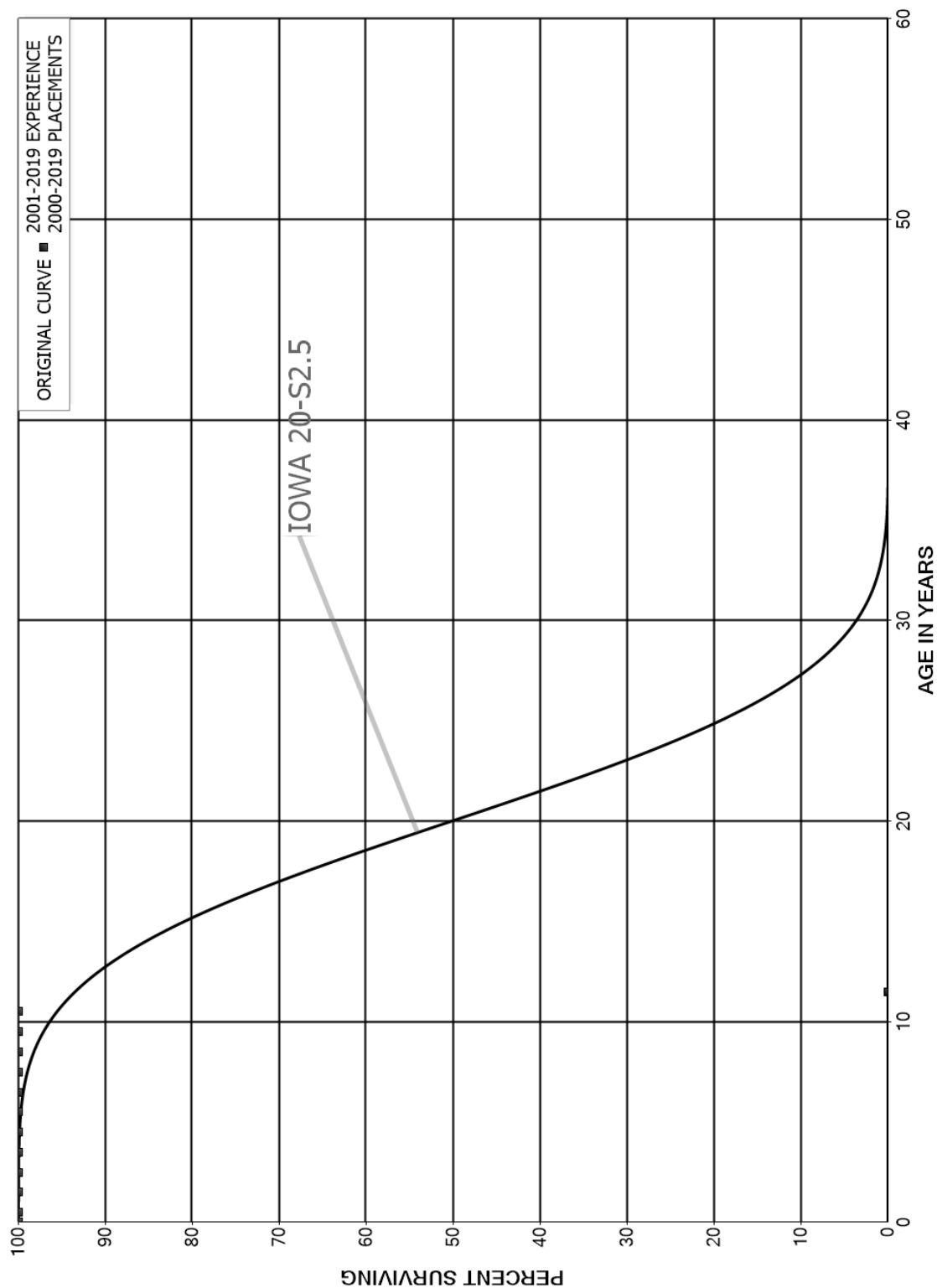
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1975-2019

EXPERIENCE BAND 2005-2019

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	4,984		0.0000		
40.5	4,984		0.0000		
41.5	4,984		0.0000		
42.5	4,984		0.0000		
43.5	4,984		0.0000		
44.5					

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 389.10 OTHER PLANT AND MISCELLANEOUS EQUIPMENT
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 389.10 OTHER PLANT AND MISCELLANEOUS EQUIPMENT

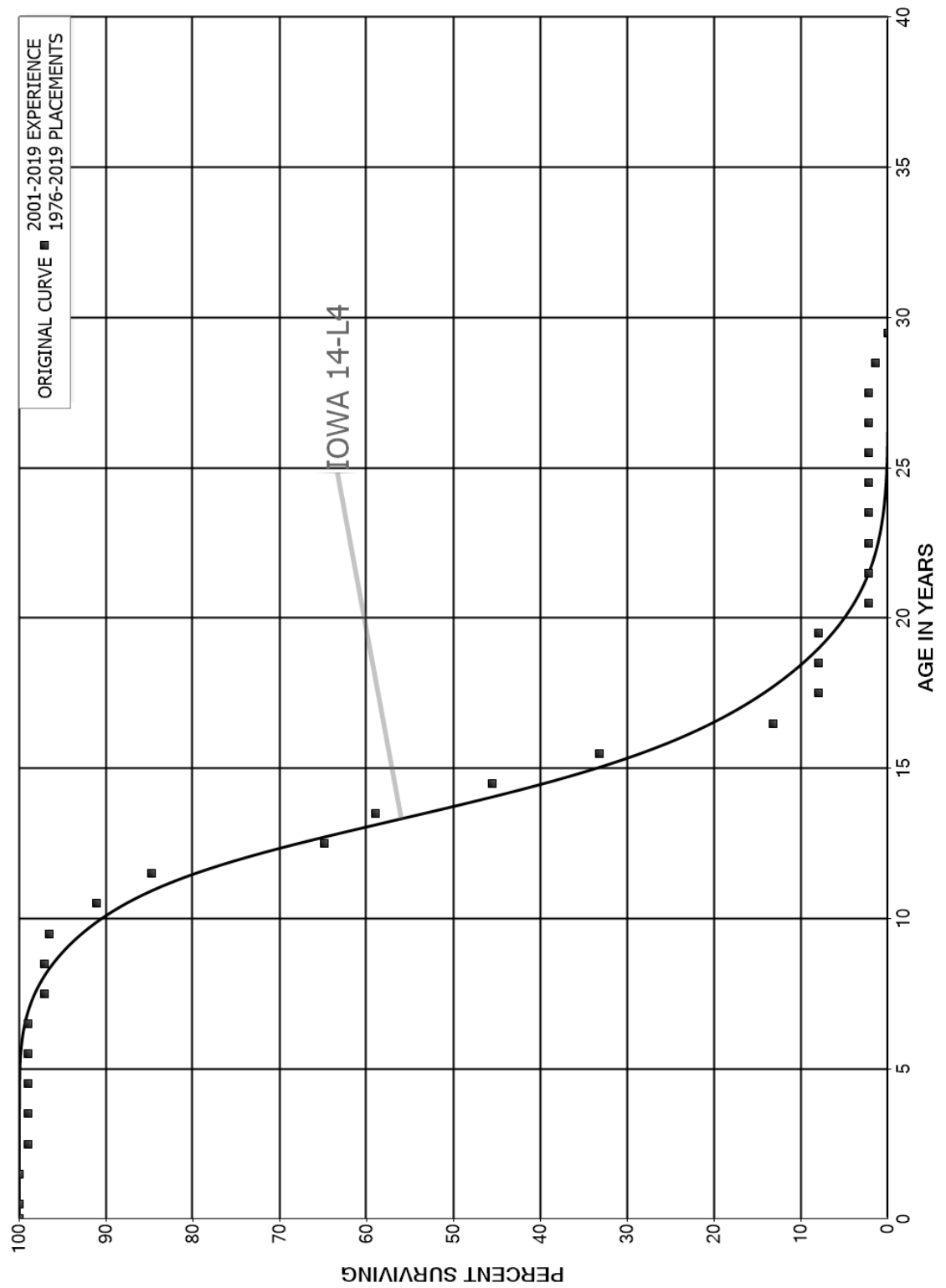
ORIGINAL LIFE TABLE

PLACEMENT BAND 2000-2019

EXPERIENCE BAND 2001-2019

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	737,756		0.0000	1.0000	100.00
0.5	437,340		0.0000	1.0000	100.00
1.5	405,165		0.0000	1.0000	100.00
2.5	4,547,918		0.0000	1.0000	100.00
3.5	4,547,918		0.0000	1.0000	100.00
4.5	4,547,918	2,997	0.0007	0.9993	100.00
5.5	4,544,921		0.0000	1.0000	99.93
6.5	393,353		0.0000	1.0000	99.93
7.5	393,353		0.0000	1.0000	99.93
8.5	281,642		0.0000	1.0000	99.93
9.5	8,492		0.0000	1.0000	99.93
10.5	8,492	8,492	1.0000		99.93
11.5					

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 391.00 TRANSPORTATION EQUIPMENT
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 391.00 TRANSPORTATION EQUIPMENT

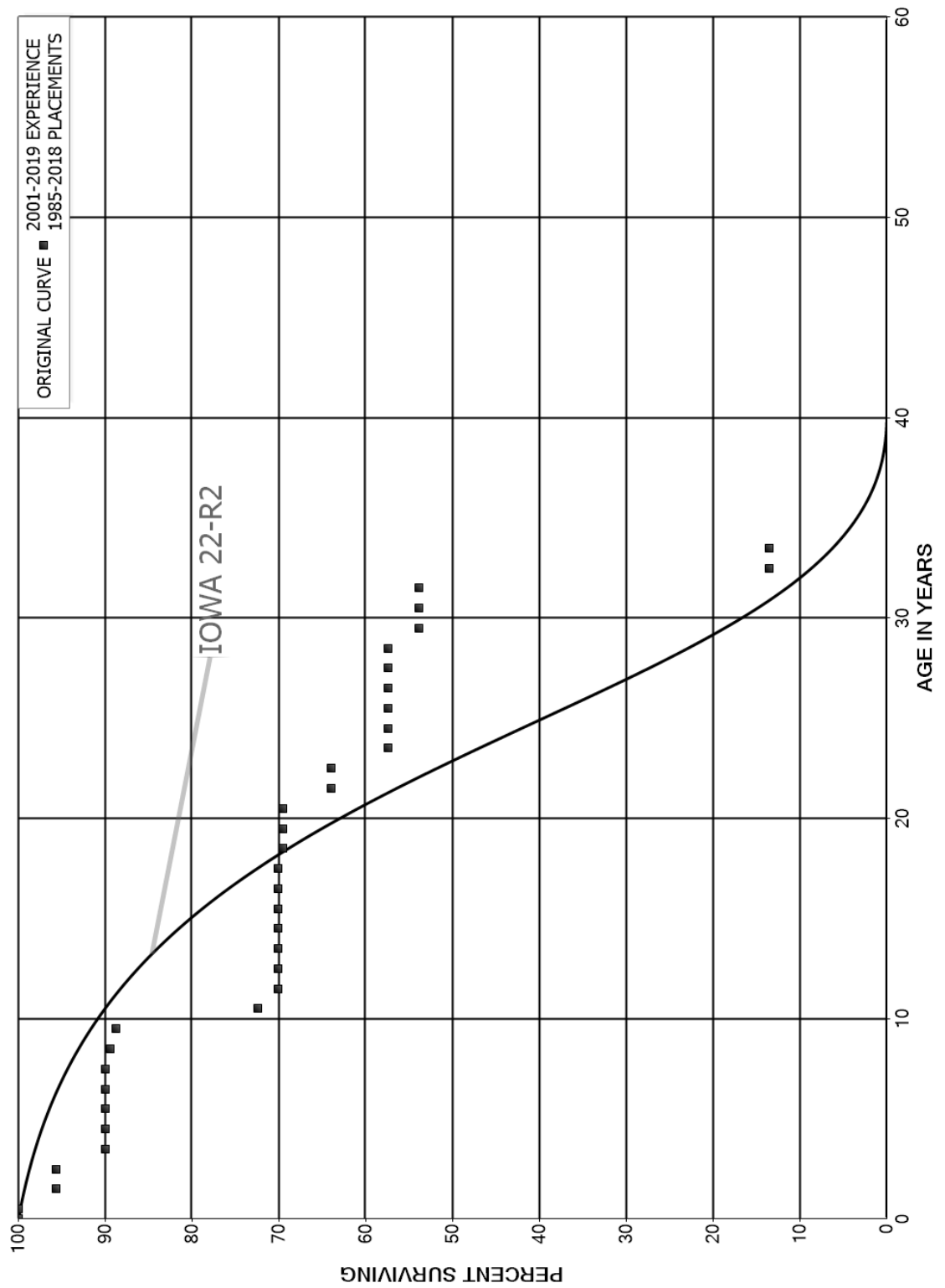
ORIGINAL LIFE TABLE

PLACEMENT BAND 1976-2019

EXPERIENCE BAND 2001-2019

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	4,168,919		0.0000	1.0000	100.00
0.5	3,692,372		0.0000	1.0000	100.00
1.5	1,458,511	14,523	0.0100	0.9900	100.00
2.5	2,332,879		0.0000	1.0000	99.00
3.5	2,514,168		0.0000	1.0000	99.00
4.5	1,930,107		0.0000	1.0000	99.00
5.5	1,664,209		0.0000	1.0000	99.00
6.5	1,677,203	32,676	0.0195	0.9805	99.00
7.5	1,535,566		0.0000	1.0000	97.08
8.5	1,373,777	8,793	0.0064	0.9936	97.08
9.5	1,545,830	87,008	0.0563	0.9437	96.45
10.5	879,899	61,030	0.0694	0.9306	91.03
11.5	743,329	174,600	0.2349	0.7651	84.71
12.5	440,822	40,215	0.0912	0.9088	64.81
13.5	348,542	79,500	0.2281	0.7719	58.90
14.5	276,542	75,000	0.2712	0.7288	45.47
15.5	195,354	117,872	0.6034	0.3966	33.14
16.5	51,900	20,700	0.3988	0.6012	13.14
17.5	31,200		0.0000	1.0000	7.90
18.5	32,855		0.0000	1.0000	7.90
19.5	32,855	23,700	0.7214	0.2786	7.90
20.5	9,155		0.0000	1.0000	2.20
21.5	9,155		0.0000	1.0000	2.20
22.5	9,155		0.0000	1.0000	2.20
23.5	9,155		0.0000	1.0000	2.20
24.5	14,155		0.0000	1.0000	2.20
25.5	14,155		0.0000	1.0000	2.20
26.5	14,155		0.0000	1.0000	2.20
27.5	14,155	5,000	0.3532	0.6468	2.20
28.5	9,155	9,155	1.0000		1.42
29.5					

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 395.00 POWER OPERATED EQUIPMENT
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 395.00 POWER OPERATED EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1985-2018

EXPERIENCE BAND 2001-2019

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	192,967		0.0000	1.0000	100.00
0.5	192,967	8,551	0.0443	0.9557	100.00
1.5	127,706		0.0000	1.0000	95.57
2.5	255,380	14,864	0.0582	0.9418	95.57
3.5	324,176		0.0000	1.0000	90.01
4.5	885,603		0.0000	1.0000	90.01
5.5	967,489		0.0000	1.0000	90.01
6.5	1,410,131		0.0000	1.0000	90.01
7.5	1,250,710	8,033	0.0064	0.9936	90.01
8.5	871,073	6,988	0.0080	0.9920	89.43
9.5	536,633	98,717	0.1840	0.8160	88.71
10.5	191,853	6,125	0.0319	0.9681	72.39
11.5	137,458		0.0000	1.0000	70.08
12.5	190,308		0.0000	1.0000	70.08
13.5	169,091		0.0000	1.0000	70.08
14.5	169,091		0.0000	1.0000	70.08
15.5	169,587		0.0000	1.0000	70.08
16.5	190,470		0.0000	1.0000	70.08
17.5	117,685	875	0.0074	0.9926	70.08
18.5	116,810		0.0000	1.0000	69.56
19.5	116,810		0.0000	1.0000	69.56
20.5	124,335	9,999	0.0804	0.9196	69.56
21.5	124,336		0.0000	1.0000	63.97
22.5	124,336	12,782	0.1028	0.8972	63.97
23.5	111,554		0.0000	1.0000	57.39
24.5	111,554		0.0000	1.0000	57.39
25.5	111,554		0.0000	1.0000	57.39
26.5	18,021		0.0000	1.0000	57.39
27.5	8,021		0.0000	1.0000	57.39
28.5	8,021	496	0.0618	0.9382	57.39
29.5	30,053		0.0000	1.0000	53.84
30.5	30,053		0.0000	1.0000	53.84
31.5	30,053	22,528	0.7496	0.2504	53.84
32.5	7,525		0.0000	1.0000	13.48
33.5					13.48

PART VII. DETAILED DEPRECIATION CALCULATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST



PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTSBGROVE WASTEWATER OPERATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	DEPRECIATED ORIGINAL COST		PCT OF COL 4 TOTAL (6)
			AMOUNT (2) - (3) (4)	CUMULATIVE AMOUNT (5)	
1984	236,112	87,242	148,870	148,870	1.1
1986	638,944	235,819	403,125	551,995	4.0
1990	1,342,829	667,341	675,488	1,227,483	8.9
1994	408,881	197,104	211,777	1,439,260	10.4
1995	1,093,067	316,170	776,897	2,216,157	16.0
1996	85,802	24,218	61,584	2,277,741	16.5
1998	749,670	246,013	503,657	2,781,398	20.1
1999	349,054	88,224	260,830	3,042,228	22.0
2000	142,094	34,491	107,603	3,149,831	22.8
2001	199,943	47,225	152,718	3,302,549	23.9
2002				3,302,549	23.9
2003	440,159	93,642	346,517	3,649,066	26.4
2005	1,068,779	316,019	752,760	4,401,826	31.9
2007	2,583,343	434,466	2,148,877	6,550,703	47.4
2008	1,633,780	271,418	1,362,362	7,913,065	57.3
2010	4,513,572	864,518	3,649,054	11,562,119	83.7
2011	364,616	84,228	280,388	11,842,507	85.7
2013	33,022	7,001	26,021	11,868,528	85.9
2017	374,887	23,880	351,007	12,219,535	88.5
2018	548,485	31,072	517,413	12,736,948	92.2
2019	114,323	4,722	109,601	12,846,549	93.0
2020	934,882	41,560	893,322	13,739,871	99.5
2022	73,500	230	73,270	13,813,141	100.0
SUBTOTAL	17,929,744	4,116,603	13,813,141		
NONDEPRECIABLE	10,356		10,356		
TOTAL	17,940,100	4,116,603	13,823,497		

NET UTILITY PLANT IN SERVICE

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTSBGROVE WASTEWATER OPERATIONS

ACCOUNT 354.30 STRUCTURES AND IMPROVEMENTS - SPP

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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 55-S0						
NET SALVAGE PERCENT.. 0						
1986	31,542.25	18,534	15,864	15,678	25.61	612
1998	227,149.36	104,080	89,088	138,061	28.97	4,766
2010	907,499.30	254,100	217,499	690,000	32.14	21,469
2011	246,486.80	64,629	55,320	191,167	32.36	5,908
2022	0.07		0			
	1,412,677.78	441,343	377,771	1,034,907		32,755
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						31.6 2.32

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

ACCOUNT 354.40 STRUCTURES AND IMPROVEMENTS - TDP

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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 55-S0						
NET SALVAGE PERCENT.. 0						
1990	702,142.55	385,617	367,250	334,893	26.67	12,557
1994	245,328.67	123,744	117,850	127,479	28.00	4,553
2005	423,902.70	152,817	145,538	278,365	31.04	8,968
2010	516,309.60	144,567	137,681	378,629	32.14	11,781
2011	13,847.05	3,631	3,458	10,389	32.36	321
2013	19,813.45	4,442	4,230	15,583	32.87	474
2018	22,845.01	2,693	2,565	20,280	33.67	602
2020	246,576.32	17,014	16,204	230,372	33.73	6,830
	2,190,765.35	834,525	794,776	1,395,989		46,086
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 30.3						2.10

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

ACCOUNT 355.00 POWER GENERATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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 35-S0.5						
NET SALVAGE PERCENT.. 0						
1998	42,413.62	26,500	23,934	18,480	14.71	1,256
2011	12,888.70	4,773	4,310	8,579	19.56	439
2022	2,500.00	52	47	2,453	23.83	103
	57,802.32	31,325	28,291	29,511		1,798
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						16.4 3.11

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

ACCOUNT 360.10 COLLECTION SEWERS - FORCE MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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						
NET SALVAGE PERCENT.. 0						
1986	31,402.07	15,701	12,056	19,346	36.50	530
1990	24,676.57	11,149	8,560	16,117	39.44	409
1998	95,633.49	33,510	25,730	69,903	45.43	1,539
2007	87,047.82	19,829	15,225	71,823	52.53	1,367
2008	7,234.74	1,553	1,192	6,043	53.07	114
2010	497,047.80	92,550	71,062	425,986	54.62	7,799
2020	13,762.51	530	407	13,355	62.44	214
	756,805.00	174,822	134,232	622,573		11,972
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 52.0						1.58

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

ACCOUNT 361.10 COLLECTION SEWERS - GRAVITY MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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 80-R2.5						
NET SALVAGE PERCENT.. 0						
1984	198,300.46	96,969	73,482	124,818	40.24	3,102
1986	416,461.41	196,070	148,579	267,882	41.02	6,531
1990	77,425.53	32,968	24,983	52,443	43.83	1,197
1995	693,422.54	255,526	193,634	499,789	47.13	10,604
1996	46,589.99	16,670	12,632	33,958	47.57	714
1998	268,357.14	89,417	67,759	200,598	49.03	4,091
1999	181,127.15	57,888	43,867	137,260	50.03	2,744
2000	84,433.76	26,022	19,719	64,715	50.50	1,281
2001	105,229.79	31,222	23,660	81,570	50.96	1,601
2003	257,483.91	69,778	52,877	204,607	52.45	3,901
2005	148,919.16	36,485	27,648	121,271	53.93	2,249
2007	2,207,678.61	485,910	368,215	1,839,464	54.92	33,494
2008	780,791.38	161,936	122,713	658,078	55.43	11,872
2010	1,160,820.65	208,948	158,337	1,002,484	56.94	17,606
2017	316,481.65	26,458	20,049	296,433	60.29	4,917
2018	340,706.18	23,611	17,892	322,814	60.44	5,341
2019	52,746.50	2,859	2,167	50,580	61.02	829
2020	296,840.14	11,725	8,885	287,955	60.79	4,737
2022	12,500.00	108	82	12,418	57.98	214
	7,646,315.95	1,830,570	1,387,180	6,259,136		117,025
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 53.5						1.53

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

ACCOUNT 361.20 MANHOLES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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-S2.5						
NET SALVAGE PERCENT.. 0						
1984	37,811.49	27,368	13,760	24,051	14.69	1,637
1986	98,276.82	68,872	34,627	63,650	15.58	4,085
1990	57,783.60	37,374	18,791	38,993	17.75	2,197
1995	122,367.76	69,321	34,853	87,515	21.04	4,159
1996	14,446.51	7,963	4,004	10,443	21.58	484
1998	21,691.17	11,160	5,611	16,080	23.12	696
1999	80,624.03	39,973	20,097	60,527	23.90	2,533
2000	23,294.16	11,111	5,586	17,708	24.67	718
2001	27,995.06	12,822	6,447	21,548	25.45	847
2003	92,414.29	38,740	19,477	72,937	27.01	2,700
2005	88,801.26	33,727	16,957	71,844	28.58	2,514
2007	197,193.38	66,632	33,501	163,692	30.37	5,390
2008	234,954.07	74,621	37,518	197,436	31.16	6,336
2010	479,807.40	131,371	66,050	413,757	33.16	12,478
2017	33,552.06	4,080	2,051	31,501	39.75	792
2018	106,165.91	10,553	5,306	100,860	40.75	2,475
2019	39,384.05	3,048	1,532	37,852	41.75	907
2020	96,767.65	5,342	2,686	94,082	42.75	2,201
2022	6,000.00	66	33	5,967	44.75	133
	1,859,330.67	654,144	328,887	1,530,443		53,282
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 28.7 2.87						

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

ACCOUNT 363.00 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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 47-R3						
NET SALVAGE PERCENT.. 0						
1986	50,747.30	36,675	19,893	30,854	14.01	2,202
1990	12,705.71	8,424	4,569	8,137	16.52	493
1995	277,276.82	161,652	87,683	189,594	19.67	9,639
1996	24,765.45	13,978	7,582	17,183	20.45	840
1998	18,709.17	9,901	5,371	13,338	21.80	612
1999	87,303.14	44,725	24,260	63,043	22.37	2,818
2000	34,366.45	16,936	9,186	25,180	23.16	1,087
2001	66,718.01	31,558	17,118	49,600	23.95	2,071
2003	90,261.15	39,246	21,288	68,973	25.35	2,721
2005	124,554.29	49,261	26,720	97,834	26.75	3,657
2007	91,423.47	32,309	17,525	73,898	28.36	2,606
2008	610,799.96	202,786	109,995	500,805	29.17	17,168
2010	305,381.07	88,561	48,038	257,343	30.60	8,410
2017	24,853.38	3,281	1,780	23,073	36.17	638
2018	63,537.70	6,887	3,735	59,803	37.00	1,616
2019	22,192.60	1,886	1,023	21,170	37.65	562
2020	116,551.26	7,110	3,857	112,694	38.48	2,929
2022	10,000.00	126	68	9,932	39.34	252
	2,032,146.93	755,302	409,691	1,622,456		60,321
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						26.9 2.97

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

ACCOUNT 371.00 PUMPING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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 30-S0.5						
NET SALVAGE PERCENT.. 0						
1986	10,514.09	8,712	4,800	5,714	7.55	757
1998	75,716.48	51,760	28,520	47,196	11.34	4,162
2010	302,499.78	133,856	73,757	228,743	15.75	14,523
2011	82,162.24	34,204	18,847	63,316	16.12	3,928
	470,892.59	228,532	125,924	344,969		23,370
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						14.8 4.96

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

ACCOUNT 380.00 TREATMENT EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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 35-S1.5						
NET SALVAGE PERCENT.. 0						
1990	468,095.04	359,029	243,188	224,907	9.87	22,787
1994	163,552.44	117,005	79,254	84,298	11.34	7,434
2005	282,601.80	146,388	99,156	183,446	16.28	11,268
2010	344,206.39	135,962	92,094	252,112	19.15	13,165
2011	9,231.37	3,386	2,293	6,938	19.85	350
2013	13,208.96	4,091	2,771	10,438	21.17	493
2018	15,230.00	2,324	1,574	13,656	25.00	546
2020	164,384.23	14,055	9,521	154,863	26.74	5,791
2022	0.01		0			
	1,460,510.24	782,240	529,851	930,660		61,834
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 15.1						4.23

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTSBGROVE WASTEWATER OPERATIONS

ACCOUNT 391.00 TRANSPORTATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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 14-L4						
NET SALVAGE PERCENT.. 0						
2022	40,000.00	1,516		40,000	12.69	3,152
	40,000.00	1,516		40,000		3,152
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						12.7 7.88

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

ACCOUNT 393.00 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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						
NET SALVAGE PERCENT.. 0						
2022	2,500.00	62		2,500	19.50	128
	2,500.00	62		2,500		128
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						19.5 5.12

PART VIII. EXPERIENCED AND ESTIMATED NET SALVAGE

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTSBGROVE WASTEWATER OPERATIONS

EXPERIENCED AND ESTIMATED RETIREMENTS BY ACCOUNT AND ASSOCIATED
COST OF REMOVAL, GROSS SALVAGE, AND NET SALVAGE

ACCT	REGULAR RETIREMENTS	COST OF REMOVAL	GROSS SALVAGE	NET SALVAGE
2022 TRANSACTION YEAR				
355.00	202.84			
361.10	1,014.22			
361.20	283.98			
363.00	405.69			
	1,906.73			
TOTAL	1,906.73			

EXHIBIT NO. 11-K - DEPRECIATION STUDY

**UPPER POTTSGROVE
WASTEWATER OPERATIONS**

AS OF DECEMBER 31, 2023

Exhibit No. 11-K
Witness: J. J. Spanos

PENNSYLVANIA-AMERICAN WATER COMPANY

MECHANICSBURG, PENNSYLVANIA

UPPER POTTSBGROVE WASTEWATER OPERATIONS

2023 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS

RELATED TO WASTEWATER PLANT

AS OF DECEMBER 31, 2023

Prepared by:



GANNETT FLEMING

Excellence Delivered As Promised

Exhibit No. 11-K
Witness: J. J. Spanos

PENNSYLVANIA-AMERICAN WATER COMPANY

Mechanicsburg, Pennsylvania

UPPER POTTSBGROVE WASTEWATER
OPERATIONS

2023 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS
RELATED TO WASTEWATER PLANT
AS OF DECEMBER 31, 2023

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

Camp Hill, Pennsylvania



Gannett Fleming
Valuation and Rate Consultants, LLC

Corporate Headquarters
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gannettfleming.com

April 20, 2022

Pennsylvania-American Water Company
852 Wesley Drive
Mechanicsburg, PA 17055

Attention: Ms. Stacey Gress
Director, Rates and Regulatory

Ladies and Gentlemen:

Pursuant to your request, we have determined the annual depreciation accruals applicable to wastewater plant as of December 31, 2023. The results of our study as of December 31, 2022 are presented in our report titled "2022 Depreciation Study - Calculated Annual Depreciation Accruals Related to Wastewater Plant as of December 31, 2022". The same methods, procedures and estimates are used in both studies.

Summaries of the original cost, annual accruals, book depreciation reserve and amortization of net salvage are presented in Tables 1 through 5, beginning on page I-3 of the attached report.

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

070800.100

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PART I. RESULTS OF STUDY

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

DEPRECIATION STUDY

PART I. RESULTS OF STUDY

DESCRIPTION OF SUMMARY TABULATIONS

Tables 1 through 5 presented on pages I-3 through I-7 summarize the results of the depreciation study as of December 31, 2023. Table 1 sets forth the development of the net original cost by account as of December 31, 2023. Table 2 sets forth, by depreciable group, the estimated survivor curve, original cost, book depreciation reserve as of December 31, 2023, future book accruals, calculated annual accrual amount and rate, and composite remaining life for plant in service. Table 3 presents the bringforward of the book reserve to December 31, 2023. Table 4 sets forth the calculation of the depreciation accruals for the twelve months ended December 31, 2023. Table 5 presents the annual amortization of experienced and estimated net salvage based on the period 2019 through 2023.

DESCRIPTION OF DETAILED TABULATIONS

The supporting data for the depreciation calculations are presented in account sequence in the section beginning on page II-5. 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. The amounts of regular retirements, gross salvage and cost of removal are set forth by account for the years 2019 through 2023, beginning on page III-2.

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

TABLE 1. DEVELOPMENT OF NET ORIGINAL COST AS OF DECEMBER 31, 2023

DEPRECIABLE GROUP (1)	ORIGINAL COST AS OF DECEMBER 31, 2023 (2)	CUSTOMER ADVANCES (3)	CONTRIBUTIONS IN AID OF CONSTRUCTION (4)	EXCLUDED PROPERTY (5)	NET ORIGINAL COST AS OF DECEMBER 31, 2023 (6)
DEPRECIABLE PLANT					
354.30 STRUCTURES AND IMPROVEMENTS - SPP	1,412,677.78				1,412,677.78
354.40 STRUCTURES AND IMPROVEMENTS - TDP	2,190,765.35				2,190,765.35
355.00 POWER GENERATION EQUIPMENT	62,378.63				62,378.63
360.10 COLLECTION SEWERS - FORCE MAINS	756,805.00				756,805.00
361.10 COLLECTION SEWERS - GRAVITY MAINS	7,669,197.52				7,669,197.52
361.20 MANHOLES	1,870,737.51				1,870,737.51
363.00 SERVICES	2,051,299.56				2,051,299.56
371.00 PUMPING EQUIPMENT	470,892.59				470,892.59
380.00 TREATMENT EQUIPMENT	1,460,510.24				1,460,510.24
391.00 TRANSPORTATION EQUIPMENT	80,000.00				80,000.00
393.00 TOOLS, SHOP AND GARAGE EQUIPMENT	7,500.00				7,500.00
TOTAL DEPRECIABLE PLANT	18,032,764.18	0.00	0.00	0.00	18,032,764.18
NONDEPRECIABLE PLANT					
353.10 LAND AND LAND RIGHTS	10,356.37				10,356.37
TOTAL NONDEPRECIABLE PLANT	10,356.37	0.00	0.00	0.00	10,356.37
TOTAL PLANT	18,043,120.55	0.00	0.00	0.00	18,043,120.55



PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

TABLE 2. SUMMARY OF ESTIMATED SURVIVOR CURVE, ORIGINAL COST, BOOK DEPRECIATION RESERVE, AND
CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WASTEWATER PLANT AS OF DECEMBER 31, 2023

	DEPRECIABLE GROUP (1)	SURVIVOR CURVE (2)	ORIGINAL COST AS OF DECEMBER 31, 2023 (3)	BOOK DEPRECIATION RESERVE (4)	FUTURE ACCRUALS (5)	CALCULATED ANNUAL		COMPOSITE REMAINING LIFE (8)
						ACCRUAL AMOUNT (6)	ACCURAL RATE (7)=(6)/(3)	
DEPRECIABLE PLANT								
354.30	STRUCTURES AND IMPROVEMENTS - SPP	55-S0	1,412,677.78	410,545	1,002,133	31,906	2.26	31.4
354.40	STRUCTURES AND IMPROVEMENTS - TDP	55-S0	2,190,765.35	840,782	1,349,983	44,900	2.05	30.1
355.00	POWER GENERATION EQUIPMENT	35-S0.5	62,378.63	29,671	32,707	1,937	3.11	16.9
360.10	COLLECTION SEWERS - FORCE MAINS	75-R3	756,805.00	146,190	610,615	11,890	1.57	51.4
361.10	COLLECTION SEWERS - GRAVITY MAINS	80-R2.5	7,669,197.52	1,502,065	6,167,133	116,231	1.52	53.1
361.20	MANHOLES	50-S2.5	1,870,737.51	381,671	1,489,067	52,995	2.83	28.1
363.00	SERVICES	47-R3	2,051,299.56	469,222	1,582,077	60,028	2.93	26.4
371.00	PUMPING EQUIPMENT	30-S0.5	470,892.59	149,280	321,613	22,359	4.75	14.4
380.00	TREATMENT EQUIPMENT	35-S1.5	1,460,510.24	591,630	868,880	59,385	4.07	14.6
391.00	TRANSPORTATION EQUIPMENT	14-L4	80,000.00	3,283	76,717	6,298	7.87	12.2
393.00	TOOLS, SHOP AND GARAGE EQUIPMENT	20-SQ	7,500.00	139	7,361	385	5.13	19.1
TOTAL DEPRECIABLE PLANT			18,032,764.18	4,524,478	13,508,286	408,314	2.26	
NONDEPRECIABLE PLANT								
353.10	LAND AND LAND RIGHTS		10,356.37					
TOTAL NONDEPRECIABLE PLANT			10,356.37			0		
AMORTIZATION OF NET SALVAGE								
TOTAL UTILITY PLANT			18,043,120.55	4,524,478	13,508,286	408,314		



PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

TABLE 3. BRINGFORWARD TO DECEMBER 31, 2023, OF BOOK RESERVE AS OF DECEMBER 31, 2022

ACCOUNT (1)	BOOK RESERVE BALANCE AS OF 12/31/2022 (2)	+	PROJECTED DEPRECIATION ACCRUALS (3)	-	PROJECTED RETIREMENTS (4)	-	PROJECTED COST OF REMOVAL (5)	+	PROJECTED SALVAGE (6)	+	ACQUISITIONS (7)	=	PROJECTED BOOK RESERVE BALANCE AS OF 12/31/2023 (8)
354.30	377,771		32,774		0		0		0		0		410,545
354.40	794,776		46,006		0		0		0		0		840,782
355.00	28,291		1,804		424		0		0		0		29,671
360.10	134,232		11,958		0		0		0		0		146,190
361.10	1,387,180		117,003		2,118		0		0		0		1,502,065
361.20	328,887		53,376		593		0		0		0		381,671
363.00	409,691		60,378		847		0		0		0		469,222
371.00	125,924		23,356		0		0		0		0		149,280
380.00	529,851		61,780		0		0		0		0		591,630
391.00	0		3,283		0		0		0		0		3,283
393.00	0		139		0		0		0		0		139
TOTAL	4,116,603		411,857		3,983		0		0		0		4,524,478



PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

TABLE 4. CALCULATION OF DEPRECIATION ACCRUALS FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2023

ACCOUNT (1)	NET ORIGINAL COST AS OF 12/31/2022 (2)	NET ORIGINAL COST AS OF 12/31/2023 (3)	ACCRUAL RATE (4)	AVERAGE ACCRUALS (5)*	AMORTIZATION OF NET SALVAGE (6)	PROJECTED DEPRECIATION ACCRUALS (7)=(5)+(6)
354.30	1,412,677.79	1,412,677.78	2.32	32,774	0	32,774
354.40	2,190,765.35	2,190,765.35	2.10	46,006	0	46,006
355.00	57,802.32	62,378.63	3.11	1,804	0	1,804
360.10	756,805.00	756,805.00	1.58	11,958	0	11,958
361.10	7,646,315.95	7,669,197.52	1.53	117,003	0	117,003
361.20	1,859,330.67	1,870,737.51	2.87	53,376	0	53,376
363.00	2,032,146.93	2,051,299.56	2.97	60,378	0	60,378
371.00	470,892.59	470,892.59	4.96	23,356	0	23,356
380.00	1,460,510.24	1,460,510.24	4.23	61,780	0	61,780
391.00	40,000.00	80,000.00	7.88	3,283	0	3,283
393.00	2,500.00	7,500.00	5.12	139	0	139
TOTAL	17,929,746.83	18,032,764.18		411,857	0	411,857

* Total accruals shown are based on average monthly balances.



PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

TABLE 5. AMORTIZATION OF EXPERIENCED AND ESTIMATED NET SALVAGE

ACCOUNT (1)	2019		2020		2021		PROJECTED 2022		PROJECTED 2023		NET SALVAGE (12)*	SALVAGE ACCRUAL (13)=(12)/5
	GROSS SALVAGE (2)	COST OF REMOVAL (3)	GROSS SALVAGE (4)	COST OF REMOVAL (5)	GROSS SALVAGE (6)	COST OF REMOVAL (7)	GROSS SALVAGE (8)	COST OF REMOVAL (9)	GROSS SALVAGE (10)	COST OF REMOVAL (11)		
		+		+		+		+		=		
354.30											0	0
354.40											0	0
355.00											0	0
360.10											0	0
361.10											0	0
361.20											0	0
363.00											0	0
371.00											0	0
380.00											0	0
391.00											0	0
393.00											0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0

* Column (12) equals the summation of Columns (2) through (11).



PART II. DETAILED DEPRECIATION CALCULATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST



PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	DEPRECIATED ORIGINAL COST		PCT OF COL 4 TOTAL (6)
			AMOUNT (2) - (3) (4)	CUMULATIVE AMOUNT (5)	
1984	235,954	92,904	143,050	143,050	1.1
1986	638,553	251,414	387,139	530,189	3.9
1990	1,342,719	708,275	634,444	1,164,633	8.6
1994	408,881	209,532	199,349	1,363,982	10.1
1995	1,092,567	342,277	750,290	2,114,272	15.7
1996	85,762	26,422	59,340	2,173,612	16.1
1998	749,196	264,017	485,179	2,658,791	19.7
1999	348,916	97,225	251,691	2,910,482	21.5
2000	142,043	37,807	104,236	3,014,718	22.3
2001	199,870	52,056	147,814	3,162,532	23.4
2002				3,162,532	23.4
2003	440,025	103,438	336,587	3,499,119	25.9
2005	1,068,674	345,629	723,045	4,222,164	31.3
2007	2,582,697	476,452	2,106,245	6,328,409	46.8
2008	1,633,352	306,488	1,326,864	7,655,273	56.7
2010	4,513,162	968,373	3,544,789	11,200,062	82.9
2011	364,565	94,775	269,790	11,469,852	84.9
2013	33,022	7,941	25,081	11,494,933	85.1
2017	374,810	29,011	345,799	11,840,732	87.7
2018	548,397	39,476	508,921	12,349,653	91.4
2019	114,308	6,434	107,874	12,457,527	92.2
2020	934,799	59,924	874,875	13,332,402	98.7
2022	73,495	3,248	70,247	13,402,649	99.2
2023	107,000	1,360	105,640	13,508,289	100.0
SUBTOTAL	18,032,767	4,524,478	13,508,289		
NONDEPRECIABLE	10,356		10,356		
TOTAL	18,043,123	4,524,478	13,518,645		

NET UTILITY PLANT IN SERVICE

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

ACCOUNT 354.30 STRUCTURES AND IMPROVEMENTS - SPP

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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 55-S0						
NET SALVAGE PERCENT.. 0						
1986	31,542.25	18,925	16,743	14,799	25.00	592
1998	227,149.36	106,578	94,290	132,859	28.85	4,605
2010	907,499.30	269,527	238,453	669,046	31.95	20,940
2011	246,486.80	69,016	61,059	185,428	32.14	5,769
2022	0.07		0			
	1,412,677.78	464,046	410,545	1,002,133		31,906
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						31.4 2.26

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

ACCOUNT 354.40 STRUCTURES AND IMPROVEMENTS - TDP

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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 55-S0						
NET SALVAGE PERCENT.. 0						
1990	702,142.55	392,779	380,845	321,298	26.38	12,180
1994	245,328.67	126,639	122,791	122,538	27.65	4,432
2005	423,902.70	159,218	154,381	269,522	30.76	8,762
2010	516,309.60	153,344	148,685	367,625	31.95	11,506
2011	13,847.05	3,877	3,759	10,088	32.14	314
2013	19,813.45	4,827	4,680	15,133	32.60	464
2018	22,845.01	3,217	3,119	19,726	33.56	588
2020	246,576.32	23,227	22,522	224,054	33.67	6,654
	2,190,765.35	867,128	840,782	1,349,983		44,900
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 30.1						2.05

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTSBGROVE WASTEWATER OPERATIONS

ACCOUNT 355.00 POWER GENERATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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 35-S0.5						
NET SALVAGE PERCENT.. 0						
1998	42,042.66	26,907	24,771	17,272	14.34	1,204
2011	12,837.15	5,071	4,668	8,169	19.15	427
2022	2,498.82	149	137	2,362	23.56	100
2023	5,000.00	103	95	4,905	23.83	206
	62,378.63	32,230	29,671	32,707		1,937
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 16.9 3.11						

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

ACCOUNT 360.10 COLLECTION SEWERS - FORCE MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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						
NET SALVAGE PERCENT.. 0						
1986	31,402.07	16,015	12,648	18,754	36.03	521
1990	24,676.57	11,408	9,010	15,667	38.96	402
1998	95,633.49	34,868	27,538	68,095	44.43	1,533
2007	87,047.82	21,118	16,678	70,370	51.52	1,366
2008	7,234.74	1,648	1,302	5,933	52.53	113
2010	497,047.80	99,310	78,431	418,617	54.07	7,742
2020	13,762.51	738	583	13,180	61.86	213
	756,805.00	185,105	146,190	610,615		11,890
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						51.4 1.57

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

ACCOUNT 361.10 COLLECTION SEWERS - GRAVITY MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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 80-R2.5						
NET SALVAGE PERCENT.. 0						
1984	198,225.09	99,430	77,583	120,642	39.24	3,074
1986	416,305.73	199,827	155,920	260,386	40.62	6,410
1990	77,398.73	33,707	26,301	51,098	43.42	1,177
1995	693,201.30	262,723	204,996	488,205	46.69	10,456
1996	46,575.13	17,163	13,392	33,183	47.13	704
1998	268,274.96	92,340	72,050	196,225	48.58	4,039
1999	181,071.76	60,333	47,076	133,996	49.03	2,733
2000	84,408.94	26,977	21,049	63,360	50.03	1,266
2001	105,198.86	32,422	25,298	79,901	50.50	1,582
2003	257,411.28	72,822	56,821	200,590	51.96	3,860
2005	148,878.51	38,560	30,087	118,792	52.93	2,244
2007	2,207,085.68	513,368	400,568	1,806,518	54.43	33,190
2008	780,588.57	171,808	134,057	646,532	54.92	11,772
2010	1,160,526.13	223,982	174,768	985,758	56.43	17,469
2017	316,409.08	30,850	24,071	292,338	60.17	4,859
2018	340,630.36	28,477	22,220	318,410	60.29	5,281
2019	52,734.90	3,655	2,852	49,883	60.44	825
2020	296,775.15	16,085	12,551	284,224	61.02	4,658
2022	12,497.36	304	237	12,260	60.23	204
2023	25,000.00	215	168	24,832	57.98	428
	7,669,197.52	1,925,048	1,502,065	6,167,133		116,231

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 53.1 1.52

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

ACCOUNT 361.20 MANHOLES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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-S2.5						
NET SALVAGE PERCENT.. 0						
1984	37,728.52	27,719	15,321	22,408	14.26	1,571
1986	98,096.46	69,894	38,633	59,463	15.13	3,930
1990	57,711.54	38,090	21,054	36,658	17.26	2,124
1995	122,280.92	71,437	39,486	82,795	20.28	4,083
1996	14,437.44	8,179	4,521	9,916	21.04	471
1998	21,680.67	11,556	6,387	15,294	22.34	685
1999	80,590.04	41,464	22,919	57,671	23.12	2,494
2000	23,285.69	11,545	6,381	16,905	23.90	707
2001	27,986.41	13,350	7,379	20,607	24.67	835
2003	92,393.51	40,533	22,404	69,990	26.23	2,668
2005	88,787.27	35,479	19,611	69,176	27.80	2,488
2007	197,172.56	70,588	39,017	158,156	29.59	5,345
2008	234,934.16	79,384	43,879	191,055	30.37	6,291
2010	479,783.03	141,824	78,392	401,391	32.16	12,481
2017	33,551.94	4,818	2,663	30,889	38.75	797
2018	106,165.71	12,910	7,136	99,030	39.75	2,491
2019	39,384.02	3,915	2,164	37,220	40.75	913
2020	96,767.62	7,490	4,141	92,627	41.75	2,219
2022	6,000.00	199	110	5,890	43.75	135
2023	12,000.00	132	73	11,927	44.75	267
	1,870,737.51	690,506	381,671	1,489,067		52,995

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 28.1 2.83

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

ACCOUNT 363.00 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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 47-R3						
NET SALVAGE PERCENT.. 0						
1986	50,692.40	37,259	21,972	28,720	13.52	2,124
1990	12,694.40	8,632	5,090	7,604	15.76	482
1995	277,084.82	165,835	97,795	179,290	19.12	9,377
1996	24,749.13	14,429	8,509	16,240	19.67	826
1998	18,698.03	10,250	6,045	12,653	21.01	602
1999	87,253.79	46,175	27,230	60,024	21.80	2,753
2000	34,348.11	17,597	10,377	23,971	22.37	1,072
2001	66,684.45	32,862	19,379	47,305	23.16	2,043
2003	90,220.37	41,059	24,213	66,007	24.55	2,689
2005	124,503.90	51,594	30,426	94,078	26.14	3,599
2007	91,390.81	34,235	20,189	71,202	27.55	2,584
2008	610,594.17	215,784	127,250	483,344	28.36	17,043
2010	305,289.54	94,792	55,900	249,390	29.98	8,319
2017	24,848.62	3,861	2,277	22,572	35.34	639
2018	63,526.30	8,385	4,945	58,581	36.17	1,620
2019	22,188.88	2,405	1,418	20,771	37.00	561
2020	116,533.19	9,905	5,841	110,692	37.65	2,940
2022	9,998.65	369	218	9,781	39.15	250
2023	20,000.00	252	148	19,852	39.34	505
	2,051,299.56	795,680	469,222	1,582,077		60,028
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 26.4 2.93						

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

ACCOUNT 371.00 PUMPING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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 30-S0.5						
NET SALVAGE PERCENT.. 0						
1986	10,514.09	8,832	5,498	5,016	7.14	703
1998	75,716.48	52,903	32,936	42,780	11.00	3,889
2010	302,499.78	141,691	88,211	214,289	15.32	13,988
2011	82,162.24	36,357	22,635	59,527	15.75	3,779
	470,892.59	239,783	149,280	321,613		22,359
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						14.4 4.75

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

ACCOUNT 380.00 TREATMENT EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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 35-S1.5						
NET SALVAGE PERCENT.. 0						
1990	468,095.04	365,395	265,975	202,120	9.42	21,456
1994	163,552.44	119,164	86,741	76,811	10.99	6,989
2005	282,601.80	152,661	111,124	171,478	15.75	10,887
2010	344,206.39	144,980	105,533	238,673	18.55	12,866
2011	9,231.37	3,646	2,654	6,577	19.15	343
2013	13,208.96	4,480	3,261	9,948	20.46	486
2018	15,230.00	2,824	2,056	13,174	24.17	545
2020	164,384.23	19,627	14,286	150,098	25.82	5,813
2022	0.01		0			
	1,460,510.24	812,777	591,630	868,880		59,385
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						14.6 4.07

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

ACCOUNT 391.00 TRANSPORTATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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 14-L4						
NET SALVAGE PERCENT.. 0						
2022	40,000.00	4,548	2,462	37,538	11.69	3,211
2023	40,000.00	1,516	821	39,179	12.69	3,087
	80,000.00	6,064	3,283	76,717		6,298
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						12.2 7.87

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTS GROVE WASTEWATER OPERATIONS

ACCOUNT 393.00 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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						
NET SALVAGE PERCENT.. 0						
2022	2,500.00	188	83	2,417	18.50	131
2023	5,000.00	125	56	4,944	19.50	254
	7,500.00	313	139	7,361		385

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 19.1 5.13

PART III. EXPERIENCED AND ESTIMATED NET SALVAGE

PENNSYLVANIA-AMERICAN WATER COMPANY
UPPER POTTSBGROVE WASTEWATER OPERATIONS

EXPERIENCED AND ESTIMATED RETIREMENTS BY ACCOUNT AND ASSOCIATED
COST OF REMOVAL, GROSS SALVAGE, AND NET SALVAGE

ACCT	REGULAR RETIREMENTS	COST OF REMOVAL	GROSS SALVAGE	NET SALVAGE
2022 TRANSACTION YEAR				
355.00	202.84			
361.10	1,014.22			
361.20	283.98			
363.00	405.69			
	1,906.73			
2023 TRANSACTION YEAR				
355.00	423.69			
361.10	2,118.43			
361.20	593.16			
363.00	847.37			
	3,982.65			
TOTAL	5,889.38			

EXHIBIT NO. 11-L - DEPRECIATION STUDY

YORK WASTEWATER OPERATIONS

AS OF DECEMBER 31, 2022

Exhibit No. 11-L
Witness: J. J. Spanos

PENNSYLVANIA-AMERICAN WATER COMPANY

MECHANICSBURG, PENNSYLVANIA

YORK WASTEWATER OPERATIONS

2022 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS

RELATED TO WASTEWATER PLANT

AS OF DECEMBER 31, 2022

Prepared by:



GANNETT FLEMING

Excellence Delivered As Promised

Exhibit No. 11-L
Witness: J. J. Spanos

PENNSYLVANIA-AMERICAN WATER COMPANY

Mechanicsburg, Pennsylvania

YORK WASTEWATER OPERATIONS

2022 DEPRECIATION STUDY
CALCULATED ANNUAL DEPRECIATION ACCRUALS
RELATED TO WASTEWATER PLANT
AS OF DECEMBER 31, 2022

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



Gannett Fleming
Valuation and Rate Consultants, LLC

Corporate Headquarters
207 Senate Avenue
Camp Hill, PA 17011
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April 20, 2022

Pennsylvania-American Water Company
852 Wesley Drive
Mechanicsburg, PA 17055

Attention Ms. Stacey Gress
Director, Rates and Regulatory

Ladies and Gentlemen:

Pursuant to your request, we have determined the annual depreciation accruals applicable to wastewater plant. The results of our study as of December 31, 2022, are presented in the attached report. The results of our study as of December 31, 2023, are presented in our report, "2023 Depreciation Study - Calculated Annual Depreciation Accruals Related to Wastewater Plant as of December 31, 2023." 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, 2022.

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

A handwritten signature in black ink that reads "John J. Spanos".

JOHN J. SPANOS
President

JJS:mle

070800.100

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PART I. INTRODUCTION

PENNSYLVANIA-AMERICAN WATER COMPANY

YORK WASTEWATER OPERATIONS

DEPRECIATION STUDY

PART I. INTRODUCTION

SCOPE

This report sets forth the results of the depreciation study for Pennsylvania-American Water Company to determine the annual depreciation accrual rates and amounts applicable to the original cost of wastewater plant as of December 31, 2022. 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 wastewater plant in service as of December 31, 2022.

Part I, Introduction, contains statements with respect to the basis of the study and the development of net 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, Part VII, Detailed Depreciation Calculations presents the detailed tabulations of annual depreciation and Part VIII, Experienced and Estimated Net Salvage presents the cost of removal and gross salvage recorded for the period 2018-2022.

BASIS OF THE STUDY

The purpose of the depreciation study was to determine the annual depreciation accruals applicable to the original cost of wastewater plant in service as of December 31, 2022. 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 wastewater property for all Pennsylvania-American Water Company Wastewater Operations; (2) consideration of the character, use and location of the property; (3) probable future events and management plans; and (4) a general knowledge of wastewater 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 NET ORIGINAL COST

The original cost data used in this study were obtained from the Company's continuing property records and work order system which show in detail the original cost of the property including descriptions, locations and years of installation of property units. The net original cost was developed from the original cost data by deducting contributions in aid of construction. The development of net original cost by plant account is set forth in Table 1 on page V-4.

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.

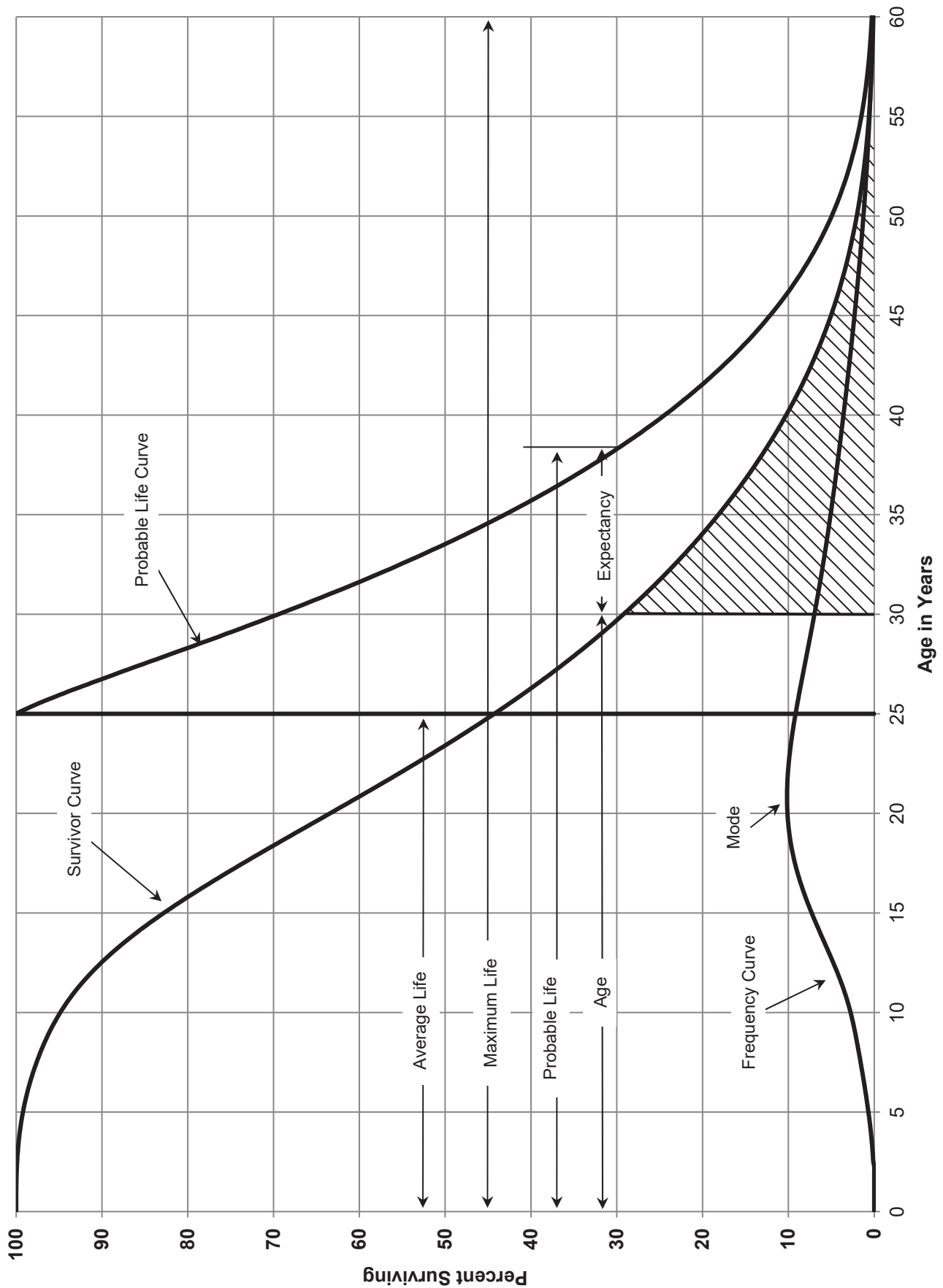


FIGURE 1. TYPICAL SURVIVOR CURVE AND DERIVED CURVES

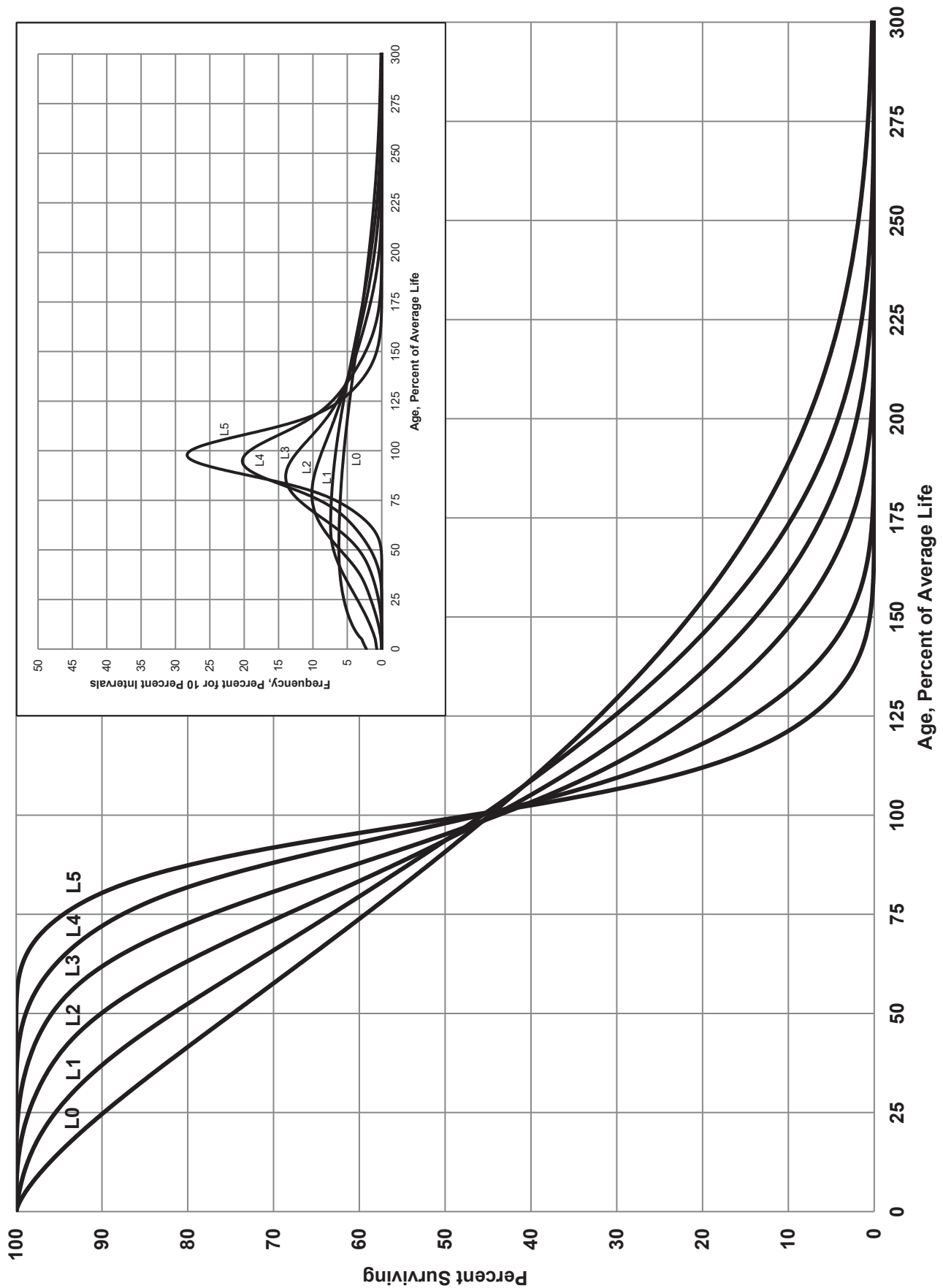


FIGURE 2. LEFT MODAL OR "L" IOWA TYPE SURVIVOR CURVES

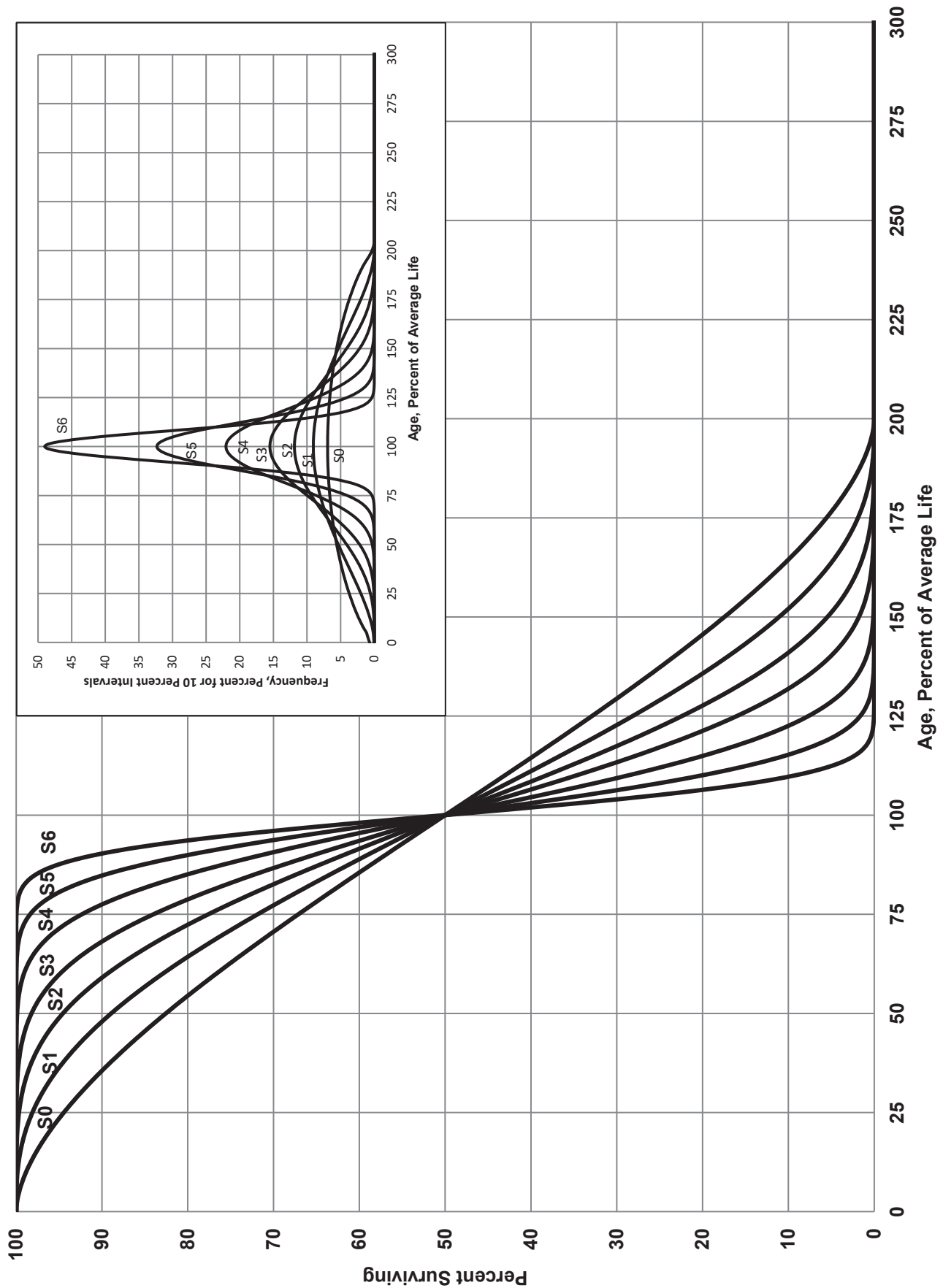


FIGURE 3. SYMMETRICAL OR "S" IOWA TYPE SURVIVOR CURVES

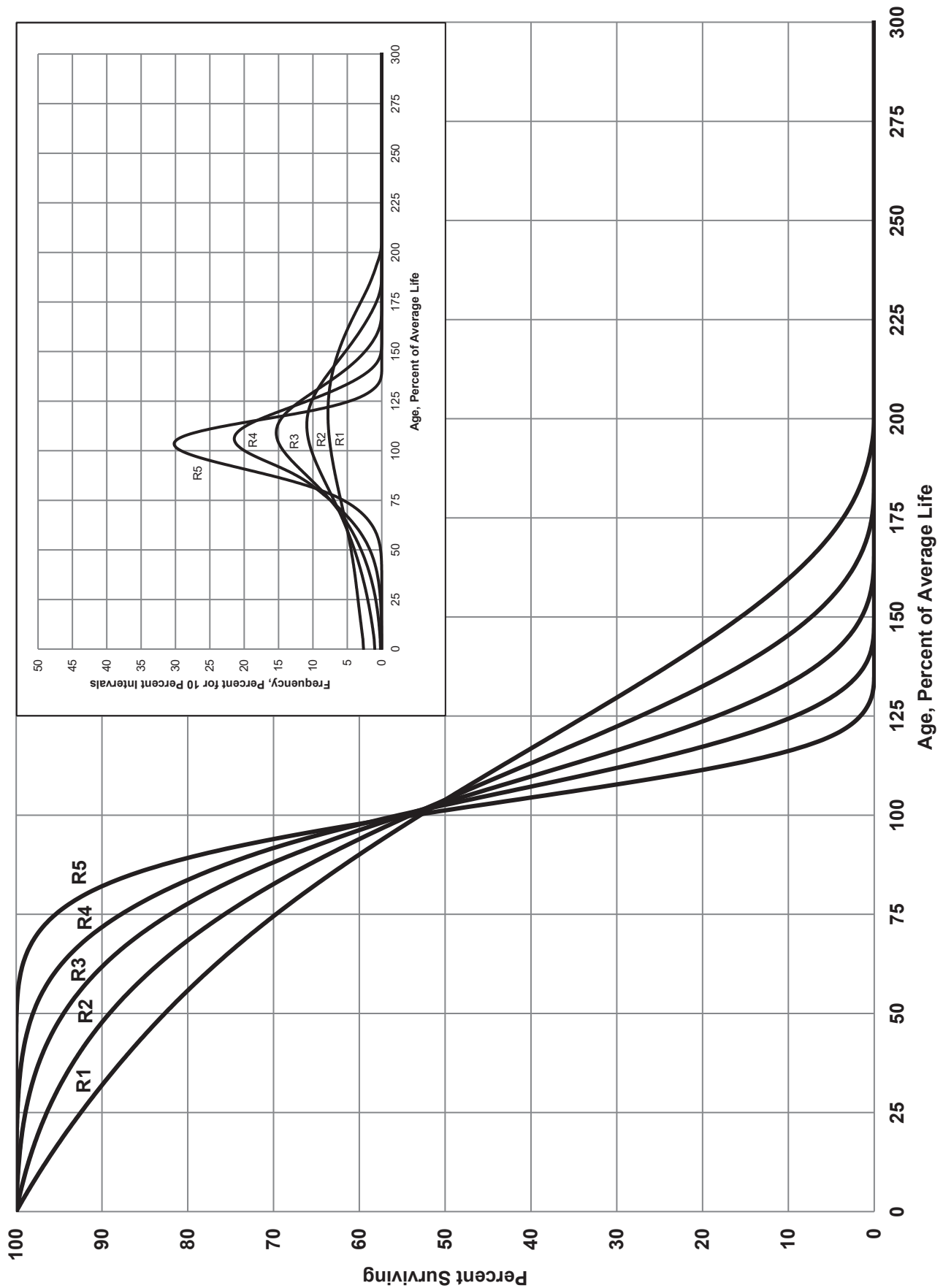


FIGURE 4. RIGHT MODAL OR "R" IOWA TYPE SURVIVOR CURVES

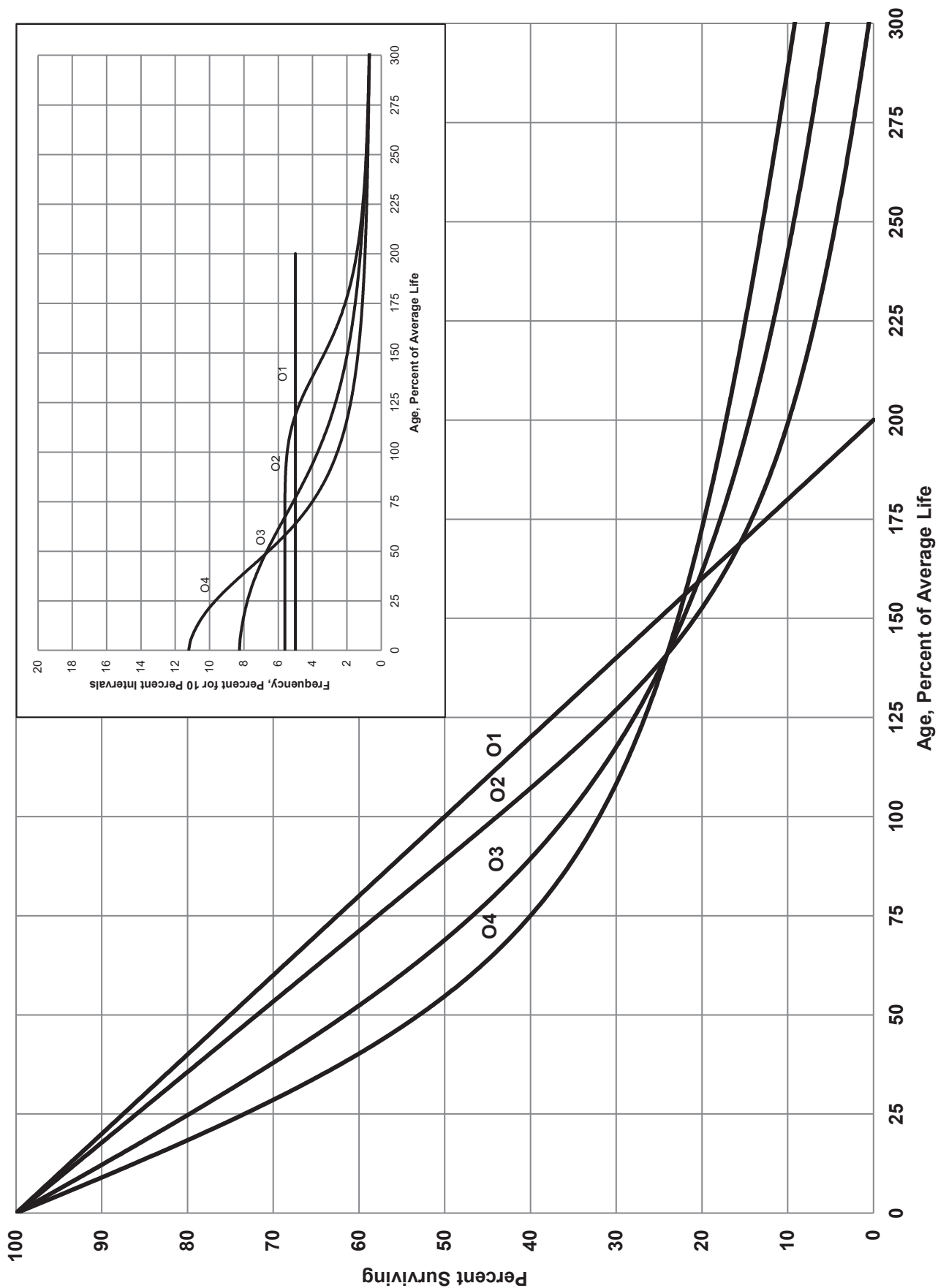


FIGURE 5. ORIGIN MODAL OR "O" IOWA TYPE SURVIVOR CURVES

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. 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.

Schedules of Annual Transactions in Plant Records

The property group used to illustrate the retirement rate method is observed for the experience band 2012-2021 for which there were placements during the years 2007-2021. 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, the year of installation (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 2007 were retired in 2012. 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 2012 retirements of 2007 installations and ending with the 2021 retirements of the 2016 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 2012-2021
SUMMARIZED BY AGE INTERVAL

Experience Band 2012-2021

Placement Band 2007-2021

Year Placed (1)	Retirements, Thousands of Dollars										Total During Age Interval (12)	Age Interval (13)
	2012 (2)	2013 (3)	2014 (4)	2015 (5)	2016 (6)	2017 (7)	2018 (8)	2019 (9)	2020 (10)	2021 (11)		
2007	10	11	12	13	14	16	23	24	25	26	26	13½-14½
2008	11	12	13	15	16	18	20	21	22	19	44	12½-13½
2009	11	12	13	14	16	17	19	21	22	18	64	11½-12½
2010	8	9	10	11	11	13	14	15	16	17	83	10½-11½
2011	9	10	11	12	13	14	16	17	19	20	93	9½-10½
2012	4	9	10	11	12	13	14	15	16	20	105	8½-9½
2013		5	11	12	13	14	15	16	18	20	113	7½-8½
2014			6	12	13	15	16	17	19	19	124	6½-7½
2015				6	13	15	16	17	19	19	131	5½-6½
2016					7	14	16	17	19	20	143	4½-5½
2017						8	18	20	22	23	146	3½-4½
2018							9	20	22	25	150	2½-3½
2019								11	23	25	151	1½-2½
2020									11	24	153	½-1½
2021										13	80	0-½
Total	53	68	86	106	128	157	196	231	273	308	1,606	



SCHEDULE 2. OTHER TRANSACTIONS FOR EACH YEAR 2012-2021
SUMMARIZED BY AGE INTERVAL

Experience Band 2012-2021		Placement Band 2007-2021									
		Acquisitions, Transfers and Sales, Thousands of Dollars									
		During Year									
Year		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Placed		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1)		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2007	-	-	-	-	-	-	-	60 ^a	-	-	-
2008	-	-	-	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-	(5) ^b	-	-
2011	-	-	-	-	-	-	-	-	6 ^a	-	-
2012	-	-	-	-	-	-	-	-	-	-	-
2013	-	-	-	-	-	-	-	-	-	-	-
2014	-	-	-	-	-	-	-	-	-	-	-
2015	-	-	-	-	-	-	-	-	(12) ^b	-	-
2016	-	-	-	-	-	-	-	-	-	22 ^a	-
2017	-	-	-	-	-	-	-	-	(19) ^b	-	-
2018	-	-	-	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	-	-	-	-	-	(102) ^c
2020	-	-	-	-	-	-	-	-	-	-	-
2021	-	-	-	-	-	-	-	-	-	-	-
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 2012 through 2021 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 2017 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 2012-2021
SUMMARIZED BY AGE INTERVAL

Experience Band 2012-2021												Placement Band 2007-2021		
Year	Exposures, Thousands of Dollars											Total at Beginning of Age Interval	Age Interval	
	Annual Survivors at the Beginning of the Year													
	2012 (2)	2013 (3)	2014 (4)	2015 (5)	2016 (6)	2017 (7)	2018 (8)	2019 (9)	2020 (10)	2021 (11)	(12)			
Placed (1)														
2007	255	245	234	222	209	195	239	216	192	167	167	167	13½-14½	
2008	279	268	256	243	228	212	194	174	153	131	131	323	12½-13½	
2009	307	296	284	271	257	241	224	205	184	162	162	531	11½-12½	
2010	338	330	321	311	300	289	276	262	242	226	226	823	10½-11½	
2011	376	367	357	346	334	321	307	297	280	261	261	1,097	9½-10½	
2012	420 ^a	416	407	397	386	374	361	347	332	316	316	1,503	8½-9½	
2013		460 ^a	455	444	432	419	405	390	374	356	356	1,952	7½-8½	
2014			510 ^a	504	492	479	464	448	431	412	412	2,463	6½-7½	
2015				580 ^a	574	561	546	530	501	482	482	3,057	5½-6½	
2016					660 ^a	653	639	623	628	609	609	3,789	4½-5½	
2017						750 ^a	742	724	685	663	663	4,332	3½-4½	
2018							850 ^a	841	821	799	799	4,955	2½-3½	
2019								960 ^a	949	926	926	5,719	1½-2½	
2020									1,080 ^a	1,069	1,069	6,579	½-1½	
2021										1,220 ^a	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	7,799	44,780		

^aAdditions during the year

For the entire experience band 2012-2021, 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 ÷ 3,789,000	= 0.0377
Survivor Ratio	=	1.000 - 0.0377	= 0.9623
Percent surviving at age 5½	=	(88.15) x (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 2012-2021

Placement Band 2007-2021

(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	<u>167</u>	<u>26</u>	0.1557	0.8443	42.24
					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

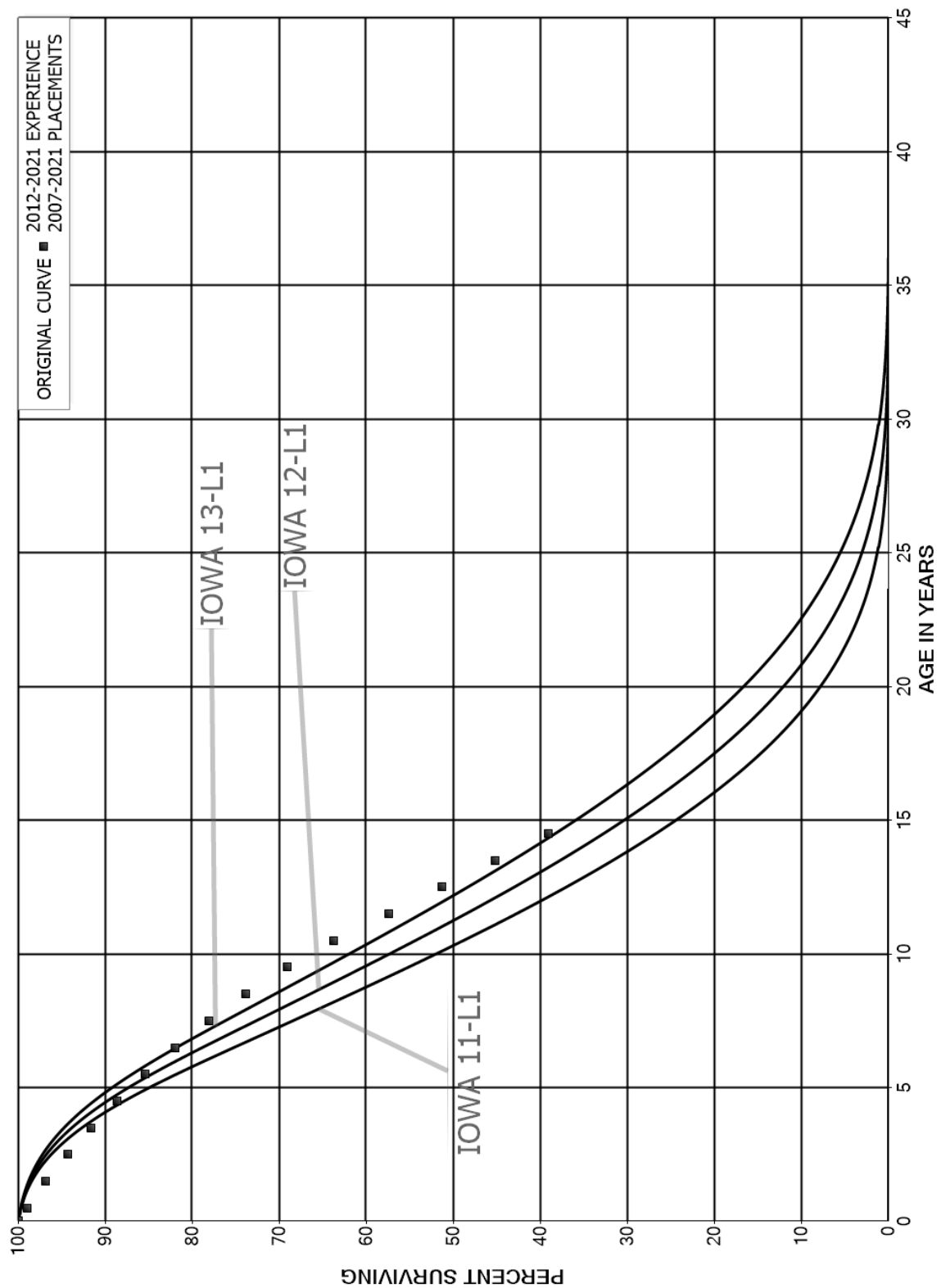


FIGURE 7. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN S0 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

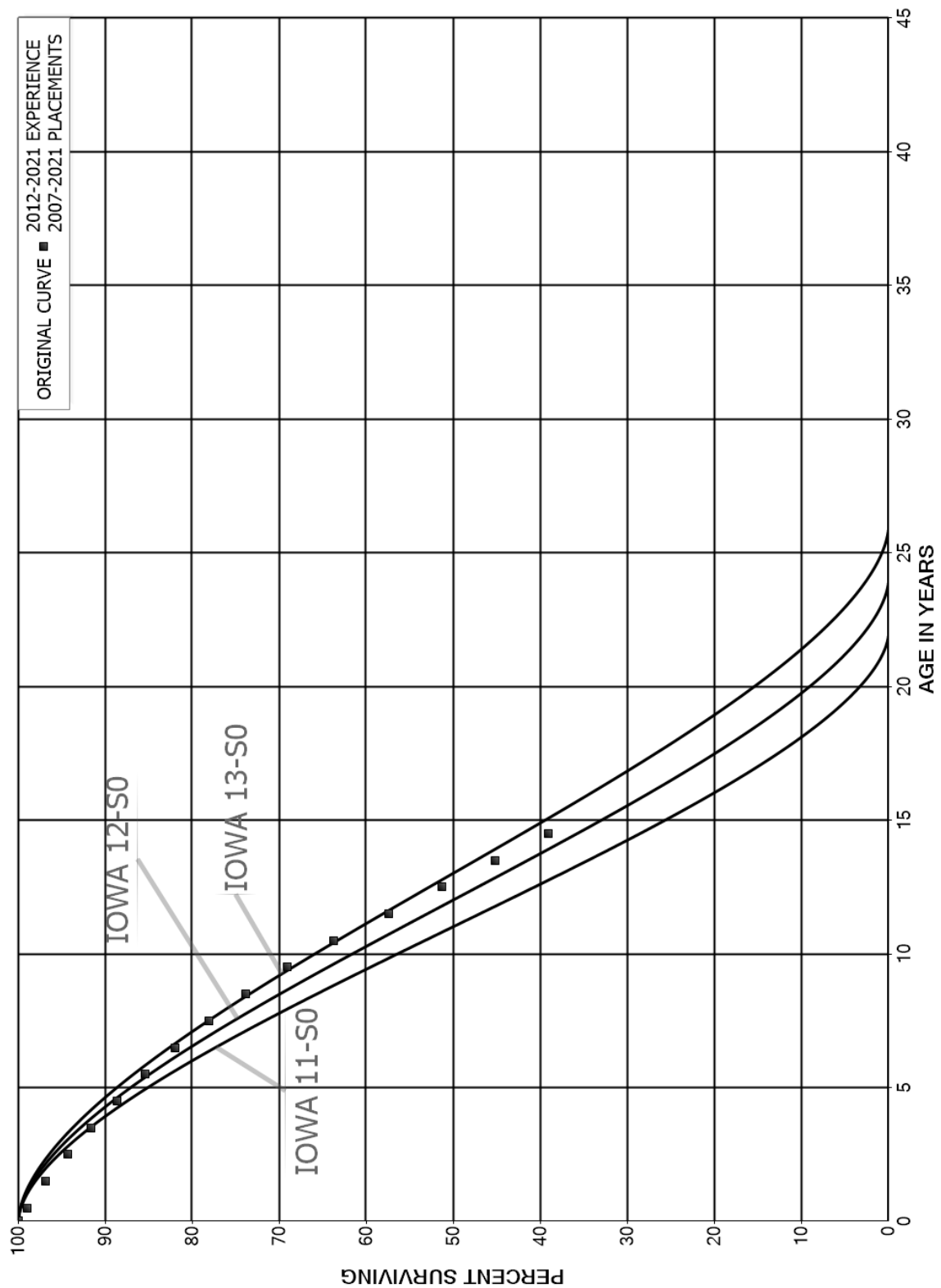


FIGURE 8. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN R1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

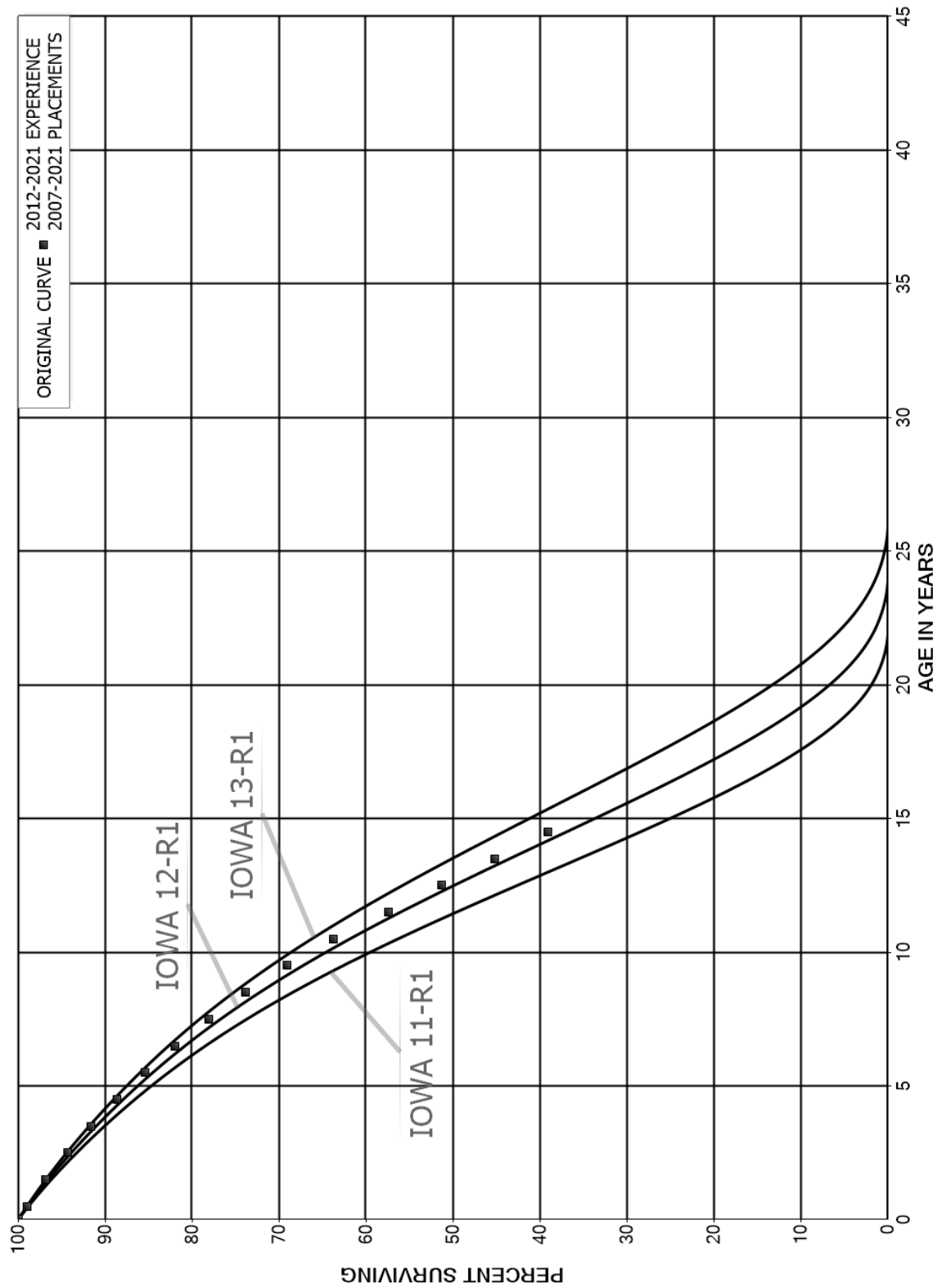
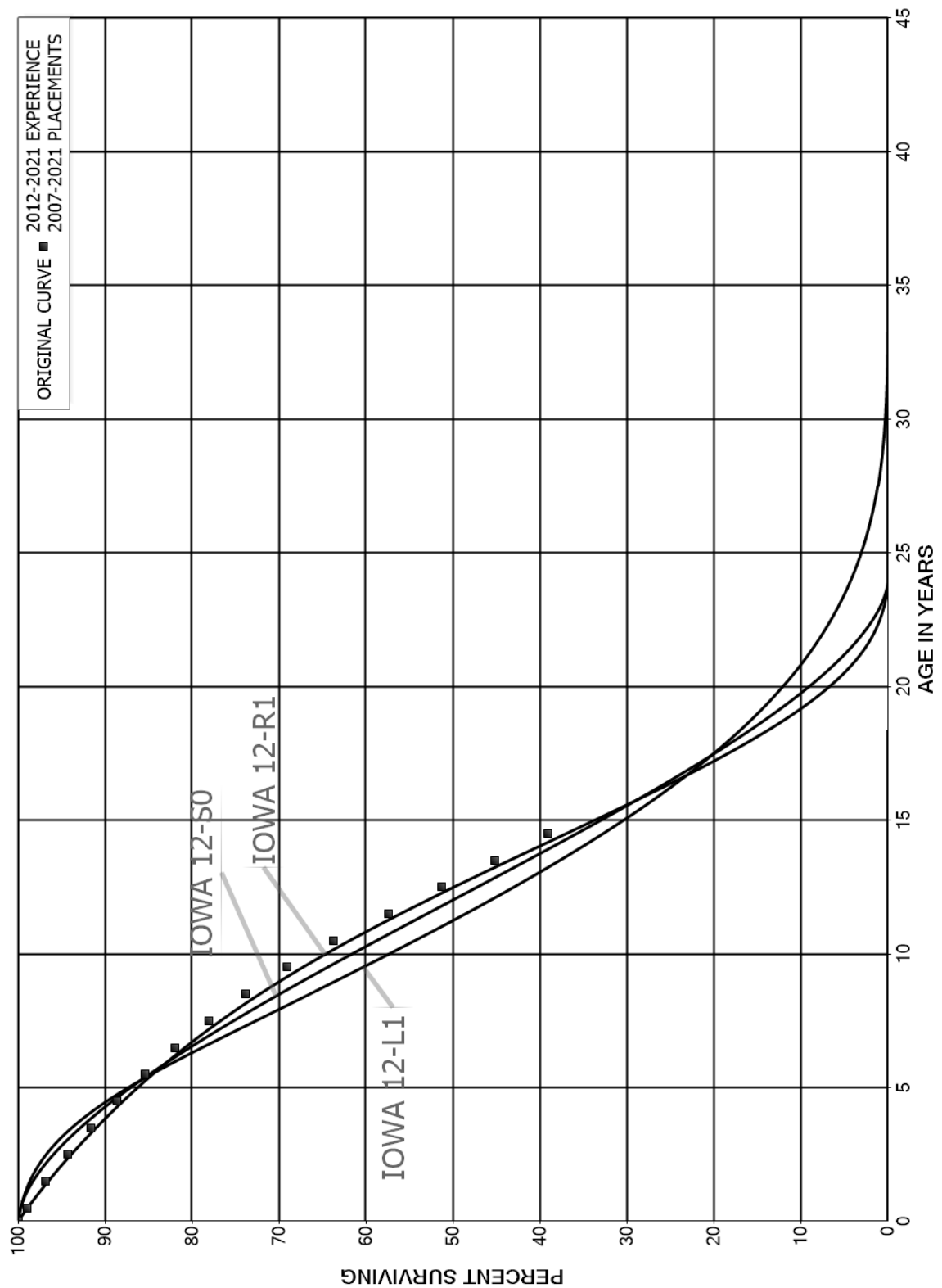


FIGURE 9. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN L1, S0 AND R1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES



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 of other Pennsylvania-American wastewater systems. 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.

The amortization periods selected for general plant Accounts 390, 393, 394, 396 and 397 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, 2021, is the result of a bringforward of the book reserves established by the Commission for the York wastewater operation at the time of acquisition which was August 2022. The projected book reserve as of December 31, 2022, is a bringforward of the December 31, 2021 book reserve based on projected accruals, retirements, cost of removal, salvage and other credits.

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, 2022, 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, 2022, are set forth in the Results of Study section of the report.

Average Service Life Procedure

In the average service life procedure, the remaining life annual accrual for each vintage is determined by dividing future book accruals (original cost less book reserve) by the average remaining life of the vintage. The average remaining life is a directly weighted average derived from the estimated future survivor curve in accordance with the average service life procedure.

The calculated accrued depreciation for each depreciable property group represents that portion of the depreciable cost of the group which would not be allocated to expense through future depreciation accruals if current forecasts of life characteristics

are used as the basis for such accruals. The accrued depreciation calculation consists of applying an appropriate ratio to the surviving original cost of each vintage of each account based upon the attained age and service life. The straight line accrued depreciation ratios are calculated as follows for the average service life procedure:

$$\text{Ratio} = 1 - \frac{\text{Average Remaining Life}}{\text{Average Service Life}}.$$

AMORTIZATION OF GENERAL PLANT ACCOUNTS

In order to use a more efficient and cost effective accounting process for equipment recorded in general plant Accounts 390, 393, 394, 396 and 397; 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 wastewater 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>
390	Office Furniture and Equipment	20
393	Tools, Shop and Garage Equipment	20
394	Laboratory Equipment	15
396	Communication Equipment	15
397	Miscellaneous Equipment	15

NET SALVAGE

Experienced net salvage is incorporated in the results of the study as it was reported on the Company's books and records for the period January 1, 2018 through December 31, 2021, and estimated for the period January 1, 2022 through December 31, 2022. The calculation of the amortization is shown in Table 5 on page V-8. The amounts of gross salvage and removal cost by account for each year are set forth in the section beginning on page VIII-2.

Net salvage is presented in this manner to determine the amount of net salvage to be amortized to the cost of service for ratemaking purposes. In order to be consistent with this manner of recognizing net salvage, no adjustments for net salvage were made to the annual depreciation calculated for the individual accounts.

PART V. RESULTS OF STUDY

PART V. RESULTS OF STUDY

DESCRIPTION OF SUMMARY TABULATIONS

Table 1 presents the development of the net original cost used in the study. The results of the depreciation study are summarized in Table 2 which sets forth, by depreciable group, the estimated survivor curve, calculated annual accruals and book reserve related to net original cost and the annual amortization of net salvage. Table 3 presents the bringforward to December 31, 2022 of the book reserve as of December 31, 2021. Table 4 sets forth the calculation of estimated depreciation accruals for the twelve months ended December 31, 2022. Table 5 presents the amortization of experienced and estimated net salvage, by account, based on the five-year period, 2018-2022. The total amortization amount is incorporated in the total annual accrual in Table 2.

DESCRIPTION OF DETAILED TABULATIONS

Supporting statistical data for the estimates of average service lives and survivor curves, the annual depreciation calculations, and gross salvage and cost of removal for the years 2018-2022 are presented in three 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-3. The tabulations of experienced and estimated net salvage, by year and account for the five-year period 2018-2022, are presented in the section beginning on page VIII-2.

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

TABLE 1. DEVELOPMENT OF NET ORIGINAL COST AS OF DECEMBER 31, 2022

DEPRECIABLE GROUP (1)	ORIGINAL COST AS OF DECEMBER 31, 2022 (2)	CUSTOMER ADVANCES (3)	CONTRIBUTIONS IN AID OF CONSTRUCTION (4)	EXCLUDED PROPERTY (5)	NET ORIGINAL COST AS OF DECEMBER 31, 2022 (6)
DEPRECIABLE PLANT					
354.30 STRUCTURES AND IMPROVEMENTS - SPP	582,966.30				582,966.30
354.40 STRUCTURES AND IMPROVEMENTS - TDP	246,692,614.47				246,692,614.47
355.00 POWER GENERATION EQUIPMENT	64,839.57				64,839.57
360.10 COLLECTION SEWERS - FORCE MAINS	237,222.38				237,222.38
361.10 COLLECTION SEWERS - GRAVITY MAINS	86,983,059.10				86,983,059.10
361.20 MANHOLES	31,851,972.59				31,851,972.59
363.00 SERVICES	43,129,832.79				43,129,832.79
364.00 FLOW MEASURING DEVICES	138,812.35				138,812.35
371.00 PUMPING EQUIPMENT	9,940,381.81				9,940,381.81
380.00 TREATMENT EQUIPMENT	56,358,758.25				56,358,758.25
390.00 OFFICE FURNITURE AND EQUIPMENT	84,590.71				84,590.71
391.00 TRANSPORTATION EQUIPMENT	1,362,860.54				1,362,860.54
393.00 TOOLS, SHOP AND GARAGE EQUIPMENT	300,000.00				300,000.00
394.00 LABORATORY EQUIPMENT	700,260.75				700,260.75
396.00 COMMUNICATION EQUIPMENT	90,000.00				90,000.00
397.00 MISCELLANEOUS EQUIPMENT	75,000.00				75,000.00
TOTAL DEPRECIABLE PLANT	478,593,171.61				478,593,171.61
NONDEPRECIABLE PLANT					
353.00 LAND AND LAND RIGHTS - LAND	3,445,589.42				3,445,589.42
353.05 LAND AND LAND RIGHTS - EASEMENTS	1,753,272.22				1,753,272.22
TOTAL NONDEPRECIABLE PLANT	5,198,861.64				5,198,861.64
TOTAL PLANT	483,792,033.25				483,792,033.25



PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

TABLE 2. SUMMARY OF ESTIMATED SURVIVOR CURVE, ORIGINAL COST, BOOK DEPRECIATION RESERVE, AND
CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WASTEWATER PLANT AS OF DECEMBER 31, 2022

DEPRECIABLE GROUP	SURVIVOR CURVE	ORIGINAL COST AS OF DECEMBER 31, 2022	BOOK DEPRECIATION RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL		COMPOSITE REMAINING LIFE
					ACCRUAL AMOUNT	ACCURAL RATE	
(1)	(2)	(3)	(4)	(5)	(6)	(7)=(6)/(3)	(8)
DEPRECIABLE PLANT							
354.30	55-S0	582,966.30	481,887	101,079	4,261	0.73	23.7
354.40	55-S0	246,692,614.47	126,662,399	120,030,215	4,637,375	1.88	25.9
355.00	35-S0.5	64,839.57	34,789	30,051	1,663	2.56	18.1
360.10	75-R3	237,222.38	85,404	151,818	3,594	1.52	42.2
361.10	80-R2.5	86,983,059.10	41,717,324	45,265,735	1,219,287	1.40	37.1
361.20	50-S2.5	31,851,972.59	22,419,561	9,432,412	1,960,286	6.15	4.8
363.00	47-R3	43,129,832.79	36,313,318	6,816,515	2,346,885	5.44	2.9
364.00	15-L2.5	138,812.35	59,575	79,237	18,318	13.20	4.3
371.00	30-S0.5	9,940,381.81	3,451,847	6,488,535	518,299	5.21	12.5
380.00	35-S1.5	56,358,758.25	22,056,849	34,301,909	2,320,407	4.12	14.8
390.00	20-SQ	84,590.71	41,013	43,578	3,712	4.39	11.7
391.00	14-L4	1,362,860.54	431,679	931,182	107,240	7.87	8.7
393.00	20-SQ	300,000.00	7,500	292,500	15,000	5.00	19.5
394.00	LABORATORY EQUIPMENT	700,260.75	435,652	264,609	84,913	12.13	3.1
396.00	15-SQ	90,000.00	3,000	87,000	6,000	6.67	14.5
397.00	15-SQ	75,000.00	2,500	72,500	5,000	6.67	14.5
TOTAL DEPRECIABLE PLANT			254,204,297	224,388,875	13,252,240	2.77	
NONDEPRECIABLE PLANT							
353.00		3,445,589.42					
353.05		1,753,272.22					
TOTAL NONDEPRECIABLE PLANT			5,198,861.64				
AMORTIZATION OF NET SALVAGE							
TOTAL UTILITY PLANT			254,204,297	224,388,875	13,257,841		

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

TABLE 3. BRINGFORWARD TO DECEMBER 31, 2022, OF BOOK RESERVE AS OF DECEMBER 31, 2021

ACCOUNT (1)	BOOK RESERVE BALANCE AS OF 12/31/2021 (2)	+	PROJECTED DEPRECIATION ACCRUALS (3)	-	PROJECTED RETIREMENTS (4)	-	PROJECTED COST OF REMOVAL (5)	+	PROJECTED SALVAGE (6)	+	ACQUISITIONS (7)	=	PROJECTED BOOK RESERVE BALANCE AS OF 12/31/2022 (8)
354.30	0		5,300								476,587		481,887
354.40	0		2,242,660		8,419						124,428,158		126,662,399
355.00	0		926								33,863		34,789
360.10	0		1,581								83,823		85,404
361.10	0		543,644		19,645		5,009				41,198,334		41,717,324
361.20	0		318,520		4,490		3,076				22,108,607		22,419,561
363.00	0		458,828		2,806		1,010				35,858,307		36,313,318
364.00	0		4,627								54,948		59,575
371.00	0		165,673		20,580		9,673				3,316,427		3,451,847
380.00	0		805,125		39,290		9,233				21,300,247		22,056,849
390.00	0		2,115								38,898		41,013
391.00	0		48,674		66,231						449,236		431,679
393.00	0		7,500										7,500
394.00	0		23,342		103,382						515,692		435,652
396.00	0		3,000										3,000
397.00	0		2,500										2,500
TOTAL	0		4,634,015		264,844		28,001		0		249,863,127		254,204,297



PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

TABLE 4. CALCULATION OF DEPRECIATION ACCRUALS FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2022

ACCOUNT (1)	NET ORIGINAL COST AS OF 12/31/2021 (2)	NET ORIGINAL COST AS OF 12/31/2022 (3)	ACCRUAL RATE (4)	AVERAGE ACCRUALS (5)=[(2)+(3)]/2*(4)	AMORTIZATION OF NET SALVAGE (6)	PROJECTED DEPRECIATION ACCRUALS (7)=(5)+(6)
365.00	0.00	582,966.30	1.82	5,300		5,300
370.00	0.00	246,692,614.47	1.82	2,242,660		2,242,660
371.00	0.00	64,839.57	2.86	926		926
380.00	0.00	237,222.38	1.33	1,581		1,581
381.00	0.00	86,983,059.10	1.25	543,644		543,644
382.00	0.00	31,851,972.59	2.00	318,520		318,520
389.10	0.00	43,129,832.79	2.13	458,828		458,828
390.00	0.00	138,812.35	6.67	4,627		4,627
391.00	0.00	9,940,381.81	3.33	165,673		165,673
392.00	0.00	56,358,758.25	2.86	805,125		805,125
393.00	0.00	84,590.71	5.00	2,115		2,115
394.00	0.00	1,362,860.54	7.14	48,674		48,674
395.00	0.00	300,000.00	5.00	7,500		7,500
396.00	0.00	700,260.75	6.67	23,342		23,342
397.00	0.00	90,000.00	6.67	3,000		3,000
398.00	0.00	75,000.00	6.67	2,500		2,500
TOTAL	0.00	478,593,171.61		4,634,015		4,634,015



PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

TABLE 5. AMORTIZATION OF EXPERIENCED AND ESTIMATED NET SALVAGE

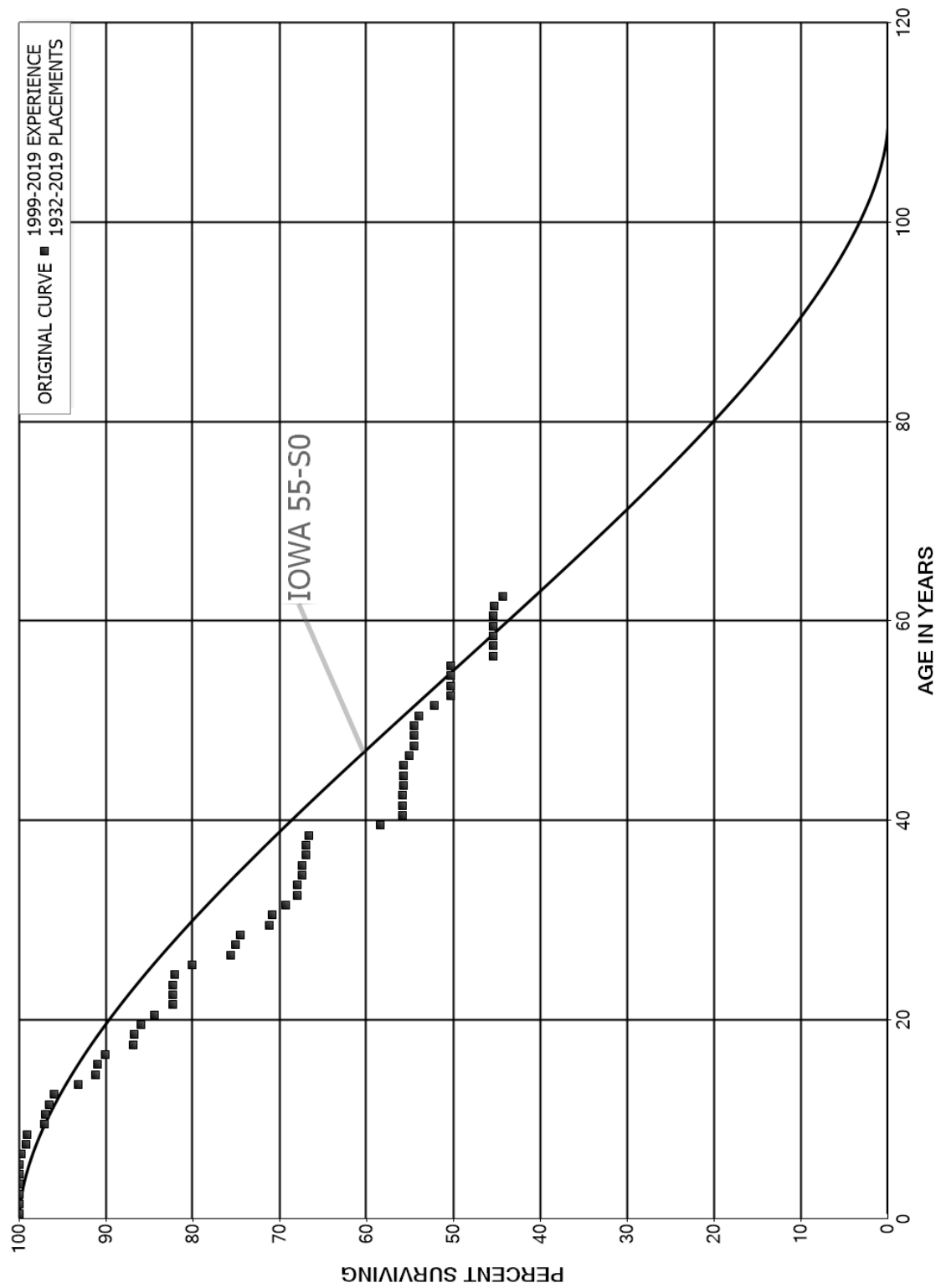
ACCOUNT (1)	2018		2019		2020		2021		PROJECTED 2022		NET SALVAGE (12)*	SALVAGE ACCRUAL (13)=(12)/5
	GROSS SALVAGE (2)	COST OF REMOVAL (3)	GROSS SALVAGE (4)	COST OF REMOVAL (5)	GROSS SALVAGE (6)	COST OF REMOVAL (7)	GROSS SALVAGE (8)	COST OF REMOVAL (9)	GROSS SALVAGE (10)	COST OF REMOVAL (11)		
354.30											0	0
354.40											0	0
355.00											0	0
360.10											0	0
361.10										5,009	(5,009)	(1,002)
361.20										3,076	(3,076)	(615)
363.00										1,010	(1,010)	(202)
364.00											0	0
371.00										9,673	(9,673)	(1,935)
380.00										9,233	(9,233)	(1,847)
390.00											0	0
391.00											0	0
393.00											0	0
394.00											0	0
396.00											0	0
397.00											0	0
TOTAL	0	0	0	0	0	0	0	0	0	28,001	(28,001)	(5,601)

* Column (12) equals the summation of Columns (2) through (11).



PART VI. SERVICE LIFE STATISTICS

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNTS 354.30 AND 354.40 STRUCTURES AND IMPROVEMENTS - SPP AND TDP
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNTS 354.30 AND 354.40 STRUCTURES AND IMPROVEMENTS - SPP AND TDP

ORIGINAL LIFE TABLE

PLACEMENT BAND 1932-2019

EXPERIENCE BAND 1999-2019

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	70,500,767		0.0000	1.0000	100.00
0.5	76,131,665		0.0000	1.0000	100.00
1.5	80,233,751	6,642	0.0001	0.9999	100.00
2.5	105,447,960		0.0000	1.0000	99.99
3.5	85,605,007	28,836	0.0003	0.9997	99.99
4.5	79,002,174	4,425	0.0001	0.9999	99.96
5.5	46,624,214	105,422	0.0023	0.9977	99.95
6.5	51,444,895	277,564	0.0054	0.9946	99.73
7.5	50,906,335	75,090	0.0015	0.9985	99.19
8.5	50,793,050	1,027,715	0.0202	0.9798	99.04
9.5	34,780,266	28,544	0.0008	0.9992	97.04
10.5	15,695,508	65,025	0.0041	0.9959	96.96
11.5	15,618,899	88,716	0.0057	0.9943	96.56
12.5	20,002,643	601,564	0.0301	0.9699	96.01
13.5	17,169,269	353,428	0.0206	0.9794	93.12
14.5	16,203,968	41,247	0.0025	0.9975	91.20
15.5	16,204,082	163,309	0.0101	0.9899	90.97
16.5	13,585,539	481,677	0.0355	0.9645	90.06
17.5	12,995,837	17,548	0.0014	0.9986	86.86
18.5	12,210,208	114,143	0.0093	0.9907	86.74
19.5	7,393,964	134,551	0.0182	0.9818	85.93
20.5	6,513,761	157,405	0.0242	0.9758	84.37
21.5	6,711,244	2,801	0.0004	0.9996	82.33
22.5	7,374,817	1,543	0.0002	0.9998	82.30
23.5	6,783,698	15,823	0.0023	0.9977	82.28
24.5	6,921,413	166,617	0.0241	0.9759	82.09
25.5	6,763,696	380,532	0.0563	0.9437	80.11
26.5	5,899,041	38,147	0.0065	0.9935	75.60
27.5	4,281,769	34,820	0.0081	0.9919	75.12
28.5	3,967,252	175,318	0.0442	0.9558	74.50
29.5	4,051,668	21,732	0.0054	0.9946	71.21
30.5	5,300,696	114,682	0.0216	0.9784	70.83
31.5	4,027,463	76,382	0.0190	0.9810	69.30
32.5	2,813,504	2,190	0.0008	0.9992	67.98
33.5	2,649,698	20,846	0.0079	0.9921	67.93
34.5	1,122,954		0.0000	1.0000	67.40
35.5	398,615	2,457	0.0062	0.9938	67.40
36.5	369,394		0.0000	1.0000	66.98
37.5	339,885	1,942	0.0057	0.9943	66.98
38.5	249,055	30,753	0.1235	0.8765	66.60

PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNTS 354.30 AND 354.40 STRUCTURES AND IMPROVEMENTS - SPP AND TDP

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1932-2019

EXPERIENCE BAND 1999-2019

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	877,505	37,754	0.0430	0.9570	58.37
40.5	1,351,121		0.0000	1.0000	55.86
41.5	19,298,436	4,893	0.0003	0.9997	55.86
42.5	19,293,543	30,808	0.0016	0.9984	55.85
43.5	32,745,779		0.0000	1.0000	55.76
44.5	14,343,608	10,968	0.0008	0.9992	55.76
45.5	14,332,640	153,806	0.0107	0.9893	55.72
46.5	14,199,715	156,087	0.0110	0.9890	55.12
47.5	552,598		0.0000	1.0000	54.51
48.5	1,223,925		0.0000	1.0000	54.51
49.5	1,265,936	12,500	0.0099	0.9901	54.51
50.5	1,284,936	43,517	0.0339	0.9661	53.98
51.5	570,093	20,853	0.0366	0.9634	52.15
52.5	524,823		0.0000	1.0000	50.24
53.5	524,823		0.0000	1.0000	50.24
54.5	447,474		0.0000	1.0000	50.24
55.5	447,474	42,843	0.0957	0.9043	50.24
56.5	13,313,486	1,903	0.0001	0.9999	45.43
57.5	13,311,583		0.0000	1.0000	45.42
58.5	13,049,341	13	0.0000	1.0000	45.42
59.5	140,486		0.0000	1.0000	45.42
60.5	140,486	363	0.0026	0.9974	45.42
61.5	140,123	3,040	0.0217	0.9783	45.31
62.5					44.32
63.5					
64.5					
65.5					
66.5					
67.5					
68.5	39,928		0.0000		
69.5	39,928		0.0000		
70.5	39,928		0.0000		
71.5	39,928		0.0000		
72.5	40,428		0.0000		
73.5	39,928		0.0000		
74.5	39,928		0.0000		
75.5	39,928		0.0000		
76.5	602		0.0000		
77.5	602		0.0000		
78.5	602		0.0000		

PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNTS 354.30 AND 354.40 STRUCTURES AND IMPROVEMENTS - SPP AND TDP

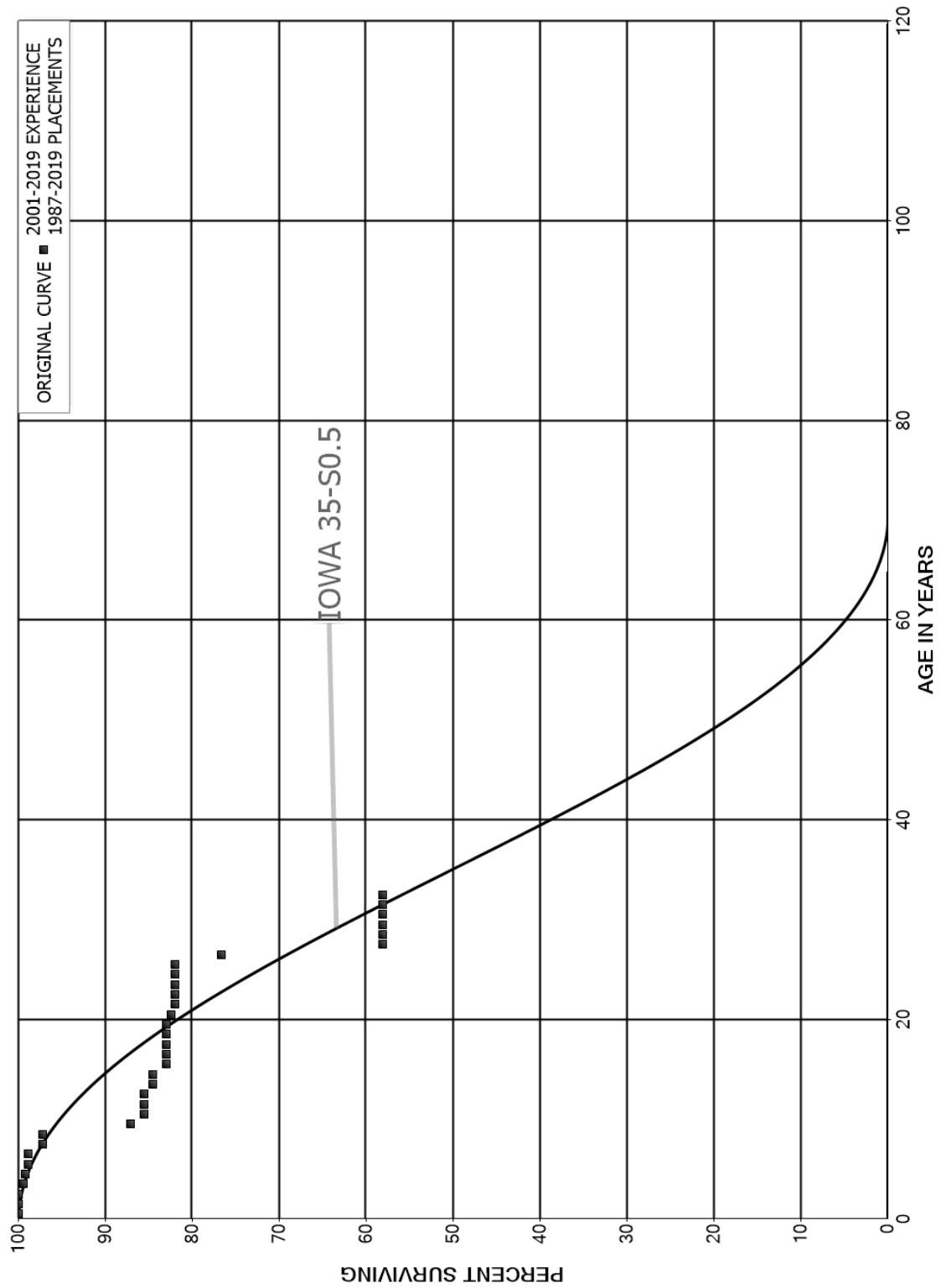
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1932-2019

EXPERIENCE BAND 1999-2019

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	602		0.0000		
80.5	602		0.0000		
81.5	602		0.0000		
82.5	602		0.0000		
83.5	602		0.0000		
84.5	602		0.0000		
85.5	602		0.0000		
86.5	602		0.0000		
87.5					

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 355.00 POWER GENERATION EQUIPMENT
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 355.00 POWER GENERATION EQUIPMENT

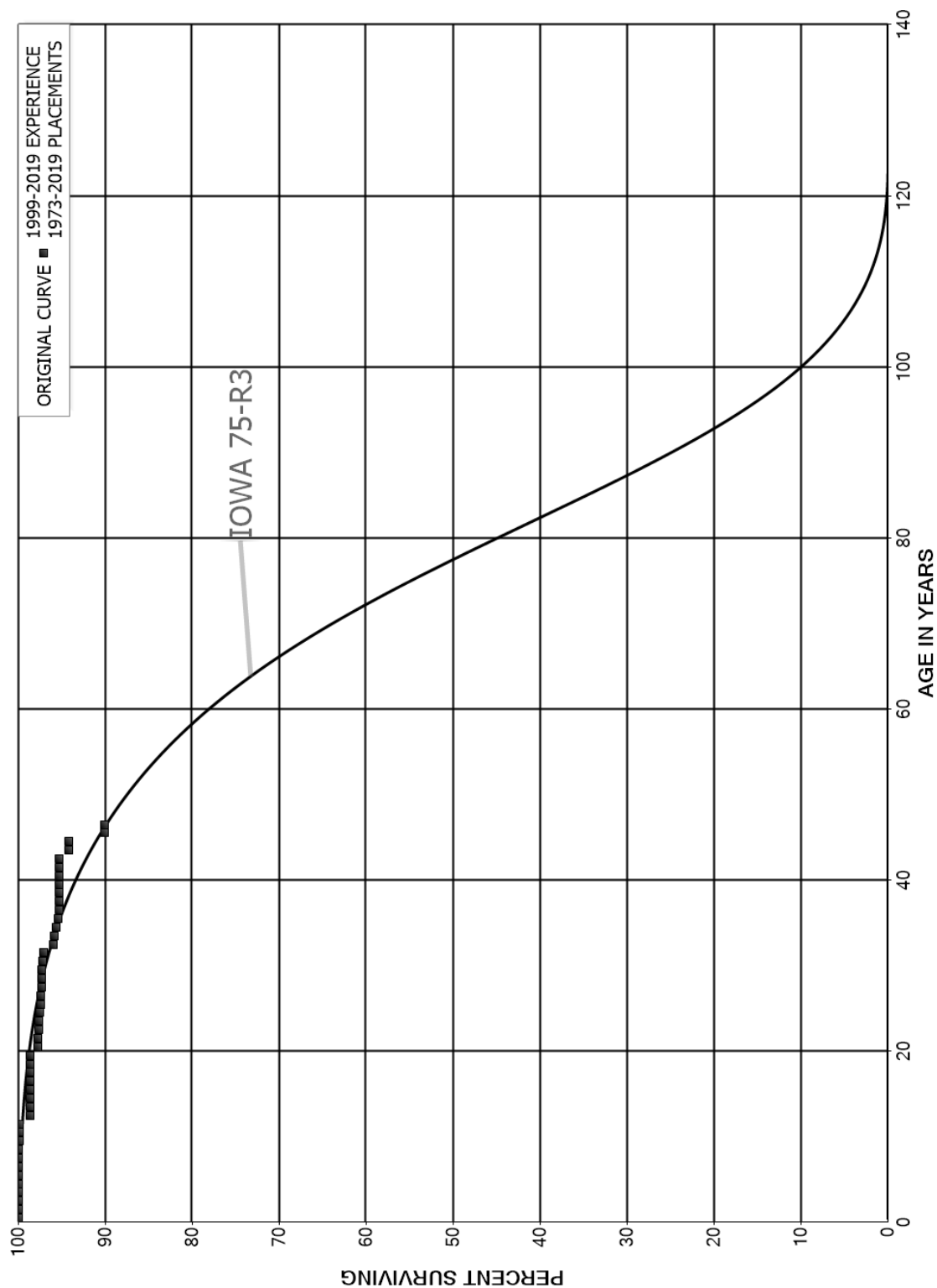
ORIGINAL LIFE TABLE

PLACEMENT BAND 1987-2019

EXPERIENCE BAND 2001-2019

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	3,656,122		0.0000	1.0000	100.00
0.5	3,685,338		0.0000	1.0000	100.00
1.5	4,385,880		0.0000	1.0000	100.00
2.5	4,494,639	26,926	0.0060	0.9940	100.00
3.5	4,479,665	10,161	0.0023	0.9977	99.40
4.5	4,398,000	14,523	0.0033	0.9967	99.18
5.5	3,773,674	1,387	0.0004	0.9996	98.85
6.5	3,828,658	61,470	0.0161	0.9839	98.81
7.5	3,336,361		0.0000	1.0000	97.23
8.5	3,321,984	347,576	0.1046	0.8954	97.23
9.5	2,953,727	51,388	0.0174	0.9826	87.05
10.5	328,249		0.0000	1.0000	85.54
11.5	144,528		0.0000	1.0000	85.54
12.5	267,555	3,097	0.0116	0.9884	85.54
13.5	327,093		0.0000	1.0000	84.55
14.5	278,538	5,336	0.0192	0.9808	84.55
15.5	281,064		0.0000	1.0000	82.93
16.5	293,645		0.0000	1.0000	82.93
17.5	241,944		0.0000	1.0000	82.93
18.5	203,466		0.0000	1.0000	82.93
19.5	203,466	1,204	0.0059	0.9941	82.93
20.5	202,262	1,103	0.0055	0.9945	82.44
21.5	432,455		0.0000	1.0000	81.99
22.5	402,008		0.0000	1.0000	81.99
23.5	402,008		0.0000	1.0000	81.99
24.5	402,008		0.0000	1.0000	81.99
25.5	402,978	26,388	0.0655	0.9345	81.99
26.5	174,978	42,310	0.2418	0.7582	76.62
27.5	89,880		0.0000	1.0000	58.09
28.5	68,585		0.0000	1.0000	58.09
29.5	68,585		0.0000	1.0000	58.09
30.5	19,246		0.0000	1.0000	58.09
31.5	19,246		0.0000	1.0000	58.09
32.5					58.09

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 360.10 COLLECTION SEWERS - FORCE MAINS
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 360.10 COLLECTION SEWERS - FORCE MAINS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1973-2019

EXPERIENCE BAND 1999-2019

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	31,766,704	19	0.0000	1.0000	100.00
0.5	28,215,316	26	0.0000	1.0000	100.00
1.5	35,558,986	33	0.0000	1.0000	100.00
2.5	23,783,577	70	0.0000	1.0000	100.00
3.5	21,373,939	350	0.0000	1.0000	100.00
4.5	18,774,036	315	0.0000	1.0000	100.00
5.5	14,425,014	397	0.0000	1.0000	100.00
6.5	14,188,090	1,611	0.0001	0.9999	99.99
7.5	14,122,868	1,747	0.0001	0.9999	99.98
8.5	13,850,582	16,747	0.0012	0.9988	99.97
9.5	13,465,099	64	0.0000	1.0000	99.85
10.5	13,318,392	82	0.0000	1.0000	99.85
11.5	10,748,868	127,626	0.0119	0.9881	99.85
12.5	9,661,386		0.0000	1.0000	98.66
13.5	7,868,737	3,291	0.0004	0.9996	98.66
14.5	7,779,655	99	0.0000	1.0000	98.62
15.5	5,905,707	9	0.0000	1.0000	98.62
16.5	5,774,986	949	0.0002	0.9998	98.62
17.5	5,344,267	1,253	0.0002	0.9998	98.60
18.5	4,614,847	826	0.0002	0.9998	98.58
19.5	4,197,905	37,017	0.0088	0.9912	98.56
20.5	3,986,776	70	0.0000	1.0000	97.69
21.5	4,475,797	1,897	0.0004	0.9996	97.69
22.5	3,907,599	569	0.0001	0.9999	97.65
23.5	4,900,347	3,932	0.0008	0.9992	97.64
24.5	6,419,851	13,411	0.0021	0.9979	97.56
25.5	6,580,720	788	0.0001	0.9999	97.35
26.5	6,033,834	1,095	0.0002	0.9998	97.34
27.5	6,011,515	2,049	0.0003	0.9997	97.32
28.5	5,991,855	3,135	0.0005	0.9995	97.29
29.5	6,011,945	3,365	0.0006	0.9994	97.24
30.5	5,911,879	4,784	0.0008	0.9992	97.19
31.5	5,517,306	65,876	0.0119	0.9881	97.11
32.5	5,225,480	4,106	0.0008	0.9992	95.95
33.5	5,192,765	13,636	0.0026	0.9974	95.87
34.5	4,869,190	12,733	0.0026	0.9974	95.62
35.5	4,856,457	2,869	0.0006	0.9994	95.37
36.5	4,661,206	15	0.0000	1.0000	95.31
37.5	4,607,713		0.0000	1.0000	95.31
38.5	4,446,768	1,883	0.0004	0.9996	95.31

PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 360.10 COLLECTION SEWERS - FORCE MAINS

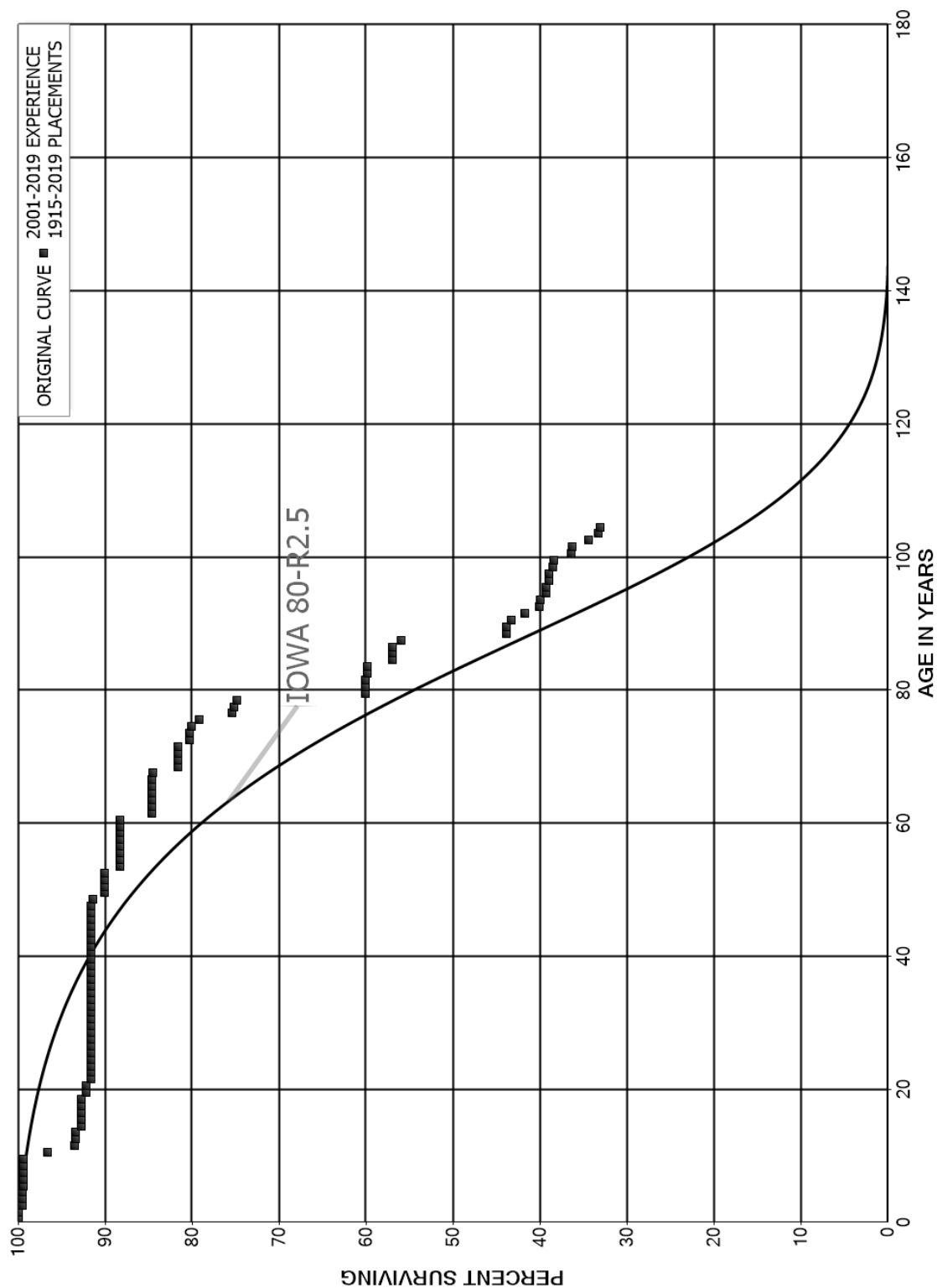
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1973-2019

EXPERIENCE BAND 1999-2019

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	4,369,779	82	0.0000	1.0000	95.27
40.5	4,295,948	6	0.0000	1.0000	95.27
41.5	4,025,587	0	0.0000	1.0000	95.27
42.5	3,566,737	42,283	0.0119	0.9881	95.27
43.5	2,553,034		0.0000	1.0000	94.14
44.5	1,703,254	73,783	0.0433	0.9567	94.14
45.5	125,695		0.0000	1.0000	90.06
46.5					90.06

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 361.10 COLLECTION SEWERS - GRAVITY MAINS
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 361.10 COLLECTION SEWERS - GRAVITY MAINS

ORIGINAL LIFE TABLE

PLACEMENT BAND 1915-2019

EXPERIENCE BAND 2001-2019

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	123,698,865	1,489	0.0000	1.0000	100.00
0.5	80,968,134	1,744	0.0000	1.0000	100.00
1.5	71,427,735	349,743	0.0049	0.9951	100.00
2.5	61,491,291		0.0000	1.0000	99.51
3.5	47,985,505		0.0000	1.0000	99.51
4.5	43,496,282	26,093	0.0006	0.9994	99.51
5.5	34,622,702	11,064	0.0003	0.9997	99.45
6.5	36,236,717	10,556	0.0003	0.9997	99.42
7.5	44,473,440	0	0.0000	1.0000	99.39
8.5	44,403,805	13,334	0.0003	0.9997	99.39
9.5	42,579,956	1,180,167	0.0277	0.9723	99.36
10.5	27,257,562	886,763	0.0325	0.9675	96.60
11.5	23,041,413	10,064	0.0004	0.9996	93.46
12.5	15,696,984	13,300	0.0008	0.9992	93.42
13.5	13,197,516	82,522	0.0063	0.9937	93.34
14.5	9,898,866	187	0.0000	1.0000	92.76
15.5	8,175,329	367	0.0000	1.0000	92.75
16.5	11,005,722	1,374	0.0001	0.9999	92.75
17.5	22,668,123		0.0000	1.0000	92.74
18.5	22,367,436	144,378	0.0065	0.9935	92.74
19.5	21,841,271		0.0000	1.0000	92.14
20.5	10,429,000	56,430	0.0054	0.9946	92.14
21.5	13,494,984		0.0000	1.0000	91.64
22.5	12,095,717		0.0000	1.0000	91.64
23.5	13,846,891		0.0000	1.0000	91.64
24.5	14,182,481		0.0000	1.0000	91.64
25.5	19,071,002		0.0000	1.0000	91.64
26.5	16,170,692		0.0000	1.0000	91.64
27.5	36,060,280		0.0000	1.0000	91.64
28.5	35,923,542		0.0000	1.0000	91.64
29.5	33,683,971		0.0000	1.0000	91.64
30.5	8,391,683	866	0.0001	0.9999	91.64
31.5	8,167,272	21	0.0000	1.0000	91.63
32.5	8,027,418		0.0000	1.0000	91.63
33.5	7,266,714		0.0000	1.0000	91.63
34.5	5,540,059		0.0000	1.0000	91.63
35.5	3,406,034		0.0000	1.0000	91.63
36.5	3,951,146		0.0000	1.0000	91.63
37.5	4,287,296		0.0000	1.0000	91.63
38.5	4,273,219		0.0000	1.0000	91.63

PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 361.10 COLLECTION SEWERS - GRAVITY MAINS

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1915-2019

EXPERIENCE BAND 2001-2019

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	4,243,666		0.0000	1.0000	91.63
40.5	41,503,891	5,447	0.0001	0.9999	91.63
41.5	41,043,016	49	0.0000	1.0000	91.62
42.5	41,341,828		0.0000	1.0000	91.62
43.5	20,516,395		0.0000	1.0000	91.62
44.5	17,262,745	4,573	0.0003	0.9997	91.62
45.5	17,447,879		0.0000	1.0000	91.60
46.5	16,922,111	1,617	0.0001	0.9999	91.60
47.5	1,493,981	2,878	0.0019	0.9981	91.59
48.5	1,491,103	21,283	0.0143	0.9857	91.41
49.5	995,707	187	0.0002	0.9998	90.11
50.5	1,249,631		0.0000	1.0000	90.09
51.5	1,214,773		0.0000	1.0000	90.09
52.5	1,253,366	24,618	0.0196	0.9804	90.09
53.5	28,374,663		0.0000	1.0000	88.32
54.5	38,998,170		0.0000	1.0000	88.32
55.5	39,986,553		0.0000	1.0000	88.32
56.5	13,005,874		0.0000	1.0000	88.32
57.5	59,432,346		0.0000	1.0000	88.32
58.5	60,820,282	557	0.0000	1.0000	88.32
59.5	59,761,303	747	0.0000	1.0000	88.32
60.5	2,094,297	87,761	0.0419	0.9581	88.32
61.5	22,663,762	8	0.0000	1.0000	84.62
62.5	21,213,491	61	0.0000	1.0000	84.62
63.5	21,215,934	289	0.0000	1.0000	84.62
64.5	46,353		0.0000	1.0000	84.62
65.5	1,102,303		0.0000	1.0000	84.62
66.5	1,102,303	1,673	0.0015	0.9985	84.62
67.5	1,100,630	37,140	0.0337	0.9663	84.49
68.5	1,259,440		0.0000	1.0000	81.64
69.5	290,689		0.0000	1.0000	81.64
70.5	962,463	168	0.0002	0.9998	81.64
71.5	962,295	15,230	0.0158	0.9842	81.62
72.5	1,042,298	993	0.0010	0.9990	80.33
73.5	946,072	2,053	0.0022	0.9978	80.25
74.5	683,176	7,508	0.0110	0.9890	80.08
75.5	675,668	32,767	0.0485	0.9515	79.20
76.5	642,901	1,310	0.0020	0.9980	75.36
77.5	1,531,686	8,017	0.0052	0.9948	75.20
78.5	1,523,669	299,242	0.1964	0.8036	74.81

PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 361.10 COLLECTION SEWERS - GRAVITY MAINS

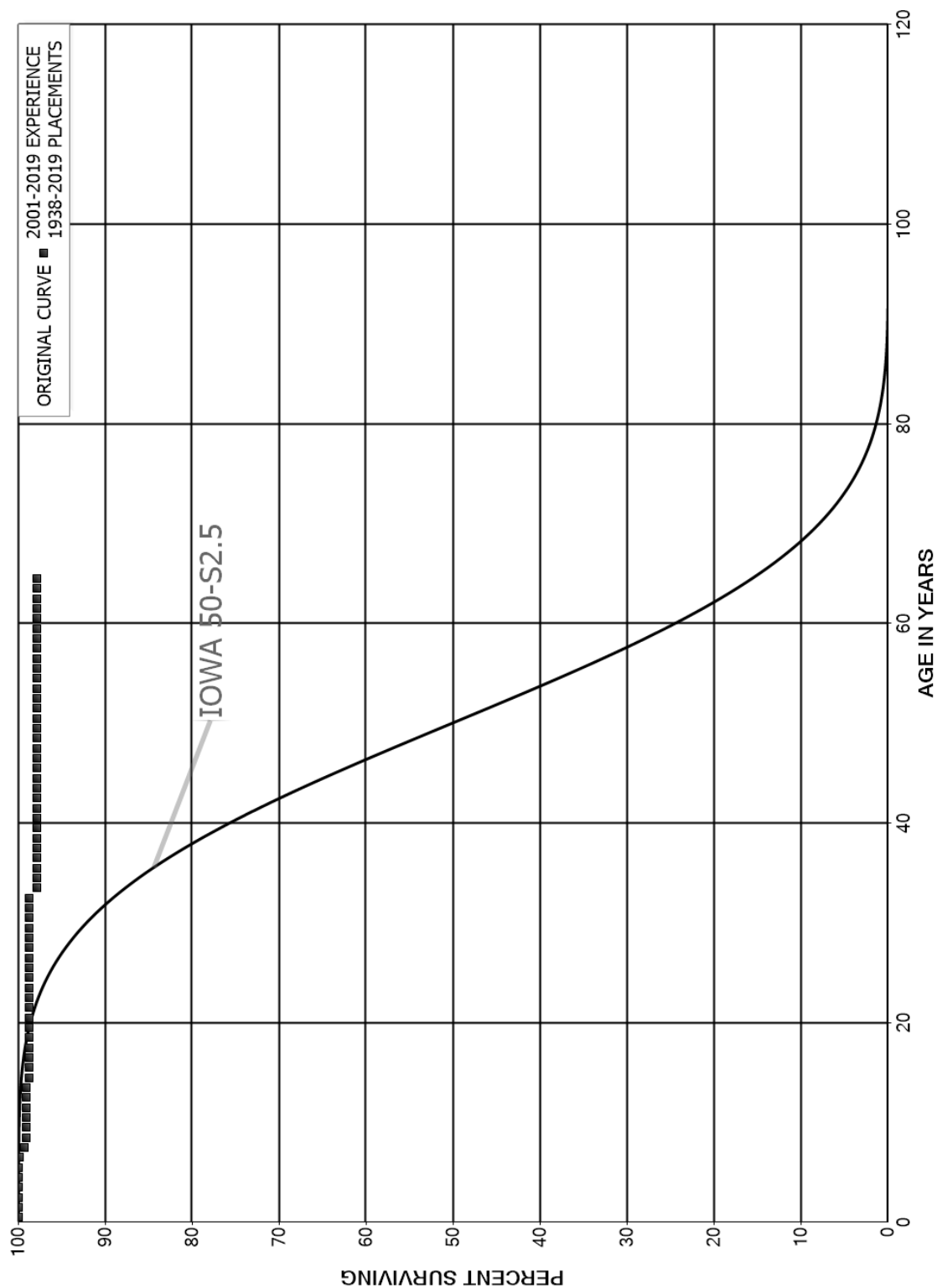
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1915-2019

EXPERIENCE BAND 2001-2019

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	1,224,427	291	0.0002	0.9998	60.12
80.5	1,522,508		0.0000	1.0000	60.10
81.5	632,413	2,303	0.0036	0.9964	60.10
82.5	648,868		0.0000	1.0000	59.89
83.5	648,868	31,252	0.0482	0.9518	59.89
84.5	601,981	10	0.0000	1.0000	57.00
85.5	722,814		0.0000	1.0000	57.00
86.5	722,814	13,485	0.0187	0.9813	57.00
87.5	709,329	153,014	0.2157	0.7843	55.94
88.5	556,315	264	0.0005	0.9995	43.87
89.5	329,027	4,352	0.0132	0.9868	43.85
90.5	306,175	11,276	0.0368	0.9632	43.27
91.5	294,898	11,132	0.0377	0.9623	41.68
92.5	283,767	1,273	0.0045	0.9955	40.10
93.5	282,494	4,366	0.0155	0.9845	39.92
94.5	278,128	221	0.0008	0.9992	39.31
95.5	277,906	1,967	0.0071	0.9929	39.27
96.5	275,939	42	0.0002	0.9998	39.00
97.5	3,804,626	42,906	0.0113	0.9887	38.99
98.5	3,761,720	15,091	0.0040	0.9960	38.55
99.5	3,616,599	191,754	0.0530	0.9470	38.40
100.5	3,424,846	6,012	0.0018	0.9982	36.36
101.5	96,405	5,167	0.0536	0.9464	36.30
102.5	91,238	2,967	0.0325	0.9675	34.35
103.5	88,271	309	0.0035	0.9965	33.23
104.5					33.12

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 361.20 MANHOLES
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 361.20 MANHOLES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1938-2019

EXPERIENCE BAND 2001-2019

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	14,379,651		0.0000	1.0000	100.00
0.5	10,176,887		0.0000	1.0000	100.00
1.5	10,661,285	0	0.0000	1.0000	100.00
2.5	11,952,425		0.0000	1.0000	100.00
3.5	12,083,028	911	0.0001	0.9999	100.00
4.5	7,585,455		0.0000	1.0000	99.99
5.5	5,573,639	6,667	0.0012	0.9988	99.99
6.5	4,589,383	27,566	0.0060	0.9940	99.87
7.5	4,569,090	10,961	0.0024	0.9976	99.27
8.5	5,066,097		0.0000	1.0000	99.03
9.5	5,304,644		0.0000	1.0000	99.03
10.5	5,838,060		0.0000	1.0000	99.03
11.5	5,353,439		0.0000	1.0000	99.03
12.5	4,555,554		0.0000	1.0000	99.03
13.5	4,114,028	12,188	0.0030	0.9970	99.03
14.5	2,635,311		0.0000	1.0000	98.74
15.5	2,105,291	0	0.0000	1.0000	98.74
16.5	2,247,105	472	0.0002	0.9998	98.74
17.5	2,934,821		0.0000	1.0000	98.72
18.5	2,849,242		0.0000	1.0000	98.72
19.5	2,782,656		0.0000	1.0000	98.72
20.5	2,425,509	0	0.0000	1.0000	98.72
21.5	1,772,096		0.0000	1.0000	98.72
22.5	970,343		0.0000	1.0000	98.72
23.5	1,299,611		0.0000	1.0000	98.72
24.5	1,741,110		0.0000	1.0000	98.72
25.5	2,636,710		0.0000	1.0000	98.72
26.5	3,361,749		0.0000	1.0000	98.72
27.5	3,450,899		0.0000	1.0000	98.72
28.5	3,240,536		0.0000	1.0000	98.72
29.5	2,574,979		0.0000	1.0000	98.72
30.5	1,538,799		0.0000	1.0000	98.72
31.5	1,635,548		0.0000	1.0000	98.72
32.5	1,551,747	13,277	0.0086	0.9914	98.72
33.5	1,328,056		0.0000	1.0000	97.88
34.5	1,038,030		0.0000	1.0000	97.88
35.5	1,093,592		0.0000	1.0000	97.88
36.5	1,326,879		0.0000	1.0000	97.88
37.5	1,450,927		0.0000	1.0000	97.88
38.5	1,304,196		0.0000	1.0000	97.88

PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 361.20 MANHOLES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1938-2019

EXPERIENCE BAND 2001-2019

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	994,944		0.0000	1.0000	97.88
40.5	2,263,935		0.0000	1.0000	97.88
41.5	2,043,826		0.0000	1.0000	97.88
42.5	2,216,232		0.0000	1.0000	97.88
43.5	2,406,018		0.0000	1.0000	97.88
44.5	2,040,304		0.0000	1.0000	97.88
45.5	2,008,665		0.0000	1.0000	97.88
46.5	1,708,150		0.0000	1.0000	97.88
47.5	301,817		0.0000	1.0000	97.88
48.5	301,817		0.0000	1.0000	97.88
49.5	170,327		0.0000	1.0000	97.88
50.5	201,568		0.0000	1.0000	97.88
51.5	166,180		0.0000	1.0000	97.88
52.5	172,781		0.0000	1.0000	97.88
53.5	1,995,623		0.0000	1.0000	97.88
54.5	1,827,036		0.0000	1.0000	97.88
55.5	1,951,871		0.0000	1.0000	97.88
56.5	131,436		0.0000	1.0000	97.88
57.5	10,950,272		0.0000	1.0000	97.88
58.5	10,950,272		0.0000	1.0000	97.88
59.5	10,825,437		0.0000	1.0000	97.88
60.5	89,564		0.0000	1.0000	97.88
61.5	89,564		0.0000	1.0000	97.88
62.5	89,564		0.0000	1.0000	97.88
63.5	89,564		0.0000	1.0000	97.88
64.5					97.88
65.5	100,437		0.0000		
66.5	100,437		0.0000		
67.5	123,426		0.0000		
68.5	167,059	22,989	0.1376		
69.5	43,633		0.0000		
70.5	84,331		0.0000		
71.5	84,331		0.0000		
72.5	90,699		0.0000		
73.5	84,331		0.0000		
74.5	43,633		0.0000		
75.5	43,633		0.0000		
76.5	43,633		0.0000		
77.5	306,691		0.0000		
78.5	306,691		0.0000		

PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 361.20 MANHOLES

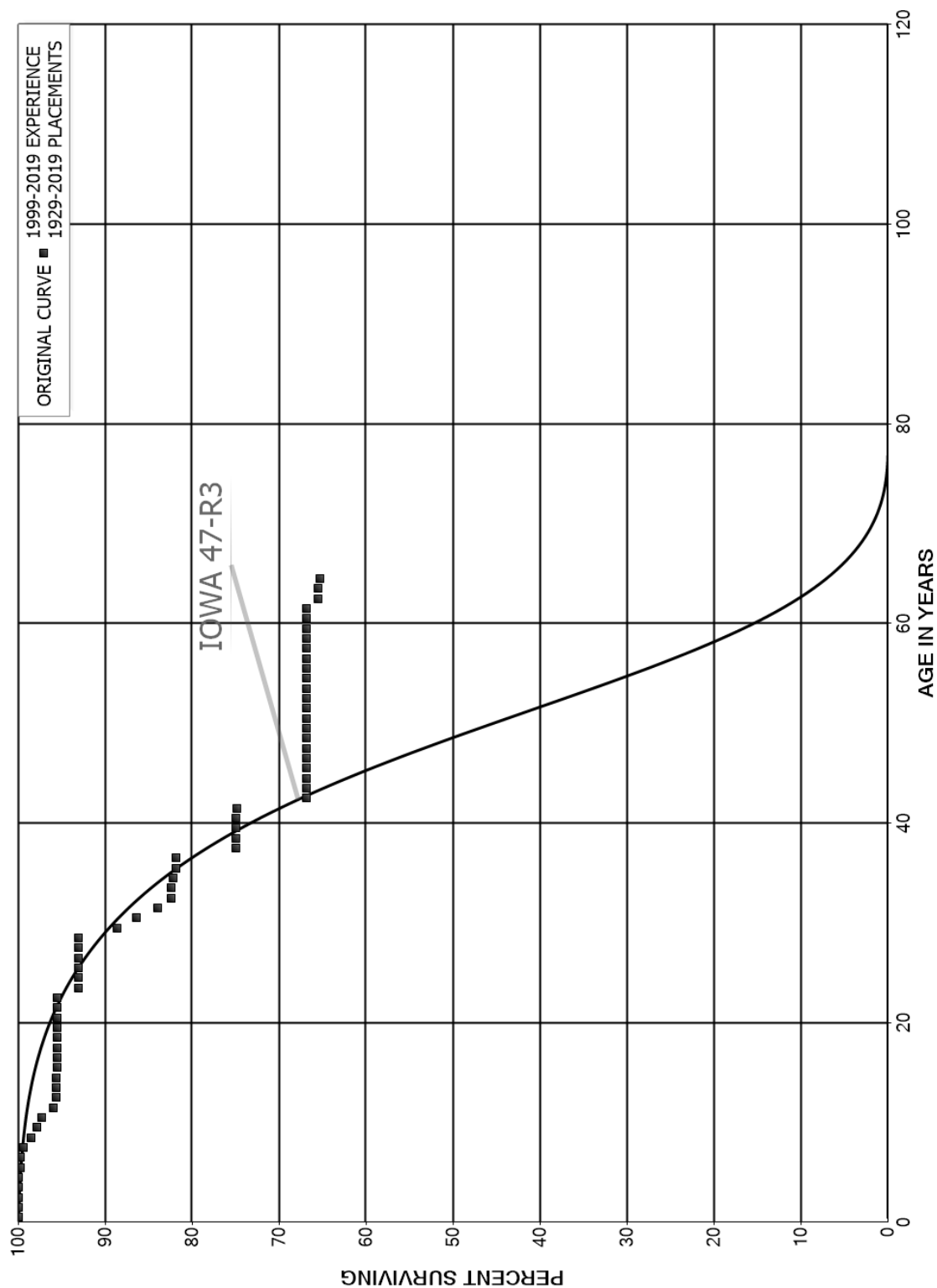
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1938-2019

EXPERIENCE BAND 2001-2019

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	306,691	1,171	0.0038		
80.5	263,058		0.0000		
81.5					

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 363.00 SERVICES
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 363.00 SERVICES

ORIGINAL LIFE TABLE

PLACEMENT BAND 1929-2019

EXPERIENCE BAND 1999-2019

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	10,615,796	0	0.0000	1.0000	100.00
0.5	10,038,138	0	0.0000	1.0000	100.00
1.5	9,510,472	60	0.0000	1.0000	100.00
2.5	8,790,677	5,668	0.0006	0.9994	100.00
3.5	8,679,530	421	0.0000	1.0000	99.93
4.5	7,932,683	12,635	0.0016	0.9984	99.93
5.5	6,966,530	2,890	0.0004	0.9996	99.77
6.5	8,411,000	31,963	0.0038	0.9962	99.73
7.5	8,278,555	65,894	0.0080	0.9920	99.35
8.5	8,313,922	64,649	0.0078	0.9922	98.56
9.5	8,351,147	42,617	0.0051	0.9949	97.79
10.5	6,470,010	87,729	0.0136	0.9864	97.29
11.5	6,246,021	19,892	0.0032	0.9968	95.98
12.5	5,858,877	0	0.0000	1.0000	95.67
13.5	4,698,450	4,942	0.0011	0.9989	95.67
14.5	4,095,435	871	0.0002	0.9998	95.57
15.5	3,284,377		0.0000	1.0000	95.55
16.5	3,511,888	0	0.0000	1.0000	95.55
17.5	3,953,464	0	0.0000	1.0000	95.55
18.5	3,909,166	55	0.0000	1.0000	95.55
19.5	3,630,733		0.0000	1.0000	95.55
20.5	3,925,137		0.0000	1.0000	95.55
21.5	3,646,749		0.0000	1.0000	95.55
22.5	3,395,484	87,997	0.0259	0.9741	95.55
23.5	3,780,922		0.0000	1.0000	93.07
24.5	4,115,954	497	0.0001	0.9999	93.07
25.5	5,003,579		0.0000	1.0000	93.06
26.5	5,176,777		0.0000	1.0000	93.06
27.5	4,635,070		0.0000	1.0000	93.06
28.5	4,421,930	209,578	0.0474	0.9526	93.06
29.5	3,596,999	92,585	0.0257	0.9743	88.65
30.5	2,947,708	80,733	0.0274	0.9726	86.37
31.5	2,783,645	51,927	0.0187	0.9813	84.00
32.5	2,491,265	1,241	0.0005	0.9995	82.43
33.5	2,228,511	4,871	0.0022	0.9978	82.39
34.5	1,965,612	8,461	0.0043	0.9957	82.21
35.5	1,925,423	503	0.0003	0.9997	81.86
36.5	1,973,278	167,021	0.0846	0.9154	81.84
37.5	1,839,375	192	0.0001	0.9999	74.91
38.5	1,657,395		0.0000	1.0000	74.90

PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 363.00 SERVICES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1929-2019

EXPERIENCE BAND 1999-2019

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	1,207,182		0.0000	1.0000	74.90
40.5	1,197,802	385	0.0003	0.9997	74.90
41.5	1,022,673	110,064	0.1076	0.8924	74.88
42.5	886,687		0.0000	1.0000	66.82
43.5	1,408,938		0.0000	1.0000	66.82
44.5	900,914		0.0000	1.0000	66.82
45.5	855,938		0.0000	1.0000	66.82
46.5	736,586		0.0000	1.0000	66.82
47.5	156,414		0.0000	1.0000	66.82
48.5	155,860		0.0000	1.0000	66.82
49.5	82,277		0.0000	1.0000	66.82
50.5	145,022		0.0000	1.0000	66.82
51.5	132,653		0.0000	1.0000	66.82
52.5	134,754	0	0.0000	1.0000	66.82
53.5	137,757		0.0000	1.0000	66.82
54.5	20,119		0.0000	1.0000	66.82
55.5	100,869		0.0000	1.0000	66.82
56.5	100,869		0.0000	1.0000	66.82
57.5	97,866		0.0000	1.0000	66.82
58.5	256,316		0.0000	1.0000	66.82
59.5	180,162	20	0.0001	0.9999	66.82
60.5	228,822		0.0000	1.0000	66.81
61.5	228,822	4,595	0.0201	0.9799	66.81
62.5	50,781		0.0000	1.0000	65.47
63.5	50,781	162	0.0032	0.9968	65.47
64.5					65.26
65.5	60,144		0.0000		
66.5	60,144		0.0000		
67.5	60,144		0.0000		
68.5	70,211		0.0000		
69.5	13,932	819	0.0588		
70.5	36,101		0.0000		
71.5	36,101	4,521	0.1252		
72.5	31,580	1,251	0.0396		
73.5	30,329	442	0.0146		
74.5	6,899	644	0.0933		
75.5	6,255		0.0000		
76.5	6,255		0.0000		
77.5	151,010		0.0000		
78.5	151,010		0.0000		

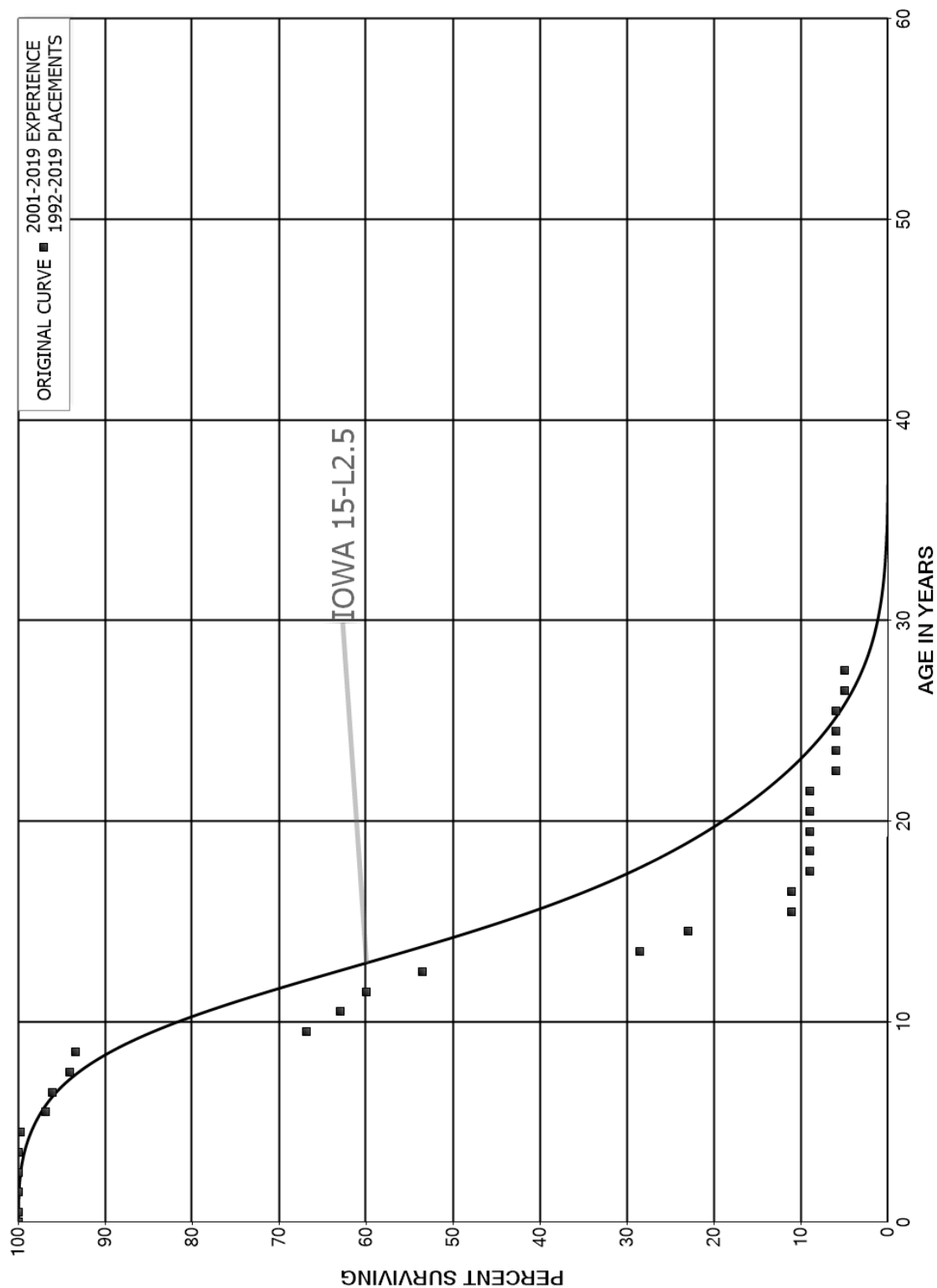
PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 363.00 SERVICES

ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1929-2019			EXPERIENCE BAND 1999-2019		
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	151,010		0.0000		
80.5	144,755	1,628	0.0112		
81.5					
82.5	717		0.0000		
83.5	717		0.0000		
84.5	717		0.0000		
85.5	717		0.0000		
86.5	717		0.0000		
87.5	717		0.0000		
88.5	717		0.0000		
89.5	717		0.0000		
90.5					

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 364.00 FLOW MEASURING DEVICES
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 364.00 FLOW MEASURING DEVICES

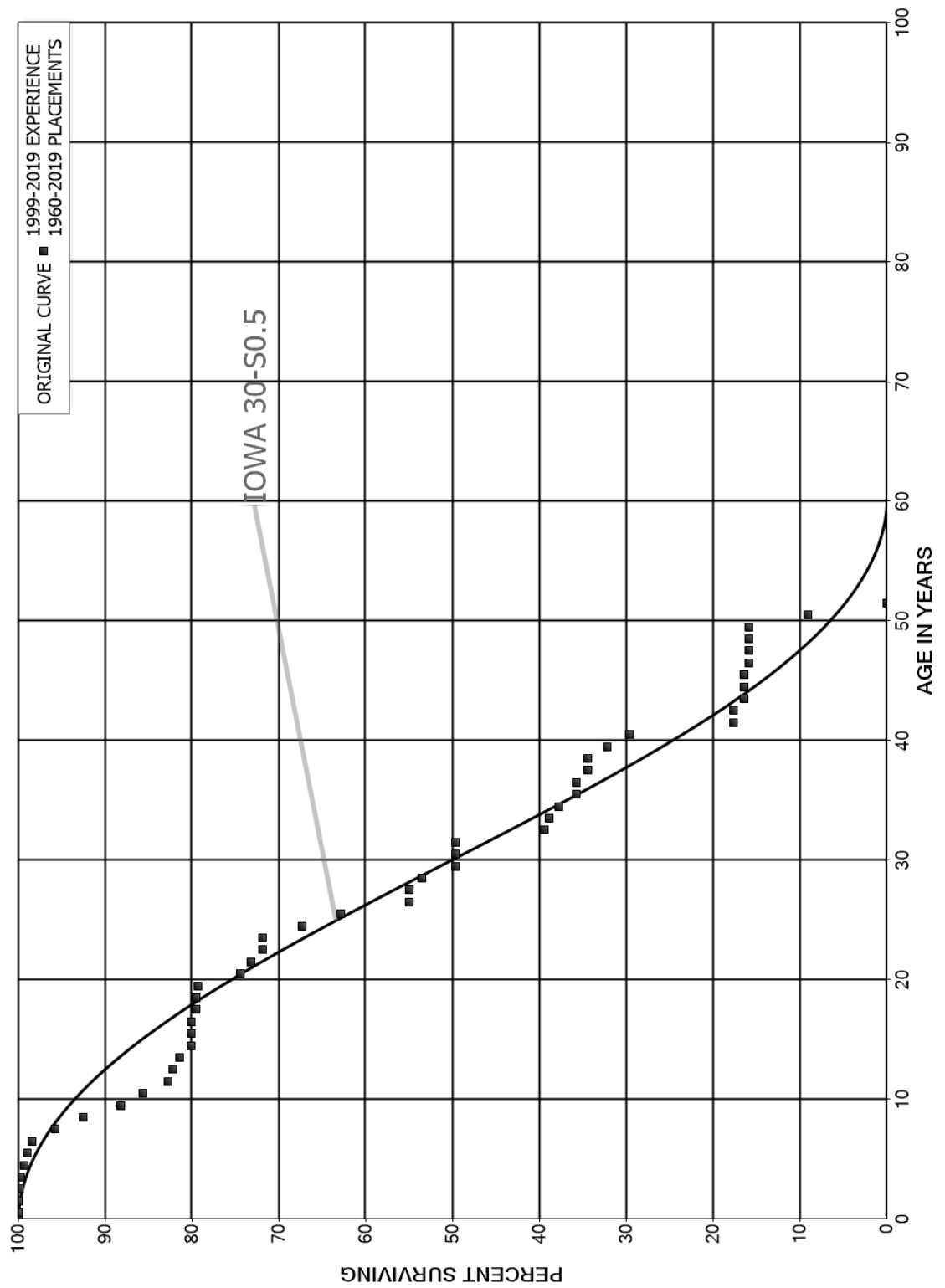
ORIGINAL LIFE TABLE

PLACEMENT BAND 1992-2019

EXPERIENCE BAND 2001-2019

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	1,359,184		0.0000	1.0000	100.00
0.5	993,961		0.0000	1.0000	100.00
1.5	1,007,023		0.0000	1.0000	100.00
2.5	1,088,761		0.0000	1.0000	100.00
3.5	829,368	2,564	0.0031	0.9969	100.00
4.5	790,917	22,463	0.0284	0.9716	99.69
5.5	745,466	5,882	0.0079	0.9921	96.86
6.5	575,156	12,254	0.0213	0.9787	96.10
7.5	576,785	4,337	0.0075	0.9925	94.05
8.5	639,652	181,670	0.2840	0.7160	93.34
9.5	332,968	19,182	0.0576	0.9424	66.83
10.5	221,704	10,816	0.0488	0.9512	62.98
11.5	90,287	9,617	0.1065	0.8935	59.91
12.5	71,639	33,466	0.4671	0.5329	53.53
13.5	31,704	6,133	0.1934	0.8066	28.52
14.5	16,849	8,739	0.5187	0.4813	23.00
15.5	16,281		0.0000	1.0000	11.07
16.5	16,281	3,203	0.1967	0.8033	11.07
17.5	13,078		0.0000	1.0000	8.90
18.5	13,078		0.0000	1.0000	8.90
19.5	13,078		0.0000	1.0000	8.90
20.5	13,078		0.0000	1.0000	8.90
21.5	13,078	4,272	0.3266	0.6734	8.90
22.5	8,806		0.0000	1.0000	5.99
23.5	8,806		0.0000	1.0000	5.99
24.5	8,806		0.0000	1.0000	5.99
25.5	8,806	1,522	0.1728	0.8272	5.99
26.5	7,285		0.0000	1.0000	4.95
27.5					4.95

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 371.00 PUMPING EQUIPMENT
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 371.00 PUMPING EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1960-2019

EXPERIENCE BAND 1999-2019

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	13,928,914		0.0000	1.0000	100.00
0.5	8,653,630	5,419	0.0006	0.9994	100.00
1.5	11,021,964	12,306	0.0011	0.9989	99.94
2.5	10,781,219	12,096	0.0011	0.9989	99.83
3.5	9,453,412	44,345	0.0047	0.9953	99.71
4.5	6,817,321	23,246	0.0034	0.9966	99.25
5.5	5,785,361	27,560	0.0048	0.9952	98.91
6.5	5,413,591	148,677	0.0275	0.9725	98.44
7.5	3,768,518	126,794	0.0336	0.9664	95.73
8.5	3,446,810	160,001	0.0464	0.9536	92.51
9.5	2,549,487	73,710	0.0289	0.9711	88.22
10.5	1,455,129	50,056	0.0344	0.9656	85.67
11.5	1,043,502	7,445	0.0071	0.9929	82.72
12.5	1,137,255	10,025	0.0088	0.9912	82.13
13.5	837,345	14,096	0.0168	0.9832	81.41
14.5	784,395		0.0000	1.0000	80.04
15.5	677,887		0.0000	1.0000	80.04
16.5	534,434	3,610	0.0068	0.9932	80.04
17.5	610,401	101	0.0002	0.9998	79.50
18.5	664,971	1,413	0.0021	0.9979	79.48
19.5	663,558	41,426	0.0624	0.9376	79.31
20.5	588,736	9,514	0.0162	0.9838	74.36
21.5	638,927	11,409	0.0179	0.9821	73.16
22.5	599,786		0.0000	1.0000	71.85
23.5	517,501	33,177	0.0641	0.9359	71.85
24.5	484,324	31,555	0.0652	0.9348	67.25
25.5	497,723	62,415	0.1254	0.8746	62.87
26.5	428,133		0.0000	1.0000	54.98
27.5	312,603	8,673	0.0277	0.9723	54.98
28.5	241,647	17,595	0.0728	0.9272	53.46
29.5	235,281		0.0000	1.0000	49.56
30.5	280,168		0.0000	1.0000	49.56
31.5	280,168	57,666	0.2058	0.7942	49.56
32.5	222,502	2,887	0.0130	0.9870	39.36
33.5	140,599	3,932	0.0280	0.9720	38.85
34.5	136,159	7,170	0.0527	0.9473	37.77
35.5	183,946		0.0000	1.0000	35.78
36.5	183,946	7,008	0.0381	0.9619	35.78
37.5	176,938		0.0000	1.0000	34.41
38.5	127,299	8,408	0.0660	0.9340	34.41

PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 371.00 PUMPING EQUIPMENT

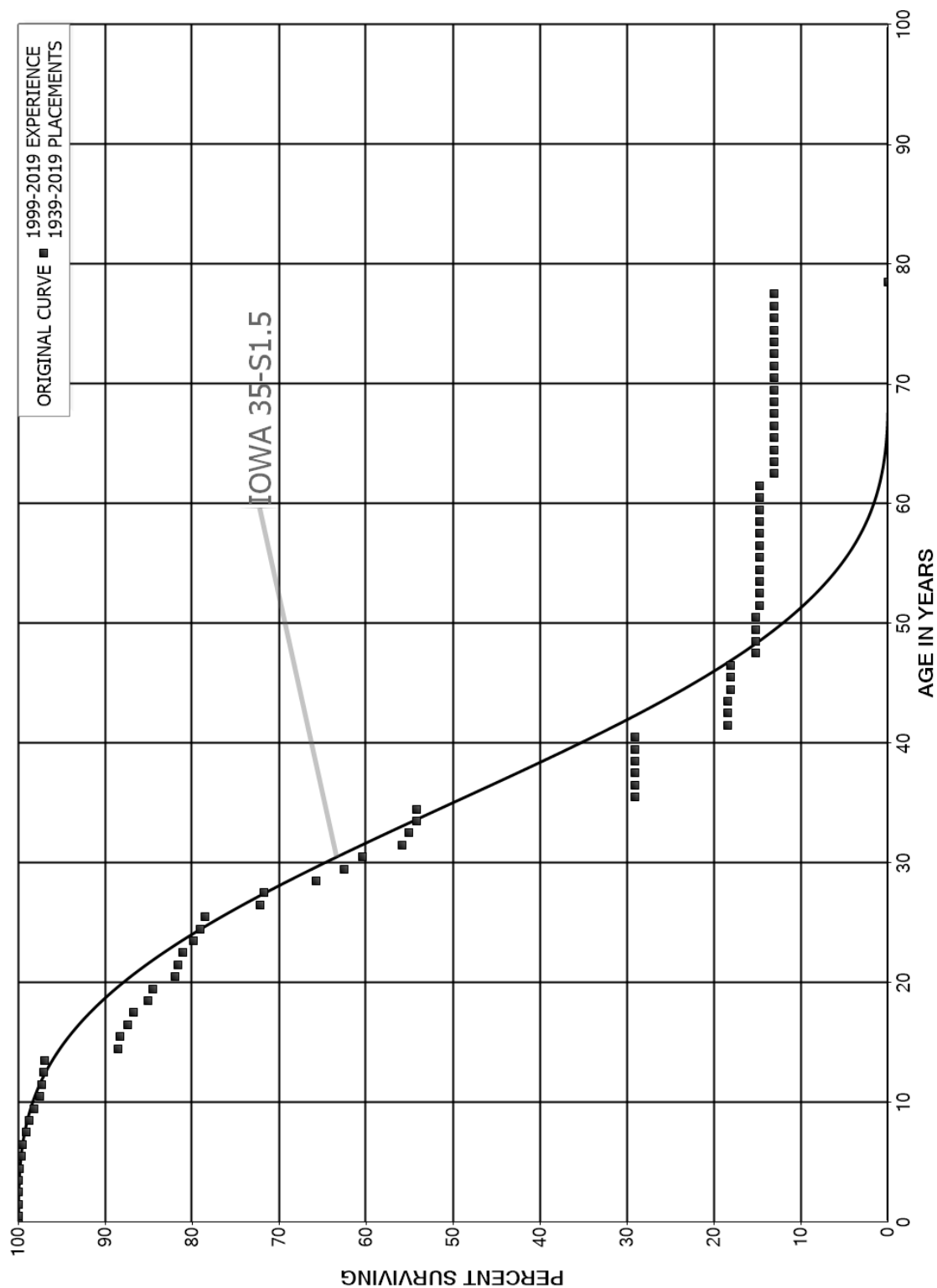
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1960-2019

EXPERIENCE BAND 1999-2019

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	128,004	9,910	0.0774	0.9226	32.14
40.5	140,361	56,891	0.4053	0.5947	29.65
41.5	83,470		0.0000	1.0000	17.63
42.5	83,470	6,122	0.0733	0.9267	17.63
43.5	28,842		0.0000	1.0000	16.34
44.5	28,842		0.0000	1.0000	16.34
45.5	28,842	860	0.0298	0.9702	16.34
46.5	27,983		0.0000	1.0000	15.85
47.5	21,408		0.0000	1.0000	15.85
48.5	5,141		0.0000	1.0000	15.85
49.5	5,141	2,187	0.4255	0.5745	15.85
50.5	2,953	2,953	1.0000		9.11
51.5					

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 380.00 TREATMENT EQUIPMENT
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 380.00 TREATMENT EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1939-2019

EXPERIENCE BAND 1999-2019

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	52,484,979		0.0000	1.0000	100.00
0.5	52,338,297		0.0000	1.0000	100.00
1.5	64,377,580	1,853	0.0000	1.0000	100.00
2.5	61,280,085	2,456	0.0000	1.0000	100.00
3.5	56,645,719	97,216	0.0017	0.9983	99.99
4.5	44,542,853	95,360	0.0021	0.9979	99.82
5.5	39,192,994	29,279	0.0007	0.9993	99.61
6.5	37,993,990	195,343	0.0051	0.9949	99.53
7.5	37,038,634	104,008	0.0028	0.9972	99.02
8.5	38,046,057	237,211	0.0062	0.9938	98.74
9.5	28,856,102	179,693	0.0062	0.9938	98.13
10.5	11,015,164	26,343	0.0024	0.9976	97.52
11.5	15,100,040	30,352	0.0020	0.9980	97.28
12.5	16,280,292	28,816	0.0018	0.9982	97.09
13.5	16,807,417	1,468,058	0.0873	0.9127	96.92
14.5	14,676,816	22,218	0.0015	0.9985	88.45
15.5	11,808,330	121,942	0.0103	0.9897	88.32
16.5	11,627,778	92,492	0.0080	0.9920	87.41
17.5	12,550,432	231,211	0.0184	0.9816	86.71
18.5	10,724,551	78,054	0.0073	0.9927	85.11
19.5	10,812,422	322,982	0.0299	0.9701	84.49
20.5	9,468,414	37,906	0.0040	0.9960	81.97
21.5	9,609,732	62,020	0.0065	0.9935	81.64
22.5	9,543,450	153,592	0.0161	0.9839	81.11
23.5	9,334,263	87,607	0.0094	0.9906	79.81
24.5	9,070,811	59,133	0.0065	0.9935	79.06
25.5	8,792,217	707,485	0.0805	0.9195	78.54
26.5	4,703,706	32,521	0.0069	0.9931	72.22
27.5	4,778,474	397,707	0.0832	0.9168	71.72
28.5	6,059,797	298,086	0.0492	0.9508	65.75
29.5	6,184,153	215,062	0.0348	0.9652	62.52
30.5	5,152,304	387,965	0.0753	0.9247	60.35
31.5	5,356,247	72,674	0.0136	0.9864	55.80
32.5	3,421,800	52,448	0.0153	0.9847	55.05
33.5	2,753,091		0.0000	1.0000	54.20
34.5	2,272,767	1,055,181	0.4643	0.5357	54.20
35.5	635,826		0.0000	1.0000	29.04
36.5	779,480		0.0000	1.0000	29.04
37.5	801,627		0.0000	1.0000	29.04
38.5	778,140		0.0000	1.0000	29.04

PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 380.00 TREATMENT EQUIPMENT

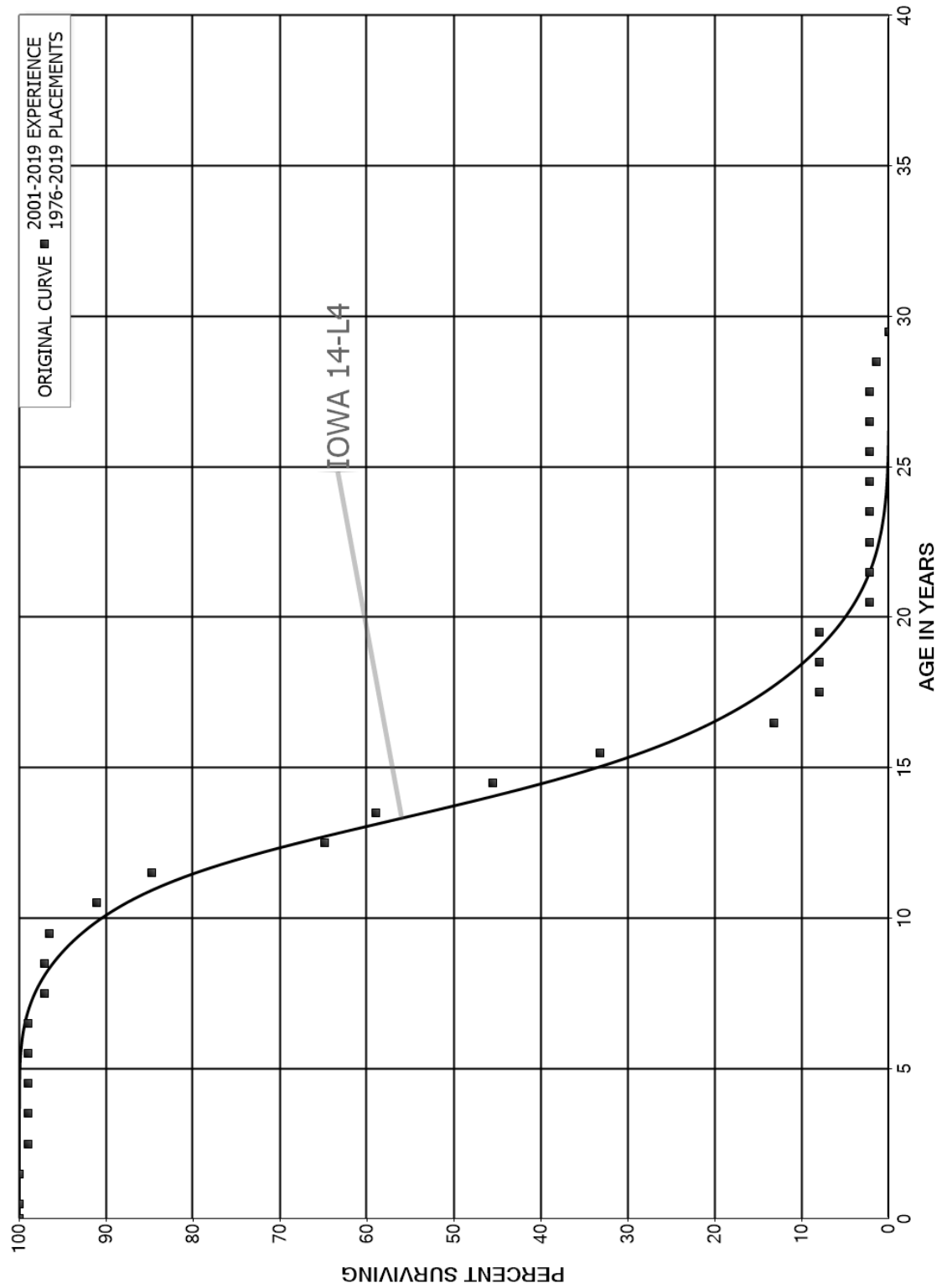
ORIGINAL LIFE TABLE, CONT.

PLACEMENT BAND 1939-2019

EXPERIENCE BAND 1999-2019

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	778,140	411	0.0005	0.9995	29.04
40.5	777,730	285,407	0.3670	0.6330	29.02
41.5	15,823,498		0.0000	1.0000	18.37
42.5	15,823,498		0.0000	1.0000	18.37
43.5	15,823,498	268,317	0.0170	0.9830	18.37
44.5	515,644		0.0000	1.0000	18.06
45.5	515,644		0.0000	1.0000	18.06
46.5	371,038	60,316	0.1626	0.8374	18.06
47.5	288,575		0.0000	1.0000	15.12
48.5	288,575		0.0000	1.0000	15.12
49.5	288,575		0.0000	1.0000	15.12
50.5	288,575	6,818	0.0236	0.9764	15.12
51.5	281,757	315	0.0011	0.9989	14.77
52.5	107,182		0.0000	1.0000	14.75
53.5	107,182	462	0.0043	0.9957	14.75
54.5	23,321		0.0000	1.0000	14.69
55.5	23,321		0.0000	1.0000	14.69
56.5	298,010		0.0000	1.0000	14.69
57.5	298,010		0.0000	1.0000	14.69
58.5	298,010		0.0000	1.0000	14.69
59.5	25,215		0.0000	1.0000	14.69
60.5	25,215		0.0000	1.0000	14.69
61.5	25,215	2,761	0.1095	0.8905	14.69
62.5	1,894		0.0000	1.0000	13.08
63.5	1,894		0.0000	1.0000	13.08
64.5	1,894		0.0000	1.0000	13.08
65.5	1,894		0.0000	1.0000	13.08
66.5	1,894		0.0000	1.0000	13.08
67.5	1,894		0.0000	1.0000	13.08
68.5	1,894		0.0000	1.0000	13.08
69.5	1,894		0.0000	1.0000	13.08
70.5	1,894		0.0000	1.0000	13.08
71.5	1,894		0.0000	1.0000	13.08
72.5	1,894		0.0000	1.0000	13.08
73.5	1,894		0.0000	1.0000	13.08
74.5	1,894		0.0000	1.0000	13.08
75.5	1,894		0.0000	1.0000	13.08
76.5	1,894		0.0000	1.0000	13.08
77.5	1,894	1,894	1.0000		13.08
78.5					

PENNSYLVANIA-AMERICAN WATER COMPANY
 ALL WASTEWATER OPERATIONS
 ACCOUNT 391.00 TRANSPORTATION EQUIPMENT
 ORIGINAL AND SMOOTH SURVIVOR CURVES



PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

ACCOUNT 391.00 TRANSPORTATION EQUIPMENT

ORIGINAL LIFE TABLE

PLACEMENT BAND 1976-2019

EXPERIENCE BAND 2001-2019

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	4,168,919		0.0000	1.0000	100.00
0.5	3,692,372		0.0000	1.0000	100.00
1.5	1,458,511	14,523	0.0100	0.9900	100.00
2.5	2,332,879		0.0000	1.0000	99.00
3.5	2,514,168		0.0000	1.0000	99.00
4.5	1,930,107		0.0000	1.0000	99.00
5.5	1,664,209		0.0000	1.0000	99.00
6.5	1,677,203	32,676	0.0195	0.9805	99.00
7.5	1,535,566		0.0000	1.0000	97.08
8.5	1,373,777	8,793	0.0064	0.9936	97.08
9.5	1,545,830	87,008	0.0563	0.9437	96.45
10.5	879,899	61,030	0.0694	0.9306	91.03
11.5	743,329	174,600	0.2349	0.7651	84.71
12.5	440,822	40,215	0.0912	0.9088	64.81
13.5	348,542	79,500	0.2281	0.7719	58.90
14.5	276,542	75,000	0.2712	0.7288	45.47
15.5	195,354	117,872	0.6034	0.3966	33.14
16.5	51,900	20,700	0.3988	0.6012	13.14
17.5	31,200		0.0000	1.0000	7.90
18.5	32,855		0.0000	1.0000	7.90
19.5	32,855	23,700	0.7214	0.2786	7.90
20.5	9,155		0.0000	1.0000	2.20
21.5	9,155		0.0000	1.0000	2.20
22.5	9,155		0.0000	1.0000	2.20
23.5	9,155		0.0000	1.0000	2.20
24.5	14,155		0.0000	1.0000	2.20
25.5	14,155		0.0000	1.0000	2.20
26.5	14,155		0.0000	1.0000	2.20
27.5	14,155	5,000	0.3532	0.6468	2.20
28.5	9,155	9,155	1.0000		1.42
29.5					

PART VII. DETAILED DEPRECIATION CALCULATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST



PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	DEPRECIATED ORIGINAL COST		PCT OF COL 4 TOTAL (6)
			AMOUNT (2) - (3) (4)	CUMULATIVE AMOUNT (5)	
1912	184,071	180,265	3,806	3,806	0.0
1916	1,152,496	1,073,544	78,952	82,758	0.0
1917	394,732	375,655	19,077	101,835	0.0
1919	68,470	63,313	5,157	106,992	0.0
1921	34,784	33,998	786	107,778	0.0
1922	51,723	45,288	6,435	114,213	0.1
1924	101,785	99,478	2,307	116,520	0.1
1925	4,502,939	4,169,731	333,208	449,728	0.2
1926	3,484,787	3,178,835	305,952	755,680	0.3
1927	880,290	817,946	62,344	818,024	0.4
1928	453,173	406,591	46,582	864,606	0.4
1930	2,539,782	2,280,295	259,487	1,124,093	0.5
1931	1,522,058	1,362,822	159,236	1,283,329	0.6
1932	560,368	511,832	48,536	1,331,865	0.6
1933	137,736	114,283	23,453	1,355,318	0.6
1934	169,773	151,975	17,798	1,373,116	0.6
1935	660,347	587,400	72,947	1,446,063	0.6
1936	2,144,826	1,898,079	246,747	1,692,810	0.8
1937	1,206,045	1,051,930	154,115	1,846,925	0.8
1938	1,203,162	1,054,761	148,401	1,995,326	0.9
1939	833,705	728,700	105,005	2,100,331	0.9
1940	414,033	353,231	60,802	2,161,133	1.0
1941	99,455	83,074	16,381	2,177,514	1.0
1942	833,263	717,139	116,124	2,293,638	1.0
1943	45,321,766	40,183,186	5,138,580	7,432,218	3.3
1944	187,942	168,437	19,505	7,451,723	3.3
1945	166,144	82,568	83,576	7,535,299	3.4
1946	797,308	423,054	374,254	7,909,553	3.5
1947	634,198	334,073	300,125	8,209,678	3.7
1948	93,321	58,387	34,934	8,244,612	3.7
1949	73,989	42,657	31,332	8,275,944	3.7
1950	550,316	357,666	192,650	8,468,594	3.8
1951	191,882	117,506	74,376	8,542,970	3.8
1952	90,646	54,240	36,406	8,579,376	3.8
1953	7,546,128	3,731,439	3,814,689	12,394,065	5.5
1954	26,834,557	20,192,074	6,642,483	19,036,548	8.5
1955	923,258	537,070	386,188	19,422,736	8.7
1956	535,683	313,882	221,801	19,644,537	8.8
1957	345,689	182,049	163,640	19,808,177	8.8
1958	433,963	255,967	177,996	19,986,173	8.9
1961	438,035	274,661	163,374	20,149,547	9.0
1962	342,836	192,386	150,450	20,299,997	9.0
1963	10,513,290	7,527,726	2,985,564	23,285,561	10.4
1965	126,529	70,974	55,555	23,341,116	10.4
1968	2,480,414	1,692,815	787,599	24,128,715	10.8

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	DEPRECIATED ORIGINAL COST		PCT OF COL 4 TOTAL (6)
			AMOUNT (2) - (3) (4)	CUMULATIVE AMOUNT (5)	
1969	1,292,646	881,640	411,006	24,539,721	10.9
1971	107,768	44,686	63,082	24,602,803	11.0
1979	188,874	99,891	88,983	24,691,786	11.0
1980	8,748,208	4,580,049	4,168,159	28,859,945	12.9
1981	46,169,902	27,834,743	18,335,159	47,195,104	21.0
1983	45,445,749	21,020,943	24,424,806	71,619,910	31.9
1986	36,375	36,375		71,619,910	31.9
1987	50,294	24,351	25,943	71,645,853	31.9
1988	33,134,327	17,663,465	15,470,862	87,116,715	38.8
1989	16,765,561	8,970,780	7,794,781	94,911,496	42.3
1990	19,519,905	10,491,716	9,028,189	103,939,685	46.3
1991	67,779,673	34,587,640	33,192,033	137,131,718	61.1
1992	6,959,232	2,613,544	4,345,688	141,477,406	63.1
1993	815,588	299,956	515,632	141,993,038	63.3
1995	211,166	97,964	113,202	142,106,240	63.3
1996	592,630	243,264	349,366	142,455,606	63.5
1997	331,393	145,728	185,665	142,641,271	63.6
1998	647,200	239,815	407,385	143,048,656	63.8
1999	2,579,130	1,086,417	1,492,713	144,541,369	64.4
2000	106,367	81,255	25,112	144,566,481	64.4
2001	6,717,930	2,669,928	4,048,002	148,614,483	66.2
2002	981,953	318,593	663,360	149,277,843	66.5
2003	8,282,218	2,916,909	5,365,309	154,643,152	68.9
2004	965,985	366,096	599,889	155,243,041	69.2
2005	1,793,184	652,618	1,140,566	156,383,607	69.7
2006	1,325,269	455,342	869,927	157,253,534	70.1
2007	164,113	127,699	36,414	157,289,948	70.1
2008	3,838,159	1,126,531	2,711,628	160,001,576	71.3
2009	4,139,538	1,057,148	3,082,390	163,083,966	72.7
2010	16,114,389	4,399,635	11,714,754	174,798,720	77.9
2011	30,715,128	7,507,824	23,207,304	198,006,024	88.2
2012	8,882,054	2,157,218	6,724,836	204,730,860	91.2
2013	269,513	61,393	208,120	204,938,980	91.3
2014	667,117	141,036	526,081	205,465,061	91.6
2015	992,227	146,221	846,006	206,311,067	91.9

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

2016	504,515	70,873	433,642	206,744,709	92.1
2017	183,707	24,242	159,465	206,904,174	92.2
2018	172,873	16,299	156,574	207,060,748	92.3
2019	4,761,997	267,374	4,494,623	211,555,371	94.3
2020	3,129,199	203,436	2,925,763	214,481,134	95.6
2021	7,554,671	291,233	7,263,438	221,744,572	98.8
2022	2,693,750	49,445	2,644,305	224,388,877	100.0
SUBTOTAL	478,593,172	254,204,297	224,388,875		
NONDEPRECIABLE	5,198,861		5,198,861		
TOTAL	483,792,033	254,204,297	229,587,736		

NET UTILITY PLANT IN SERVICE



PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 354.30 STRUCTURES AND IMPROVEMENTS - SPP

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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 55-S0						
NET SALVAGE PERCENT.. 0						
1980	582,966.30	374,148	481,887	101,079	23.72	4,261
	582,966.30	374,148	481,887	101,079		4,261
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						23.7 0.73

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 354.40 STRUCTURES AND IMPROVEMENTS - TDP

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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 55-S0						
NET SALVAGE PERCENT.. 0						
1916	1,066,501.89	1,056,263	989,947	76,555	1.03	74,325
1954	24,171,598.33	19,869,054	18,621,606	5,549,992	14.83	374,241
1963	9,707,388.99	7,451,392	6,983,568	2,723,821	18.02	151,155
1968	2,182,101.65	1,605,590	1,504,785	677,317	19.57	34,610
1969	1,279,167.40	930,722	872,288	406,879	20.03	20,313
1981	37,673,240.75	23,922,508	22,420,570	15,252,671	23.86	639,257
1988	30,459,017.01	17,337,272	16,248,778	14,210,239	26.11	544,245
1989	15,189,323.46	8,496,908	7,963,442	7,225,881	26.38	273,915
1990	13,026,393.09	7,154,095	6,704,936	6,321,457	26.67	237,025
1991	62,335,883.76	33,574,107	31,466,207	30,869,677	26.98	1,144,169
1995	211,165.79	104,527	97,964	113,202	28.06	4,034
1996	81,042.95	39,087	36,633	44,410	28.45	1,561
1997	331,392.91	155,490	145,728	185,665	28.85	6,436
1999	353,270.42	156,923	147,071	206,199	29.41	7,011
2001	2,634,973.56	1,104,581	1,035,232	1,599,742	29.78	53,719
2002	215,725.01	87,110	81,641	134,084	30.26	4,431
2003	2,673,100.99	1,042,509	977,057	1,696,044	30.50	55,608
2004	245,945.78	92,377	86,577	159,369	30.76	5,181
2005	461,030.63	166,202	155,767	305,264	31.04	9,835
2006	734,087.05	253,113	237,222	496,865	31.35	15,849
2007	52,733.17	17,412	16,319	36,414	31.45	1,158
2008	3,395,202.02	1,063,377	996,614	2,398,588	31.80	75,427
2009	1,710,954.92	508,154	476,250	1,234,705	31.95	38,645
2010	10,773,871.95	3,016,684	2,827,286	7,946,586	32.14	247,249
2011	17,807,132.72	4,669,030	4,375,892	13,431,241	32.36	415,057
2012	3,786,427.97	922,374	864,464	2,921,964	32.60	89,631
2013	54,807.66	12,288	11,517	43,291	32.87	1,317
2014	245,073.60	50,191	47,040	198,034	33.00	6,001
2015	65,267.60	12,042	11,286	53,982	33.15	1,628
2016	337,269.40	55,042	51,586	285,683	33.34	8,569
2017	183,707.11	25,866	24,242	159,465	33.56	4,752
2018	67,697.50	7,982	7,481	60,216	33.67	1,788
2020	2,068,479.76	142,725	133,764	1,934,716	33.73	57,359
2021	999,137.67	42,763	40,079	959,059	33.59	28,552
2022	112,500.00	1,665	1,560	110,940	33.40	3,322
	246,692,614.47	135,147,425	126,662,399	120,030,215		4,637,375

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 25.9 1.88

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 355.00 POWER GENERATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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 35-S0.5						
NET SALVAGE PERCENT.. 0						
1980	39,839.57	33,019	34,255	5,585	8.78	636
2022	25,000.00	515	534	24,466	23.83	1,027
	64,839.57	33,534	34,789	30,051		1,663
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						18.1 2.56

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 360.10 COLLECTION SEWERS - FORCE MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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						
NET SALVAGE PERCENT.. 0						
1980	162,222.38	92,386	84,860	77,362	32.13	2,408
2022	75,000.00	592	544	74,456	62.79	1,186
	237,222.38	92,978	85,404	151,818		3,594
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						42.2 1.52

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 361.10 COLLECTION SEWERS - GRAVITY MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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 80-R2.5						
NET SALVAGE PERCENT.. 0						
1912	25,782.95	23,932	21,977	3,806	8.55	445
1916	15,091.74	13,823	12,694	2,398	9.78	245
1917	121,375.20	111,398	102,298	19,077	9.45	2,019
1919	31,519.73	28,708	26,363	5,157	10.14	509
1921	4,617.69	4,172	3,831	787	10.85	73
1922	37,984.40	34,357	31,550	6,434	10.61	606
1924	13,046.54	11,695	10,740	2,307	11.38	203
1925	922,337.28	818,298	751,449	170,888	12.40	13,781
1926	754,952.61	670,247	615,493	139,460	12.20	11,431
1927	144,299.92	128,167	117,697	26,603	12.02	2,213
1928	112,857.70	99,179	91,077	21,781	13.03	1,672
1930	671,063.40	589,731	541,554	129,509	12.76	10,150
1931	360,876.09	313,673	288,048	72,828	13.77	5,289
1932	160,045.69	139,048	127,689	32,357	13.67	2,367
1933	91,602.99	79,530	73,033	18,570	13.59	1,366
1934	24,508.32	21,038	19,319	5,189	14.60	355
1935	187,193.09	160,518	147,405	39,788	14.54	2,736
1936	553,719.44	469,388	431,043	122,676	15.54	7,894
1937	316,226.79	267,654	245,789	70,438	15.52	4,539
1938	282,938.30	239,083	219,552	63,386	15.50	4,089
1939	166,917.23	139,376	127,990	38,927	16.50	2,359
1940	97,441.51	81,188	74,556	22,886	16.51	1,386
1941	41,062.14	34,135	31,346	9,716	16.54	587
1942	161,225.23	132,382	121,567	39,658	17.54	2,261
1943	10,525,430.12	8,618,222	7,914,179	2,611,251	17.59	148,451
1944	18,417.50	15,036	13,808	4,610	17.65	261
1945	26,704.54	21,524	19,766	6,939	18.65	372
1946	143,463.92	115,230	105,817	37,647	18.74	2,009
1947	99,908.17	79,207	72,736	27,172	19.73	1,377
1948	20,351.32	16,071	14,758	5,593	19.84	282
1949	11,728.42	9,223	8,470	3,258	19.96	163
1950	252,775.33	196,103	180,083	72,692	20.95	3,470
1951	35,923.54	27,740	25,474	10,450	21.09	495
1952	11,621.10	8,930	8,200	3,421	21.25	161
1953	1,515,506.31	1,148,148	1,054,353	461,153	22.24	20,735
1954	738,950.90	556,800	511,314	227,637	22.41	10,158
1955	202,285.90	150,197	137,927	64,359	23.41	2,749
1956	122,796.57	90,648	83,243	39,554	23.59	1,677
1957	83,778.58	61,460	56,439	27,340	23.79	1,149
1958	131,833.01	95,236	87,456	44,377	24.79	1,790
1961	102,445.00	71,824	65,957	36,488	26.22	1,392

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 361.10 COLLECTION SEWERS - GRAVITY MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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 80-R2.5						
NET SALVAGE PERCENT.. 0						
1962	92,626.39	64,449	59,184	33,442	26.45	1,264
1963	84,283.47	57,667	52,956	31,327	27.46	1,141
1965	32,851.77	21,912	20,122	12,730	28.71	443
1971	16,514.48	10,206	9,372	7,142	31.83	224
1979	104,290.37	56,254	51,658	52,632	37.15	1,417
1980	5,048,931.47	2,681,992	2,462,894	2,586,037	37.50	68,961
1983	43,419,945.46	21,779,445	20,000,231	23,419,714	39.24	596,833
1987	946.37	433	398	548	42.02	13
1988	344,714.78	154,605	141,975	202,740	42.42	4,779
1989	24,401.63	10,627	9,759	14,643	43.42	337
1992	6,387,086.59	2,571,441	2,361,374	4,025,713	45.26	88,946
1993	578,177.04	226,877	208,343	369,834	45.68	8,096
1996	200,059.31	71,581	65,733	134,326	47.57	2,824
1998	241,565.68	80,490	73,915	167,651	49.03	3,419
1999	89,761.11	28,688	26,344	63,417	50.03	1,268
2001	989,249.89	293,510	269,532	719,718	50.96	14,123
2002	367,852.35	104,065	95,564	272,288	51.96	5,240
2003	1,612,894.36	437,094	401,387	1,211,507	52.45	23,098
2004	32,338.85	8,376	7,692	24,647	52.93	466
2009	1,055,543.49	203,720	187,077	868,466	56.43	15,390
2011	2,577,047.69	429,852	394,736	2,182,312	57.46	37,980
2015	311,536.77	34,830	31,985	279,552	59.61	4,690
2019	3,802,833.57	206,114	189,276	3,613,558	61.02	59,219
2022	225,000.00	1,935	1,777	223,223	57.98	3,850

86,983,059.10 45,428,482 41,717,324 45,265,735 1,219,287

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 37.1 1.40

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 361.20 MANHOLES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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-S2.5						
NET SALVAGE PERCENT.. 0						
1912	10,475.40	10,475	10,475			
1916	12,739.68	12,740	12,740			
1917	76,462.83	76,463	76,463			
1921	25,259.76	25,260	25,260			
1924	18,227.06	18,227	18,227			
1925	870,099.55	865,314	707,780	162,320	0.54	162,320
1926	890,521.92	885,179	724,029	166,493	0.58	166,493
1927	190,503.05	189,208	154,762	35,741	0.65	35,741
1928	131,621.52	130,595	106,820	24,802	0.74	24,802
1930	682,670.34	675,707	552,692	129,978	0.95	129,978
1931	450,730.37	445,412	364,323	86,407	1.09	79,272
1932	83,753.28	82,614	67,574	16,179	1.25	12,943
1933	24,169.33	23,580	19,287	4,882	2.24	2,179
1934	61,889.13	60,249	49,280	12,609	2.41	5,232
1935	161,273.58	156,629	128,114	33,160	2.59	12,803
1936	597,719.55	579,071	473,649	124,071	2.79	44,470
1937	412,710.00	402,268	329,033	83,677	2.22	37,692
1938	414,465.99	402,778	329,451	85,015	2.45	34,700
1939	318,080.91	308,093	252,003	66,078	2.71	24,383
1940	180,114.27	173,846	142,197	37,917	2.97	12,767
1941	31,232.38	30,036	24,568	6,664	3.25	2,050
1942	353,338.64	338,498	276,873	76,466	3.53	21,662
1943	11,504,610.92	10,975,399	8,977,282	2,527,329	3.83	659,877
1944	66,763.46	63,412	51,868	14,895	4.15	3,589
1945	56,473.15	53,830	44,030	12,443	3.80	3,274
1946	308,769.81	292,899	239,575	69,195	4.15	16,673
1947	258,600.21	244,067	199,634	58,966	4.50	13,104
1948	49,674.54	47,002	38,445	11,230	4.24	2,649
1949	37,154.08	34,955	28,591	8,563	4.62	1,853
1950	205,500.91	192,184	157,196	48,305	5.02	9,623
1951	105,693.56	98,993	80,971	24,723	4.84	5,108
1952	52,939.56	49,266	40,297	12,643	5.26	2,404
1953	2,527,880.65	2,336,773	1,911,354	616,527	5.68	108,543
1954	1,187,335.88	1,098,048	898,144	289,192	5.57	51,920
1955	454,629.63	417,350	341,370	113,260	6.03	18,783
1956	264,390.23	242,631	198,459	65,931	5.96	11,062
1957	130,852.02	119,128	97,440	33,412	6.45	5,180
1958	195,895.14	178,147	145,715	50,180	6.43	7,804
1961	263,366.52	236,477	193,425	69,942	6.99	10,006
1962	155,711.16	138,490	113,277	42,434	7.52	5,643
1963	146,510.89	129,897	106,249	40,262	7.61	5,291

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 361.20 MANHOLES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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-S2.5						
NET SALVAGE PERCENT.. 0						
1965	61,952.78	54,147	44,289	17,664	8.29	2,131
1971	35,151.29	29,506	24,134	11,017	9.85	1,118
1979	72,728.31	56,314	46,062	26,666	12.68	2,103
1980	2,224,853.00	1,702,013	1,392,154	832,699	13.06	63,759
1983	1,566,700.54	1,151,055	941,501	625,200	14.26	43,843
1987	34,643.39	23,738	19,416	15,227	16.31	934
1988	87,124.72	58,618	47,946	39,179	16.78	2,335
1989	36,460.36	24,064	19,683	16,777	17.26	972
1992	472,005.89	290,803	237,861	234,145	19.00	12,323
1993	166,984.54	99,990	81,786	85,199	19.76	4,312
1996	181,936.32	100,283	82,026	99,910	21.58	4,630
1998	236,745.11	121,805	99,630	137,115	23.12	5,931
1999	146,119.71	72,446	59,257	86,863	23.90	3,634
2001	71,658.16	32,819	26,844	44,814	25.45	1,761
2002	248,002.47	108,799	88,992	159,010	26.23	6,062
2003	427,307.82	179,127	146,516	280,792	27.01	10,396
2004	57,102.28	22,818	18,664	38,438	27.80	1,383
2008	72,745.48	23,104	18,898	53,847	31.16	1,728
2009	69,966.37	20,682	16,917	53,049	32.16	1,650
2011	1,369,929.40	346,592	283,494	1,086,435	33.95	32,001
2015	31,230.65	5,178	4,235	26,996	37.75	715
2018	62,467.16	6,209	5,079	57,388	40.75	1,408
2019	72,345.98	5,600	4,580	67,766	41.75	1,623
2022	75,000.00	825	675	74,325	44.75	1,661

31,851,972.59 27,377,725 22,419,561 9,432,412 1,960,286

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 4.8 6.15

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 363.00 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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 47-R3						
NET SALVAGE PERCENT.. 0						
1912	147,813.03	147,813	147,813			
1916	58,163.19	58,163	58,163			
1917	196,894.45	196,894	196,894			
1919	36,950.07	36,950	36,950			
1921	4,906.68	4,907	4,907			
1922	13,738.32	13,738	13,738			
1924	70,511.47	70,511	70,511			
1925	2,710,502.28	2,710,502	2,710,502			
1926	1,839,312.56	1,839,313	1,839,313			
1927	545,486.78	545,487	545,487			
1928	208,693.74	208,694	208,694			
1930	1,186,048.72	1,186,049	1,186,049			
1931	710,451.16	710,451	710,451			
1932	316,569.46	316,569	316,569			
1933	21,963.34	21,963	21,963			
1934	83,375.51	83,376	83,376			
1935	311,880.61	311,881	311,881			
1936	993,386.93	993,387	993,387			
1937	477,107.76	477,108	477,108			
1938	505,757.59	505,758	505,758			
1939	348,706.62	348,707	348,707			
1940	136,477.68	136,478	136,478			
1941	27,160.15	27,160	27,160			
1942	318,698.97	318,699	318,699			
1943	23,291,725.19	23,291,725	23,291,725			
1944	102,760.97	102,761	102,761			
1945	82,966.22	82,950	18,772	64,194	0.02	64,194
1946	345,074.72	343,177	77,662	267,413	0.42	267,413
1947	275,689.55	272,657	61,703	213,987	0.84	213,987
1948	23,294.78	22,908	5,184	18,111	1.26	14,374
1949	25,106.82	24,728	5,596	19,511	1.13	17,266
1950	92,040.11	90,089	20,387	71,653	1.57	45,639
1951	50,264.44	48,877	11,061	39,203	2.03	19,312
1952	26,085.62	25,379	5,743	20,343	1.96	10,379
1953	3,502,740.61	3,383,647	765,732	2,737,009	2.45	1,117,147
1954	736,671.58	711,477	161,010	575,662	2.43	236,898
1955	266,342.14	255,289	57,773	208,569	2.92	71,428
1956	148,495.78	142,200	32,180	116,316	2.94	39,563
1957	131,058.16	124,479	28,170	102,888	3.46	29,736
1958	106,234.62	100,732	22,796	83,439	3.52	23,704
1961	72,223.87	67,515	15,279	56,945	4.29	13,274

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 363.00 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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 47-R3						
NET SALVAGE PERCENT.. 0						
1962	94,498.83	88,045	19,925	74,574	4.44	16,796
1963	51,004.89	47,343	10,714	40,291	4.60	8,759
1965	31,723.96	29,002	6,563	25,161	5.40	4,659
1971	56,102.05	49,403	11,180	44,922	6.98	6,436
1979	11,854.97	9,592	2,171	9,684	10.26	944
1980	689,395.31	547,931	123,999	565,396	10.97	51,540
1983	459,102.59	350,020	79,211	379,892	12.31	30,860
1987	12,101.13	8,548	1,934	10,167	14.75	689
1988	14,562.78	10,098	2,285	12,278	15.25	805
1989	5,650.06	3,842	869	4,781	15.76	303
1992	100,139.12	63,228	14,309	85,830	17.81	4,819
1993	70,426.48	43,425	9,827	60,599	18.34	3,304
1996	19,352.24	10,922	2,472	16,880	20.45	825
1998	42,500.49	22,491	5,090	37,410	21.80	1,716
1999	65,892.95	33,757	7,639	58,254	22.37	2,604
2001	59,303.17	28,050	6,348	52,955	23.95	2,211
2002	54,521.52	24,813	5,615	48,907	24.55	1,992
2003	316,325.25	137,538	31,126	285,199	25.35	11,250
2004	17,364.36	7,196	1,629	15,735	26.14	602
2008	17,854.74	5,928	1,342	16,513	29.17	566
2009	81,385.68	25,270	5,719	75,667	29.98	2,524
2011	31,487.56	8,439	1,910	29,578	31.42	941
2015	139,273.41	24,763	5,603	133,670	34.69	3,853
2019	82,427.00	7,006	1,586	80,841	37.65	2,147
2022	56,250.00	709	160	56,090	39.34	1,426
	43,129,832.79	41,948,507	36,313,318	6,816,515		2,346,885

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 2.9 5.44

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 364.00 FLOW MEASURING DEVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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 15-L2.5						
NET SALVAGE PERCENT.. 0						
1989	14,590.13	13,979	9,380	5,210	1.47	3,544
1990	17,876.23	17,022	11,422	6,454	1.63	3,960
2001	19,511.46	16,864	11,316	8,195	3.38	2,425
2002	10,574.33	8,997	6,037	4,537	3.60	1,260
2004	5,536.75	4,558	3,059	2,478	3.97	624
2015	40,187.33	21,372	14,341	25,846	6.60	3,916
2020	30,536.12	5,991	4,020	26,516	10.24	2,589
	138,812.35	88,783	59,575	79,237		18,318
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 4.3						13.20

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 371.00 PUMPING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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 30-S0.5						
NET SALVAGE PERCENT.. 0						
1968	298,312.01	287,752	188,030	110,282	2.00	55,141
1988	1,524,555.04	1,236,109	807,731	716,824	8.05	89,046
1998	10,969.57	7,499	4,900	6,070	11.34	535
1999	1,903,928.01	1,270,682	830,323	1,073,605	11.71	91,683
2000	16,763.14	10,899	7,122	9,641	12.10	797
2002	34,757.03	21,445	14,013	20,744	12.72	1,631
2003	24,361.20	14,536	9,498	14,863	13.18	1,128
2005	981,242.32	547,729	357,912	623,330	13.85	45,006
2009	261,971.65	122,708	80,183	181,789	15.32	11,866
2012	4,283,615.00	1,664,184	1,087,455	3,196,160	16.53	193,355
2013	71,340.46	25,683	16,782	54,558	16.89	3,230
2014	15,220.32	5,020	3,280	11,940	17.27	691
2015	117,291.44	34,929	22,825	94,466	17.69	5,340
2016	65,308.00	17,235	11,262	54,046	18.13	2,981
2018	24,925.55	4,791	3,131	21,795	18.92	1,152
2019	30,821.07	4,725	3,087	27,734	19.33	1,435
2022	275,000.00	6,600	4,313	270,687	20.38	13,282
	9,940,381.81	5,282,526	3,451,847	6,488,535		518,299
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 12.5						5.21

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 380.00 TREATMENT EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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 35-S1.5						
NET SALVAGE PERCENT.. 0						
1963	524,101.44	502,089	374,239	149,862	2.61	57,418
1969	13,478.80	12,547	9,352	4,127	3.97	1,040
1981	8,496,661.42	7,263,796	5,414,173	3,082,488	7.04	437,853
1988	704,352.89	556,439	414,750	289,603	9.17	31,582
1989	1,261,424.89	984,668	733,936	527,489	9.42	55,997
1990	6,304,557.23	4,835,595	3,604,279	2,700,278	9.87	273,584
1991	5,320,344.25	4,022,180	2,997,988	2,322,356	10.17	228,354
1996	110,239.13	75,668	56,400	53,839	12.11	4,446
1998	115,418.97	75,507	56,280	59,139	12.95	4,567
1999	8,354.86	5,340	3,980	4,375	13.26	330
2001	2,943,234.26	1,771,827	1,320,656	1,622,578	14.21	114,186
2002	15,633.98	9,102	6,784	8,850	14.71	602
2003	3,228,228.38	1,812,973	1,351,325	1,876,903	15.22	123,318
2004	601,354.96	324,852	242,133	359,222	15.75	22,808
2005	329,716.04	170,793	127,303	202,413	16.28	12,433
2006	591,182.13	292,635	218,120	373,062	16.83	22,166
2008	318,154.73	142,088	105,907	212,248	17.97	11,811
2009	910,984.24	383,707	286,001	624,983	18.55	33,692
2010	5,340,516.64	2,109,504	1,572,349	3,768,168	19.15	196,771
2011	8,878,407.56	3,256,600	2,427,353	6,451,055	19.85	324,990
2012	812,011.37	275,434	205,299	606,712	20.46	29,654
2013	143,364.64	44,400	33,094	110,271	21.17	5,209
2014	253,000.24	70,739	52,726	200,274	21.90	9,145
2015	248,171.25	61,795	46,060	202,111	22.62	8,935
2016	26,577.58	5,770	4,301	22,277	23.44	950
2019	773,569.80	92,364	68,845	704,725	25.82	27,294
2020	1,030,182.82	88,081	65,652	964,531	26.74	36,071
2021	6,555,533.75	336,954	251,154	6,304,380	27.66	227,924
2022	500,000.00	8,600	6,410	493,590	28.57	17,277
	56,358,758.25	29,592,047	22,056,849	34,301,909		2,320,407

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 14.8 4.12

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 390.00 OFFICE FURNITURE AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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						
NET SALVAGE PERCENT.. 0						
2014	64,622.08	27,464	32,227	32,395	11.50	2,817
2015	19,968.63	7,488	8,786	11,183	12.50	895
	84,590.71	34,952	41,013	43,578		3,712
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						11.7 4.39

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 391.00 TRANSPORTATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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 14-L4						
NET SALVAGE PERCENT.. 0						
1986	36,374.94	36,375	36,375			
1987	2,602.85	2,603	2,603			
1990	171,078.93	171,079	171,079			
1991	123,445.27	123,445	123,445			
2000	37,153.80	35,526	21,683	15,471	1.03	15,020
2002	34,886.49	32,682	19,947	14,939	1.38	10,825
2005	21,195.18	19,065	11,636	9,559	1.96	4,877
2011	51,123.08	40,040	24,439	26,684	3.18	8,391
2022	885,000.00	33,542	20,472	864,528	12.69	68,127
	1,362,860.54	494,357	431,679	931,182		107,240
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						8.7 7.87

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 393.00 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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						
NET SALVAGE PERCENT.. 0						
2022	300,000.00	7,500	7,500	292,500	19.50	15,000
	300,000.00	7,500	7,500	292,500		15,000
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						19.5 5.00

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 394.00 LABORATORY EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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						
NET SALVAGE PERCENT.. 0						
1989	233,710.69	233,711	233,711			
1999	11,803.20	11,803	11,803			
2000	52,449.64	52,450	52,450			
2004	6,341.67	6,342	6,342			
2007	111,379.65	111,380	111,380			
2008	34,202.21	33,062	3,770	30,432	0.50	30,432
2009	48,731.78	43,859	5,001	43,731	1.50	29,154
2014	89,200.43	50,547	5,763	83,437	6.50	12,836
2015	19,299.49	9,650	1,100	18,199	7.50	2,427
2016	75,359.54	32,656	3,724	71,636	8.50	8,428
2018	17,782.45	5,335	608	17,174	10.50	1,636
	700,260.75	590,795	435,652	264,609		84,913

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 3.1 12.13

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 396.00 COMMUNICATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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						
NET SALVAGE PERCENT.. 0						
2022	90,000.00	3,000	3,000	87,000	14.50	6,000
	90,000.00	3,000	3,000	87,000		6,000
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 14.5 6.67						

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 397.00 MISCELLANEOUS EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2022

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						
NET SALVAGE PERCENT.. 0						
2022	75,000.00	2,500	2,500	72,500	14.50	5,000
	75,000.00	2,500	2,500	72,500		5,000
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						14.5 6.67

PART VIII. EXPERIENCED AND ESTIMATED NET SALVAGE

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

EXPERIENCED AND ESTIMATED RETIREMENTS BY ACCOUNT AND ASSOCIATED
COST OF REMOVAL, GROSS SALVAGE, AND NET SALVAGE

ACCT	REGULAR RETIREMENTS	COST OF REMOVAL	GROSS SALVAGE	NET SALVAGE
2022 TRANSACTION YEAR				
354.40	8,419.23			
361.10	19,644.88	5,009.45		5,009.45-
361.20	4,490.26	3,075.83		3,075.83-
363.00	2,806.41	1,010.31		1,010.31-
371.00	20,580.35	9,672.77		9,672.77-
380.00	39,289.76	9,233.15		9,233.15-
391.00	66,231.31			
394.00	103,382.24			
	264,844.44	28,001.51		28,001.51-
TOTAL	264,844.44	28,001.51		28,001.51-

EXHIBIT NO. 11-M - DEPRECIATION STUDY

YORK WASTEWATER OPERATIONS

AS OF DECEMBER 31, 2023

PENNSYLVANIA-AMERICAN WATER COMPANY

MECHANICSBURG, PENNSYLVANIA

YORK WASTEWATER OPERATIONS

2023 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS

RELATED TO WASTEWATER PLANT

AS OF DECEMBER 31, 2023

Prepared by:



GANNETT FLEMING

Excellence Delivered As Promised

Exhibit No. 11-M
Witness: J. J. Spanos

PENNSYLVANIA-AMERICAN WATER COMPANY

Mechanicsburg, Pennsylvania

YORK WASTEWATER OPERATIONS

2023 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS
RELATED TO WASTEWATER PLANT
AS OF DECEMBER 31, 2023

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

Camp Hill, Pennsylvania



Gannett Fleming
Valuation and Rate Consultants, LLC

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April 20, 2022

Pennsylvania-American Water Company
852 Wesley Drive
Mechanicsburg, PA 17055

Attention: Ms. Stacey Gress
Director, Rates and Regulatory

Ladies and Gentlemen:

Pursuant to your request, we have determined the annual depreciation accruals applicable to wastewater plant as of December 31, 2023. The results of our study as of December 31, 2022 are presented in our report titled "2022 Depreciation Study - Calculated Annual Depreciation Accruals Related to Wastewater Plant as of December 31, 2022". The same methods, procedures and estimates are used in both studies.

Summaries of the original cost, annual accruals, book depreciation reserve and amortization of net salvage are presented in Tables 1 through 5, beginning on page I-3 of the attached report.

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

A handwritten signature in black ink that reads "John J. Spanos".

JOHN J. SPANOS
President

JJS:mle

070800.100

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PART I. RESULTS OF STUDY

PENNSYLVANIA-AMERICAN WATER COMPANY

YORK WASTEWATER OPERATIONS

DEPRECIATION STUDY

PART I. RESULTS OF STUDY

DESCRIPTION OF SUMMARY TABULATIONS

Tables 1 through 5 presented on pages I-3 through I-7 summarize the results of the depreciation study as of December 31, 2023. Table 1 sets forth the development of the net original cost by account as of December 31, 2023. Table 2 sets forth, by depreciable group, the estimated survivor curve, original cost, book depreciation reserve as of December 31, 2023, future book accruals, calculated annual accrual amount and rate, and composite remaining life for plant in service. Table 3 presents the bringforward of the book reserve to December 31, 2023. Table 4 sets forth the calculation of the depreciation accruals for the twelve months ended December 31, 2023. Table 5 presents the annual amortization of experienced and estimated net salvage based on the period 2019 through 2023.

DESCRIPTION OF DETAILED TABULATIONS

The supporting data for the depreciation calculations are presented in account sequence in the section beginning on page II-7. 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. The amounts of regular retirements, gross salvage and cost of removal are set forth by account for the years 2019 through 2023, beginning on page III-2.

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

TABLE 1. DEVELOPMENT OF NET ORIGINAL COST AS OF DECEMBER 31, 2023

DEPRECIABLE GROUP (1)	ORIGINAL COST AS OF DECEMBER 31, 2023 (2)	CUSTOMER ADVANCES (3)	CONTRIBUTIONS IN AID OF CONSTRUCTION (4)	EXCLUDED PROPERTY (5)	NET ORIGINAL COST AS OF DECEMBER 31, 2023 (6)
DEPRECIABLE PLANT					
354.30 STRUCTURES AND IMPROVEMENTS - SPP	1,141,754.43				1,141,754.43
354.40 STRUCTURES AND IMPROVEMENTS - TDP	107,995,351.50				107,995,351.50
354.70 STRUCTURES AND IMPROVEMENTS - GENERAL	150,000.00				150,000.00
355.00 POWER GENERATION EQUIPMENT	90,032.64				90,032.64
360.10 COLLECTION SEWERS - FORCE MAINS	117,592.47				117,592.47
361.20 MANHOLES	27,255,956.32				27,255,956.32
363.00 SERVICES	5,507,833.75				5,507,833.75
364.00 FLOW MEASURING DEVICES	2,159,454.55				2,159,454.55
371.00 PUMPING EQUIPMENT	90,155.20				90,155.20
380.00 TREATMENT EQUIPMENT	4,855,696.60				4,855,696.60
389.10 OTHER PLANT AND MISCELLANEOUS EQUIPMENT - INTANGIBLES	31,093,502.96				31,093,502.96
390.00 OFFICE FURNITURE AND EQUIPMENT	200,000.00				200,000.00
391.00 TRANSPORTATION EQUIPMENT	310,303.60				310,303.60
393.00 TOOLS, SHOP AND GARAGE EQUIPMENT	1,497,431.84				1,497,431.84
394.00 LABORATORY EQUIPMENT	550,000.00				550,000.00
396.00 COMMUNICATION EQUIPMENT	399,031.78				399,031.78
397.00 MISCELLANEOUS EQUIPMENT	1,747,500.00				1,747,500.00
	75,000.00				75,000.00
TOTAL DEPRECIABLE PLANT	185,236,597.64				185,236,597.64
NONDEPRECIABLE PLANT					
353.00 LAND AND LAND RIGHTS - LAND	40,501.00				40,501.00
353.05 LAND AND LAND RIGHTS - EASEMENTS	94,374.54				94,374.54
TOTAL NONDEPRECIABLE PLANT	134,875.54				134,875.54
TOTAL PLANT	185,371,473.18				185,371,473.18





PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

TABLE 2. SUMMARY OF ESTIMATED SURVIVOR CURVE, ORIGINAL COST, BOOK DEPRECIATION RESERVE, AND
CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WASTEWATER PLANT AS OF DECEMBER 31, 2023

DEPRECIABLE GROUP	SURVIVOR CURVE	ORIGINAL COST AS OF DECEMBER 31, 2023	BOOK DEPRECIATION RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL		COMPOSITE REMAINING LIFE
					AMOUNT	RATE	
(1)	(2)	(3)	(4)	(5)	(6)	(7)=(6)/(3)	(8)
DEPRECIABLE PLANT							
354.30 STRUCTURES AND IMPROVEMENTS - SPP	55-S0	1,141,754.43	119,730	1,022,024	31,109	2.72	32.9
354.40 STRUCTURES AND IMPROVEMENTS - TDP	55-S0	107,995,351.50	40,370,610	67,624,742	2,365,293	2.19	28.6
354.70 STRUCTURES AND IMPROVEMENTS - GENERAL	35-S1	150,000.00	536	149,464	5,542	3.69	27.0
355.00 POWER GENERATION EQUIPMENT	35-S0.5	90,032.64	15,329	74,704	3,316	3.68	22.5
360.10 COLLECTION SEWERS - FORCE MAINS	75-R3	117,592.47	25,375	92,217	1,768	1.50	52.2
361.10 COLLECTION SEWERS - GRAVITY MAINS	80-R2.5	27,255,956.32	9,676,981	17,578,975	389,828	1.43	45.1
361.20 MANHOLES	50-S2.5	5,507,833.75	2,586,836	2,920,998	209,722	3.81	13.9
363.00 SERVICES	47-R3	2,159,454.55	1,391,904	767,551	59,776	2.77	12.8
364.00 FLOW MEASURING DEVICES	15-L2.5	90,155.20	40,980	49,175	8,754	9.71	5.6
371.00 PUMPING EQUIPMENT	30-S0.5	4,855,696.60	2,229,973	2,625,724	216,593	4.46	12.1
380.00 TREATMENT EQUIPMENT	35-S1.5	31,093,502.96	9,026,526	22,066,977	1,172,835	3.77	18.8
389.10 OTHER PLANT AND MISCELLANEOUS EQUIPMENT - INTANGIBLES	20-S2.5	200,000.00	417	199,583	11,327	5.66	17.6
390.00 OFFICE FURNITURE AND EQUIPMENT	20-SQ	310,303.60	36,883	273,421	15,342	4.94	17.8
391.00 TRANSPORTATION EQUIPMENT	14-L4	1,497,431.84	408,631	1,088,801	104,527	6.98	10.4
393.00 TOOLS, SHOP AND GARAGE EQUIPMENT	20-SQ	550,000.00	33,161	516,839	27,264	4.96	19.0
394.00 LABORATORY EQUIPMENT	15-SQ	399,031.78	79,622	319,410	54,392	13.63	5.9
396.00 COMMUNICATION EQUIPMENT	15-SQ	1,747,500.00	18,605	1,728,895	119,681	6.85	14.4
397.00 MISCELLANEOUS EQUIPMENT	15-SQ	75,000.00	9,830	65,170	4,827	6.44	13.5
TOTAL DEPRECIABLE PLANT		185,236,597.64	66,071,929	119,164,670	4,801,896	2.59	
NONDEPRECIABLE PLANT							
353.00 LAND AND LAND RIGHTS - LAND		40,501.00					
353.05 LAND AND LAND RIGHTS - EASEMENTS		94,374.54					
TOTAL NONDEPRECIABLE PLANT		134,875.54			18,375		
AMORTIZATION OF NET SALVAGE							
TOTAL UTILITY PLANT		185,371,473.18	66,071,929	119,164,670	4,820,271		

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

TABLE 3. BRINGFORWARD TO DECEMBER 31, 2023, OF BOOK RESERVE AS OF DECEMBER 31, 2022

ACCOUNT (1)	BOOK RESERVE BALANCE AS OF 12/31/2022 (2)	+	PROJECTED DEPRECIATION ACCRUALS (3)	-	PROJECTED RETIREMENTS (4)	-	PROJECTED COST OF REMOVAL (5)	+	PROJECTED SALVAGE (6)	+	ACQUISITIONS (7)	=	PROJECTED BOOK RESERVE BALANCE AS OF 12/31/2023 (8)
354.30	118,464		1,266										119,730
354.40	38,079,020		2,318,233		26,643								40,370,610
354.70	0		536										536
355.00	13,922		1,407										15,329
360.10	23,576		1,799										25,375
361.10	9,365,769		389,231		62,167		15,853						9,676,981
361.20	2,372,752		238,027		14,210		9,734						2,586,836
363.00	1,341,152		62,830		8,881		3,197						1,391,904
364.00	30,387		10,593										40,980
371.00	2,044,708		222,015		25,000		11,750						2,229,973
380.00	7,952,834		1,196,370		99,334		23,343						9,026,526
389.10	0		417										417
390.00	34,224		2,659										36,883
391.00	382,120		78,909		52,398								408,631
393.00	15,000		18,161										33,161
394.00	44,296		63,359		28,033								79,622
396.00	6,000		12,605										18,605
397.00	5,000		4,830										9,830
TOTAL	61,829,225		4,623,246		316,665		63,877						66,071,929



PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

TABLE 4. CALCULATION OF DEPRECIATION ACCRUALS FOR THE TWELVE MONTHS ENDED DECEMBER 31, 2023

ACCOUNT (1)	NET ORIGINAL COST AS OF 12/31/2022 (2)	NET ORIGINAL COST AS OF 12/31/2023 (3)	ACCRUAL RATE (4)	DEPRECIATION ACCRUALS (5)*	AMORTIZATION OF NET SALVAGE (6)	PROJECTED DEPRECIATION ACCRUALS (7)=(5)+(6)
354.30	141,754.43	1,141,754.43	0.69	1,266		1,266
354.40	104,271,994.44	107,995,351.50	2.22	2,318,233		2,318,233
354.70	0.00	150,000.00	2.86	536		536
355.00	40,032.64	90,032.64	3.04	1,407		1,407
360.10	117,592.47	117,592.47	1.53	1,799		1,799
361.10	26,918,123.19	27,255,956.32	1.44	388,229	1,002	389,231
361.20	5,422,043.32	5,507,833.75	4.37	237,412	615	238,027
363.00	2,093,335.53	2,159,454.55	2.98	62,628	202	62,830
364.00	90,155.20	90,155.20	11.75	10,593		10,593
371.00	4,680,696.60	4,855,696.60	4.68	220,080	1,935	222,015
380.00	30,742,836.96	31,093,502.96	3.88	1,194,523	1,847	1,196,370
389.10	0.00	200,000.00	5.00	417		417
390.00	60,303.60	310,303.60	3.76	2,659		2,659
391.00	1,254,829.63	1,497,431.84	6.14	78,909		78,909
393.00	300,000.00	550,000.00	4.87	18,161		18,161
394.00	277,064.98	399,031.78	23.63	63,359		63,359
396.00	90,000.00	1,747,500.00	6.44	12,605		12,605
397.00	75,000.00	75,000.00	6.44	4,830		4,830
TOTAL	176,575,762.99	185,236,597.64		4,617,645	5,601	4,623,246

* Total accruals shown are based on average monthly balances.



PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

TABLE 5. AMORTIZATION OF EXPERIENCED AND ESTIMATED NET SALVAGE

ACCOUNT (1)	2019		2020		2021		PROJECTED 2022		PROJECTED 2023		NET SALVAGE (12)*	SALVAGE ACCRUAL (13)=(12)/5
	GROSS SALVAGE (2)	COST OF REMOVAL (3)	GROSS SALVAGE (4)	COST OF REMOVAL (5)	GROSS SALVAGE (6)	COST OF REMOVAL (7)	GROSS SALVAGE (8)	COST OF REMOVAL (9)	GROSS SALVAGE (10)	COST OF REMOVAL (11)		
354.30											0	0
354.40											0	0
355.00											0	0
360.10											0	0
361.10								5,009		15,853	(20,862)	(4,172)
361.20								3,076		9,734	(12,809)	(2,562)
363.00								1,010		3,197	(4,207)	(841)
364.00											0	0
371.00								9,673		11,750	(21,423)	(4,285)
380.00								9,233		23,343	(32,577)	(6,515)
380.00											0	0
391.00											0	0
393.00											0	0
394.00											0	0
396.00											0	0
397.00											0	0
TOTAL	0	0	0	0	0	0	0	28,001	0	63,877	(91,878)	(18,375)

* Column (12) equals the summation of Columns (2) through (11).



PART II. DETAILED DEPRECIATION CALCULATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST



PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	DEPRECIATED ORIGINAL COST		PCT OF COL 4 TOTAL (6)
			AMOUNT (2) - (3) (4)	CUMULATIVE AMOUNT (5)	
1912	1,873	1,819	54	54	0.0
1916	10,683	8,976	1,707	1,761	0.0
1917	8,600	8,020	580	2,341	0.0
1919	1,653	1,462	191	2,532	0.0
1921	1,295	1,263	32	2,564	0.0
1922	1,542	1,303	239	2,803	0.0
1924	2,517	2,423	94	2,897	0.0
1925	118,397	112,096	6,301	9,198	0.0
1926	96,969	83,480	13,489	22,687	0.0
1927	22,524	19,834	2,690	25,377	0.0
1928	12,692	10,792	1,900	27,277	0.0
1930	73,588	62,683	10,905	38,182	0.0
1931	43,451	36,995	6,456	44,638	0.0
1932	13,586	11,873	1,713	46,351	0.0
1933	3,814	3,056	758	47,109	0.0
1934	4,566	3,829	737	47,846	0.0
1935	18,047	15,180	2,867	50,713	0.0
1936	60,414	50,513	9,901	60,614	0.1
1937	38,043	31,169	6,874	67,488	0.1
1938	37,520	30,969	6,551	74,039	0.1
1939	26,369	21,688	4,681	78,720	0.1
1940	13,731	11,029	2,702	81,422	0.1
1941	3,457	2,746	711	82,133	0.1
1942	29,397	23,860	5,537	87,670	0.1
1943	1,483,494	1,240,177	243,317	330,987	0.3
1944	6,334	5,344	990	331,977	0.3
1945	5,771	4,791	980	332,957	0.3
1946	32,412	24,680	7,732	340,689	0.3
1947	29,090	22,076	7,014	347,703	0.3
1948	5,346	3,968	1,378	349,081	0.3
1949	4,238	3,171	1,067	350,148	0.3
1950	35,269	25,751	9,518	359,666	0.3
1951	12,195	8,967	3,228	362,894	0.3
1952	5,969	4,403	1,566	364,460	0.3
1953	477,296	354,315	122,981	487,441	0.4
1954	1,667,003	1,156,829	510,174	997,615	0.8
1955	69,216	50,186	19,030	1,016,645	0.9
1956	43,102	30,933	12,169	1,028,814	0.9
1957	27,967	20,163	7,804	1,036,618	0.9
1958	39,065	27,593	11,472	1,048,090	0.9
1961	43,909	30,463	13,446	1,061,536	0.9
1962	33,416	23,190	10,226	1,071,762	0.9
1963	865,036	562,299	302,737	1,374,499	1.2
1965	12,955	8,820	4,135	1,378,634	1.2
1968	227,685	143,360	84,325	1,462,959	1.2

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	AMOUNT		CUMULATIVE AMOUNT (5)	DEPRECIATED ORIGINAL COST PCT OF COL 4 TOTAL (6)
			(2)	- (3) (4)		
1969	134,635	82,756		51,879	1,514,838	1.3
1971	15,008	10,150		4,858	1,519,696	1.3
1979	49,092	27,312		21,780	1,541,476	1.3
1980	2,414,374	1,334,084		1,080,290	2,621,766	2.2
1981	12,665,507	6,993,971		5,671,536	8,293,302	7.0
1983	13,879,135	6,510,142		7,368,993	15,662,295	13.1
1986	24,734	24,734			15,662,295	13.1
1987	21,570	12,736		8,834	15,671,129	13.2
1988	12,390,711	6,068,466		6,322,245	21,993,374	18.5
1989	6,514,156	3,152,967		3,361,189	25,354,563	21.3
1990	7,425,030	3,790,614		3,634,416	28,988,979	24.3
1991	27,640,073	12,928,791		14,711,282	43,700,261	36.7
1992	2,718,038	1,055,492		1,662,546	45,362,807	38.1
1993	343,438	139,163		204,275	45,567,082	38.2
1995	101,123	42,566		58,557	45,625,639	38.3
1996	267,533	111,996		155,537	45,781,176	38.4
1997	166,213	66,899		99,314	45,880,490	38.5
1998	311,082	123,054		188,028	46,068,518	38.7
1999	1,089,489	500,834		588,655	46,657,173	39.2
2000	35,646	26,362		9,284	46,666,457	39.2
2001	3,301,019	1,288,325		2,012,694	48,679,151	40.9
2002	555,324	196,308		359,016	49,038,167	41.2
2003	4,286,784	1,570,609		2,716,175	51,754,342	43.4
2004	497,729	188,959		308,770	52,063,112	43.7
2005	959,384	367,670		591,714	52,654,826	44.2
2006	812,611	271,268		541,343	53,196,169	44.6
2007	39,665	11,413		28,252	53,224,421	44.7
2008	3,030,054	849,822		2,180,232	55,404,653	46.5
2009	3,160,738	830,679		2,330,059	57,734,712	48.4
2010	12,665,580	3,399,841		9,265,739	67,000,451	56.2
2011	25,120,205	6,132,290		18,987,915	85,988,366	72.2
2012	7,102,819	1,780,886		5,321,933	91,310,299	76.6
2013	210,561	51,328		159,233	91,469,532	76.8
2014	585,050	148,901		436,149	91,905,681	77.1
2015	845,866	153,858		692,008	92,597,689	77.7
2016	485,144	84,089		401,055	92,998,744	78.0
2017	188,038	25,610		162,428	93,161,172	78.2

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

2018	171,680	20,450	151,230	93,312,402	78.3
2019	4,373,636	317,189	4,056,447	97,368,849	81.7
2020	3,355,091	279,825	3,075,266	100,444,115	84.3
2021	7,864,254	500,648	7,363,606	107,807,721	90.5
2022	2,669,783	169,620	2,500,163	110,307,884	92.6
2023	8,977,500	120,715	8,856,785	119,164,669	100.0
SUBTOTAL	185,236,598	66,071,929	119,164,670		
NONDEPRECIABLE	134,875		134,875		
TOTAL	185,371,473	66,071,929	119,299,545		

NET UTILITY PLANT IN SERVICE

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 354.30 STRUCTURES AND IMPROVEMENTS - SPP

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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 55-S0						
NET SALVAGE PERCENT.. 0						
1980	141,754.43	92,495	103,215	38,539	23.17	1,663
2023	1,000,000.00	14,800	16,515	983,485	33.40	29,446
	1,141,754.43	107,295	119,730	1,022,024		31,109
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						32.9 2.72

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 354.40 STRUCTURES AND IMPROVEMENTS - TDP

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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 55-S0						
NET SALVAGE PERCENT.. 0						
1916	9,496.73	9,392	7,838	1,659	1.20	1,382
1954	1,475,013.53	1,219,836	1,017,980	457,034	14.54	31,433
1963	808,953.78	626,454	522,790	286,164	17.62	16,241
1968	211,610.32	157,375	131,333	80,277	19.13	4,196
1969	133,742.14	98,407	82,123	51,619	19.57	2,638
1981	10,901,541.30	6,996,609	5,838,827	5,062,714	23.72	213,437
1988	11,583,556.38	6,702,246	5,593,175	5,990,381	25.85	231,736
1989	6,099,979.79	3,472,108	2,897,552	3,202,428	26.11	122,651
1990	5,348,557.31	2,991,983	2,496,877	2,851,680	26.38	108,100
1991	25,880,038.44	14,213,317	11,861,332	14,018,706	26.67	525,636
1995	101,123.43	51,007	42,566	58,557	28.00	2,091
1996	39,414.83	19,510	16,282	23,133	28.06	824
1997	166,213.27	80,165	66,899	99,314	28.45	3,491
1999	183,565.20	84,110	70,192	113,373	28.97	3,913
2001	1,509,084.97	651,925	544,046	965,039	29.58	32,625
2002	127,078.99	53,272	44,457	82,622	29.78	2,774
2003	1,594,181.78	643,731	537,208	1,056,974	30.26	34,930
2004	156,800.12	61,152	51,033	105,767	30.50	3,468
2005	312,935.12	117,538	98,088	214,847	30.76	6,985
2006	518,708.77	186,995	156,052	362,657	31.04	11,684
2007	39,664.69	13,676	11,413	28,252	31.35	901
2008	2,768,408.78	914,129	762,861	2,005,548	31.45	63,769
2009	1,410,029.18	441,621	368,543	1,041,486	31.80	32,751
2010	9,139,900.36	2,714,550	2,265,352	6,874,548	31.95	215,166
2011	15,742,679.06	4,407,950	3,678,533	12,064,146	32.14	375,362
2012	3,464,162.16	908,303	757,999	2,706,163	32.36	83,627
2013	50,992.03	12,422	10,366	40,626	32.60	1,246
2014	234,237.23	52,516	43,826	190,411	32.87	5,793
2015	64,024.13	13,112	10,942	53,082	33.00	1,609
2016	338,028.01	62,366	52,046	285,982	33.15	8,627
2017	188,037.99	30,688	25,610	162,428	33.34	4,872
2018	72,239.57	10,171	8,488	63,752	33.56	1,900
2020	2,305,257.50	217,155	181,221	2,124,036	33.67	63,084
2021	1,153,594.61	79,598	66,426	1,087,169	33.73	32,232
2022	112,500.00	4,815	4,018	108,482	33.59	3,230
2023	3,750,000.00	55,500	46,316	3,703,684	33.40	110,889
	107,995,351.50	48,375,704	40,370,610	67,624,742		2,365,293

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 28.6 2.19

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 354.70 STRUCTURES AND IMPROVEMENTS - GENERAL

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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 35-S1						
NET SALVAGE PERCENT.. 0						
2023	150,000.00	2,730	536	149,464	26.97	5,542
	150,000.00	2,730	536	149,464		5,542
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						27.0 3.69

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 355.00 POWER GENERATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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 35-S0.5						
NET SALVAGE PERCENT.. 0						
1980	15,032.64	12,555	12,762	2,271	8.58	265
2022	25,000.00	1,495	1,520	23,480	23.56	997
2023	50,000.00	1,030	1,047	48,953	23.83	2,054
	90,032.64	15,080	15,329	74,704		3,316
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						22.5 3.68

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 360.10 COLLECTION SEWERS - FORCE MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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						
NET SALVAGE PERCENT.. 0						
1980	42,592.47	24,644	23,688	18,904	31.68	597
2022	75,000.00	1,755	1,687	73,313	62.60	1,171
	117,592.47	26,399	25,375	92,217		1,768
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 52.2 1.50						

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 361.10 COLLECTION SEWERS - GRAVITY MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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 80-R2.5						
NET SALVAGE PERCENT.. 0						
1912	333.46	309	280	53	8.99	6
1916	275.14	251	227	48	10.14	5
1917	3,395.89	3,110	2,816	580	9.78	59
1919	1,085.08	987	894	191	10.44	18
1921	173.95	157	142	32	11.14	3
1922	1,311.05	1,184	1,072	239	10.85	22
1924	494.56	443	401	94	11.61	8
1925	33,446.36	29,981	27,145	6,301	11.38	554
1926	27,401.07	24,310	22,011	5,390	12.40	435
1927	4,780.34	4,244	3,843	937	12.20	77
1928	3,553.00	3,156	2,857	696	12.02	58
1930	22,280.76	19,583	17,731	4,550	12.88	353
1931	11,387.17	10,007	9,060	2,327	12.76	182
1932	4,542.82	3,949	3,575	968	13.77	70
1933	2,599.67	2,259	2,045	555	13.67	41
1934	773.61	672	608	166	13.59	12
1935	5,908.16	5,072	4,592	1,316	14.60	90
1936	18,399.50	15,778	14,286	4,114	14.54	283
1937	11,175.53	9,473	8,577	2,599	15.54	167
1938	9,999.28	8,463	7,663	2,336	15.52	151
1939	6,024.84	5,091	4,609	1,416	15.50	91
1940	3,516.91	2,937	2,659	858	16.50	52
1941	1,543.87	1,286	1,164	380	16.51	23
1942	6,428.40	5,344	4,839	1,589	16.54	96
1943	419,656.23	344,580	311,987	107,669	17.54	6,138
1944	748.20	613	555	193	17.59	11
1945	1,100.84	899	814	287	17.65	16
1946	6,893.53	5,556	5,030	1,864	18.65	100
1947	5,391.62	4,331	3,921	1,471	18.74	78
1948	1,311.46	1,040	942	369	19.73	19
1949	782.40	618	560	222	19.84	11
1950	17,399.22	13,683	12,389	5,010	19.96	251
1951	2,554.33	1,982	1,795	759	20.95	36
1952	851.06	657	595	256	21.09	12
1953	116,489.88	89,511	81,044	35,446	21.25	1,668
1954	57,694.57	43,709	39,575	18,120	22.24	815
1955	16,376.88	12,340	11,173	5,204	22.41	232
1956	10,669.11	7,922	7,173	3,496	23.41	149
1957	7,634.27	5,636	5,103	2,531	23.59	107
1958	12,493.63	9,165	8,298	4,196	23.79	176
1961	10,625.41	7,504	6,794	3,831	26.00	147

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 361.10 COLLECTION SEWERS - GRAVITY MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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 80-R2.5						
NET SALVAGE PERCENT.. 0						
1962	9,747.39	6,834	6,188	3,559	26.22	136
1963	9,125.37	6,349	5,748	3,377	26.45	128
1965	3,526.88	2,393	2,167	1,360	27.71	49
1971	2,302.08	1,438	1,302	1,000	31.53	32
1979	25,309.97	13,966	12,645	12,665	36.15	350
1980	1,320,938.48	712,514	645,120	675,818	37.15	18,192
1983	13,115,148.15	6,692,660	6,059,624	7,055,524	38.87	181,516
1987	311.03	146	132	179	41.02	4
1988	131,131.77	60,058	54,377	76,755	42.02	1,827
1989	10,007.15	4,488	4,063	5,944	42.42	140
1992	2,449,969.85	1,018,697	922,342	1,527,628	44.26	34,515
1993	231,630.81	93,255	84,434	147,197	45.26	3,252
1996	86,364.40	31,825	28,815	57,549	47.13	1,221
1998	107,988.15	37,170	33,654	74,334	48.58	1,530
1999	40,752.14	13,579	12,295	28,457	49.03	580
2001	490,620.59	151,209	136,907	353,714	50.50	7,004
2002	188,865.08	56,036	50,736	138,129	50.96	2,711
2003	833,571.20	235,817	213,512	620,059	51.96	11,933
2004	17,775.29	4,817	4,361	13,414	52.45	256
2009	839,575.40	174,128	157,658	681,917	55.43	12,302
2011	2,110,603.99	379,909	343,975	1,766,629	56.94	31,026
2015	265,586.43	33,411	30,251	235,335	59.07	3,984
2019	3,470,693.98	240,519	217,768	3,252,926	60.44	53,821
2022	224,907.68	5,465	4,948	219,960	60.23	3,652
2023	400,000.00	3,440	3,115	396,885	57.98	6,845
	27,255,956.32	10,687,915	9,676,981	17,578,975		389,828

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 45.1 1.43

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 361.20 MANHOLES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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-S2.5						
NET SALVAGE PERCENT.. 0						
1912	320.28	320	320			
1916	437.48	437	437			
1917	2,748.57	2,749	2,749			
1921	1,031.03	1,031	1,031			
1924	733.42	733	733			
1925	35,345.80	35,346	35,346			
1926	35,900.96	35,704	27,802	8,099	0.54	8,099
1927	7,751.82	7,705	6,000	1,752	0.58	1,752
1928	5,314.80	5,279	4,111	1,204	0.65	1,204
1930	27,848.44	27,601	21,493	6,355	0.84	6,355
1931	18,007.90	17,824	13,879	4,129	0.95	4,129
1932	3,232.15	3,194	2,487	745	1.09	683
1933	874.33	862	671	203	1.25	162
1934	2,380.91	2,323	1,809	572	2.24	255
1935	6,407.11	6,237	4,857	1,550	2.41	643
1936	23,747.53	23,064	17,960	5,788	2.59	2,235
1937	17,406.57	16,863	13,131	4,276	2.79	1,533
1938	17,486.72	17,044	13,272	4,215	2.22	1,899
1939	13,424.27	13,046	10,159	3,265	2.45	1,333
1940	7,505.40	7,270	5,661	1,844	2.71	680
1941	1,335.03	1,289	1,004	331	2.97	111
1942	15,721.69	15,120	11,774	3,948	3.25	1,215
1943	534,013.53	511,585	398,365	135,649	3.53	38,427
1944	3,100.18	2,958	2,303	797	3.83	208
1945	2,662.62	2,529	1,969	694	4.15	167
1946	16,175.05	15,418	12,006	4,169	3.80	1,097
1947	15,041.84	14,269	11,111	3,931	4.15	947
1948	3,202.32	3,022	2,353	849	4.50	189
1949	2,486.09	2,352	1,831	655	4.24	154
1950	14,184.81	13,345	10,392	3,793	4.62	821
1951	7,555.20	7,066	5,502	2,053	5.02	409
1952	3,960.29	3,709	2,888	1,072	4.84	221
1953	195,320.12	181,765	141,538	53,782	5.26	10,225
1954	97,366.87	90,006	70,087	27,280	5.68	4,803
1955	39,104.61	36,164	28,160	10,945	5.57	1,965
1956	24,133.10	22,154	17,251	6,882	6.03	1,141
1957	12,630.61	11,591	9,026	3,605	5.96	605
1958	19,869.39	18,089	14,086	5,783	6.45	897
1961	28,103.42	25,293	19,695	8,408	6.94	1,212
1962	16,753.98	15,043	11,714	5,040	6.99	721
1963	15,740.29	13,999	10,901	4,839	7.52	643

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 361.20 MANHOLES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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-S2.5						
NET SALVAGE PERCENT.. 0						
1965	6,787.09	5,996	4,669	2,118	7.72	274
1971	5,535.23	4,678	3,643	1,892	9.61	197
1979	21,056.89	16,492	12,842	8,215	12.32	667
1980	720,730.76	558,062	434,556	286,175	12.68	22,569
1983	627,445.33	467,572	364,092	263,353	13.85	19,015
1987	15,454.85	10,831	8,434	7,021	15.58	451
1988	39,629.37	27,154	21,144	18,485	16.31	1,133
1989	16,188.64	10,892	8,481	7,708	16.78	459
1992	227,343.40	143,226	111,528	115,815	18.50	6,260
1993	82,249.03	50,674	39,459	42,790	19.00	2,252
1996	98,585.55	55,849	43,489	55,097	21.04	2,619
1998	135,006.62	71,959	56,034	78,973	22.34	3,535
1999	85,032.43	43,749	34,067	50,965	23.12	2,204
2001	44,510.11	21,231	16,532	27,978	24.67	1,134
2002	160,575.96	73,544	57,268	103,308	25.45	4,059
2003	281,843.62	123,645	96,281	185,563	26.23	7,074
2004	37,446.37	15,698	12,224	25,222	27.01	934
2008	58,315.35	19,705	15,344	42,971	30.37	1,415
2009	57,299.47	18,198	14,171	43,128	31.16	1,384
2011	1,157,093.61	316,812	246,698	910,396	33.16	27,455
2015	28,317.56	5,295	4,123	24,195	36.95	655
2018	59,819.98	7,274	5,664	54,156	39.75	1,362
2019	70,200.00	6,978	5,434	64,766	40.75	1,589
2022	75,000.00	2,490	1,939	73,061	43.75	1,670
2023	100,000.00	1,100	856	99,144	44.75	2,216
	5,507,833.75	3,310,502	2,586,836	2,920,998		209,722

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 13.9 3.81

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 363.00 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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 47-R3						
NET SALVAGE PERCENT.. 0						
1912	1,218.92	1,219	1,219			
1916	473.89	474	474			
1917	2,455.16	2,455	2,455			
1919	567.79	568	568			
1921	89.61	90	90			
1922	231.24	231	231			
1924	1,289.35	1,289	1,289			
1925	49,605.10	49,605	49,605			
1926	33,667.29	33,667	33,667			
1927	9,991.46	9,991	9,991			
1928	3,823.98	3,824	3,824			
1930	23,459.00	23,459	23,459			
1931	14,056.26	14,056	14,056			
1932	5,811.02	5,811	5,811			
1933	340.15	340	340			
1934	1,411.96	1,412	1,412			
1935	5,731.31	5,731	5,731			
1936	18,266.74	18,267	18,267			
1937	9,460.63	9,461	9,461			
1938	10,033.83	10,034	10,034			
1939	6,920.00	6,920	6,920			
1940	2,709.13	2,709	2,709			
1941	578.45	578	578			
1942	7,246.93	7,247	7,247			
1943	529,824.65	529,825	529,825			
1944	2,485.76	2,486	2,486			
1945	2,007.66	2,008	2,008			
1946	9,343.60	9,342	7,644	1,700	0.02	1,700
1947	8,656.38	8,609	7,044	1,612	0.42	1,612
1948	831.98	823	673	159	0.84	159
1949	969.13	953	780	189	1.26	150
1950	3,685.35	3,630	2,970	715	1.13	633
1951	2,085.14	2,041	1,670	415	1.57	264
1952	1,157.34	1,125	920	237	2.03	117
1953	165,486.27	161,002	131,733	33,753	1.96	17,221
1954	36,927.83	35,672	29,187	7,741	2.45	3,160
1955	13,734.89	13,265	10,853	2,882	2.43	1,186
1956	8,299.52	7,955	6,509	1,791	2.92	613
1957	7,701.98	7,375	6,034	1,668	2.94	567
1958	6,702.03	6,366	5,209	1,493	3.46	432
1961	5,180.46	4,857	3,974	1,206	4.17	289

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 363.00 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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 47-R3						
NET SALVAGE PERCENT.. 0						
1962	6,914.28	6,463	5,288	1,626	4.29	379
1963	3,878.93	3,614	2,957	922	4.44	208
1965	2,640.89	2,425	1,984	657	5.20	126
1971	7,171.14	6,362	5,205	1,966	6.67	295
1979	2,725.20	2,231	1,825	900	9.85	91
1980	173,324.76	140,237	114,743	58,582	10.26	5,710
1983	136,541.42	105,628	86,426	50,115	11.85	4,229
1987	3,999.10	2,890	2,365	1,634	14.01	117
1988	5,127.17	3,622	2,964	2,163	14.75	147
1989	2,094.49	1,452	1,188	906	15.25	59
1992	40,725.05	26,426	21,622	19,103	17.04	1,121
1993	29,558.21	18,663	15,270	14,288	17.81	802
1996	8,927.99	5,205	4,259	4,669	19.67	237
1998	20,152.96	11,048	9,039	11,114	21.01	529
1999	31,626.67	16,737	13,694	17,933	21.80	823
2001	25,910.64	12,769	10,448	15,463	23.16	668
2002	28,192.83	13,335	10,911	17,282	23.95	722
2003	167,118.22	76,056	62,229	104,889	24.55	4,272
2004	9,689.03	4,213	3,447	6,242	25.35	246
2008	13,203.59	4,666	3,818	9,386	28.36	331
2009	62,817.65	20,855	17,064	45,754	29.17	1,569
2011	26,094.50	7,567	6,191	19,904	30.60	650
2015	123,740.22	24,822	20,309	103,431	33.87	3,054
2019	81,515.21	8,836	7,230	74,285	37.00	2,008
2022	56,245.23	2,075	1,698	54,547	39.15	1,393
2023	75,000.00	945	773	74,227	39.34	1,887
	2,159,454.55	1,535,914	1,391,904	767,551		59,776
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						12.8 2.77

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 364.00 FLOW MEASURING DEVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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 15-L2.5						
NET SALVAGE PERCENT.. 0						
1989	4,620.00	4,447	3,529	1,091	1.34	814
1990	6,000.00	5,749	4,563	1,437	1.47	978
2001	8,496.00	7,436	5,901	2,595	3.21	808
2002	4,620.00	3,993	3,169	1,451	3.38	429
2004	2,419.20	2,028	1,610	809	3.76	215
2015	34,000.00	19,856	15,758	18,242	6.06	3,010
2020	30,000.00	8,127	6,450	23,550	9.42	2,500
	90,155.20	51,636	40,980	49,175		8,754
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 5.6						9.71

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 371.00 PUMPING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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 30-S0.5						
NET SALVAGE PERCENT.. 0						
1968	16,074.67	15,612	12,027	4,048	1.65	2,453
1981	118,856.16	105,069	80,945	37,911	5.58	6,794
1988	558,411.15	457,897	352,763	205,648	7.79	26,399
1989	381,266.40	309,131	238,154	143,112	8.05	17,778
1990	632,977.23	504,673	388,800	244,177	8.52	28,659
1991	243,394.01	191,429	147,477	95,917	8.82	10,875
1996	34,240.68	24,859	19,151	15,090	10.38	1,454
2002	9,289.75	5,892	4,539	4,751	12.40	383
2003	1,154,422.94	712,279	548,739	605,684	12.72	47,617
2010	252,600.00	118,318	91,152	161,448	15.32	10,538
2011	681,987.60	301,780	232,491	449,497	15.75	28,539
2012	297,266.42	123,752	95,339	201,927	16.12	12,526
2022	274,909.59	19,079	14,698	260,212	20.10	12,946
2023	200,000.00	4,800	3,698	196,302	20.38	9,632
	4,855,696.60	2,894,570	2,229,973	2,625,724		216,593
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 12.1						4.46

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 380.00 TREATMENT EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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 35-S1.5						
NET SALVAGE PERCENT.. 0						
1963	27,337.86	26,299	19,903	7,435	2.39	3,111
1969	893.29	837	633	260	3.64	71
1981	1,645,109.38	1,419,400	1,074,199	570,910	6.76	84,454
1988	72,855.46	58,197	44,043	28,812	8.94	3,223
1990	1,312,471.00	1,024,515	775,350	537,121	9.42	57,019
1991	1,422,186.57	1,090,817	825,528	596,659	9.87	60,452
1998	47,933.99	32,145	24,327	23,607	12.52	1,886
1999	748,513.04	489,677	370,586	377,927	12.95	29,184
2000	6,786.00	4,338	3,283	3,503	13.26	264
2001	1,222,396.43	759,108	574,491	647,905	13.73	47,189
2002	10,893.47	6,558	4,963	5,930	14.21	417
2003	255,645.81	148,837	112,640	143,006	14.71	9,722
2004	273,598.62	153,653	116,284	157,315	15.22	10,336
2005	631,227.12	340,989	258,060	373,167	15.75	23,693
2006	293,902.68	152,242	115,216	178,687	16.28	10,976
2008	190,126.06	89,587	67,799	122,327	17.39	7,034
2009	750,024.06	334,961	253,498	496,526	17.97	27,631
2010	3,273,079.72	1,378,621	1,043,337	2,229,743	18.55	120,202
2011	5,376,446.83	2,123,696	1,607,208	3,769,239	19.15	196,827
2012	3,341,390.01	1,225,622	927,548	2,413,842	19.85	121,604
2013	159,568.52	54,126	40,962	118,607	20.46	5,797
2014	207,869.91	64,377	48,720	159,150	21.17	7,518
2015	293,385.47	82,031	62,081	231,304	21.90	10,562
2016	75,948.11	18,911	14,312	61,636	22.62	2,725
2018	22,200.00	4,116	3,115	19,085	24.17	790
2019	751,227.09	114,637	86,757	664,470	25.00	26,579
2020	1,019,833.28	121,768	92,154	927,679	25.82	35,929
2021	6,710,659.33	573,761	434,222	6,276,437	26.74	234,721
2022	499,993.85	25,700	19,449	480,545	27.66	17,373
2023	450,000.00	7,740	5,858	444,142	28.57	15,546
	31,093,502.96	11,927,266	9,026,526	22,066,977		1,172,835

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 18.8 3.77

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 389.10 OTHER PLANT AND MISCELLANEOUS EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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 20-S2.5						
NET SALVAGE PERCENT.. 0						
2023	200,000.00	5,520	417	199,583	17.62	11,327
	200,000.00	5,520	417	199,583		11,327
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						17.6 5.66

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 390.00 OFFICE FURNITURE AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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						
NET SALVAGE PERCENT.. 0						
2014	60,303.60	28,644	30,277	30,027	10.50	2,860
2023	250,000.00	6,250	6,606	243,394	19.50	12,482
	310,303.60	34,894	36,883	273,421		15,342
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 17.8 4.94						

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 391.00 TRANSPORTATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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 14-L4						
NET SALVAGE PERCENT.. 0						
1986	24,733.60	24,734	24,734			
1987	1,804.62	1,805	1,805			
1990	125,024.17	125,024	125,024			
1991	94,454.19	94,454	94,454			
2000	28,859.78	27,806	23,079	5,781	0.89	5,781
2002	25,808.22	24,415	20,265	5,543	1.23	4,507
2005	15,221.39	13,882	11,522	3,699	1.78	2,078
2011	25,299.61	20,715	17,194	8,106	2.77	2,926
2022	861,226.26	97,921	81,275	779,951	11.69	66,720
2023	295,000.00	11,180	9,279	285,721	12.69	22,515
	1,497,431.84	441,936	408,631	1,088,801		104,527
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 10.4						6.98

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 393.00 TOOLS, SHOP AND GARAGE EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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						
NET SALVAGE PERCENT.. 0						
2022	300,000.00	22,500	25,952	274,048	18.50	14,813
2023	250,000.00	6,250	7,209	242,791	19.50	12,451
	550,000.00	28,750	33,161	516,839		27,264
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 19.0 4.96						

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 394.00 LABORATORY EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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						
NET SALVAGE PERCENT.. 0						
2009	40,992.00	39,626	19,745	21,247	0.50	21,247
2014	82,639.20	52,338	26,078	56,561	5.50	10,284
2015	36,812.40	20,860	10,394	26,418	6.50	4,064
2016	71,167.78	35,584	17,731	53,437	7.50	7,125
2018	17,420.40	6,388	3,183	14,237	9.50	1,499
2023	150,000.00	5,000	2,491	147,509	14.50	10,173
	399,031.78	159,796	79,622	319,410		54,392
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 5.9						13.63

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 396.00 COMMUNICATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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						
NET SALVAGE PERCENT.. 0						
2022	90,000.00	9,000	2,606	87,394	13.50	6,474
2023	1,657,500.00	55,244	15,999	1,641,501	14.50	113,207
	1,747,500.00	64,244	18,605	1,728,895		119,681
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						14.4 6.85

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

ACCOUNT 397.00 MISCELLANEOUS EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2023

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						
NET SALVAGE PERCENT.. 0						
2022	75,000.00	7,500	9,830	65,170	13.50	4,827
	75,000.00	7,500	9,830	65,170		4,827
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						13.5 6.44

PART III. EXPERIENCED AND ESTIMATED NET SALVAGE

PENNSYLVANIA-AMERICAN WATER COMPANY
YORK WASTEWATER OPERATIONS

EXPERIENCED AND ESTIMATED RETIREMENTS BY ACCOUNT AND ASSOCIATED
COST OF REMOVAL, GROSS SALVAGE, AND NET SALVAGE

ACCT	REGULAR RETIREMENTS	COST OF REMOVAL	GROSS SALVAGE	NET SALVAGE
2022 TRANSACTION YEAR				
354.40	8,419.23			
361.10	19,644.88	5,009.45		5,009.45-
361.20	4,490.26	3,075.83		3,075.83-
363.00	2,806.41	1,010.31		1,010.31-
371.00	20,580.35	9,672.77		9,672.77-
380.00	39,289.76	9,233.15		9,233.15-
391.00	66,231.31			
394.00	319,099.30			
	480,561.50	28,001.51		28,001.51-
2023 TRANSACTION YEAR				
354.40	26,642.94			
361.10	62,166.87	15,852.55		15,852.55-
361.20	14,209.57	9,733.56		9,733.56-
363.00	8,880.98	3,197.15		3,197.15-
371.00	25,000.00	11,750.00		11,750.00-
380.00	99,334.00	23,343.49		23,343.49-
391.00	52,397.79			
394.00	28,033.20			
	316,665.35	63,876.75		63,876.75-
TOTAL	797,226.85	91,878.26		91,878.26-