VOLUME 14

PENNSYLVANIA-AMERICAN WATER COMPANY

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

EXHIBITS NO. 11-G, 11-H, 11-I
DEPRECIATION STUDY

ROYERSFORD WASTEWATER OPERATIONS
AS OF DECEMBER 31, 2021, 2022, 2023

EXHIBIT NO. 11-G - DEPRECIATION STUDY

ROYERSFORD WASTEWATER OPERATIONS

AS OF DECEMBER 31, 2021

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

PENNSYLVANIA-AMERICAN WATER COMPANY

MECHANICSBURG, PENNSYLVANIA

ROYERSFORD WASTEWATER OPERATIONS

2021 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS
RELATED TO WASTEWATER PLANT
AS OF DECEMBER 31, 2021

Prepared by:

GANNETT FLEMING

Excellence Delivered As Promised

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

PENNSYLVANIA-AMERICAN WATER COMPANY

Mechanicsburg, Pennsylvania

ROYERSFORD WASTEWATER OPERATIONS

2021 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION ACCRUALS RELATED TO WASTEWATER PLANT AS OF DECEMBER 31, 2021

GANNETT FLEMING VALUATION AND RATE CONSULTANTS, LLC

Camp Hill, Pennsylvania

Gannett Fleming
Valuation and Rate Consultants, LLC

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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 as of December 31, 2021. Summaries of the original cost, annual accruals and the book depreciation reserve are presented in Tables 1 through 3, beginning on page I-3 of the attached report.

A description of the methods and procedures upon which the study was based, as well as support for the service life estimates, is set forth in a companion report "2022 Depreciation Study - Calculated Annual Depreciation Accruals Related to Wastewater Plant as of December 31, 2022".

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

John J. Spanos

JOHN J. SPANOS
President

JJS:mle

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DEPRECIATION STUDY

PART I. RESULTS OF STUDY

DESCRIPTION OF SUMMARY TABULATIONS

Table 1 presents the development of net original cost used in the study. The net original cost is the original cost of wastewater plant less advances and contributions. The results of the depreciation study are summarized in Table 2, which sets forth the book reserve and the calculated annual depreciation related to net original cost as of December 31, 2021, and the annual amortization of net negative salvage. Table 3 presents the calculation of the amortization of experienced net salvage by account, based on the five-year period, 2017-2021.

DESCRIPTION OF DETAILED TABULATIONS

The supporting data for the depreciation calculations are presented in account sequence in the section beginning on page II-2. 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 2017 through 2021, on page III-2.

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD WASTEWATER OPERATIONS

TABLE 1. DEVELOPMENT OF NET ORIGINAL COST AS OF DECEMBER 31, 2021

DEPRCIABLE GROUP (1)	ORIGINAL COST AS OF DECEMBER 31, 2021 (2)	-	CUSTOMER ADVANCES (3)	-	CONTRIBUTIONS IN AID OF CONSTRUCTION (4)	-	EXCLUDED PROPERTY (5)	=	NET ORIGINAL COST AS OF DECMEBER 31, 2021 (6)
DEPRECIABLE PLANT									
354.30 STRUCTURES AND IMPROVEMENTS - SPP	627,002.28								627,002.28
354.40 STRUCTURES AND IMPROVEMENTS - TDP	787,394.52								787,394.52
355.00 POWER GENERATION EQUIPMENT	932,792.72								932,792.72
360.10 COLLECTION SEWERS - FORCE MAINS	79,235.90								79,235.90
361.10 COLLECTION SEWERS - GRAVITY MAINS	2,677,568.65								2,677,568.65
361.20 MANHOLES	106,954.15								106,954.15
363.00 SERVICES	80,889.89								80,889.89
364.00 FLOW MEASURING DEVICES	45,062.56								45,062.56
371.00 PUMPING EQUIPMENT	442,227.42								442,227.42
380.00 TREATMENT EQUIPMENT	13,576,315.69								13,576,315.69
390.00 OFFICE FURNITURE AND EQUIPMENT	23,874.37								23,874.37
394.00 LABORATORY EQUIPMENT	3,278.57								3,278.57
396.00 COMMUNICATION EQUIPMENT	18,286.98								18,286.98
TOTAL DEPRECIABLE PLANT	**19,400,883.70**								**19,400,883.70**
NONDEPRECIABLE PLANT									
353.20 LAND AND LAND RIGHTS - COLLECTION	62.00								62.00
353.30 LAND AND LAND RIGHTS - SPP	39.00								39.00
353.40 LAND AND LAND RIGHTS - TDP	3,000.00								3,000.00
TOTAL NONDEPRECIABLE PLANT	**3,101.00**								**3,101.00**
TOTAL PLANT	**19,403,984.70**								**19,403,984.70**

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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, 2021

	DEPRECIABLE GROUP	SURVIVOR CURVE	ORIGINAL COST AS OF DECEMBER 31, 2021	BOOK DEPRECIATION RESERVE	FUTURE ACCRUALS	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)=(6)/(3)	(8)
	DEPRECIABLE PLANT							
354.30	STRUCTURES AND IMPROVEMENTS - SPP	55-S0	627,002.28	332,942	294,060	10,190	1.63	28.9
354.40	STRUCTURES AND IMPROVEMENTS - TDP	55-S0	787,394.52	573,845	213,550	13,541	1.72	15.8
355.00	POWER GENERATION EQUIPMENT	35-S0.5	932,792.72	323,863	608,930	32,908	3.53	18.5
360.10	COLLECTION SEWERS - FORCE MAINS	75-R3	79,235.90	64,298	14,938	1,087	1.37	13.7
361.10	COLLECTION SEWERS - GRAVITY MAINS	80-R2.5	2,677,568.65	743,554	1,934,015	41,476	1.55	46.6
361.20	MANHOLES	50-S2.5	106,954.15	68,337	38,617	7,081	6.62	5.5
363.00	SERVICES	47-R3	80,889.89	62,868	18,022	1,258	1.56	14.3
364.00	FLOW MEASURING DEVICES	15-L2.5	45,062.56	15,824	29,239	5,601	12.43	5.2
371.00	PUMPING EQUIPMENT	30-S0.5	442,227.42	114,273	327,954	19,669	4.45	16.7
380.00	TREATMENT EQUIPMENT	35-S1.5	13,576,315.69	4,307,440	9,268,876	506,321	3.73	18.3
390.00	OFFICE FURNITURE AND EQUIPMENT	20-SQ	23,874.37	7,737	16,137	1,075	4.50	15.0
394.00	LABORATORY EQUIPMENT	15-SQ	3,278.57	0	3,279	226	6.89	14.5
396.00	COMMUNICATION EQUIPMENT	15-SQ	18,286.98	5,410	12,877	1,275	6.97	10.1
	TOTAL DEPRECIABLE PLANT		**19,400,883.70**	**6,620,391**	**12,780,494**	**641,708**	**3.31**	
	NONDEPRECIABLE PLANT							
353.20	LAND AND LAND RIGHTS - COLLECTION		62.00					
353.30	LAND AND LAND RIGHTS - SPP		39.00					
353.40	LAND AND LAND RIGHTS - TDP		3,000.00					
	TOTAL NONDEPRECIABLE PLANT		**3,101.00**					
	AMORTIZATION OF NET SALVAGE					**304**		
	TOTAL UTILITY PLANT		**19,403,984.70**	**6,620,391**	**12,780,494**	**642,012**		

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD WASTEWATER OPERATIONS

TABLE 3. AMORTIZATION OF EXPERIENCED NET SALVAGE

	2017		2018		2019		2020		2021			
ACCOUNT	GROSS SALVAGE	COST OF REMOVAL	GROSS SALVAGE	COST OF REMOVAL	GROSS SALVAGE	COST OF REMOVAL	GROSS SALVAGE	COST OF REMOVAL	GROSS SALVAGE	COST OF REMOVAL	NET SALVAGE	SALVAGE ACCRUAL
(1)	(2) -	(3) +	(4) -	(5) +	(6) -	(7) +	(8) -	(9) +	(10) -	(11) =	(12)*	(13)=(12)/5
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
364.00											0	0
371.00											0	0
380.00										1,521	(1,521)	(304)
390.00											0	0
394.00											0	0
396.00											0	0
TOTAL	0	0	0	0	0	0	0	0	0	1,521	(1,521)	(304)

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

PART II. DETAILED DEPRECIATION CALCULATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD WASTEWATER OPERATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST BY YEAR INSTALLED
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2021

YEAR INST (1)	ORIGINAL COST (2)	ACCRUED DEPRECIATION (3)	DEPRECIATED ORIGINAL COST AMOUNT (2) - (3) (4)	CUMULATIVE AMOUNT (5)	PCT OF COL 4 TOTAL (6)
1935	1,144,479	936,932	207,547	207,547	1.6
1936	309,149	235,375	73,774	281,321	2.2
1951	890,985	890,985		281,321	2.2
1955	3,597	2,376	1,221	282,542	2.2
1958	96,203	79,578	16,625	299,167	2.3
1972	17,953	7,454	10,499	309,666	2.4
1985	4,701	2,566	2,135	311,801	2.4
1986	56,331	28,997	27,334	339,135	2.7
1987	1,383	704	679	339,814	2.7
1988	352	217	135	339,949	2.7
1989	163,353	98,901	64,452	404,401	3.2
1990	106,227	54,078	52,149	456,550	3.6
1992	61,233	23,788	37,445	493,995	3.9
1993	158,112	75,600	82,512	576,507	4.5
1994	18,031	5,819	12,212	588,719	4.6
1995	20,079	7,003	13,076	601,795	4.7
1998	3,675,005	1,513,803	2,161,202	2,762,997	21.6
2000	345,733	159,859	185,874	2,948,871	23.1
2005	24,948	9,351	15,597	2,964,468	23.2
2006	3,770	1,145	2,625	2,967,093	23.2
2007	37,705	10,852	26,853	2,993,946	23.4
2008	763,776	256,774	507,002	3,500,948	27.4
2010	7,949,157	1,896,679	6,052,478	9,553,426	74.8
2011	84,487	25,281	59,206	9,612,632	75.2
2012	91,656	23,108	68,548	9,681,180	75.7
2013	489,658	53,507	436,151	10,117,331	79.2
2014	948,076	94,183	853,893	10,971,224	85.8
2015	652,909	75,578	577,331	11,548,555	90.4
2016	27,879	3,331	24,548	11,573,103	90.6
2018	87,988	9,399	78,589	11,651,692	91.2
2019	32,678	2,486	30,192	11,681,884	91.4
2020	995,715	32,982	962,733	12,644,617	98.9
2021	137,575	1,700	135,875	12,780,492	100.0
SUBTOTAL	19,400,884	6,620,391	12,780,494		
NONDEPRECIABLE	3,101		3,101		
TOTAL	19,403,985	6,620,391	12,738,595		

NET UTILITY PLANT IN SERVICE

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD WASTEWATER OPERATIONS

ACCOUNT 354.30 STRUCTURES AND IMPROVEMENTS - SPP

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2021

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						
1935	16,444.43	14,935	16,444			
1958	63,683.83	50,552	55,728	7,956	16.50	482
1988	351.91	197	217	135	26.38	5
1989	163,353.35	89,714	98,901	64,452	26.67	2,417
1990	65,300.12	35,171	38,772	26,528	26.98	983
2000	230,488.44	96,621	106,515	123,973	29.78	4,163
2011	16,818.97	4,097	4,516	12,303	32.60	377
2012	37,883.52	8,493	9,363	28,521	32.87	868
2019	32,677.71	2,255	2,486	30,192	33.73	895
	627,002.28	302,035	332,942	294,060		10,190

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 28.9 1.63

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD WASTEWATER OPERATIONS

ACCOUNT 354.40 STRUCTURES AND IMPROVEMENTS - TDP

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2021

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						
1935	567,388.08	515,302	488,474	78,914	8.74	9,029
1993	158,112.35	79,752	75,600	82,512	28.00	2,947
2014	9,677.63	1,786	1,693	7,985	33.15	241
2015	52,216.46	8,522	8,078	44,138	33.34	1,324
	787,394.52	605,362	573,845	213,550		13,541

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 15.8 1.72

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD WASTEWATER OPERATIONS

ACCOUNT 355.00 POWER GENERATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2021

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						
2000	115,244.22	66,404	53,344	61,900	15.81	3,915
2008	763,776.07	319,640	256,774	507,002	18.76	27,026
2012	53,772.43	17,110	13,745	40,027	20.35	1,967
	932,792.72	403,154	323,863	608,930		32,908

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 18.5   3.53

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD WASTEWATER OPERATIONS

ACCOUNT 360.10 COLLECTION SEWERS - FORCE MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2021

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						
1935	46,716.55	42,026	40,448	6,269	9.65	650
1958	32,519.35	24,780	23,850	8,669	19.83	437
	79,235.90	66,806	64,298	14,938		1,087

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 13.7 1.37

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD WASTEWATER OPERATIONS

ACCOUNT 361.10 COLLECTION SEWERS - GRAVITY MAINS

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2021

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						
1935	439,155.70	372,272	326,042	113,114	15.54	7,279
1936	263,985.59	223,437	195,690	68,296	15.52	4,401
1955	2,855.53	2,108	1,846	1,010	23.59	43
1972	8,114.13	4,860	4,256	3,858	33.14	116
1990	25,096.48	10,435	9,139	15,957	44.26	361
1992	38,868.88	15,252	13,358	25,511	45.68	558
1994	18,030.55	6,644	5,819	12,212	47.13	259
1995	13,943.33	4,989	4,369	9,574	47.57	201
2013	481,362.75	60,555	53,036	428,327	59.07	7,251
2014	928,720.58	103,831	90,937	837,784	59.61	14,054
2015	457,435.13	44,600	39,062	418,373	60.17	6,953
	2,677,568.65	848,983	743,554	1,934,015		41,476

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 46.6 1.55

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD WASTEWATER OPERATIONS

ACCOUNT 361.20 MANHOLES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2021

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						
1935	37,687.45	36,512	28,437	9,250	2.79	3,315
1936	22,743.68	22,168	17,266	5,478	2.22	2,468
1955	741.53	681	530	212	5.96	36
1972	1,966.12	1,625	1,266	700	10.38	67
1985	4,700.56	3,294	2,566	2,135	15.58	137
1990	10,614.57	6,687	5,208	5,407	18.50	292
1992	22,364.12	13,392	10,430	11,934	19.76	604
1995	6,136.12	3,382	2,634	3,502	21.58	162
	106,954.15	87,741	68,337	38,617		7,081

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 5.5 6.62

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD WASTEWATER OPERATIONS

ACCOUNT 363.00 SERVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2021

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						
1935	37,086.69	37,087	37,087			
1936	22,419.42	22,419	22,419			
1972	7,872.81	6,819	1,932	5,941	7.65	777
1990	5,215.86	3,385	959	4,257	17.04	250
2013	8,295.11	1,664	471	7,824	33.87	231
	80,889.89	71,374	62,868	18,022		1,258

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 14.3 1.56

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD WASTEWATER OPERATIONS

ACCOUNT 364.00 FLOW MEASURING DEVICES

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2021

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						
2011	45,062.56	30,093	15,824	29,239	5.22	5,601
	45,062.56	30,093	15,824	29,239		5,601

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 5.2 12.43

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD WASTEWATER OPERATIONS

ACCOUNT 371.00 PUMPING EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2021

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						
2005	24,948.17	13,420	9,351	15,597	14.17	1,101
2010	329,290.75	137,084	95,523	233,768	16.12	14,502
2018	87,988.50	13,489	9,399	78,590	19.33	4,066
	442,227.42	163,993	114,273	327,954		19,669

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 16.7 4.45

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD WASTEWATER OPERATIONS

ACCOUNT 380.00 TREATMENT EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2021

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						
1951	890,985.36	890,985	890,985			
1986	56,331.34	44,997	28,997	27,334	8.94	3,057
1987	1,382.52	1,092	704	679	9.17	74
1998	3,675,005.45	2,349,063	1,513,803	2,161,202	13.26	162,987
2006	3,770.50	1,777	1,145	2,626	17.39	151
2007	37,705.05	16,839	10,852	26,853	17.97	1,494
2010	7,619,865.93	2,794,967	1,801,156	5,818,710	19.85	293,134
2011	22,605.43	7,668	4,941	17,664	20.46	863
2014	9,677.63	2,410	1,553	8,125	22.62	359
2015	111,634.59	24,236	15,619	96,016	23.44	4,096
2016	27,879.11	5,169	3,331	24,548	24.17	1,016
2020	995,714.91	51,180	32,982	962,733	27.66	34,806
2021	123,757.87	2,129	1,372	122,386	28.57	4,284
	13,576,315.69	6,192,512	4,307,440	9,268,876		506,321

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 18.3 3.73

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD WASTEWATER OPERATIONS

ACCOUNT 390.00 OFFICE FURNITURE AND EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2021

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						
2015	18,412.63	5,984	7,564	10,849	13.50	804
2021	5,461.74	137	173	5,289	19.50	271
	23,874.37	6,121	7,737	16,137		1,075

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 15.0   4.50

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD WASTEWATER OPERATIONS

ACCOUNT 394.00 LABORATORY EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2021

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						
2021	3,278.57	109		3,279	14.50	226
	3,278.57	109		3,279		226

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 14.5 6.89

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD WASTEWATER OPERATIONS

ACCOUNT 396.00 COMMUNICATION EQUIPMENT

CALCULATED REMAINING LIFE DEPRECIATION ACCRUAL
RELATED TO ORIGINAL COST AS OF DECEMBER 31, 2021

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						
2015	13,210.61	5,725	5,255	7,956	8.50	936
2021	5,076.37	169	155	4,921	14.50	339
	18,286.98	5,894	5,410	12,877		1,275

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 10.1 6.97

PART III. EXPERIENCED NET SALVAGE

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD WASTEWATER OPERATIONS

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

ACCT	REGULAR RETIREMENTS	COST OF REMOVAL	GROSS SALVAGE	NET SALVAGE
2021 TRANSACTION YEAR				
380.00		1,521.00		1,521.00-
		1,521.00		1,521.00-
TOTAL		1,521.00		1,521.00-

EXHIBIT NO. 11-H - DEPRECIATION STUDY

ROYERSFORD WASTEWATER OPERATIONS

AS OF DECEMBER 31, 2022

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

PENNSYLVANIA-AMERICAN WATER COMPANY

MECHANICSBURG, PENNSYLVANIA

ROYERSFORD 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-H
Witness: J. J. Spanos

PENNSYLVANIA-AMERICAN WATER COMPANY

Mechanicsburg, Pennsylvania

ROYERSFORD 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
P 717.763.7211 | F 717.763.8150

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. 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, 2021, are presented in our report, "2021 Depreciation Study - Calculated Annual Depreciation Accruals Related to Wastewater Plant as of December 31, 2021." 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

John J. Spanos

JOHN J. SPANOS
President

JJS:mle

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TABLE OF CONTENTS

TABLE OF CONTENTS, cont.

PART I. INTRODUCTION

PENNSYLVANIA-AMERICAN WATER COMPANY

ROYERSFORD WW 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.

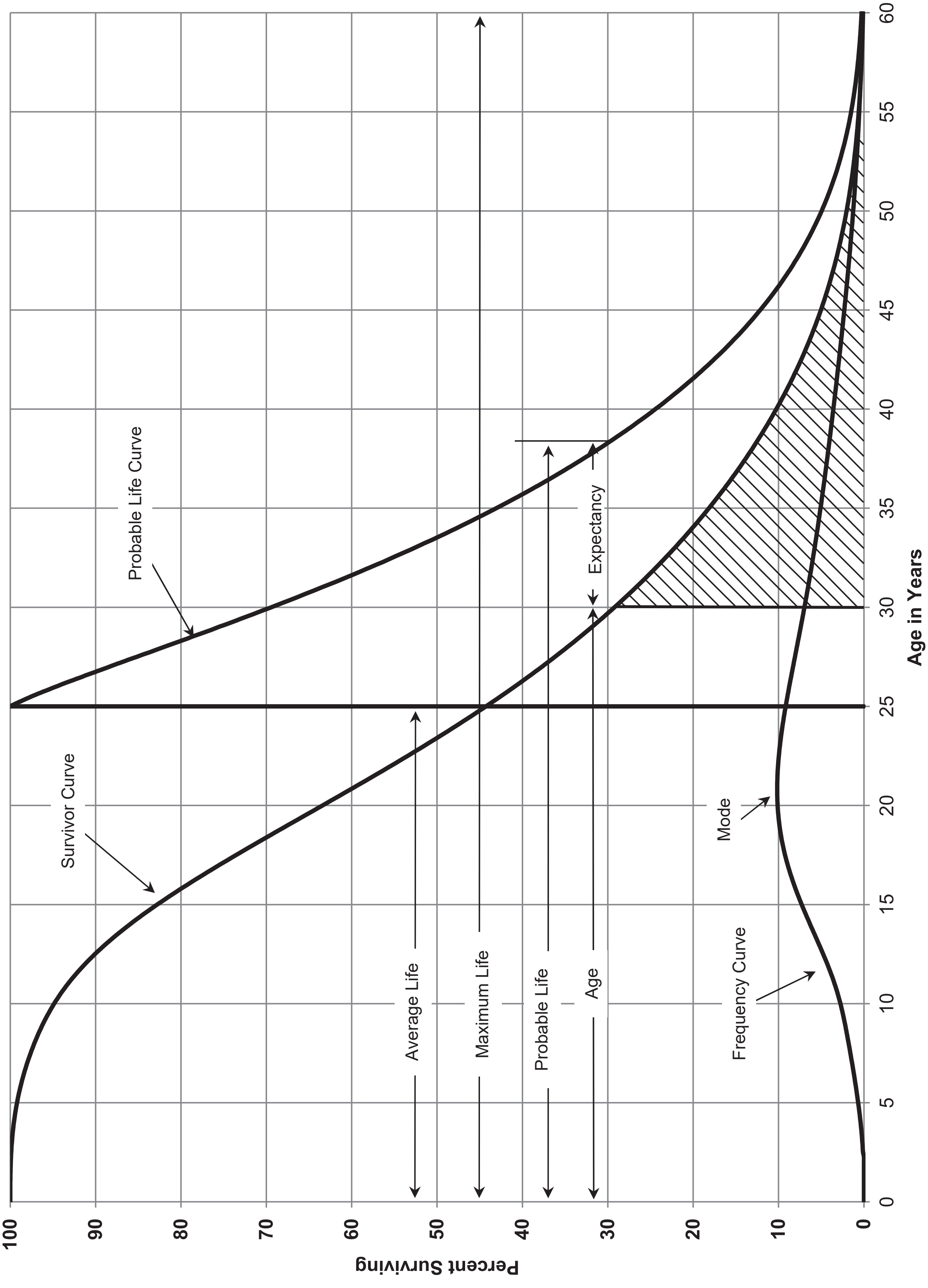


FIGURE 1. TYPICAL SURVIVOR CURVE AND DERIVED CURVES

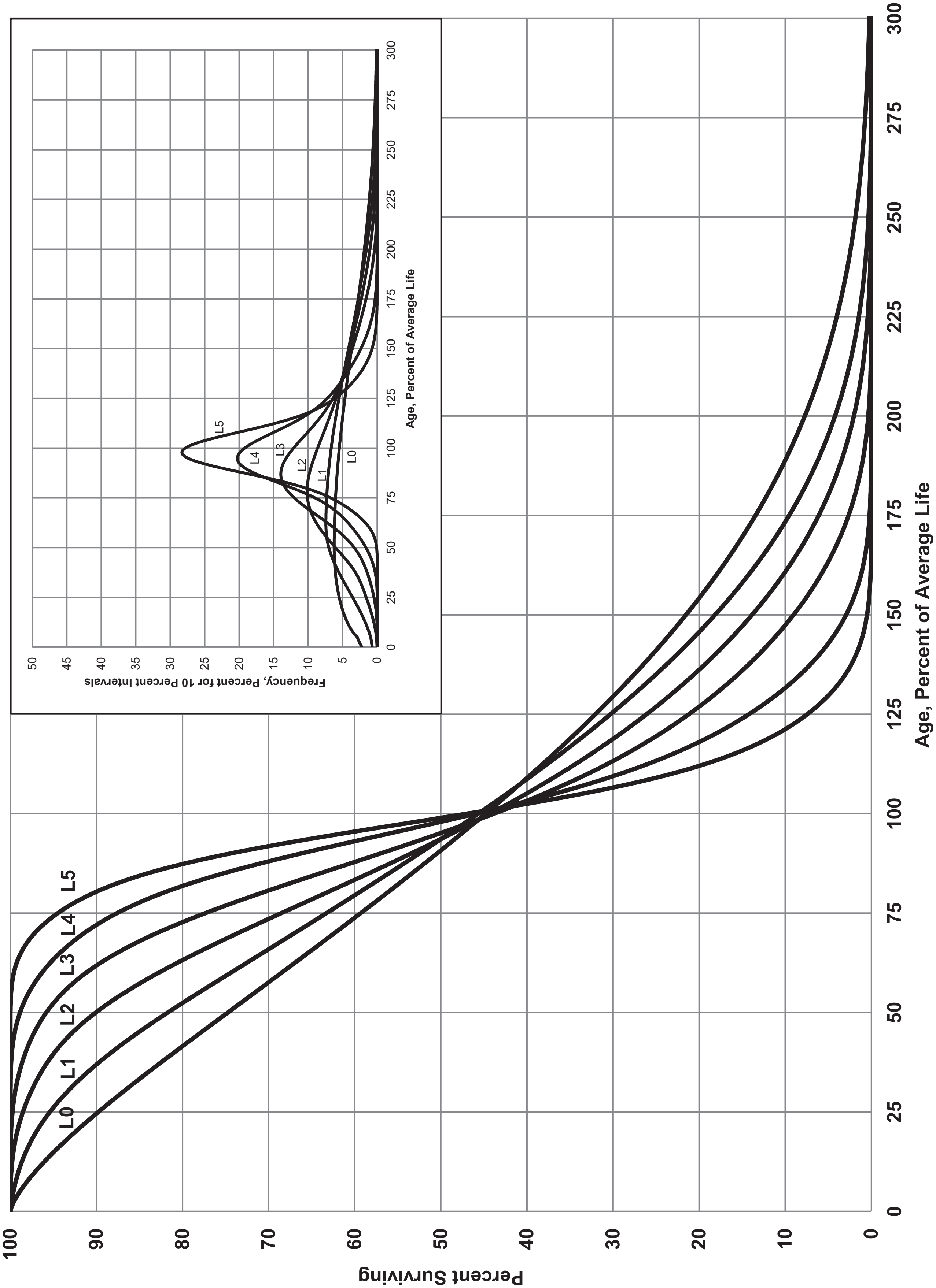


FIGURE 2. LEFT MODAL OR "L" IOWA TYPE SURVIVOR CURVES

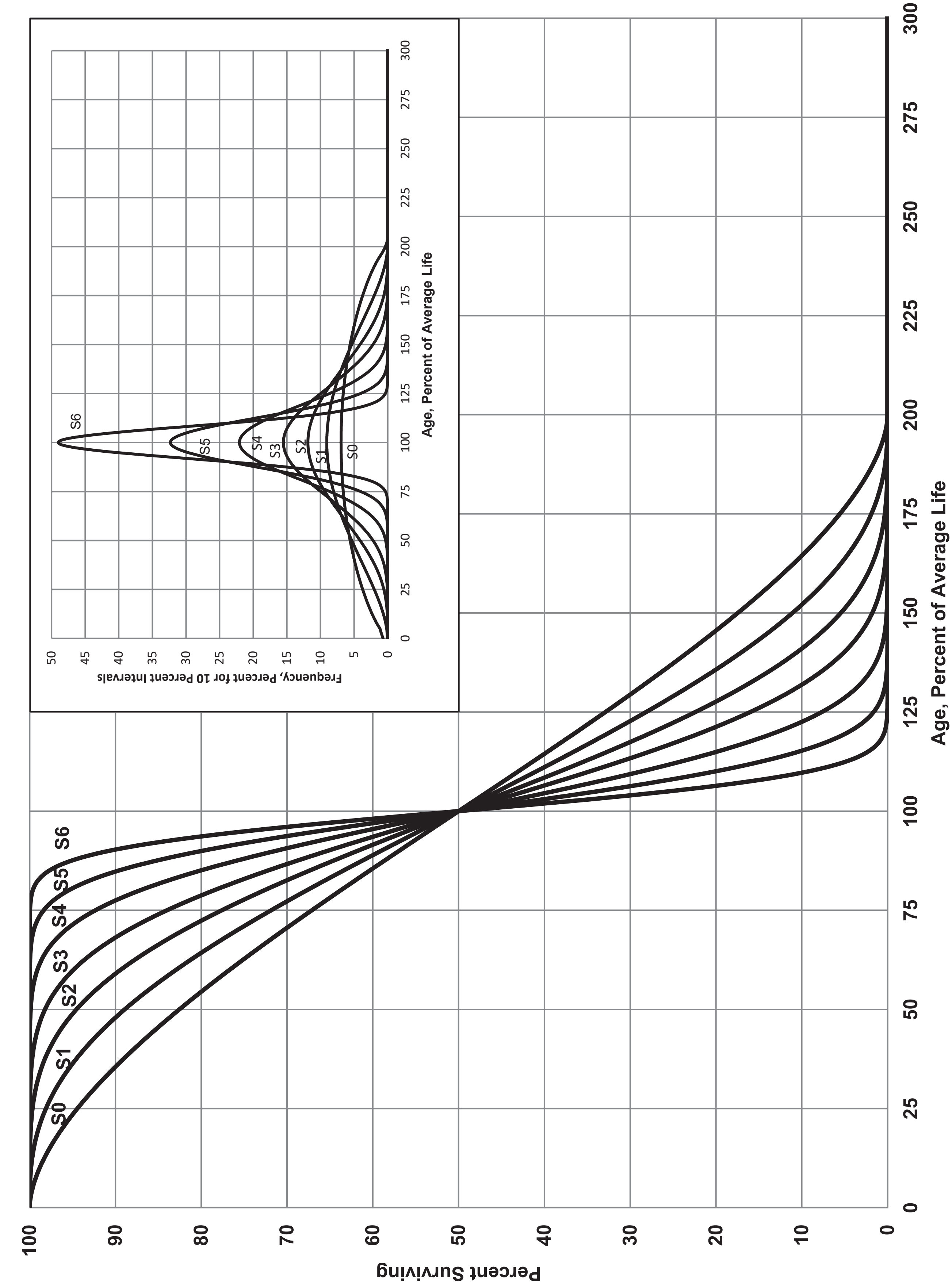


FIGURE 3. SYMMETRICAL OR "S" IOWA TYPE SURVIVOR CURVES

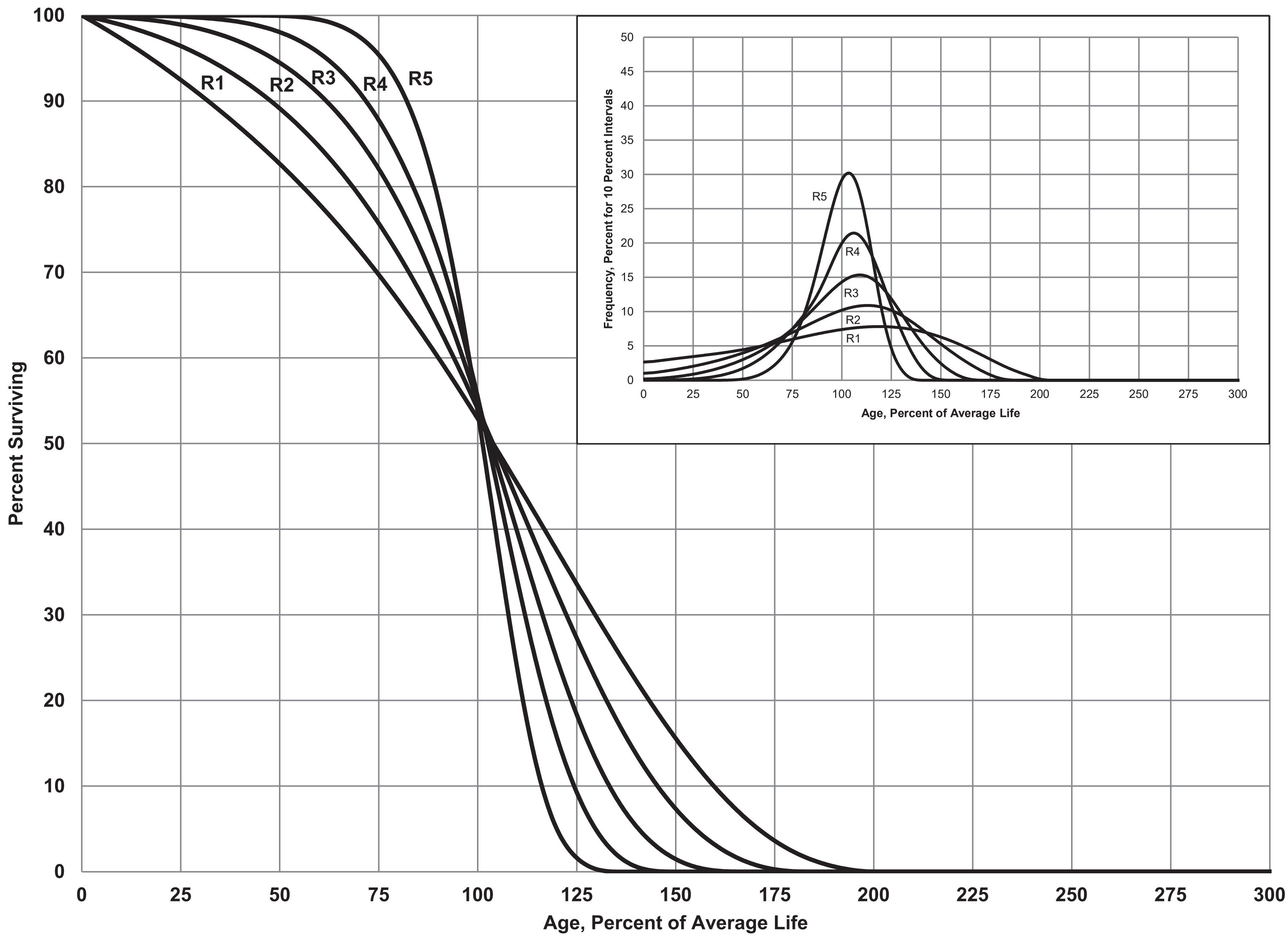


FIGURE 4. RIGHT MODAL OR "R" IOWA TYPE SURVIVOR CURVES

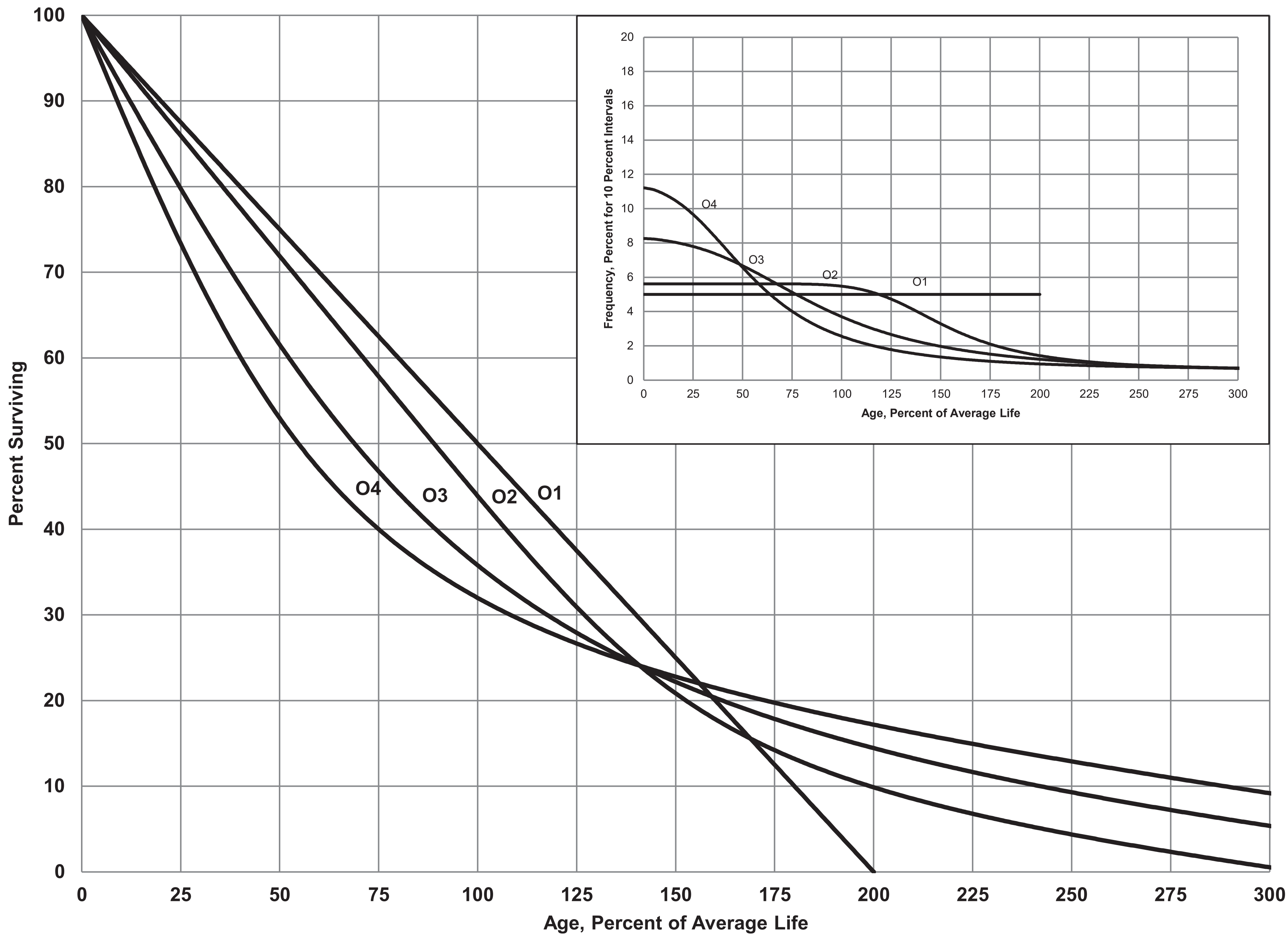


FIGURE 5. ORIGIN MODAL OR "O" IOWA TYPE SURVIVOR CURVES

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.

---

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

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

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

[4]Wolf, 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	Retirements, Thousands of Dollars During Year 2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total During Age Interval	Age Interval
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
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 Placed (1)	2012 (2)	2013 (3)	2014 (4)	2015 (5)	2016 (6)	2017 (7)	2018 (8)	2019 (9)	2020 (10)	2021 (11)	Total During Age Interval (12)	Age Interval (13)
2007	-	-	-	-	-	-	60[a]	-	-	-	-	13½-14½
2008	-	-	-	-	-	-	-	-	-	-	-	12½-13½
2009	-	-	-	-	-	-	-	-	-	-	-	11½-12½
2010	-	-	-	-	-	-	-	(5)[b]	-	-	60	10½-11½
2011	-	-	-	-	-	-	-	6[a]	-	-	-	9½-10½
2012	-	-	-	-	-	-	-	-	-	-	(5)	8½-9½
2013		-	-	-	-	-	-	-	-	-	6	7½-8½
2014			-	-	-	-	-	-	-	-	-	6½-7½
2015				-	-	-	-	(12)[b]	-	-	-	5½-6½
2016					-	-	-	-	22[a]	-	-	4½-5½
2017						-	-	(19)[b]	-	-	10	3½-4½
2018							-	-	-	-	-	2½-3½
2019								-	-	(102)[c]	(121)	1½-2½
2020									-	-	-	½-1½
2021											-	0-½
Total	-	-	-	-	-	-	60	(30)	22	(102)	(50)	

[a] Transfer Affecting Exposures at Beginning of Year
[b] Transfer Affecting Exposures at End of Year
[c] Sale with Continued Use
Parentheses Denote Credit Amount.

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

Schedule of Plant Exposed to Retirement

The development of the amount of plant exposed to retirement at the beginning of each age interval is illustrated in Schedule 3 on page II-14. The surviving plant at the beginning of each year from 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 Placed	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total at Beginning of Age Interval	Age Interval
	Exposures, Thousands of Dollars — Annual Survivors at the Beginning of the Year											
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2007	255	245	234	222	209	195	239	216	192	167	167	13½-14½
2008	279	268	256	243	228	212	194	174	153	131	323	12½-13½
2009	307	296	284	271	257	241	224	205	184	162	531	11½-12½
2010	338	330	321	311	300	289	276	262	242	226	823	10½-11½
2011	376	367	357	346	334	321	307	297	280	261	1,097	9½-10½
2012	420[a]	416	407	397	386	374	361	347	332	316	1,503	8½-9½
2013		460[a]	455	444	432	419	405	390	374	356	1,952	7½-8½
2014			510[a]	504	492	479	464	448	431	412	2,463	6½-7½
2015				580[a]	574	561	546	530	501	482	3,057	5½-6½
2016					660[a]	653	639	623	628	609	3,789	4½-5½
2017						750[a]	742	724	685	663	4,332	3½-4½
2018							850[a]	841	821	799	4,955	2½-3½
2019								960[a]	949	926	5,719	1½-2½
2020									1,080[a]	1,069	6,579	½-1½
2021										1,220[a]	7,490	0-½
Total	1,975	2,382	2,824	3,318	3,872	4,494	5,247	6,017	6,852	7,799	44,780	

[a]Additions 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	167	26	0.1557	0.8443	42.24
					35.66
Total	44,780	1,606			

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

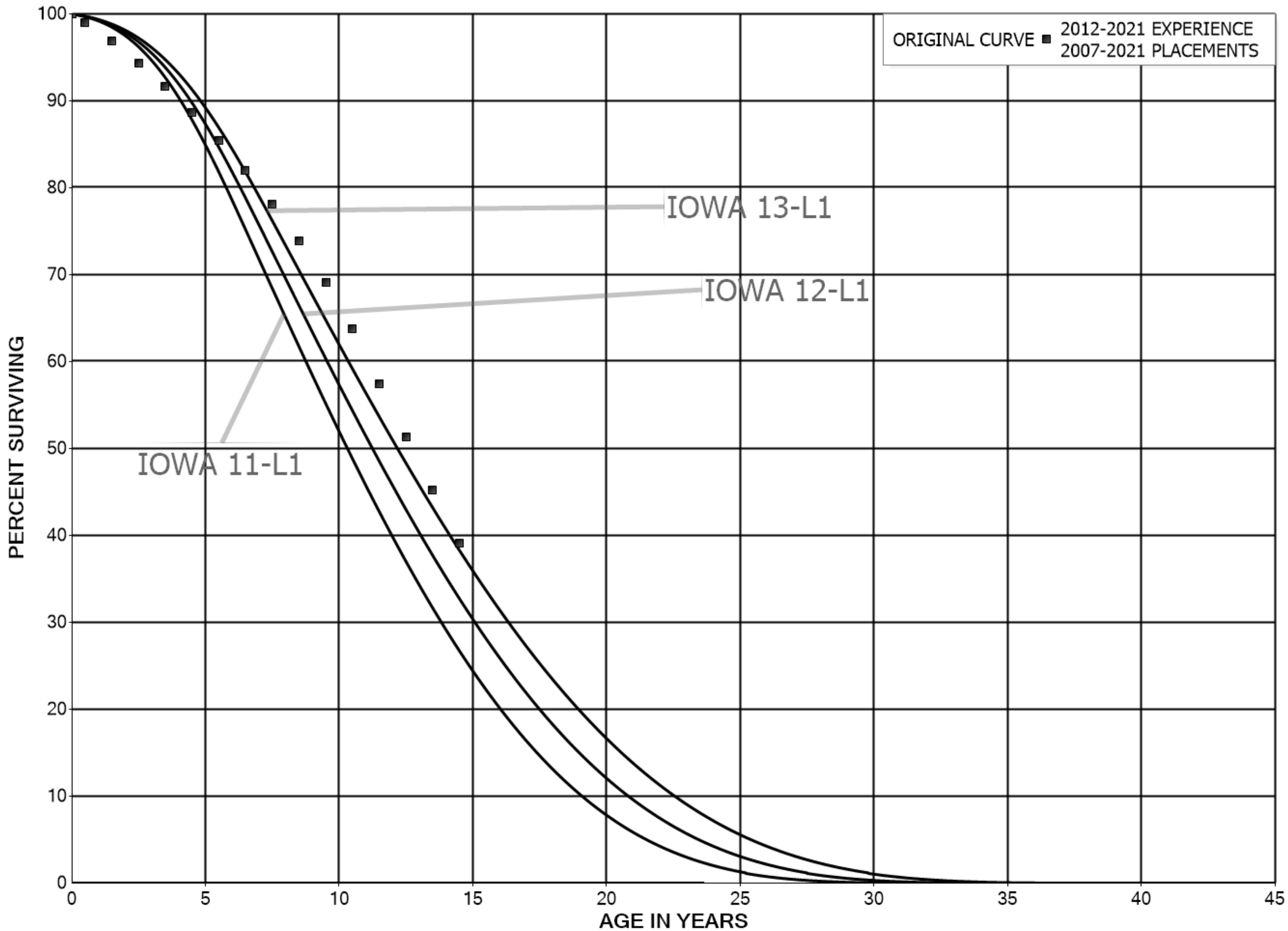


FIGURE 7. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN S0 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

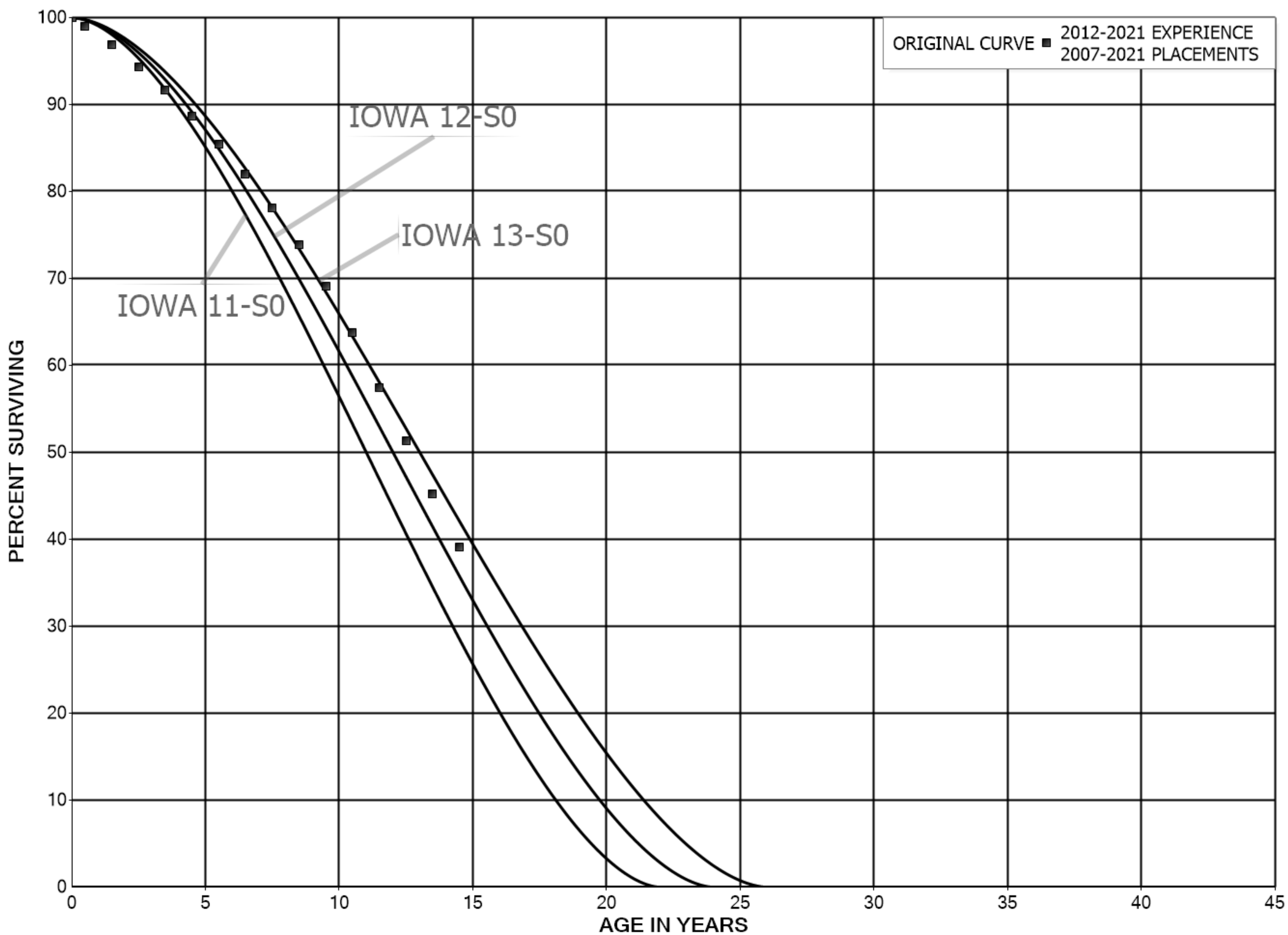


FIGURE 8. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN R1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES

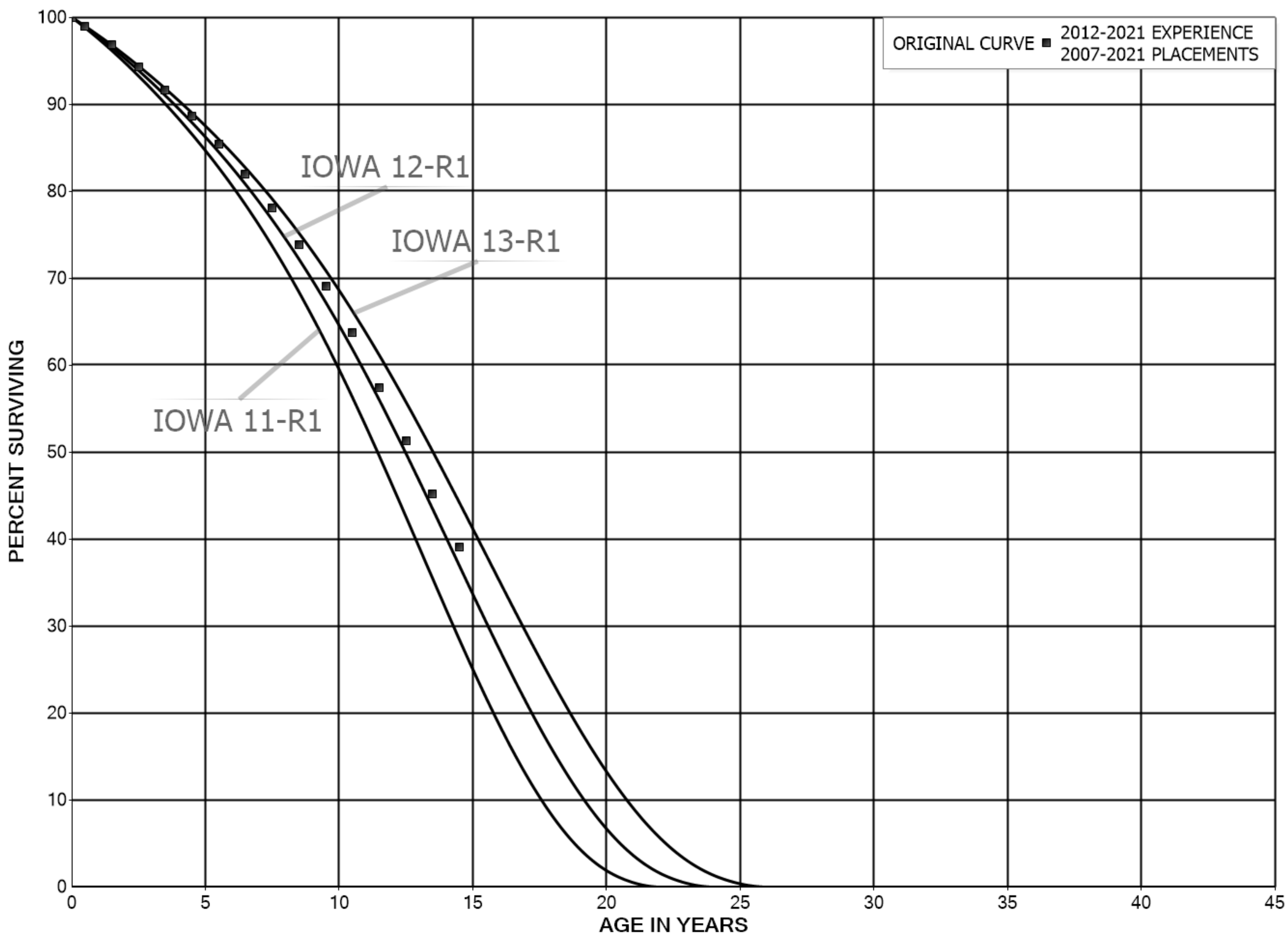
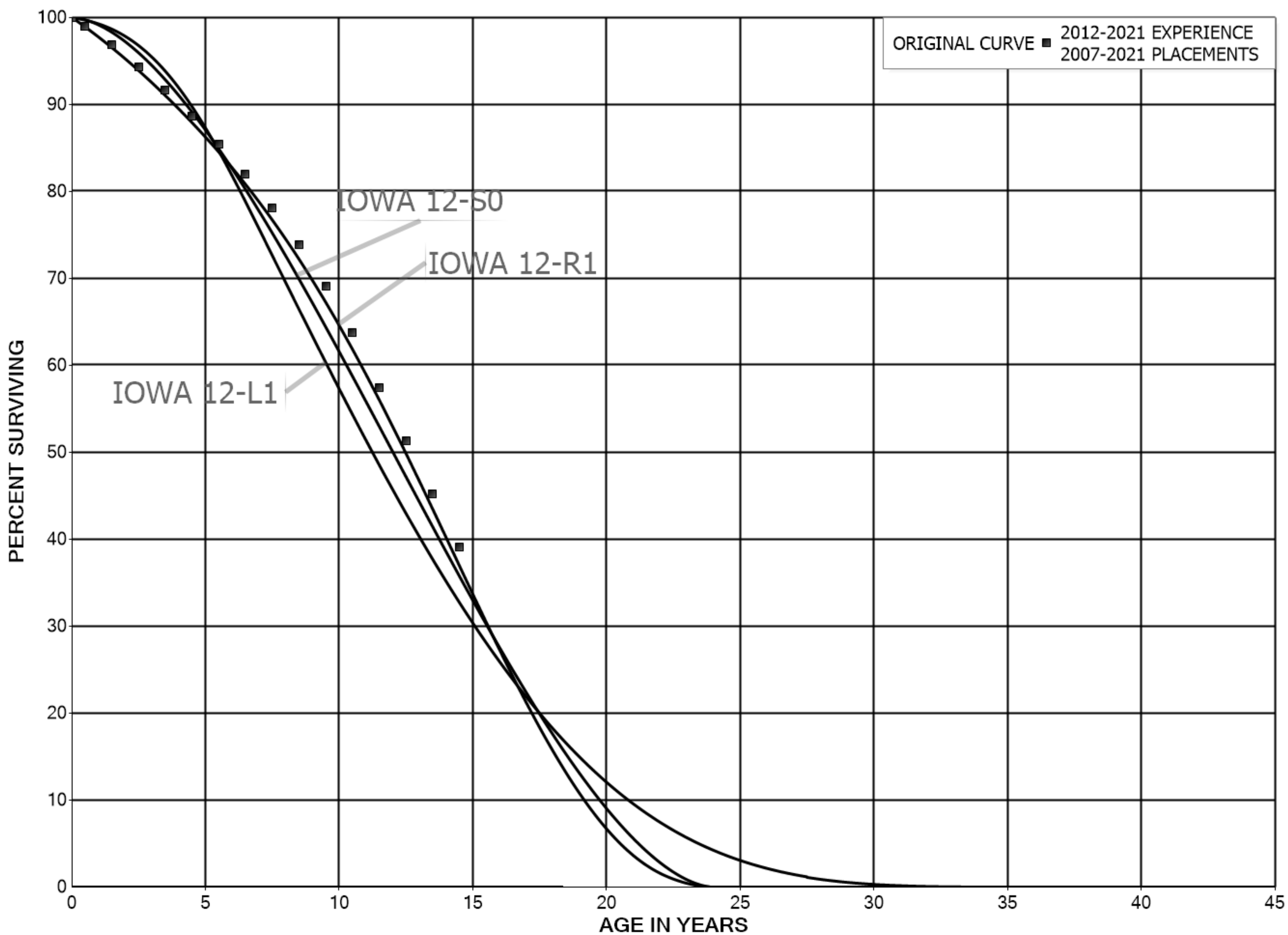


FIGURE 9. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN L1, S0 AND R1 IOWA TYPE CURVE
ORIGINAL AND SMOOTH SURVIVOR CURVES



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, 394 and 396 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 Royersford wastewater operation. 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.

Equal Life Group Procedure

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

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

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

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

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

or

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

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

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

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

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

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

AMORTIZATION OF GENERAL PLANT ACCOUNTS

In order to use a more efficient and cost effective accounting process for equipment recorded in general plant Accounts 390, 394 and 396; 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:

Account Number	Description	Amortization Period, Years
390	Office Furniture and Equipment	20
394	Laboratory Equipment	15
396	Communication 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 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
ROYERSFORD WASTEWATER OPERATIONS

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

DEPRCIABLE 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 DECMEBER 31, 2022 (6)
DEPRECIABLE PLANT									
354.30 STRUCTURES AND IMPROVEMENTS - SPP	627,002.28								627,002.28
354.40 STRUCTURES AND IMPROVEMENTS - TDP	791,994.98								791,994.98
355.00 POWER GENERATION EQUIPMENT	950,992.72								950,992.72
360.10 COLLECTION SEWERS - FORCE MAINS	97,637.72								97,637.72
361.10 COLLECTION SEWERS - GRAVITY MAINS	2,733,573.21								2,733,573.21
361.20 MANHOLES	130,755.52								130,755.52
363.00 SERVICES	99,291.71								99,291.71
364.00 FLOW MEASURING DEVICES	55,062.56								55,062.56
371.00 PUMPING EQUIPMENT	461,027.42								461,027.42
380.00 TREATMENT EQUIPMENT	13,677,329.34								13,677,329.34
390.00 OFFICE FURNITURE AND EQUIPMENT	46,874.37								46,874.37
394.00 LABORATORY EQUIPMENT	7,783.57								7,783.57
396.00 COMMUNICATION EQUIPMENT	36,786.98								36,786.98
TOTAL DEPRECIABLE PLANT	**19,716,112.38**								**19,716,112.38**
NONDEPRECIABLE PLANT									
353.20 LAND AND LAND RIGHTS - COLLECTION	62.00								62.00
353.30 LAND AND LAND RIGHTS - SPP	39.00								39.00
353.40 LAND AND LAND RIGHTS - TDP	3,000.00								3,000.00
TOTAL NONDEPRECIABLE PLANT	**3,101.00**								**3,101.00**
TOTAL PLANT	**19,719,213.38**								**19,719,213.38**

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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 ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)=(6)/(3)	(8)
	DEPRECIABLE PLANT							
354.30	STRUCTURES AND IMPROVEMENTS - SPP	55-S0	627,002.28	343,162	283,840	9,906	1.58	28.7
354.40	STRUCTURES AND IMPROVEMENTS - TDP	55-S0	791,994.98	587,028	204,967	13,521	1.71	15.2
355.00	POWER GENERATION EQUIPMENT	35-S0.5	950,992.72	355,312	595,681	32,595	3.43	18.3
360.10	COLLECTION SEWERS - FORCE MAINS	75-R3	97,637.72	63,912	33,726	1,350	1.38	25.0
361.10	COLLECTION SEWERS - GRAVITY MAINS	80-R2.5	2,733,573.21	779,457	1,954,116	42,012	1.54	46.5
361.20	MANHOLES	50-S2.5	130,755.52	73,364	57,392	5,922	4.53	9.7
363.00	SERVICES	47-R3	99,291.71	61,524	37,768	1,800	1.81	21.0
364.00	FLOW MEASURING DEVICES	15-L2.5	55,062.56	22,047	33,016	5,543	10.07	6.0
371.00	PUMPING EQUIPMENT	30-S0.5	461,027.42	132,042	328,985	19,930	4.32	16.5
380.00	TREATMENT EQUIPMENT	35-S1.5	13,677,329.34	4,802,814	8,874,515	496,405	3.63	17.9
390.00	OFFICE FURNITURE AND EQUIPMENT	20-SQ	46,874.37	7,329	39,545	2,333	4.98	17.0
394.00	LABORATORY EQUIPMENT	15-SQ	7,783.57	(114)	7,898	559	7.18	14.1
396.00	COMMUNICATION EQUIPMENT	15-SQ	36,786.98	5,829	30,958	2,600	7.07	11.9
	TOTAL DEPRECIABLE PLANT		**19,716,112.38**	**7,233,707**	**12,482,407**	**634,476**	**3.22**	
	NONDEPRECIABLE PLANT							
353.20	LAND AND LAND RIGHTS - COLLECTION		62.00					
353.30	LAND AND LAND RIGHTS - SPP		39.00					
353.40	LAND AND LAND RIGHTS - TDP		3,000.00					
	TOTAL NONDEPRECIABLE PLANT		**3,101.00**					
	AMORTIZATION OF NET SALVAGE					**2,341**		
	TOTAL UTILITY PLANT		**19,719,213.38**	**7,233,707**	**12,482,407**	**636,817**		

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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	332,942		10,220										343,162
354.40	573,845		13,583		400								587,028
355.00	323,863		33,249		1,800								355,312
360.10	64,298		1,212		1,598								63,912
361.10	743,554		41,936		3,995		2,038						779,457
361.20	68,337		7,868		1,199		1,642						73,364
363.00	62,868		1,405		1,598		1,151						61,524
364.00	15,824		6,223										22,047
371.00	114,273		20,097		1,200		1,128						132,042
380.00	4,307,440		508,584		8,986		4,223						4,802,814
390.00	7,737		1,592		2,000								7,329
394.00	0		381		495								(114)
396.00	5,410		1,919		1,500								5,829
TOTAL	**6,620,391**		**648,269**		**24,771**		**10,182**		**0**		**0**		**7,233,707**

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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	627,002.28	627,002.28	1.63	10,220		10,220
354.40	787,394.52	791,994.98	1.72	13,583		13,583
355.00	932,792.72	950,992.72	3.53	33,249		33,249
360.10	79,235.90	97,637.72	1.37	1,212		1,212
361.10	2,677,568.65	2,733,573.21	1.55	41,936		41,936
361.20	106,954.15	130,755.52	6.62	7,868		7,868
363.00	80,889.89	99,291.71	1.56	1,405		1,405
364.00	45,062.56	55,062.56	12.43	6,223		6,223
371.00	442,227.42	461,027.42	4.45	20,097		20,097
380.00	13,576,315.69	13,677,329.34	3.73	508,280	304	508,584
390.00	23,874.37	46,874.37	4.50	1,592		1,592
394.00	3,278.57	7,783.57	6.89	381		381
396.00	18,286.98	36,786.98	6.97	1,919		1,919
TOTAL	**19,400,883.70**	**19,716,112.38**		**647,965**	**304**	**648,269**

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD WASTEWATER OPERATIONS

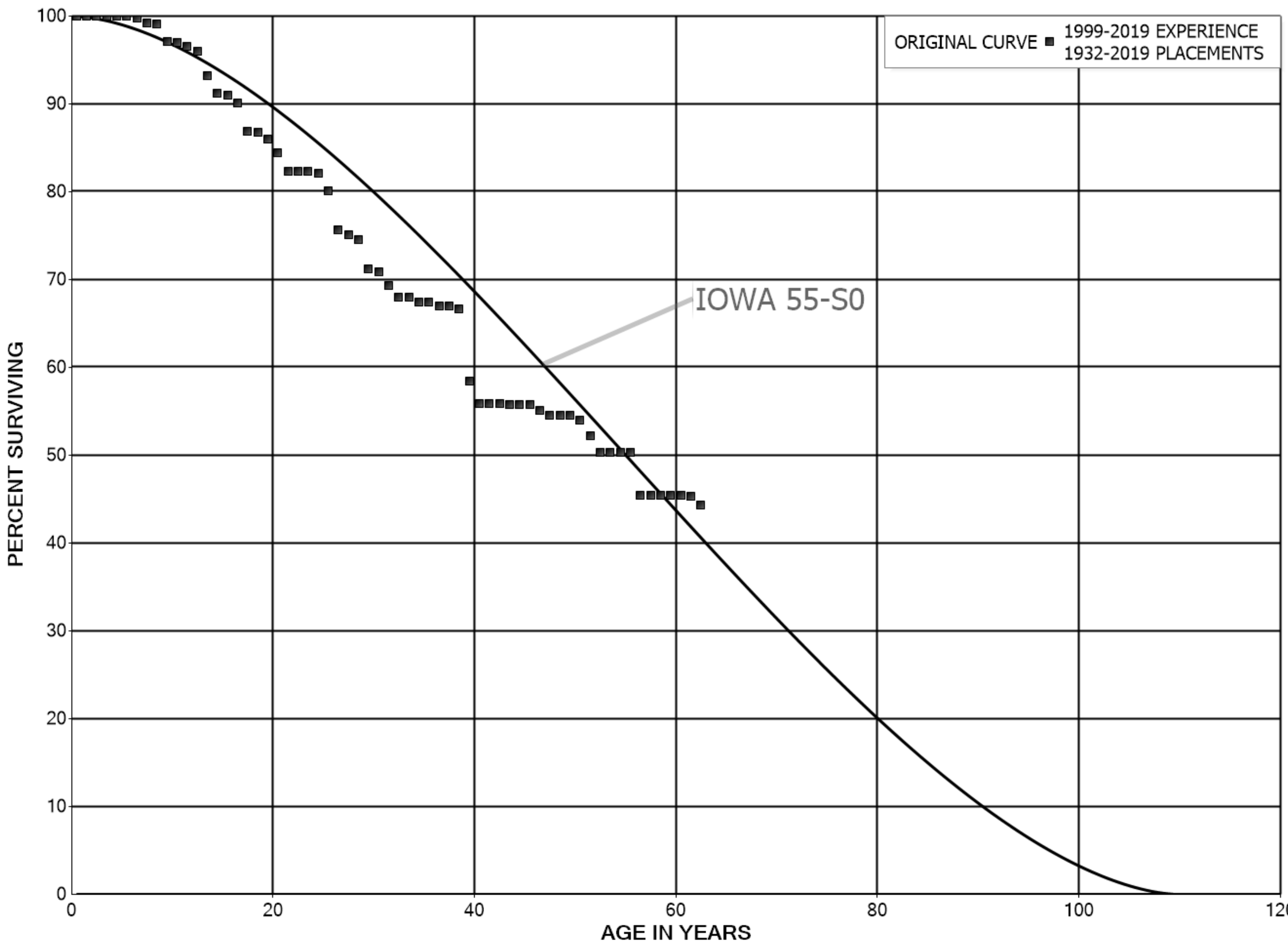
TABLE 5. AMORTIZATION OF EXPERIENCED AND ESTIMATED NET SALVAGE

	2018		2019		2020		2021		PROJECTED 2022			
ACCOUNT	GROSS SALVAGE	COST OF REMOVAL	GROSS SALVAGE	COST OF REMOVAL	GROSS SALVAGE	COST OF REMOVAL	GROSS SALVAGE	COST OF REMOVAL	GROSS SALVAGE	COST OF REMOVAL	NET SALVAGE	SALVAGE ACCRUAL
(1)	(2) -	(3) +	(4) -	(5) +	(6) -	(7) +	(8) -	(9) +	(10) -	(11) =	(12)*	(13)=(12)/5
354.30											0	0
354.40											0	0
355.00											0	0
360.10											0	0
361.10										2,038	(2,038)	(408)
361.20										1,642	(1,642)	(328)
363.00										1,151	(1,151)	(230)
364.00											0	0
371.00										1,128	(1,128)	(226)
380.00								1,521		4,223	(5,744)	(1,149)
390.00											0	0
394.00											0	0
396.00											0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1,521**	**0**	**10,182**	**(11,703)**	**(2,341)**

* 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

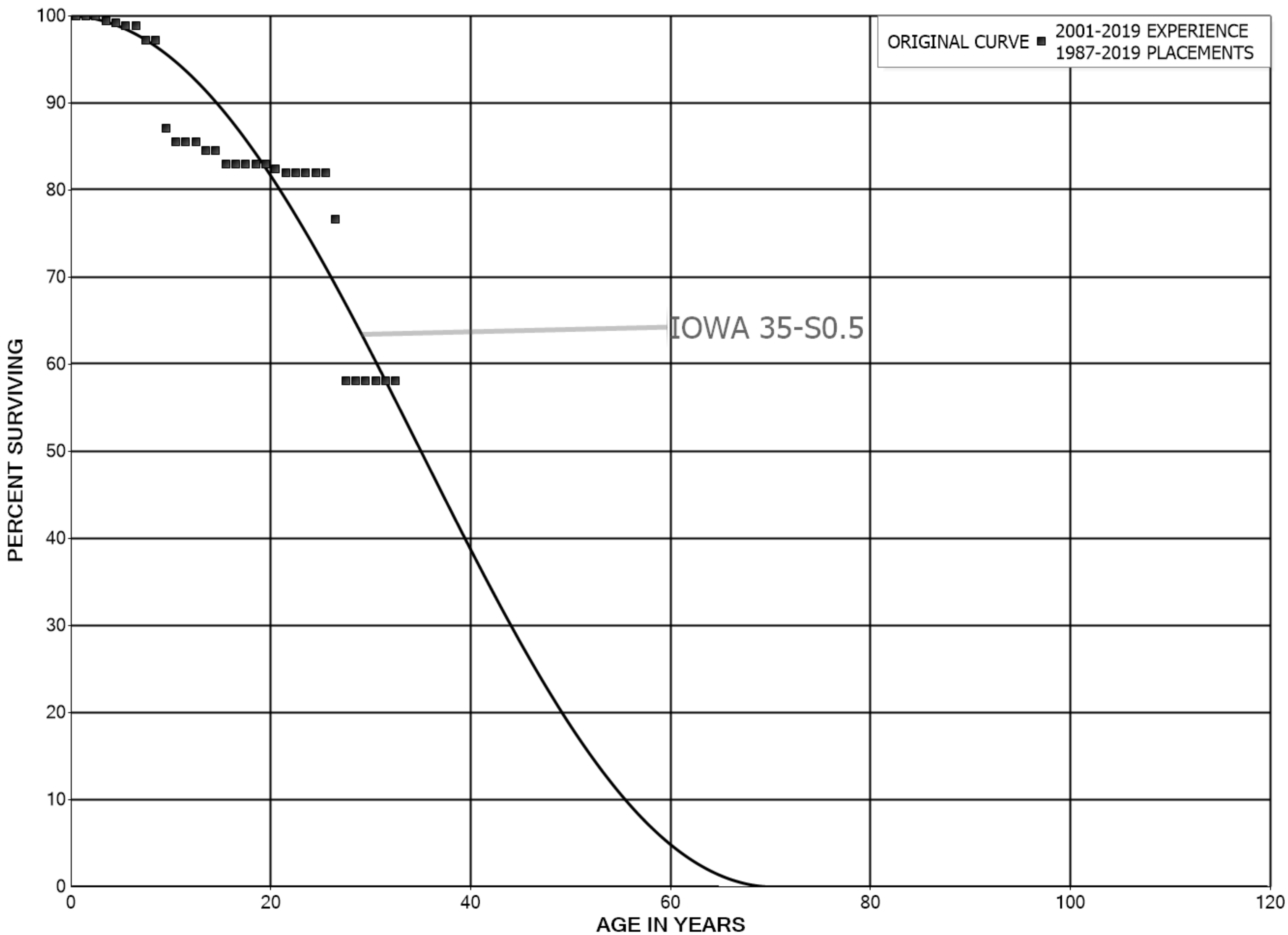
ACCOUNTS 354.30 AND 354.40 STRUCTURES AND IMPROVEMENTS - SPP AND TDP

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



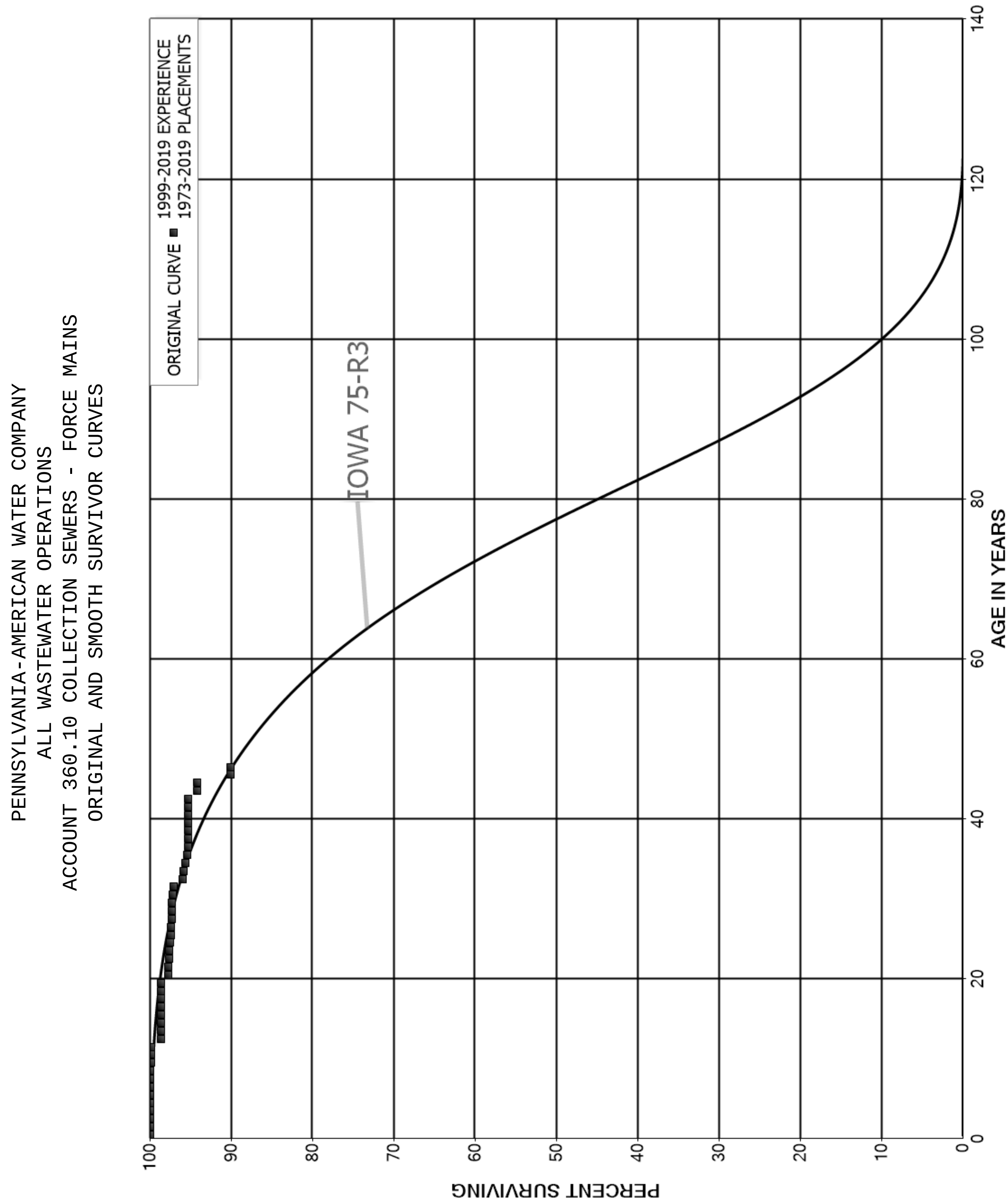
PENNSYLVANIA-AMERICAN WATER COMPANY
ALL WASTEWATER OPERATIONS

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
ORIGINAL CURVE ■ 1999-2019 EXPERIENCE
1973-2019 PLACEMENTS
IOWA 75-R3
PERCENT SURVIVING
AGE IN YEARS
0
10
20
30
40
50
60
70
80
90
100
120
140

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

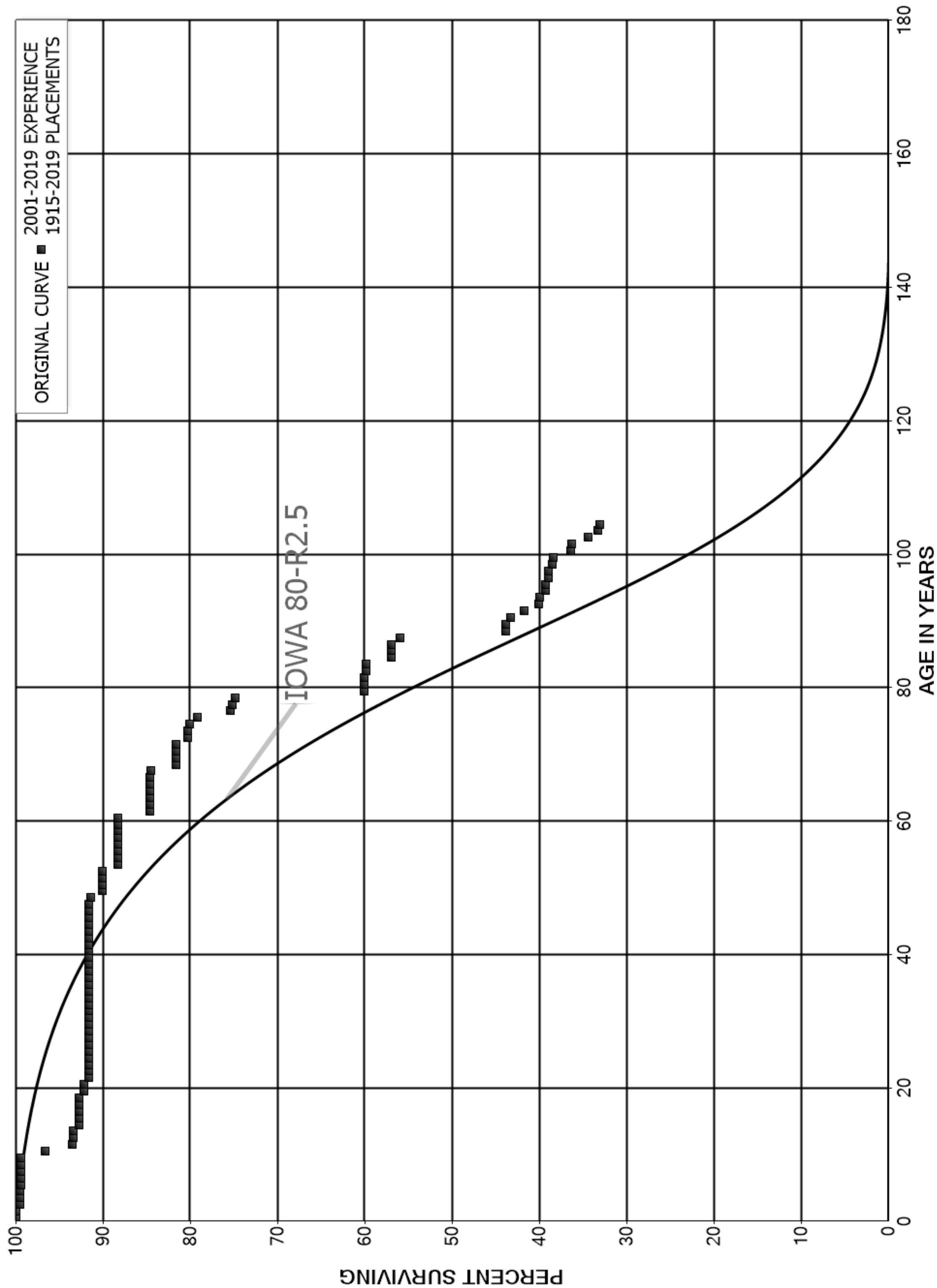
ACCOUNT 360.10 COLLECTION SEWERS - FORCE MAINS

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

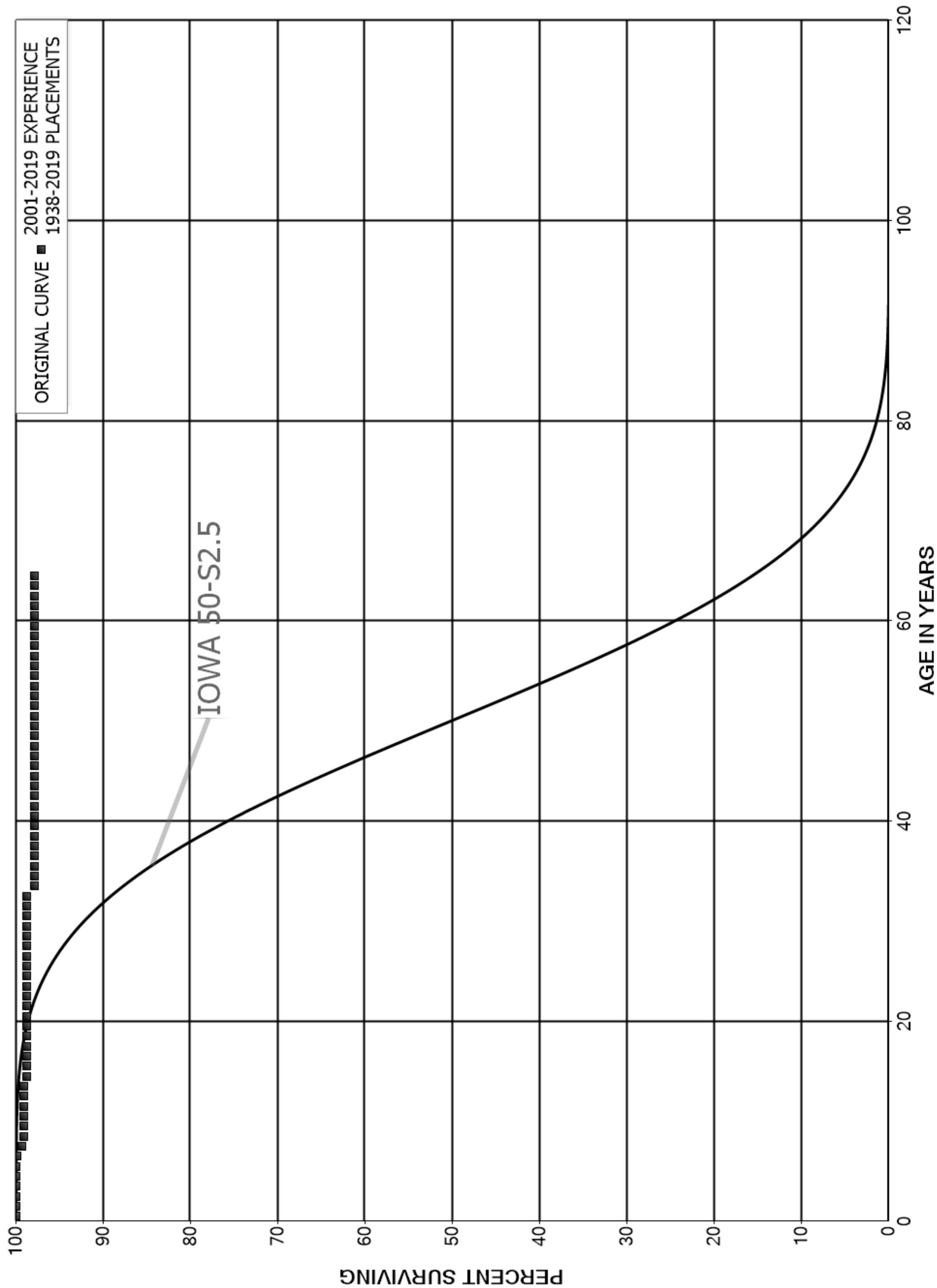
ACCOUNT 361.10 COLLECTION SEWERS - GRAVITY MAINS

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

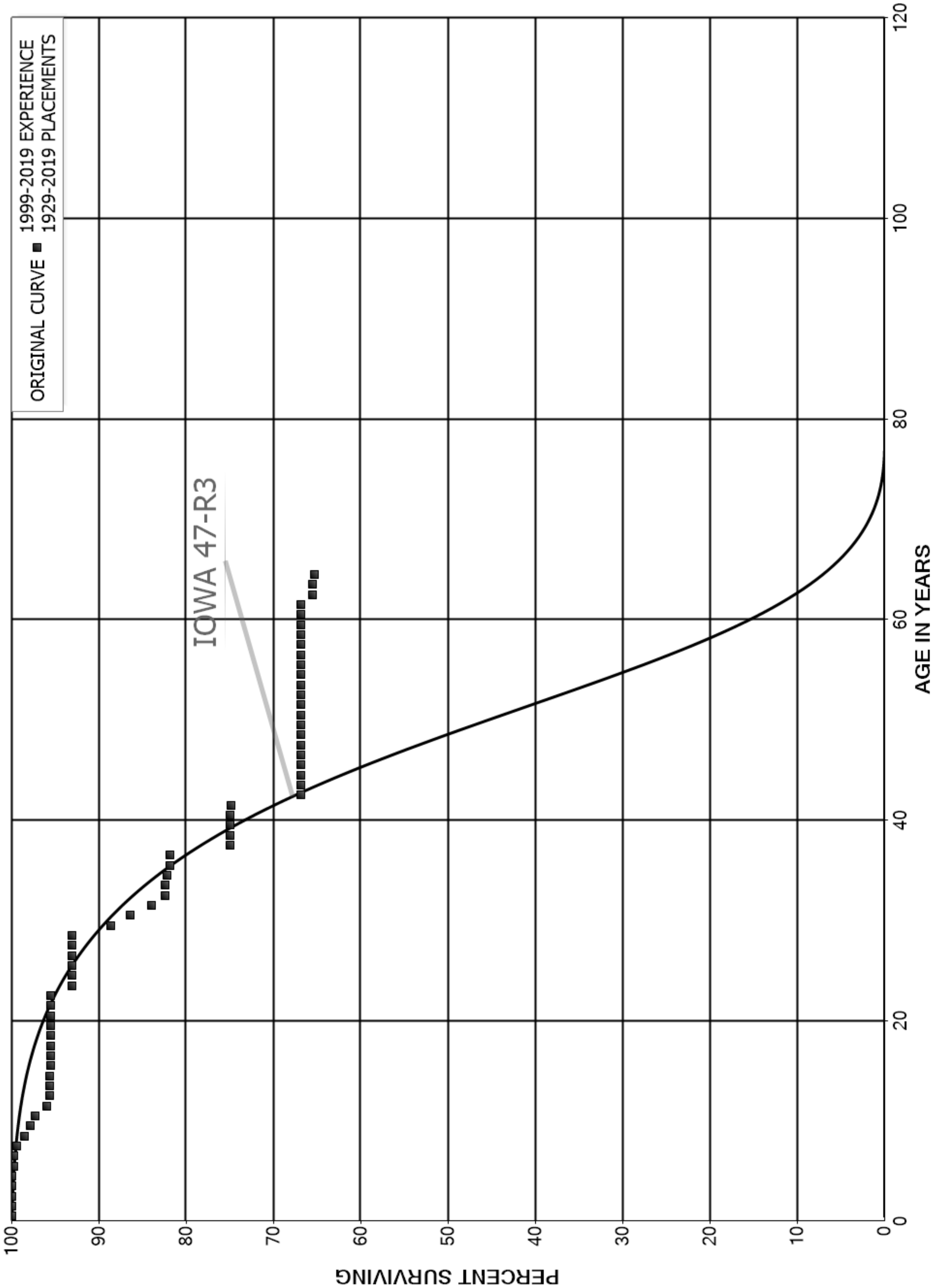
ACCOUNT 361.20 MANHOLES

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

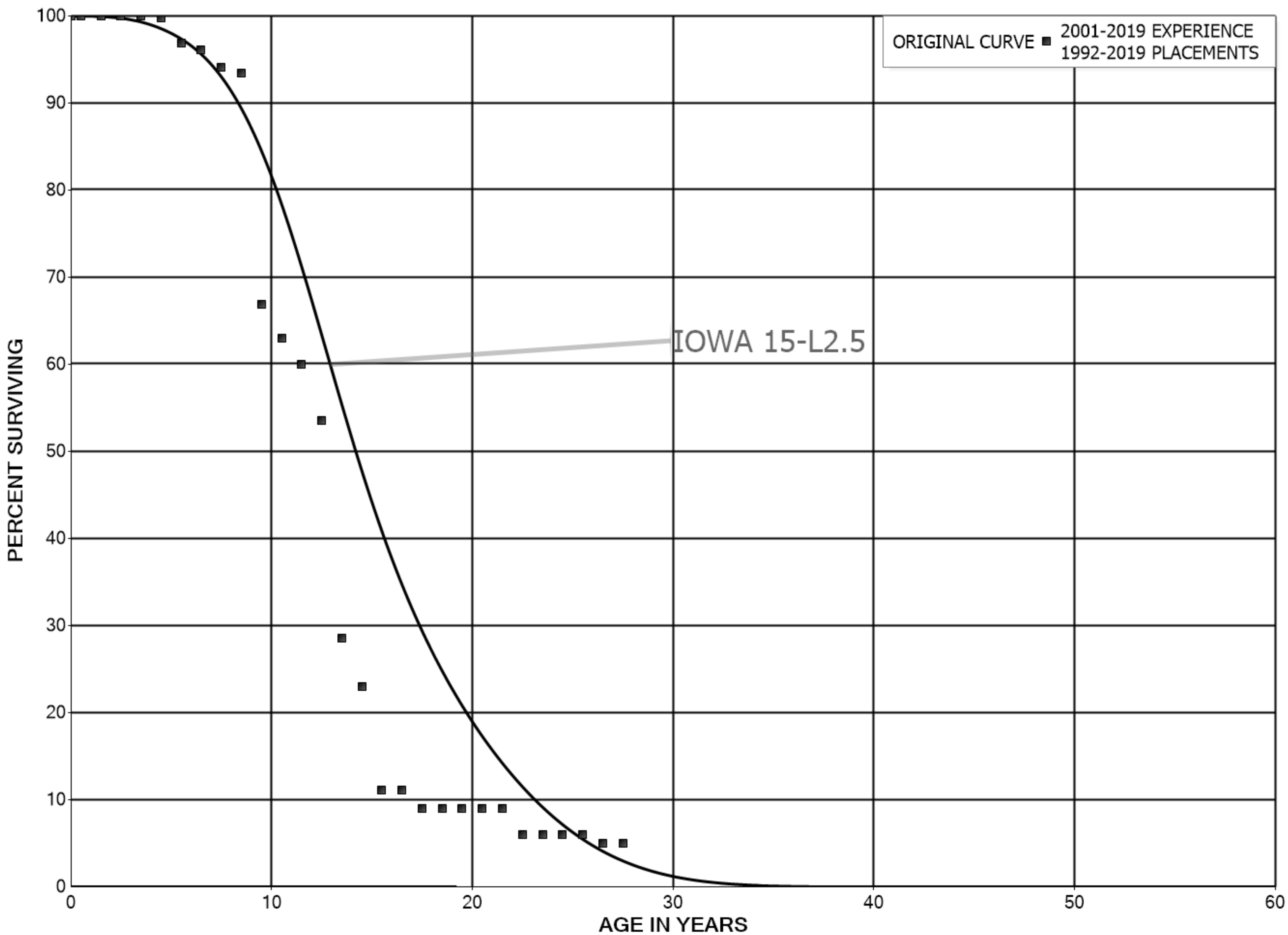
ACCOUNT 363.00 SERVICES

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

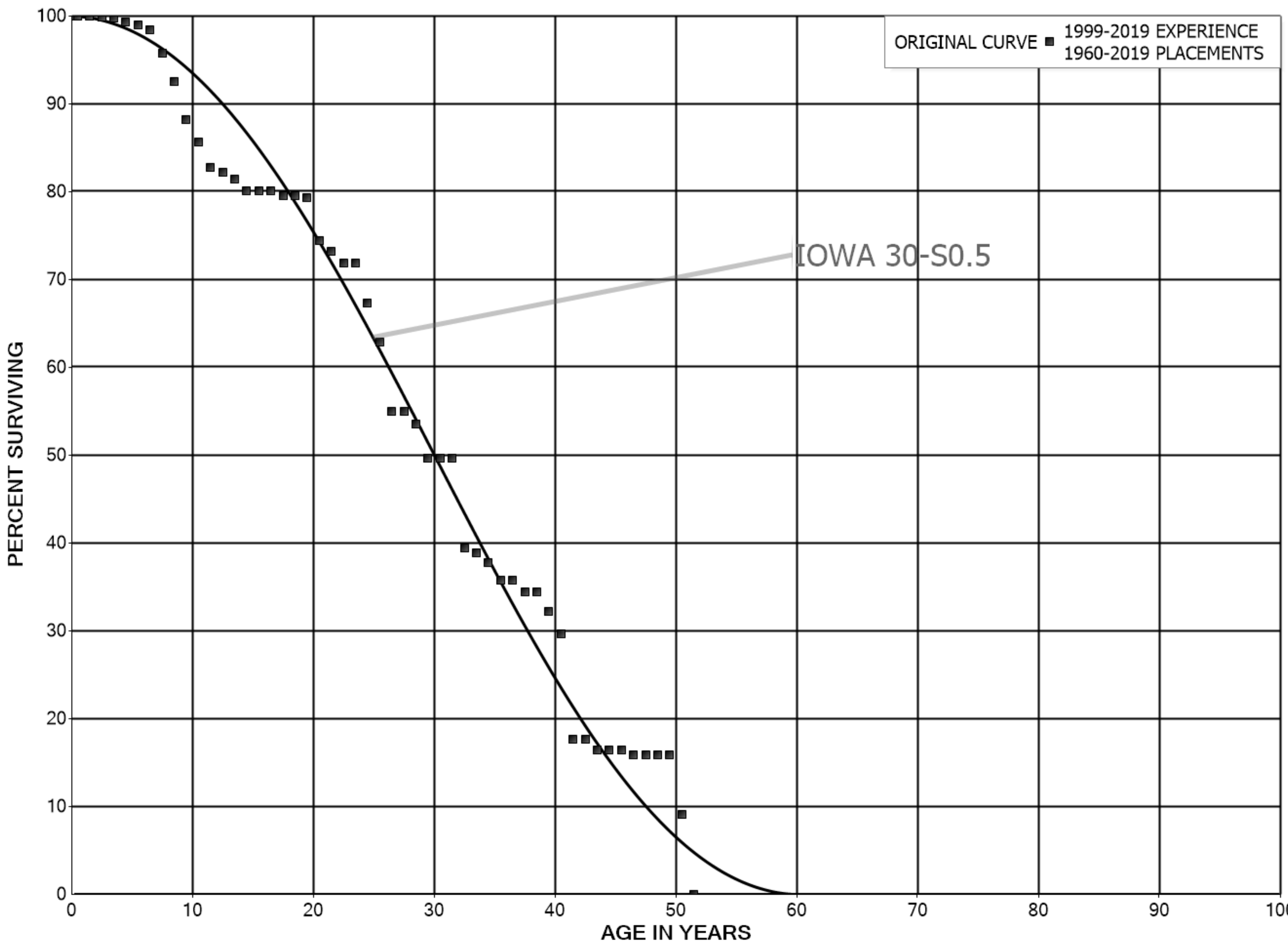
ACCOUNT 364.00 FLOW MEASURING DEVICES

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

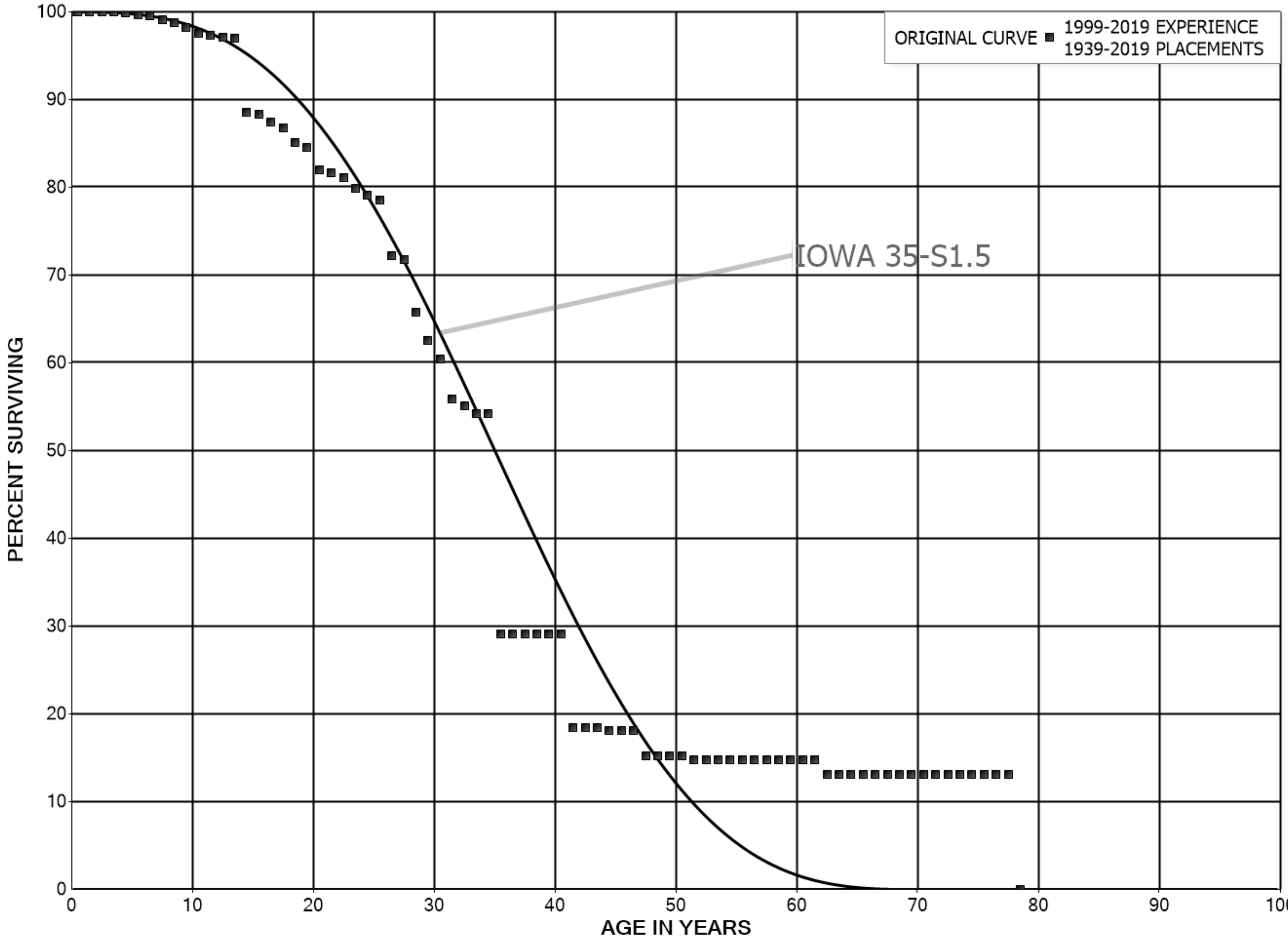
ACCOUNT 371.00 PUMPING EQUIPMENT

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					

PART VII. DETAILED DEPRECIATION CALCULATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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 AMOUNT (2) - (3) (4)	CUMULATIVE AMOUNT (5)	PCT OF COL 4 TOTAL (6)
1935	1,139,204	952,730	186,474	186,474	1.5
1936	307,060	237,654	69,406	255,880	2.0
1951	885,915	885,915		255,880	2.0
1955	3,583	2,442	1,141	257,021	2.1
1958	95,903	80,614	15,289	272,310	2.2
1972	17,897	7,692	10,205	282,515	2.3
1985	4,695	2,803	1,892	284,407	2.3
1986	56,249	31,786	24,463	308,870	2.5
1987	1,381	769	612	309,482	2.5
1988	352	222	130	309,612	2.5
1989	163,353	101,320	62,033	371,645	3.0
1990	106,185	55,975	50,210	421,855	3.4
1992	61,183	25,407	35,776	457,631	3.7
1993	158,112	78,000	80,112	537,743	4.3
1994	18,014	6,056	11,958	549,701	4.4
1995	20,065	7,467	12,598	562,299	4.5
1998	3,672,587	1,675,573	1,997,014	2,559,313	20.5
2000	345,403	167,709	177,694	2,737,007	21.9
2005	24,841	10,373	14,468	2,751,475	22.0
2006	3,769	1,301	2,468	2,753,943	22.1
2007	37,695	12,387	25,308	2,779,251	22.3
2008	762,378	282,133	480,245	3,259,496	26.1
2010	7,946,782	2,207,355	5,739,427	8,998,923	72.1
2011	84,483	32,442	52,041	9,050,964	72.5
2012	91,584	25,758	65,826	9,116,790	73.0
2013	489,409	60,112	429,297	9,546,087	76.5
2014	947,617	107,368	840,249	10,386,336	83.2
2015	649,182	85,064	564,118	10,950,454	87.7
2016	27,878	4,221	23,657	10,974,111	87.9
2018	87,890	12,637	75,253	11,049,364	88.5
2019	32,678	3,413	29,265	11,078,629	88.8
2020	995,708	59,372	936,336	12,014,965	96.3
2021	137,079	5,204	131,875	12,146,840	97.3
2022	340,000	4,432	335,568	12,482,408	100.0
SUBTOTAL	19,716,112	7,233,707	12,482,407		
NONDEPRECIABLE	3,101		3,101		
TOTAL	19,719,213	7,232,707	12,485,508		

NET UTILITY PLANT IN SERVICE

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
1935	16,444.43	15,109	16,444			
1958	63,683.83	50,934	56,475	7,209	16.15	446
1988	351.91	200	222	130	26.11	5
1989	163,353.35	91,380	101,320	62,033	26.38	2,352
1990	65,300.12	35,863	39,764	25,536	26.67	957
2000	230,488.44	99,571	110,403	120,085	29.58	4,060
2011	16,818.97	4,410	4,890	11,929	32.36	369
2012	37,883.52	9,228	10,231	27,653	32.60	848
2019	32,677.71	3,078	3,413	29,265	33.67	869
	627,002.28	309,773	343,162	283,840		9,906

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 28.7 1.58

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
1935	566,988.54	520,949	497,856	69,133	7.73	8,943
1993	158,112.35	81,618	78,000	80,112	27.65	2,897
2014	9,677.63	1,982	1,894	7,784	33.00	236
2015	52,216.46	9,634	9,207	43,009	33.15	1,297
2022	5,000.00	74	71	4,929	33.40	148
	791,994.98	614,257	587,028	204,967		13,521

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 15.2 1.71

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
2000	114,914.43	68,259	57,306	57,608	15.38	3,746
2008	762,377.63	336,056	282,133	480,245	18.39	26,114
2012	53,700.66	18,495	15,527	38,174	19.99	1,910
2022	20,000.00	412	346	19,654	23.83	825
	950,992.72	423,222	355,312	595,681		32,595

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 18.3   3.43

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
1935	45,418.88	40,931	39,620	5,799	9.59	605
1958	32,218.84	24,937	24,139	8,080	18.83	429
2022	20,000.00	158	153	19,847	62.79	316
	97,637.72	66,026	63,912	33,726		1,350

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 25.0 1.38

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
1935	437,290.48	374,977	332,628	104,662	14.54	7,198
1936	262,889.25	222,851	197,683	65,206	15.54	4,196
1955	2,848.17	2,115	1,876	972	23.41	42
1972	8,100.80	4,909	4,355	3,746	32.83	114
1990	25,071.44	10,675	9,469	15,602	43.83	356
1992	38,832.47	15,634	13,868	24,964	45.26	552
1994	18,014.47	6,827	6,056	11,958	46.69	256
1995	13,931.27	5,134	4,554	9,377	47.13	199
2013	481,117.20	67,164	59,579	421,538	58.53	7,202
2014	928,262.52	116,775	103,587	824,676	59.07	13,961
2015	457,215.14	51,117	45,344	411,871	59.61	6,909
2022	60,000.00	516	458	59,542	57.98	1,027
	2,733,573.21	878,694	779,457	1,954,116		42,012

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 46.5 1.54

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
1935	36,957.83	35,893	30,078	6,880	2.59	2,656
1936	22,317.80	21,621	18,118	4,200	2.79	1,505
1955	734.95	675	566	169	6.03	28
1972	1,959.39	1,633	1,368	591	10.11	58
1985	4,694.77	3,345	2,803	1,892	15.13	125
1990	10,606.60	6,860	5,749	4,858	17.75	274
1992	22,350.64	13,770	11,539	10,812	19.00	569
1995	6,133.54	3,475	2,913	3,221	21.04	153
2022	25,000.00	275	230	24,770	44.75	554
	130,755.52	87,547	73,364	57,392		5,922

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 9.7   4.53

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
1935	36,104.28	36,104	36,104			
1936	21,852.62	21,853	21,853			
1972	7,836.40	6,846	1,969	5,867	7.31	803
1990	5,206.38	3,452	993	4,213	16.52	255
2013	8,292.03	1,851	533	7,759	33.06	235
2022	20,000.00	252	72	19,928	39.34	507
	99,291.71	70,358	61,524	37,768		1,800

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 21.0   1.81

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
2011	45,062.56	31,562	21,771	23,292	4.92	4,734
2022	10,000.00	400	276	9,724	12.02	809
	55,062.56	31,962	22,047	33,016		5,543

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 6.0 10.07

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
2005	24,840.81	13,866	10,373	14,468	13.85	1,045
2010	328,296.94	145,271	108,673	219,624	15.75	13,944
2018	87,889.67	16,892	12,637	75,253	18.92	3,977
2022	20,000.00	480	359	19,641	20.38	964
	461,027.42	176,509	132,042	328,985		19,930

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 16.5 4.32

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
1951	885,914.88	885,915	885,915			
1986	56,248.84	45,578	31,786	24,463	8.55	2,861
1987	1,380.62	1,103	769	612	8.94	68
1998	3,672,586.73	2,402,606	1,675,573	1,997,014	12.95	154,210
2006	3,769.33	1,866	1,301	2,468	16.83	147
2007	37,694.59	17,762	12,387	25,308	17.39	1,455
2010	7,618,485.09	3,009,302	2,098,682	5,519,803	19.15	288,240
2011	22,601.91	8,290	5,781	16,821	19.85	847
2014	9,676.80	2,706	1,887	7,790	21.90	356
2015	111,627.07	27,795	19,384	92,243	22.62	4,078
2016	27,877.67	6,052	4,221	23,657	23.44	1,009
2020	995,708.24	85,133	59,372	936,336	26.74	35,016
2021	123,757.57	6,361	4,436	119,322	27.66	4,314
2022	110,000.00	1,892	1,320	108,680	28.57	3,804
	13,677,329.34	6,502,361	4,802,814	8,874,515		496,405

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 17.9 3.63

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
2015	16,412.63	6,155	6,274	10,139	12.50	811
2021	5,461.74	410	418	5,044	18.50	273
2022	25,000.00	625	637	24,363	19.50	1,249
	46,874.37	7,190	7,329	39,545		2,333

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 17.0 4.98

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
2021	2,783.57	278	71-	2,855	13.50	211
2022	5,000.00	167	43-	5,043	14.50	348
	7,783.57	445	114-	7,898		559

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 14.1 7.18

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
2015	11,710.61	5,855	4,855	6,856	7.50	914
2021	5,076.37	508	421	4,655	13.50	345
2022	20,000.00	667	553	19,447	14.50	1,341
	36,786.98	7,030	5,829	30,958		2,600

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 11.9 7.07

PART VIII. EXPERIENCED AND ESTIMATED NET SALVAGE

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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
2021 TRANSACTION YEAR				
380.00		1,521.00		1,521.00-
		1,521.00		1,521.00-
2022 TRANSACTION YEAR				
354.40	399.54			
355.00	1,800.00			
360.10	1,598.18			
361.10	3,995.44	2,037.68		2,037.68-
361.20	1,198.63	1,642.13		1,642.13-
363.00	1,598.18	1,150.69		1,150.69-
371.00	1,200.00	1,128.00		1,128.00-
380.00	8,986.35	4,223.42		4,223.42-
390.00	2,000.00			
394.00	495.00			
396.00	1,500.00			
	24,771.32	10,181.92		10,181.92-
TOTAL	24,771.32	11,702.92		11,702.92-

EXHIBIT NO. 11-I - DEPRECIATION STUDY

ROYERSFORD WASTEWATER OPERATIONS

AS OF DECEMBER 31, 2023

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

PENNSYLVANIA-AMERICAN WATER COMPANY

MECHANICSBURG, PENNSYLVANIA

ROYERSFORD 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-I
Witness: J. J. Spanos

PENNSYLVANIA-AMERICAN WATER COMPANY

Mechanicsburg, Pennsylvania

ROYERSFORD 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
207 Senate Avenue
Camp Hill, PA 17011
P 717.763.7211 | F 717.763.8150

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

John J. Spanos

JOHN J. SPANOS
President

JJS:mle

070800.100

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PART I. RESULTS OF STUDY

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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-2. 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 on page III-2.

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD WASTEWATER OPERATIONS

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

DEPRCIABLE 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 DECMEBER 31, 2023 (6)
DEPRECIABLE PLANT									
354.30 STRUCTURES AND IMPROVEMENTS - SPP	627,002.28								627,002.28
354.40 STRUCTURES AND IMPROVEMENTS - TDP	815,068.44								815,068.44
355.00 POWER GENERATION EQUIPMENT	972,192.72								972,192.72
360.10 COLLECTION SEWERS - FORCE MAINS	116,096.49								116,096.49
361.10 COLLECTION SEWERS - GRAVITY MAINS	2,789,720.13								2,789,720.13
361.20 MANHOLES	154,599.60								154,599.60
363.00 SERVICES	117,750.48								117,750.48
364.00 FLOW MEASURING DEVICES	65,062.56								65,062.56
371.00 PUMPING EQUIPMENT	483,827.42								483,827.42
380.00 TREATMENT EQUIPMENT	13,864,063.96								13,864,063.96
390.00 OFFICE FURNITURE AND EQUIPMENT	79,103.75								79,103.75
391.00 TRANSPORTATION EQUIPMENT	75,000.00								75,000.00
394.00 LABORATORY EQUIPMENT	11,930.57								11,930.57
396.00 COMMUNICATION EQUIPMENT	55,786.98								55,786.98
397.00 MISCELLANEOUS EQUIPMENT	5,000.00								5,000.00
TOTAL DEPRECIABLE PLANT	**20,232,205.38**								**20,232,205.38**
NONDEPRECIABLE PLANT									
353.20 LAND AND LAND RIGHTS - COLLECTION	62.00								62.00
353.30 LAND AND LAND RIGHTS - SPP	39.00								39.00
353.40 LAND AND LAND RIGHTS - TDP	3,000.00								3,000.00
TOTAL NONDEPRECIABLE PLANT	**3,101.00**								**3,101.00**
TOTAL PLANT	**20,235,306.38**								**20,235,306.38**

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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 AMOUNT	CALCULATED ANNUAL ACCRUAL RATE	COMPOSITE REMAINING LIFE
	(1)	(2)	(3)	(4)	(5)	(6)	(7)=(6)/(3)	(8)
	DEPRECIABLE PLANT							
354.30	STRUCTURES AND IMPROVEMENTS - SPP	55-S0	627,002.28	353,069	273,933	9,618	1.53	28.5
354.40	STRUCTURES AND IMPROVEMENTS - TDP	55-S0	815,068.44	598,694	216,374	13,106	1.61	16.5
355.00	POWER GENERATION EQUIPMENT	35-S0.5	972,192.72	384,222	587,971	32,565	3.35	18.1
360.10	COLLECTION SEWERS - FORCE MAINS	75-R3	116,096.49	63,750	52,346	1,596	1.37	32.8
361.10	COLLECTION SEWERS - GRAVITY MAINS	80-R2.5	2,789,720.13	816,252	1,973,468	42,302	1.52	46.7
361.20	MANHOLES	50-S2.5	154,599.60	77,011	77,589	5,757	3.72	13.5
363.00	SERVICES	47-R3	117,750.48	60,942	56,808	2,291	1.95	24.8
364.00	FLOW MEASURING DEVICES	15-L2.5	65,062.56	27,718	37,345	5,575	8.57	6.7
371.00	PUMPING EQUIPMENT	30-S0.5	483,827.42	148,040	335,787	20,534	4.24	16.4
380.00	TREATMENT EQUIPMENT	35-S1.5	13,864,063.96	5,281,797	8,582,267	489,804	3.53	17.5
390.00	OFFICE FURNITURE AND EQUIPMENT	20-SQ	79,103.75	7,093	72,011	4,114	5.20	17.5
391.00	TRANSPORTATION EQUIPMENT	14-L4	75,000.00	669	74,331	5,857	7.81	12.7
394.00	LABORATORY EQUIPMENT	15-SQ	11,930.57	(371)	12,302	897	7.52	13.7
396.00	COMMUNICATION EQUIPMENT	15-SQ	55,786.98	7,598	48,189	3,967	7.11	12.1
397.00	MISCELLANEOUS EQUIPMENT	15-SQ	5,000.00	42	4,958	342	6.84	14.5
	TOTAL DEPRECIABLE PLANT		**20,232,205.38**	**7,826,526**	**12,405,679**	**638,325**	**3.15**	
	NONDEPRECIABLE PLANT							
353.20	LAND AND LAND RIGHTS - COLLECTION		62.00					
353.30	LAND AND LAND RIGHTS - SPP		39.00					
353.40	LAND AND LAND RIGHTS - TDP		3,000.00					
	TOTAL NONDEPRECIABLE PLANT		**3,101.00**					
	AMORTIZATION OF NET SALVAGE					**4,933**		
	TOTAL UTILITY PLANT		**20,235,306.38**	**7,826,526**	**12,405,679**	**643,258**		

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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	343,162		9,907										353,069
354.40	587,028		13,592		1,927								598,694
355.00	355,312		32,710		3,800								384,222
360.10	63,912		1,379		1,541								63,750
361.10	779,457		42,613		3,853		1,965						816,252
361.20	73,364		6,386		1,156		1,584						77,011
363.00	61,524		2,069		1,541		1,110						60,942
364.00	22,047		5,671										27,718
371.00	132,042		20,266		2,200		2,068						148,040
380.00	4,802,814		498,483		13,265		6,235						5,281,797
390.00	7,329		2,535		2,771								7,093
391.00	0		669										669
394.00	(114)		596		853								(371)
396.00	5,829		2,769		1,000								7,598
397.00	0		42										42
TOTAL	**7,233,707**		**639,687**		**33,907**		**12,961**		**0**		**0**		**7,826,526**

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD WASTEWATER OPERATIONS

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

ACCOUNT	NET ORIGINAL COST AS OF 12/31/2022	NET ORIGINAL COST AS OF 12/31/2023	ACCRUAL RATE	AVERAGE ACCRUALS	AMORTIZATION OF NET SALVAGE	PROJECTED DEPRECIATION ACCRUALS
(1)	(2)	(3)	(4)	(5)*	(6)	(7)=(5)+(6)
354.30	627,002.28	627,002.28	1.58	9,907		9,907
354.40	791,994.98	815,068.44	1.71	13,592		13,592
355.00	950,992.72	972,192.72	3.43	32,710		32,710
360.10	97,637.72	116,096.49	1.38	1,379		1,379
361.10	2,733,573.21	2,789,720.13	1.54	42,205	408	42,613
361.20	130,755.52	154,599.60	4.53	6,058	328	6,386
363.00	99,291.71	117,750.48	1.81	1,839	230	2,069
364.00	55,062.56	65,062.56	10.07	5,671		5,671
371.00	461,027.42	483,827.42	4.32	20,040	226	20,266
380.00	13,677,329.34	13,864,063.96	3.63	497,334	1,149	498,483
390.00	46,874.37	79,103.75	4.98	2,535		2,535
391.00	0.00	75,000.00	7.14	669		669
394.00	7,783.57	11,930.57	7.18	596		596
396.00	36,786.98	55,786.98	7.07	2,769		2,769
397.00	0.00	5,000.00	6.67	42		42
TOTAL	**19,716,112.38**	**20,232,205.38**		**637,346**	**2,341**	**639,687**

* Total accruals shown are based on average monthly balances.

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD WASTEWATER OPERATIONS

TABLE 5. AMORTIZATION OF EXPERIENCED AND ESTIMATED NET SALVAGE

	2019		2020		2021		PROJECTED 2022		PROJECTED 2023			
ACCOUNT	GROSS SALVAGE	COST OF REMOVAL	GROSS SALVAGE	COST OF REMOVAL	GROSS SALVAGE	COST OF REMOVAL	GROSS SALVAGE	COST OF REMOVAL	GROSS SALVAGE	COST OF REMOVAL	NET SALVAGE	SALVAGE ACCRUAL
(1)	(2) -	(3) +	(4) -	(5) +	(6) -	(7) +	(8) -	(9) +	(10) -	(11) =	(12)*	(13)=(12)/5
354.30											0	0
354.40											0	0
355.00											0	0
360.10											0	0
361.10								2,038		1,965	(4,003)	(801)
361.20								1,642		1,584	(3,226)	(645)
363.00								1,151		1,110	(2,260)	(452)
364.00											0	0
371.00								1,128		2,068	(3,196)	(639)
380.00						1,521		4,223		6,235	(11,979)	(2,396)
390.00											0	0
394.00											0	0
396.00											0	0
TOTAL	**0**	**0**	**0**	**0**	**0**	**1,521**	**0**	**10,182**	**0**	**12,961**	**(24,664)**	**(4,933)**

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

PART II. DETAILED DEPRECIATION CALCULATIONS

CUMULATIVE DEPRECIATED ORIGINAL COST

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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 AMOUNT (2) - (3) (4)	CUMULATIVE AMOUNT (5)	PCT OF COL 4 TOTAL (6)
1935	1,132,871	962,407	170,464	170,464	1.4
1936	305,068	241,857	63,211	233,675	1.9
1951	878,684	878,684		233,675	1.9
1955	3,570	2,515	1,055	234,730	1.9
1958	95,606	81,464	14,142	248,872	2.0
1972	17,840	8,217	9,623	258,495	2.1
1985	4,689	2,969	1,720	260,215	2.1
1986	56,128	34,255	21,873	282,088	2.3
1987	1,378	829	549	282,637	2.3
1988	352	227	125	282,762	2.3
1989	163,353	103,677	59,676	342,438	2.8
1990	106,142	57,837	48,305	390,743	3.1
1992	61,133	26,818	34,315	425,058	3.4
1993	157,905	80,832	77,073	502,131	4.0
1994	17,999	6,352	11,647	513,778	4.1
1995	20,050	7,877	12,173	525,951	4.2
1998	3,668,944	1,828,478	1,840,466	2,366,417	19.1
2000	344,705	174,454	170,251	2,536,668	20.4
2005	24,648	11,163	13,485	2,550,153	20.6
2006	3,768	1,451	2,317	2,552,470	20.6
2007	37,679	13,861	23,818	2,576,288	20.8
2008	759,435	305,246	454,189	3,030,477	24.4
2010	7,942,774	2,503,683	5,439,091	8,469,568	68.3
2011	84,478	38,317	46,161	8,515,729	68.6
2012	91,432	28,275	63,157	8,578,886	69.2
2013	489,161	66,975	422,186	9,001,072	72.6
2014	947,149	120,815	826,334	9,827,406	79.2
2015	645,154	94,533	550,621	10,378,027	83.7
2016	27,875	5,158	22,717	10,400,744	83.8
2018	87,697	15,696	72,001	10,472,745	84.4
2019	32,678	4,296	28,382	10,501,127	84.6
2020	995,688	88,351	907,337	11,408,464	92.0
2021	136,225	8,939	127,286	11,535,750	93.0
2022	339,950	13,072	326,878	11,862,628	95.6
2023	550,000	6,946	543,054	12,405,682	100.0
SUBTOTAL	20,232,205	7,826,526	12,405,679		
NONDEPRECIABLE	3,101		3,101		
TOTAL	20,235,306.38	7,826,256	12,408,780		

NET UTILITY PLANT IN SERVICE

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD WASTEWATER OPERATIONS

ACCOUNT 354.30 STRUCTURES AND IMPROVEMENTS - SPP

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

SURVIVOR CURVE.. IOWA 55-S0
NET SALVAGE PERCENT.. 0

YEAR (1)	ORIGINAL COST (2)	CALCULATED ACCRUED (3)	ALLOC. BOOK RESERVE (4)	FUTURE BOOK ACCRUALS (5)	REM. LIFE (6)	ANNUAL ACCRUAL (7)
1935	16,444.43	15,135	16,444			
1958	63,683.83	51,304	57,206	6,478	15.80	410
1988	351.91	204	227	125	25.85	5
1989	163,353.35	92,981	103,677	59,676	26.11	2,286
1990	65,300.12	36,529	40,731	24,569	26.38	931
2000	230,488.44	102,383	114,161	116,327	29.41	3,955
2011	16,818.97	4,709	5,251	11,568	32.14	360
2012	37,883.52	9,933	11,076	26,808	32.36	828
2019	32,677.71	3,853	4,296	28,382	33.67	843
	627,002.28	317,031	353,069	273,933		9,618

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 28.5   1.53

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
1935	565,301.39	520,303	504,820	60,481	7.65	7,906
1993	157,904.83	83,311	80,832	77,073	27.31	2,822
2014	9,672.25	2,169	2,104	7,568	32.87	230
2015	52,190.48	10,689	10,371	41,819	33.00	1,267
2022	4,999.49	214	208	4,791	33.59	143
2023	25,000.00	370	359	24,641	33.40	738
	815,068.44	617,056	598,694	216,374		13,106

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 16.5 1.61

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
2000	114,216.74	69,512	60,293	53,924	15.11	3,569
2008	759,434.61	351,922	305,246	454,189	17.95	25,303
2012	53,548.68	19,829	17,199	36,350	19.56	1,858
2022	19,992.69	1,196	1,037	18,956	23.56	805
2023	25,000.00	515	447	24,553	23.83	1,030
	972,192.72	442,974	384,222	587,971		32,565

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 18.1   3.35

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
1935	44,178.07	39,880	38,882	5,296	9.54	555
1958	31,922.07	24,880	24,258	7,664	18.54	413
2022	19,996.35	468	456	19,540	62.60	312
2023	20,000.00	158	154	19,846	62.79	316
	116,096.49	65,386	63,750	52,346		1,596

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 32.8 1.37

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
1935	435,529.37	373,858	336,224	99,305	14.60	6,802
1936	261,852.70	224,539	201,936	59,917	14.54	4,121
1955	2,841.18	2,141	1,925	916	22.41	41
1972	8,087.95	4,998	4,495	3,593	31.83	113
1990	25,046.86	10,908	9,810	15,237	43.42	351
1992	38,796.69	16,132	14,508	24,289	44.26	549
1994	17,998.66	7,063	6,352	11,647	45.68	255
1995	13,919.49	5,275	4,744	9,175	46.69	197
2013	480,872.35	73,718	66,297	414,575	57.99	7,149
2014	927,801.38	129,521	116,484	811,317	58.53	13,862
2015	456,996.85	57,490	51,703	405,294	59.07	6,861
2022	59,976.65	1,457	1,310	58,667	60.23	974
2023	60,000.00	516	464	59,536	57.98	1,027
	2,789,720.13	907,616	816,252	1,973,468		42,302

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 46.7   1.52

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
1935	36,256.39	35,296	30,876	5,380	2.41	2,232
1936	21,907.84	21,277	18,613	3,295	2.59	1,272
1955	728.49	674	590	138	5.57	25
1972	1,952.63	1,639	1,434	519	9.85	53
1985	4,688.79	3,394	2,969	1,720	14.69	117
1990	10,598.25	6,995	6,119	4,479	17.26	260
1992	22,336.43	14,072	12,310	10,026	18.50	542
1995	6,130.78	3,582	3,133	2,998	20.28	148
2022	25,000.00	830	726	24,274	43.75	555
2023	25,000.00	275	241	24,759	44.75	553
	154,599.60	88,034	77,011	77,589		5,757

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 13.5 3.72

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
1935	35,161.20	35,161	35,161			
1936	21,307.63	21,308	21,308			
1972	7,799.83	6,869	2,288	5,512	6.98	790
1990	5,196.68	3,534	1,177	4,020	15.76	255
2013	8,288.76	2,037	678	7,611	32.24	236
2022	19,996.38	738	246	19,750	39.15	504
2023	20,000.00	252	84	19,916	39.34	506
	117,750.48	69,899	60,942	56,808		2,291

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 24.8 1.95

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
2011	45,062.56	32,724	26,433	18,630	4.71	3,955
2022	10,000.00	1,191	962	9,038	11.09	815
2023	10,000.00	400	323	9,677	12.02	805
	65,062.56	34,315	27,718	37,345		5,575

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 6.7 8.57

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
2005	24,647.96	14,271	11,163	13,485	13.45	1,003
2010	326,493.98	152,930	119,627	206,867	15.32	13,503
2018	87,697.09	20,065	15,696	72,001	18.54	3,884
2022	19,988.39	1,387	1,085	18,903	20.10	940
2023	25,000.00	600	469	24,531	20.38	1,204
	483,827.42	189,253	148,040	335,787		20,534

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 16.4   4.24

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
1951	878,683.84	878,684	878,684			
1986	56,128.29	46,093	34,255	21,873	8.16	2,681
1987	1,377.82	1,116	829	549	8.55	64
1998	3,668,943.55	2,460,394	1,828,478	1,840,466	12.52	147,002
2006	3,767.54	1,952	1,451	2,317	16.28	142
2007	37,678.61	18,651	13,861	23,818	16.83	1,415
2010	7,616,280.02	3,207,977	2,384,056	5,232,224	18.55	282,061
2011	22,596.26	8,926	6,633	15,963	19.15	834
2014	9,675.36	2,996	2,227	7,448	21.17	352
2015	111,613.65	31,207	23,192	88,422	21.90	4,038
2016	27,875.03	6,941	5,158	22,717	22.62	1,004
2020	995,688.05	118,885	88,351	907,337	25.82	35,141
2021	123,756.32	10,581	7,864	115,892	26.74	4,334
2022	109,999.62	5,654	4,202	105,798	27.66	3,825
2023	200,000.00	3,440	2,556	197,444	28.57	6,911
	13,864,063.96	6,803,497	5,281,797	8,582,267		489,804

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 17.5   3.53

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
2015	13,642.01	5,798	4,455	9,187	11.50	799
2021	5,461.74	683	525	4,937	17.50	282
2022	25,000.00	1,875	1,441	23,559	18.50	1,273
2023	35,000.00	875	672	34,328	19.50	1,760
	79,103.75	9,231	7,093	72,011		4,114

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 17.5   5.20

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
2023	75,000.00	2,842	669	74,331	12.69	5,857
	75,000.00	2,842	669	74,331		5,857

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 12.7 7.81

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
2021	1,930.57	322	121-	2,052	12.50	164
2022	5,000.00	500	187-	5,187	13.50	384
2023	5,000.00	167	63-	5,063	14.50	349
	11,930.57	989	371-	12,302		897

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 13.7 7.52

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
2015	10,710.61	6,069	4,812	5,899	6.50	908
2021	5,076.37	846	671	4,405	12.50	352
2022	20,000.00	2,000	1,586	18,414	13.50	1,364
2023	20,000.00	667	529	19,471	14.50	1,343
	55,786.98	9,582	7,598	48,189		3,967

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 12.1 7.11

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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						
2023	5,000.00	167	42	4,958	14.50	342
	5,000.00	167	42	4,958		342

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 14.5   6.84

PART III. EXPERIENCED AND ESTIMATED NET SALVAGE

PENNSYLVANIA-AMERICAN WATER COMPANY
ROYERSFORD 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
2021 TRANSACTION YEAR				
380.00		1,521.00		1,521.00-
		1,521.00		1,521.00-
2022 TRANSACTION YEAR				
354.40	399.54			
355.00	1,800.00			
360.10	1,598.18			
361.10	3,995.44	2,037.68		2,037.68-
361.20	1,198.63	1,642.13		1,642.13-
363.00	1,598.18	1,150.69		1,150.69-
371.00	1,200.00	1,128.00		1,128.00-
380.00	8,986.35	4,223.42		4,223.42-
390.00	2,000.00			
394.00	495.00			
396.00	1,500.00			
	24,771.32	10,181.92		10,181.92-
2023 TRANSACTION YEAR				
354.40	1,926.54			
355.00	3,800.00			
360.10	1,541.23			
361.10	3,853.08	1,965.07		1,965.07-
361.20	1,155.92	1,583.61		1,583.61-
363.00	1,541.23	1,109.69		1,109.69-
371.00	2,200.00	2,068.00		2,068.00-
380.00	13,265.38	6,234.55		6,234.55-
390.00	2,770.62			
394.00	853.00			
396.00	1,000.00			
	33,907.00	12,960.92		12,960.92-
TOTAL	58,678.32	24,663.84		24,663.84-