

FILED
August 30, 2023
Data Center
Missouri Public
Service Commission

Exhibit No. 1

Confluence Rivers – Exhibit 1
Allis Direct
File No. WR-2023-0006

Exhibit No. _____
Issues: Depreciation
Witness: Ned W. Allis
Type of Exhibit: Direct Testimony
Sponsoring Party: Confluence Rivers Utility
Operating Company, Inc.
File Nos.: WR-2023-0006 / SR-2023-0007
Date: December 21, 2022

Missouri Public Service Commission

Direct Testimony

of

Ned W. Allis

On Behalf of

Confluence Rivers Utility Operating Company, Inc.

December 21, 2022

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1 **I. INTRODUCTION**

2 **Q. Please state your name and address.**

3 A. My name is Ned W. Allis. My business address is 207 Senate Avenue, Camp
4 Hill, Pennsylvania 17011.

5

6 **Q. Are you associated with any firm?**

7 A. Yes. I am associated with the firm of Gannett Fleming Valuation and Rate
8 Consultants, LLC (“Gannett Fleming”).

9

10 **Q. How long have you been associated with Gannett Fleming?**

11 A. I have been associated with the firm since 2006.

12

13 **Q. What is your position with the firm?**

14 A. I am Vice President.

15

16 **Q. On whose behalf are you testifying in this case?**

17 A. I am testifying on behalf of Confluence Rivers Utility Operating Company, Inc.
18 (“Confluence Rivers” or the “Company”).

19

20 **Q. Please state your qualifications.**

21 A. I have more than 16 years of experience within the field of depreciation, which
22 includes providing expert testimony in more than 60 cases before 14 regulatory
23 commissions. I have also worked on numerous depreciation studies for which I
24 did not submit testimony, including assisting other expert witnesses from Gannett
25 Fleming in additional U.S. jurisdictions (including Missouri) and two Canadian
26 provinces. Schedule NWA-1 to my testimony provides my qualifications,
27 including leadership in the Society of Depreciation Professionals (the “Society”)
28 and participation as a faculty member for depreciation training conducted by the
29 Society.

30

1 **II. PURPOSE OF TESTIMONY**

2 **Q. What is the purpose of your testimony in this proceeding?**

3 A. The purpose of my testimony is to present the depreciation study performed for
4 Confluence Rivers and attached hereto as Schedule NWA-2. The Depreciation
5 Study sets forth the calculated annual depreciation accrual rates by account as of
6 December 31, 2021, for all water and sewer plant accounts.

7
8 **Q. Are the recommended depreciation accrual rates presented in your study
9 reasonable and applicable to the plant in service as of December 31, 2021?**

10 A. Yes, they are. Based on the Depreciation Study, I am recommending depreciation
11 rates using the December 31, 2021 plant and reserve balances for approval.

12 **III. DEPRECIATION STUDY**

13 **Q. Please define the concept of depreciation.**

14 A. Depreciation refers to the loss in service value not restored by current
15 maintenance, incurred in connection with the consumption or prospective
16 retirement of utility plant in the course of service from causes which are known to
17 be in current operation and against which the company is not protected by
18 insurance. Among the causes to be given consideration are wear and tear, decay,
19 action of the elements, obsolescence, changes in the art, changes in demand and
20 the requirements of public authorities.

21
22 **Q. Please identify the Depreciation Study you performed for Confluence Rivers.**

23 A. The study is a report entitled, "2021 Depreciation Study - Calculated Annual
24 Depreciation Accruals Related to Water and Sewer Plant as of December 31,
25 2021." This report sets forth the results of my depreciation analysis for
26 Confluence Rivers. The study was prepared and the analyses that underlie the
27 study were conducted under my direction and supervision.

28
29 **Q. What was the purpose of the Depreciation Study?**

1 A. The purpose of the Depreciation Study was to estimate the annual depreciation
2 accruals related to water and sewer plant in service for financial and ratemaking
3 purposes and determine appropriate average service lives and net salvage
4 percentages for each plant account.

5

6 **Q. Are the methods and procedures of the Depreciation Study consistent with**
7 **industry practices?**

8 A. Yes, the methods and procedures of the study are in accordance with industry
9 standards. The proposed rates determined in the Depreciation Study are based on
10 the straight-line method, average service life procedure and remaining life
11 technique. While the existing depreciation rates were calculated using the whole
12 life technique, the remaining life technique is more commonly used in the
13 industry.

14

15 **Q. Please describe the contents of the Depreciation Study.**

16 A. The report is presented in eight parts. Part I, Introduction, describes the scope and
17 basis for the Depreciation Study. Part II, Estimation of Survivor Curves, includes
18 descriptions of the methodology of estimating survivor curves. Parts III and IV
19 set forth the analysis for determining life and net salvage estimates. Part V,
20 Calculation of Annual and Accrued Depreciation, includes the concepts of
21 depreciation and amortization using the remaining life technique. Part VI, Results
22 of Study, presents a description of the results and a summary of the depreciation
23 calculations. Parts VII and VIII include graphs and tables that relate to the
24 service life analyses and the detailed depreciation calculations.

25

26 The table on pages VI-4 and VI-5 of the Depreciation Study presents the
27 estimated survivor curve, the net salvage percent, the original cost as of December
28 31, 2021, the book depreciation reserve, and the calculated annual depreciation
29 accrual and rate for the account or subaccount. The section beginning on page
30 VII-2 presents the results of the retirement rate analyses prepared as the historical

1 bases for the service life estimates. The section beginning on page VIII-2
2 presents the depreciation calculations related to surviving original cost as of
3 December 31, 2021.

4
5 **Q. Please explain how you performed the Depreciation Study.**

6 A. I used the straight-line remaining life method of depreciation, with the average
7 service life procedure. The annual depreciation is based on a method of
8 depreciation accounting that seeks to distribute the unrecovered cost of fixed
9 capital assets over the estimated remaining useful life of the unit, or group of
10 assets, in a systematic and rational manner.

11
12 **Q. How did you determine the recommended annual depreciation accrual rates?**

13 A. I did this in two phases. In the first phase, I estimated the service life and net
14 salvage characteristics for the depreciable group, that is, the plant account or
15 subaccount identified as having similar characteristics. In the second phase, I
16 calculated the composite remaining lives and annual depreciation accrual rates
17 based on the service life and net salvage estimates determined in the first phase.

18
19 **Q. Please describe the first phase of the Depreciation Study, in which you
20 estimated the service life and net salvage characteristics for the depreciable
21 group.**

22 A. The service life and net salvage analyses consisted of compiling historic data from
23 records related to Confluence Rivers' plant; analyzing these data to obtain historic
24 trends of survivor and net salvage characteristics; obtaining supplementary
25 information from Confluence Rivers management personnel and operating
26 personnel concerning practices and plans as they relate to plant operations; and
27 interpreting the above data based on my experience and in reference to estimates
28 used by other water and wastewater utilities to form judgments of average service
29 life and net salvage characteristics.

30

1 Due to the nature of Confluence Rivers' water and wastewater business, in which
2 the Company has acquired relatively small water and wastewater systems, the
3 available historical data is relatively limited due, in part, to the fact that the
4 historical data was not sufficiently tracked by the legacy water and wastewater
5 systems acquired by the Company. As a result, statistical analyses of service life
6 and net salvage in many instances did not provide meaningful results, and factors
7 such as the current estimates prescribed for Confluence Rivers and the estimates
8 for other similar utilities were used to determine appropriate estimates.
9

10 **Q. What is an "Iowa-type Survivor Curve" and how did you use such curves to**
11 **estimate the service life characteristics for the property group?**

12 A. Iowa-type Survivor Curves are a widely used group of generalized survivor
13 curves that contain the range of survivor characteristics usually experienced by
14 utilities and other industrial companies. The Iowa curves were developed at the
15 Iowa State College Engineering Experiment Station through an extensive process
16 of observing and classifying the ages at which various types of property used by
17 utilities and other industrial companies have been retired.
18

19 Iowa-type curves are used to smooth and extrapolate original survivor curves
20 determined by the retirement rate method. The Depreciation Study used Iowa
21 curves and truncated original curves to describe the forecasted rates of retirement
22 based on the observed rates of retirement and the outlook for future retirements.
23

24 The estimated survivor curve designations for the depreciable property group
25 indicate the average service life, the family within the Iowa system to which the
26 property group belongs, and the relative height of the mode. For example, the
27 Iowa 45-R3 indicates an average service life of 45 years; a right-moded, or R type
28 curve (the mode occurs after average life for right-moded curves); and a medium
29 height, 3, for the mode (possible modes for R type curves range from 0.5 to 5).

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Q. Did you physically observe Confluence Rivers’ plant and equipment as part of the Depreciation Study?

A. Yes. I made field reviews of Confluence Rivers’ property as part of this study during February 2022 to observe representative portions of plant. Field reviews are conducted to become familiar with company operations and obtain an understanding of the function of the plant and information with respect to the reasons for past retirements and the expected future causes of retirements. This knowledge, as well as information from other discussions with Confluence Rivers’ management and operating personnel, was incorporated in the interpretation and extrapolation of the statistical analyses.

Q. How did your experience in development of other depreciation studies affect your work in this case for Confluence Rivers?

A. Since I customarily conduct field reviews for my depreciation studies, I have had the opportunity to visit similar facilities and meet with management and operations personnel at many other companies. The knowledge I have accumulated from those visits and meetings provides me with useful information to draw upon to confirm or challenge my numerical analyses concerning asset condition and remaining life estimates.

Q. Are the factors considered in your estimates of service life and net salvage percents presented in the Depreciation Study?

A. Yes. Discussions of the types of factors considered in the estimation of service lives and net salvage percents are presented in Parts III and IV of the study.

Q. Please describe the concept of “net salvage”.

A. Net salvage is a component of the service value of capital assets that is recovered through depreciation rates. The service value of an asset is its original cost less its net salvage. Net salvage is the gross salvage value received for the asset upon

1 retirement less the cost to retire the asset. When the cost to retire the asset
2 exceeds the gross salvage value, the result is negative net salvage. So, for
3 instance, a pump that has little cost of retirement, but a larger amount of
4 recyclable metal, may have a positive net salvage. On the other hand, pipe that
5 must be excavated from the ground, and a high cost of retirement, will have a
6 negative net salvage. It is common for utility assets to have negative net salvage
7 because the cost of retirement typically exceeds any gross salvage for most types
8 of assets.

9

10 Because depreciation expense is the loss in service value of an asset during a
11 defined period (e.g., one year), it must include a ratable portion of both the
12 original cost of the asset and the net salvage. That is, the net salvage related to an
13 asset should be incorporated in the cost of service during the same period as its
14 original cost, so customers receiving service from the asset pay rates that include
15 a portion of both elements of the asset's service value, the original cost and the
16 net salvage value. For example, the full service value of a \$5,000 water main may
17 also include \$1,300 of cost of removal and \$50 gross salvage, for a total service
18 value of \$6,250.

19 **Q. Please describe how you estimated net salvage percentages.**

20 A. I estimated the net salvage percentages by incorporating the Company's available
21 historical data through 2021 and considering industry experience of net salvage
22 estimates for other water and wastewater companies. Similar to the estimation of
23 service lives, the available historical data was relatively limited and other factors,
24 such as typical estimates for other utilities, informed the recommended net
25 salvage estimates.

26

27 **Q. Please describe the second phase of the process that you used in the**
28 **Depreciation Study in which you calculated composite remaining lives and**
29 **annual depreciation accrual rates.**

30 A. After I estimated the service life and net salvage characteristics for the

1 depreciable property group, I calculated the annual depreciation accrual rates for
2 the group based on the straight-line remaining life method, using remaining lives
3 weighted consistent with the average service life procedure. The calculation of
4 annual depreciation accrual rates was developed as of December 31, 2021.

5

6 **Q. Please describe the straight line remaining life method of depreciation.**

7 A. The straight-line remaining life method of depreciation allocates the original cost
8 of the property, less accumulated depreciation, less future net salvage, in equal
9 amounts to the year of remaining service life. This method recovers the variance
10 between the actual book reserve and the theoretical book reserve over the
11 remaining life of each asset class.

12

13 **Q. Please describe the average service life procedure for calculating remaining**
14 **life accrual rates.**

15 A. The average service life procedure defines the group or account for which the
16 remaining life annual accrual is determined. For this procedure, the annual
17 accrual rate is determined for the entire group or account based on its average
18 remaining life and the rate is then applied to the surviving balance of the group's
19 cost. The average remaining life of the group is calculated by first dividing the
20 future book accruals (original cost less allocated book reserve less future net
21 salvage) by the average remaining life for the vintage. The average remaining life
22 for the vintage is derived from the area under the survivor curve between the
23 attained age of the vintage and the maximum age. The sum of the future book
24 accruals is then divided by the sum of the annual accruals to determine the
25 average remaining life of the entire group for use in calculating the annual
26 depreciation accrual rate.

27

28 **Q. Please describe amortization accounting in contrast to depreciation**
29 **accounting.**

30 A. Amortization accounting is used for accounts with a large number of units, but

1 small asset values (for example, computers, desk and office equipment). In
2 amortization accounting, units of property are capitalized in the same manner as
3 they are in depreciation accounting. However, depreciation accounting is difficult
4 for these types of assets because depreciation accounting requires periodic
5 inventories to properly reflect plant in service. Consequently, amortization
6 accounting is used for these types of assets, such that retirements are recorded
7 when a vintage is fully amortized rather than as the units are removed from
8 service. That is, there is no dispersion of retirements in amortization accounting.
9 All units are retired when the age of the vintage reaches the amortization period.
10 The plant account or group of assets is assigned a fixed period that represents an
11 anticipated life during which the asset will provide service. For example, in
12 amortization accounting, assets that have a 15-year amortization period will be
13 fully recovered after 15 years of service and taken off the company's books at that
14 time, but not necessarily removed from service. In contrast, assets that are taken
15 out of service before 15 years remain on the books until the amortization period
16 for that vintage has expired.

17

18 **Q. Is amortization accounting being utilized for certain plant accounts?**

19 A. Yes. However, amortization accounting is only appropriate for certain General
20 Plant accounts. The General Plant accounts are 391.00, 391.10, 393.00, 394.00,
21 395.00, 397.00, and 398.00. These accounts represent approximately two percent
22 of Confluence Rivers' depreciable plant.

23

24 **Q. Please provide an example to illustrate the development of the annual
25 depreciation accrual rate for a particular group of property in your
26 Depreciation Study.**

27 A. I will use Account 343.00, Mains, as an example because it is one of the largest
28 depreciable groups. Due to the limited available historical data, life analysis
29 based on the retirement rate method did not provide meaningful results, nor did
30 the net salvage analysis. Therefore, the service life and net salvage estimates

1 were based on other factors, which include information obtained from Company
2 subject-matter experts, the current estimates prescribed for Confluence Rivers and
3 the estimates for similar utilities. For this account, the estimated smooth survivor
4 curve, the 60-R3, is plotted on page VII-16. The recommended net salvage
5 estimate for this account is negative 10 percent.

6

7 The calculation of the annual depreciation related to original cost of Account
8 343.00, Services as of December 31, 2021, is presented on page VIII-17 of the
9 Depreciation Study. The calculation is based on the 60-R3 survivor curve, the
10 negative net salvage of 10 percent, the attained age, and the allocated book
11 reserve. The tabulation sets forth the installation year, the original cost,
12 calculated accrued depreciation, allocated book reserve, future accruals,
13 remaining life and annual accrual. These totals are brought forward to the table
14 on page VI-4.

15

16 **Q. In your opinion, are the depreciation rates set forth in the Depreciation**
17 **Study the appropriate rates for the Commission to adopt in this proceeding**
18 **for Confluence Rivers?**

19 A. Yes. These rates appropriately reflect the rates at which the value of Confluence
20 Rivers' assets should be recovered over their useful lives. These rates are an
21 appropriate basis for setting water and sewer rates in this matter and for the
22 Company to use for booking depreciation and amortization expense going
23 forward.

24

25 **Q. Does this conclude your direct testimony?**

26 A. Yes.

**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

In the Matter of Confluence Rivers Utility)
Operating Company, Inc.'s Request for Authority)
to Implement a General Rate Increase for Water) **File No. WR-2023-0006**
Service and Sewer Service Provided in Missouri) **File No. SR-2023-0007**
Service Areas.)

AFFIDAVIT OF NED W. ALLIS

COMMONWEALTH OF PENNSYLVANIA)
) ss
COUNTY OF CUMBERLAND)

Ned W. Allis, of lawful age and being first duly sworn, deposes and states:

1. My name is Ned W. Allis. I am associated with Gannett Fleming Valuation and Rate Consultants, LLC. I have been retained to provide testimony in this proceeding by Confluence Rivers Utility Operating Company, LLC.
2. Attached hereto and made a part hereof for all purposes is my direct testimony.
3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.



Ned W. Allis

Subscribed and sworn to me this 20th day of December, 2022



Notary Public

My commission expires February 20, 2023.

Commonwealth of Pennsylvania - Notary Seal Cheryl Ann Rutter, Notary Public Cumberland County My commission expires February 20, 2023 Commission number 1143028 Member, Pennsylvania Association of Notaries

NED W. ALLIS

LIST OF QUALIFICATIONS

Q. Please state your name.

A. My name is Ned W. Allis.

Q. What is your educational background?

A. I have a Bachelor of Science degree in Mathematics from Lafayette College in Easton, PA.

Q. Do you belong to any professional societies?

A. Yes. I am a member and past President of the Society of Depreciation Professionals (“Society”) and an associate member of the American Gas Association/Edison Electric Institute Industry Accounting Committee. I also serve on the faculty for training offered by the Society and am an instructor for the Society’s “Introduction to Depreciation,” “Life and Net Salvage Analysis,” “Analyzing the Life of Real-World Property,” “Analyzing Net Salvage in the Real World” and “Depreciation and Ratemaking Issues” courses.

Q. Do you hold any special certification as a depreciation expert?

A. Yes. The Society of Depreciation Professionals has established national standards for depreciation professionals. The Society administers an examination to become certified in this field. I passed the certification exam in September 2011 and was recertified in March 2017 and January 2022.

Q. Please outline your experience in the field of depreciation.

A. I joined Gannett Fleming in October 2006 as an analyst. My responsibilities included assembling data required for depreciation studies, conducting statistical analyses of service life and net salvage data, calculating annual and accrued depreciation, and assisting in preparing reports and testimony setting forth and defending the results of the studies. I

also developed and maintained Gannett Fleming's proprietary depreciation software. In March 2013, I was promoted to the position of Supervisor of Depreciation Studies. In March 2017, I was promoted to Project Manager, Depreciation and Technical Development. In January 2019, I was promoted to my current position of Vice President. In my current position, I am responsible for conducting depreciation, valuation and original cost studies, determining service life and salvage estimates, conducting field reviews, presenting recommended depreciation rates to clients, and supporting such rates before state and federal regulatory agencies. I am also responsible for Gannett Fleming's proprietary depreciation software, training of depreciation staff, and the development of solutions for technical issues related to depreciation. Since joining Gannett Fleming, I have worked on more than one hundred depreciation assignments.

Q. Have you submitted testimony to any state utility commission on the subject of utility plant depreciation?

A. Yes. I have submitted testimony on depreciation related topics to the Connecticut Public Utilities Regulatory Authority, the New York Department of Public Service, the New Jersey Board of Public Utilities, the Nevada Public Utilities Commission, the Florida Public Service Commission, the District of Columbia Public Service Commission, the California Public Utilities Commission, the Rhode Island Public Utilities Commission, the Massachusetts Department of Public Utilities, the New Hampshire Public Utilities Commission, the Kansas Corporation Commission, the Washington Utilities and Transportation Commission, and the Maryland Public Service Commission. I have also testified before the Federal Energy Regulatory Commission ("FERC").

Q. Have you had any additional education relating to utility plant depreciation?

A. Yes. I have completed the following courses conducted by the Society: “Depreciation Basics,” “Life and Net Salvage Analysis” and “Preparing and Defending a Depreciation Study.”

Q. Does this conclude your qualification statement?

A. Yes.

LIST OF CASES IN WHICH NED W. ALLIS SUBMITTED TESTIMONY

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client/Utility</u>	<u>Subject</u>
01.	2013	NV	13-06004	Sierra Pacific Power Company	Depreciation
02.	2013	NY	13-E-0030, 13-G-0031 & 13-S-0032	Consolidated Edison Company of New York	Depreciation
03.	2013	DC	Case No. 1103	Pepco	Depreciation
04.	2014	NY	14-G-0494	Orange and Rockland - Gas	Depreciation
05.	2014	NY	14-E-0493	Orange and Rockland - Electric	Depreciation
06.	2014	NY	15-E-0050	Consolidated Edison Company of New York - Electric	Depreciation
07.	2015	FERC	ER15-2294-000	Pacific Gas & Electric Company TO17	Depreciation
08.	2015	NY	16-E-0060	Consolidated Edison Company of New York - Electric	Depreciation
09.	2015	NY	16-G-0061	Consolidated Edison Company of New York - Gas	Depreciation
10.	2016	FL	160021-EI	Florida Power & Light Company	Depreciation
11.	2016	NV	16-06008	Sierra Pacific Power Company - Electric	Depreciation
12.	2016	NV	16-06009	Sierra Pacific Power Company - Gas	Depreciation
13.	2016	NJ	ER 16050428	Rockland Electric Company	Depreciation
14.	2016	FERC	ER16-2320-000	Pacific Gas & Electric Company – Electric Transmission	Depreciation
15.	2016	DC	Case No. 1139	Pepco	Depreciation
16.	2017	NV	17-06004	Nevada Power Company	Depreciation
17.	2017	FERC	ER17-2154-000	Pacific Gas & Electric Company – Electric Transmission	Depreciation
18.	2017	CT	17-10-46	Connecticut Light & Power	Depreciation
19.	2017	CA	A.17-11-009	Pacific Gas & Electric – Gas Transmission and Storage	Depreciation
20.	2017	RI	4770	Narragansett Electric Company	Depreciation
21.	2017	DC	Case No. 1150	Pepco	Depreciation
22.	2018	CT	18-05-10	Yankee Gas Services Company	Depreciation
23.	2018	NY	18-E-0067	Orange and Rockland – Electric	Depreciation
24.	2018	NY	18-G-0068	Orange and Rockland – Gas	Depreciation
25.	2018	NJ	ER18080925	Atlantic City Electric Company	Depreciation
26.	2018	FERC	ER19-13-000	Pacific Gas & Electric Company – Electric Transmission	Depreciation
27.	2018	FERC	ER19-284-000	Florida Power & Light Company	Depreciation
28.	2018	CA	A. 18-12-009	Pacific Gas & Electric Company	Depreciation
29.	2018	NY	19-E-0065	Consolidated Edison Company of New York - Electric	Depreciation

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client/Utility</u>	<u>Subject</u>
30.	2018	NY	19-G-0065	Consolidated Edison Company of New York - Gas	Depreciation
31.	2019	MA	D.P.U. 18-150	Massachusetts Electric Company	PBR / Depreciation
32.	2019	MD	9610	Baltimore Gas & Electric Company	Depreciation
33.	2019	KS	19-ATMG-525-RTS	Atmos Energy	Depreciation
34.	2020	FERC	ER21-83-000	Pepco	Depreciation
35.	2020	MA	D.P.U. 20-120	Boston Gas Company	Depreciation
36.	2020	FERC	ER20-2878-00	PG&E – Wholesale Distribution	Depreciation
37.	2020	NH	DW 20-184	Aquarion Water Company	Depreciation
38.	2021	FERC	RP21-100-000	National Grid Liquified Natural Gas	Depreciation
39.	2021	FL	20210016-EI	Duke Energy Florida	Depreciation
40.	2021	NY	21-E-0074	Orange and Rockland – Electric	Depreciation
41.	2021	NY	21-G-0073	Orange and Rockland – Gas	Depreciation
42.	2021	NH	DE 21-030	Until Energy Systems, Inc.	Depreciation
43.	2021	FL	20210015-EI	Florida Power & Light Company	Depreciation
44.	2021	FERC	ER21-1822-000	GridLiance High Plains	Depreciation
45.	2021	NH	DG 21-104	Northern Utilities, Inc.	Depreciation
46.	2021	NJ	ER2105823	Rockland Electric Company	Depreciation
47.	2021	MD	9670	Delmarva Power and Light	Depreciation
48.	2021	CA	A. 21-06-021	Pacific Gas & Electric Company	Depreciation
49.	2021	FERC	ER22-306	Duke Energy Florida	Depreciation
50.	2021	FERC	ER22-2-000	ITC Transmission	Depreciation
51.	2021	FERC	ER22-3-000	ITC Midwest	Depreciation
52.	2021	FERC	ER22-4-000	Michigan Electric Transmission Company	Depreciation
53.	2022	NY	22-E-0064	Consolidated Edison Company of New York - Electric	Depreciation
54.	2022	NY	22-G-0065	Consolidated Edison Company of New York - Gas	Depreciation
55.	2022	WA	UE-220066 / UG-22067	Puget Sound Energy	Depreciation
56.	2022	MD	9680	Columbia Gas of Maryland	Depreciation
57.	2022	FERC	ER-22-1195-000	Alabama Power Company	Depreciation
58.	2022	FERC	ER-22-1196-000	Southern Electric Generating Company	Depreciation
59.	2022	FERC	ER-20-2411-002, et al	Tri-State Generation and Transmission Association	Depreciation

	<u>Year</u>	<u>Jurisdiction</u>	<u>Docket No.</u>	<u>Client/Utility</u>	<u>Subject</u>
60.	2022	CT	22-07-01	Aquarion Water Company of Connecticut	Depreciation
61.	2022	FL	20220069-GU	Florida City Gas	Depreciation
62.	2022	NV	22-06015, 22-06016	Sierra Pacific Power Company	Depreciation

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.

MISSOURI ASSETS

2021 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION
ACCRUALS RELATED TO
WATER AND SEWER PLANT
AS OF DECEMBER 31, 2021

Prepared by:



GANNETT FLEMING

Excellence Delivered As Promised

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
St. Louis, Missouri

MISSOURI ASSETS
2021 DEPRECIATION STUDY

CALCULATED ANNUAL DEPRECIATION
ACCRUALS RELATED TO WATER AND SEWER 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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207 Senate Avenue
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P 717.763.7211 | F 717.763.8150

gannettfleming.com

December 20, 2022

Confluence Rivers Utility Operating Company, Inc.
1650 Des Peres Rd, Suite 303
St. Louis, MO 63131

Attention Brent Thies
Controller

Ladies and Gentlemen:

Pursuant to your request, we have conducted a depreciation study related to the water and sewer plant of Confluence Rivers Utility Operating Company, Inc.'s Missouri assets as of December 31, 2021. The attached report presents a description of the methods used in the estimation of depreciation, the summary of annual depreciation accrual rates, the statistical support for the service life estimates and the detailed tabulations of annual depreciation.

We gratefully acknowledge the assistance of Confluence Rivers personnel in the conduct of the study.

Respectfully submitted,

GANNETT FLEMING VALUATION
AND RATE CONSULTANTS, LLC

A handwritten signature in black ink, appearing to read "Ned W. Allis".

NED W. ALLIS
Vice President

NWA:jmr

070963.000

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EXECUTIVE SUMMARY

Pursuant to Confluence Rivers Utility Operating Company, Inc. (“Confluence Rivers” or “Company”) request, Gannett Fleming Valuation and Rate Consultants, LLC (“Gannett Fleming”) has conducted a depreciation study related to Confluence Rivers’ Missouri assets as of December 31, 2021. The purpose of this study was to determine the annual depreciation accrual rates and amounts for book and ratemaking purposes.

The depreciation rates are based on the straight line method using the average service life (“ASL”) procedure and were applied on a remaining life basis. The calculations were based on attained ages and estimated average service life as well as forecasted net salvage characteristics for each depreciable group of assets.

Gannett Fleming recommends the calculated annual depreciation accrual rates proposed herein apply specifically to Confluence Rivers’ plant in service as of December 31, 2021 as summarized in Table 1 of the study. The study sets forth a total annual depreciation expense of \$895,580 as applied to the depreciable original cost of \$22.3 million as of December 31, 2021.

SUMMARY OF ORIGINAL COST, PROPOSED ACCRUAL RATES AND AMOUNTS

FUNCTION	ORIGINAL COST AS OF DECEMBER 31, 2021	ACCRUAL RATE	ACCRUAL AMOUNT
WATER PLANT			
Intangible Plant	90,067.63	5.09	4,581
Source of Supply Plant	2,358,792.47	2.43	57,236
Pumping Plant	1,107,269.82	6.11	67,667
Treatment Plant	733,343.87	3.95	28,994
Transmission and Distribution Plant	4,579,098.06	2.50	114,637
Total Water Plant	8,868,571.85	3.08	273,115
SEWER PLANT			
Collection Plant	4,144,169.45	2.26	93,731
Pumping Plant	471,864.94	5.09	24,017
Treatment and Disposal Plant	8,261,763.17	4.58	378,422
Total Sewer Plant	12,877,797.56	3.85	496,170
General Plant	533,966.37	23.65	126,295
Total Depreciable Water and Sewer Plant	22,280,335.78	4.02	895,580

PART I. INTRODUCTION

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
DEPRECIATION STUDY

PART I. INTRODUCTION

SCOPE

This report presents the results of the depreciation study prepared for Confluence Rivers' Missouri assets as applied to water and sewer plant in service as of December 31, 2021. It relates to the concepts, methods, and basic judgments which underlie recommended annual depreciation accrual rates related to current utility plant in service.

The service life and net salvage estimates resulting from the study were based on informed judgment which incorporated analyses of available historical plant retirement data as recorded through year-end 2021; a review of Company practice and outlook as they relate to plant operation and retirement; and consideration of current practice in the water and sewer industry, including knowledge of service life and net salvage estimates used for other water and sewer companies.

PLAN OF REPORT

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

BASIS OF THE STUDY

Depreciation

Depreciation, in public utility regulation, is the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of utility plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance. Among causes to be given consideration are wear and tear, deterioration, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand, and the requirements of public authorities.

Depreciation, as used in accounting, is a method of distributing fixed capital costs, less net salvage, over a period of time by allocating annual amounts to expense. Each annual amount of such depreciation expense is part of that year's total cost of providing water and sewer utility service. Normally, the period of time over which the fixed capital cost is allocated to the cost of service is equal to the period of time over which an item renders service, that is, the item's service life. The most prevalent method of allocation is to distribute an equal amount of cost to each year of service life. This method is known as the straight line method of depreciation.

For most accounts, the annual depreciation was calculated by the straight line method using the average service life procedure and the remaining life basis. For certain General Plant accounts, the annual depreciation is based on amortization accounting. Both types of calculations were based on original cost, attained ages, and estimates of service lives and net salvage.

The straight line method, average service life procedure is a commonly used depreciation calculation procedure that has been widely accepted in jurisdictions throughout North America. Amortization accounting is used for certain General Plant accounts because of the disproportionate plant accounting effort required when

compared to the minimal original cost of the large number of items in these accounts. An explanation of the calculation of annual and accrued amortization is presented beginning on page V-4 of the report.

Service Life and Net Salvage Estimates

The service life and net salvage estimates used in the depreciation and amortization calculations were based on informed judgment which incorporated a review of management's plans, policies and outlook, a general knowledge of the water and sewer utility industry, and comparisons of the service life and net salvage estimates from our studies of other water and sewer utilities. The use of survivor curves to reflect the expected dispersion of retirement provides a consistent method of estimating depreciation for water and sewer plant. Iowa type survivor curves were used to depict the estimated survivor curves for the plant accounts not subject to amortization accounting.

The procedure for estimating service lives consisted of compiling historical data for the plant accounts or depreciable groups, analyzing this history through the use of widely accepted techniques, and forecasting the survivor characteristics for each depreciable group on the basis of interpretations of the historical data analyses and the probable future. The combination of the historical experience and the estimated future yielded estimated survivor curves from which the average service lives were derived.

PART II. ESTIMATION OF SURVIVOR CURVES

PART II. ESTIMATION OF SURVIVOR CURVES

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

SURVIVOR CURVES

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

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

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

Iowa Type Curves

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

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

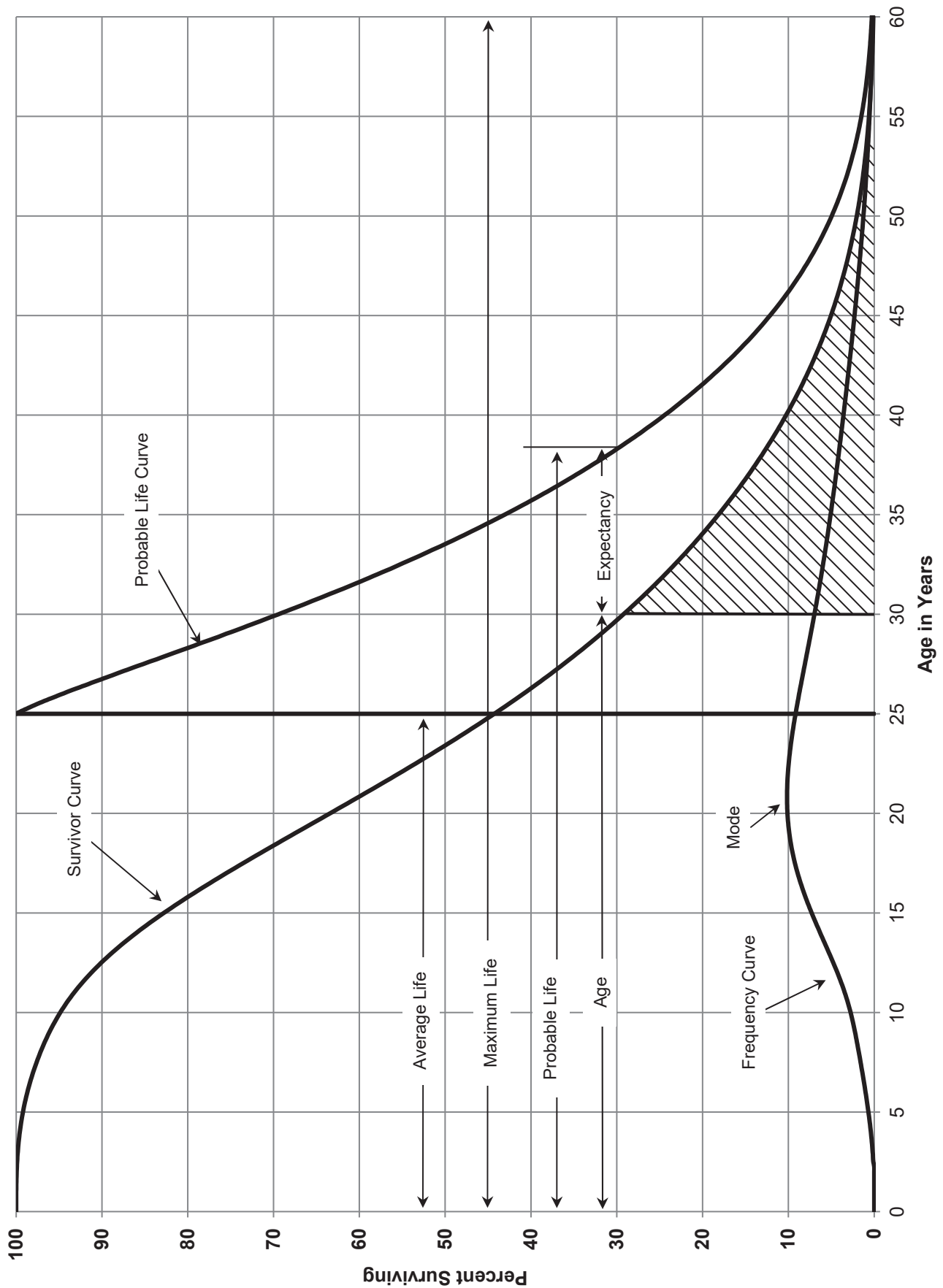


FIGURE 1. TYPICAL SURVIVOR CURVE AND DERIVED CURVES

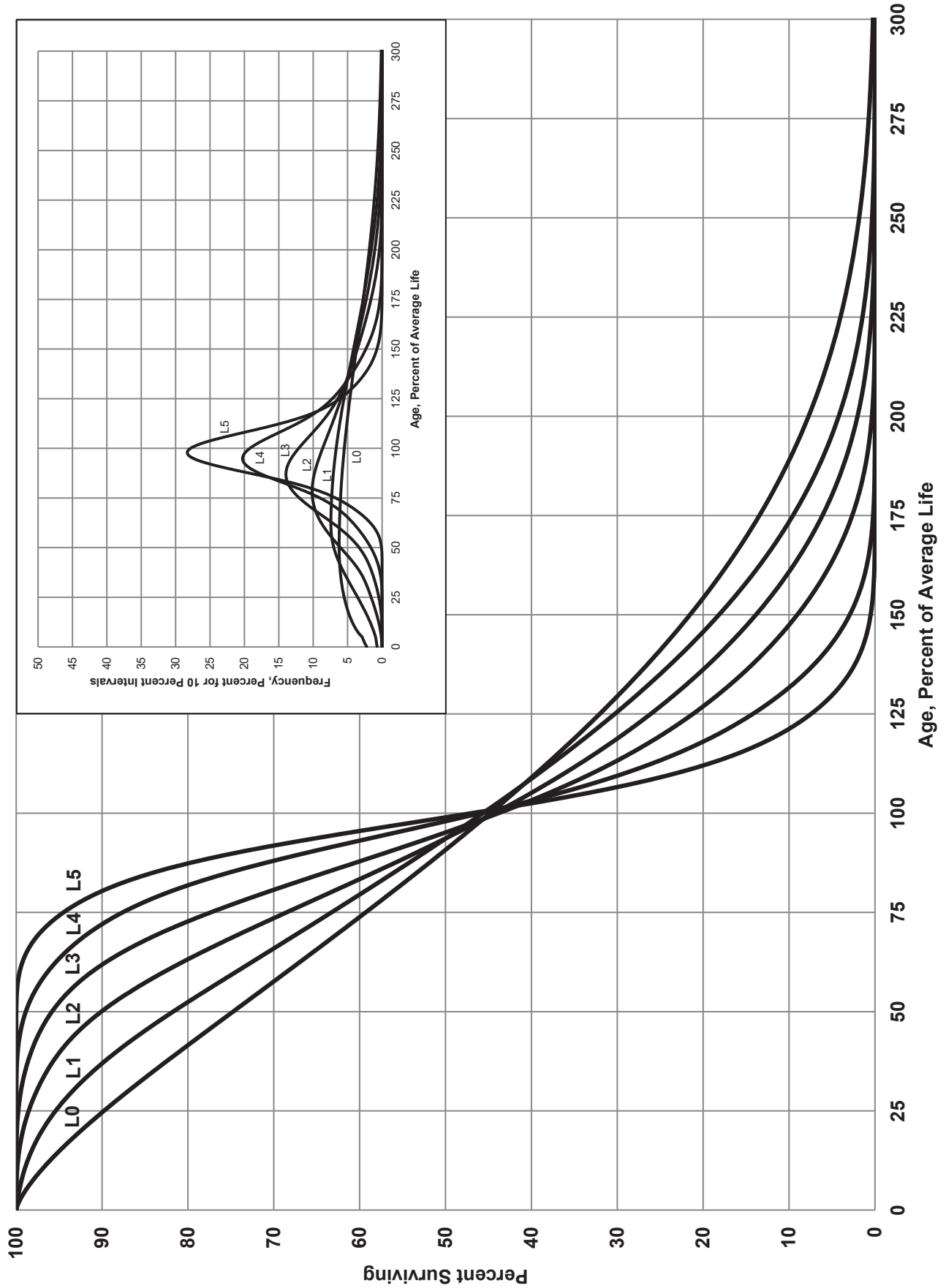


FIGURE 2. LEFT MODAL OR "L" IOWA TYPE SURVIVOR CURVES

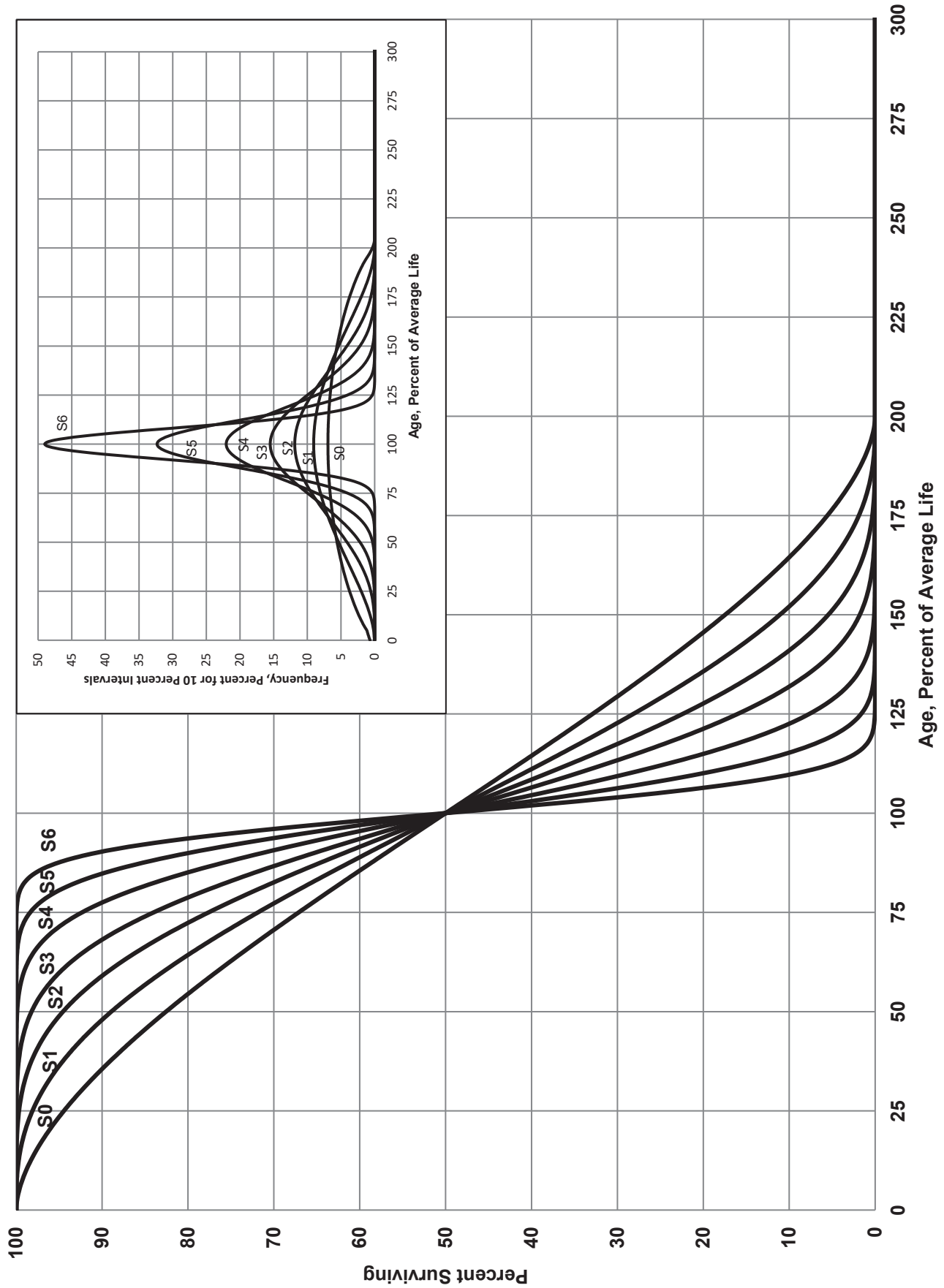


FIGURE 3. SYMMETRICAL OR "S" IOWA TYPE SURVIVOR CURVES

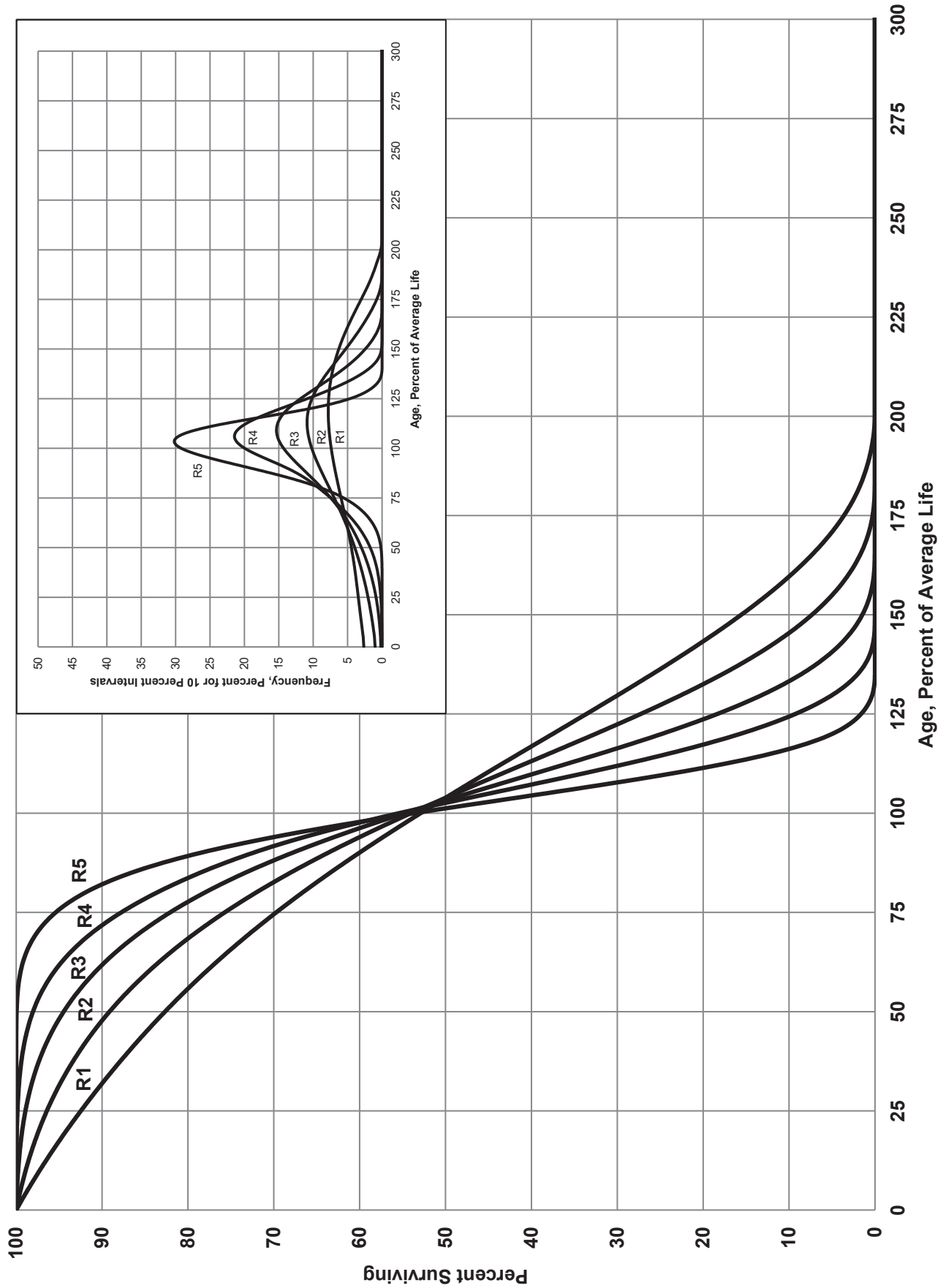


FIGURE 4. RIGHT MODAL OR "R" IOWA TYPE SURVIVOR CURVES

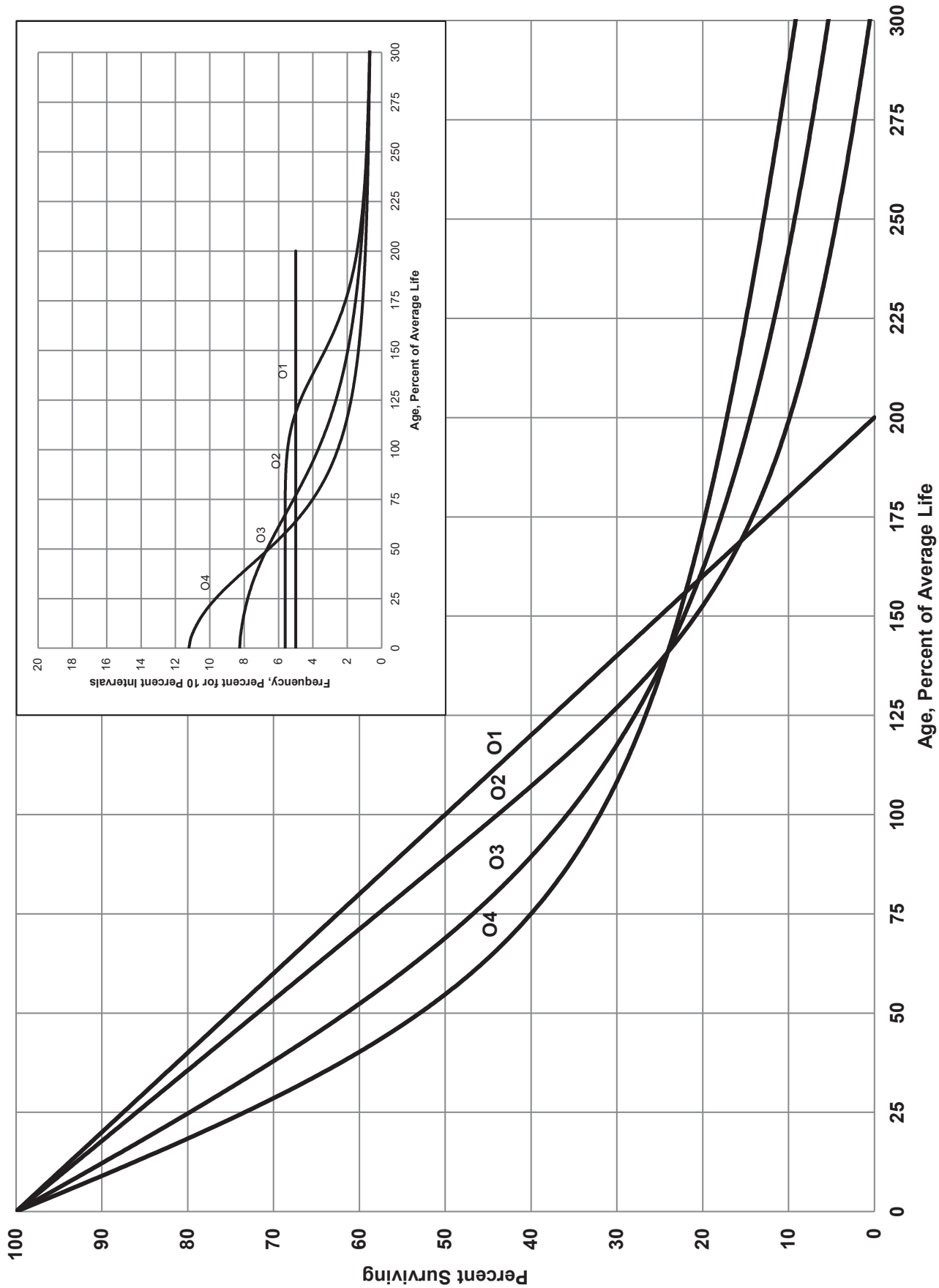


FIGURE 5. ORIGIN MODAL OR "O" IOWA TYPE SURVIVOR CURVES

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

Retirement Rate Method of Analysis

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

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

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

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

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

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

Schedules of Annual Transactions in Plant Records

The property group used to illustrate the retirement rate method is observed for the experience band 2012-2021 for which there were placements during the years 2007-2021. In order to illustrate the summation of the aged data by age interval, the data were compiled in the manner presented in Schedules 1 and 2 on pages II-11 and II-12. In Schedule 1, the year of installation (year placed) and the year of retirement are shown. The age interval during which a retirement occurred is determined from this information. In the example which follows, \$10,000 of the dollars invested in 2007 were retired in 2012. The \$10,000 retirement occurred during the age interval between 4½ and 5½ years on the basis that approximately one-half of the amount of property was installed prior to and subsequent to July 1 of each year. That is, on the average, property installed during a year is placed in service at the midpoint of the year for the purpose of the analysis. All retirements also are stated as occurring at the midpoint of a one-year age interval of time, except the first age interval which encompasses only one-half year.

The total retirements occurring in each age interval in a band are determined by summing the amounts for each transaction year-installation year combination for that age interval. For example, the total of \$143,000 retired for age interval 4½-5½ is the sum of the retirements entered on Schedule 1 immediately above the stair step line drawn on the table beginning with the 2012 retirements of 2007 installations and ending with the 2021 retirements of the 2016 installations. Thus, the total amount of 143 for age interval 4½-5½ equals the sum of:

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

SCHEDULE 1. RETIREMENTS FOR EACH YEAR 2012-2021
SUMMARIZED BY AGE INTERVAL

Experience Band 2012-2021 Placement Band 2007-2021

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

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

Experience Band 2012-2021		Placement Band 2007-2021											
		Acquisitions, Transfers and Sales, Thousands of Dollars											
		During Year											
Year		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total During	Age
Placed	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	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

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

^aAdditions during the year

Experience Band 2012-2021

Placement Band 2007-2021

For the entire experience band 2012-2021, the total exposures at the beginning of an age interval are obtained by summing diagonally in a manner similar to the summing of the retirements during an age interval (Schedule 1). For example, the figure of 3,789, shown as the total exposures at the beginning of age interval 4½-5½, is obtained by summing:

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

Original Life Table

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

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

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

SCHEDULE 4. ORIGINAL LIFE TABLE
CALCULATED BY THE RETIREMENT RATE METHOD

Experience Band 2012-2021

Placement Band 2007-2021

(Exposure and Retirement Amounts are in Thousands of Dollars)

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

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

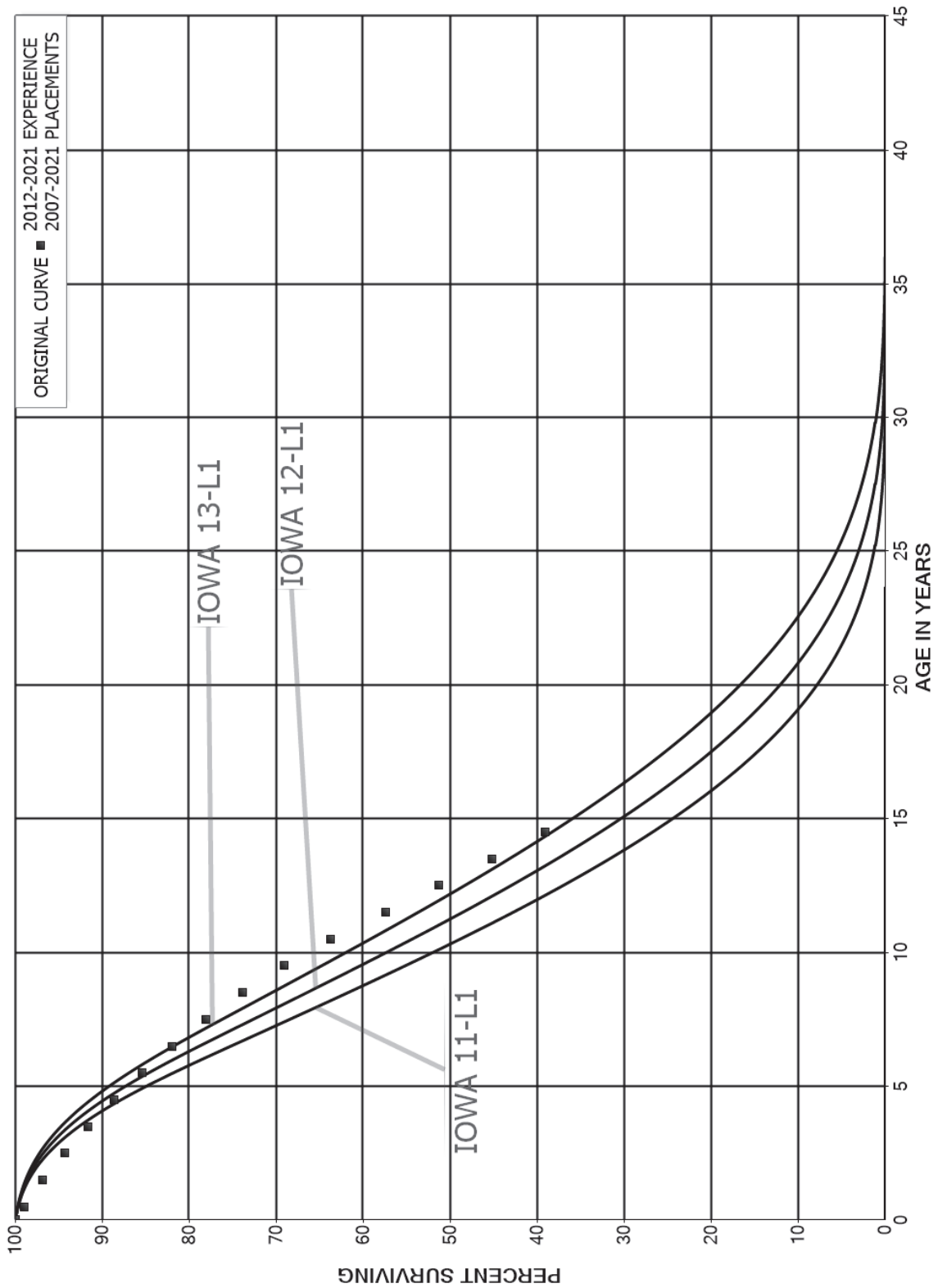


FIGURE 7. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN S0 IOWA TYPE CURVE ORIGINAL AND SMOOTH SURVIVOR CURVES

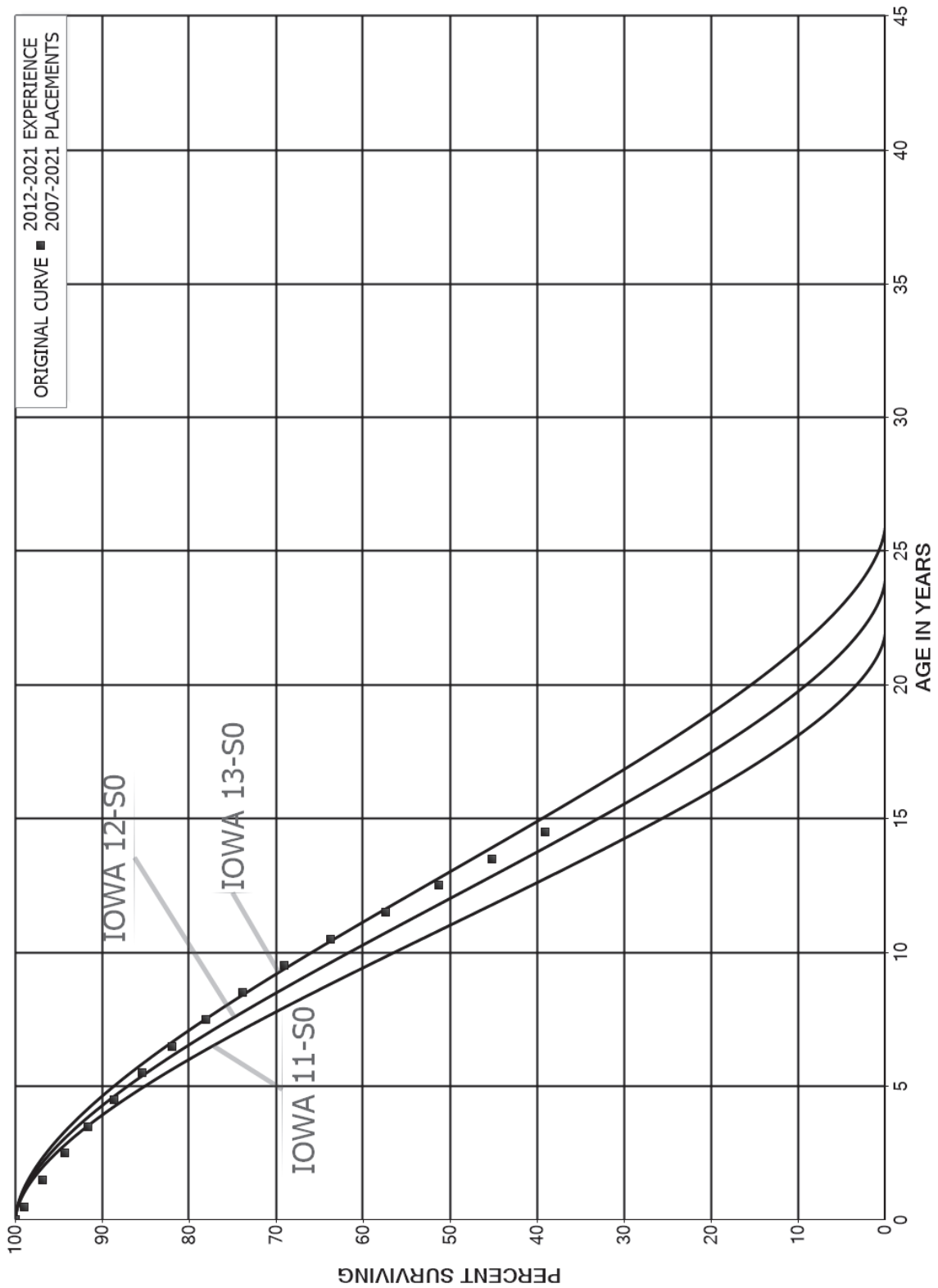


FIGURE 8. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN R1 IOWA TYPE CURVE ORIGINAL AND SMOOTH SURVIVOR CURVES

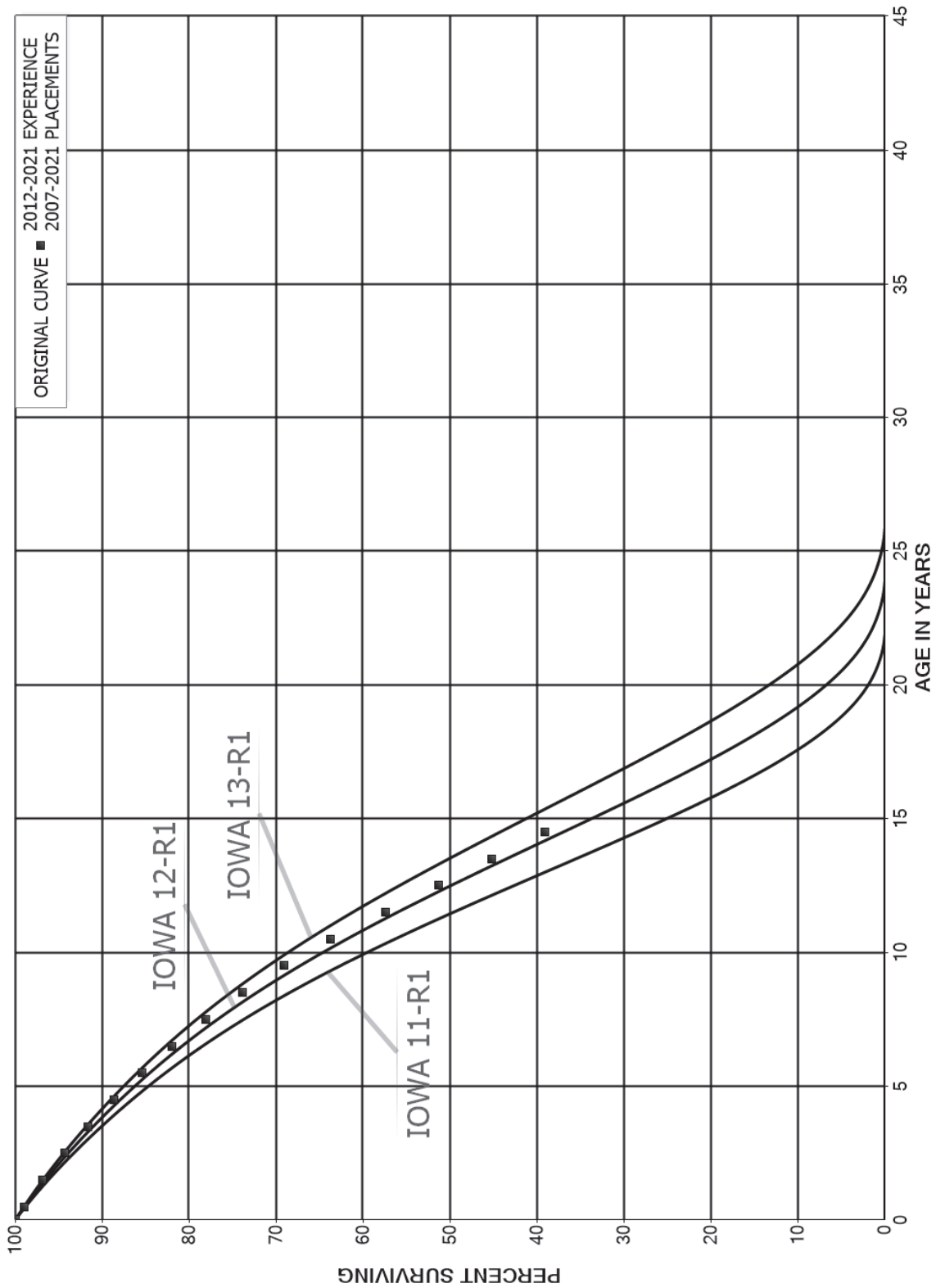
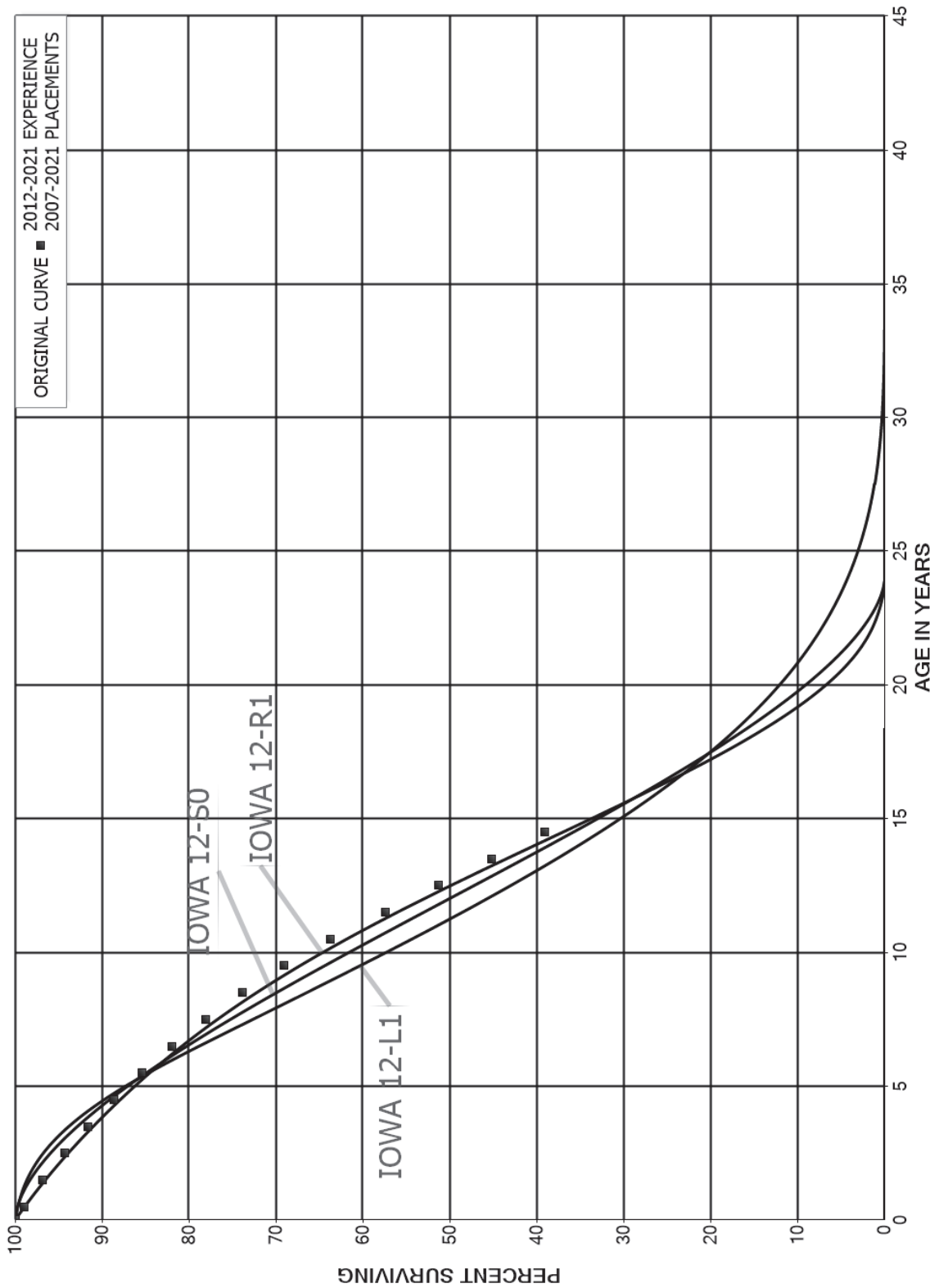


FIGURE 9. ILLUSTRATION OF THE MATCHING OF AN ORIGINAL SURVIVOR CURVE WITH AN L1, S0 AND R1 IOWA TYPE CURVE ORIGINAL AND SMOOTH SURVIVOR CURVES



PART III. SERVICE LIFE CONSIDERATIONS

PART III. SERVICE LIFE CONSIDERATIONS

FIELD TRIPS

In order to be familiar with the operation of the Company and observe representative portions of the plant, a field trip was conducted for the study. A general understanding of the function of the plant and information with respect to the reasons for past retirements and the expected future causes of retirements are obtained during field trips. This knowledge and information were incorporated in the interpretation and extrapolation of the statistical analyses.

The following is a list of the locations visited during the initial field trip.

March 2, 2022

Mill Creek Wastewater Treatment Plant
Majestic Lakes Water and Wastewater Treatment Plant
Lake Virginia Wastewater Treatment Plant
Terre du Lac Water and Wastewater Treatment Plant

Service Life Analysis

The service life estimates were based on judgment which considered a number of factors. The primary factors were the current company policies and outlook as determined during on-site visits and conversations with management; and the survivor curve estimates from previous studies of this company and other water and sewer companies.

Account 343.00, Mains, is used to illustrate the manner in which the study was conducted for each account. Due to the limited available historical data, life analysis based on the retirement rate method did not provide meaningful results. Therefore, the service life estimates were based on other factors, which include information obtained from Company subject-matter experts, the current estimates prescribed for Confluence Rivers and the estimates for similar utilities. The industry range for water mains is

between 60 and 100 years. The currently approved average service life is 50 years. The recommended survivor curve estimate for this account is the 60-R3 and is plotted on page VII-16. This estimate represents an increase in the service life when compared to the current estimate and is within the typical industry range. Given the composition and history of Confluence Rivers' assets, an estimate that is closer to the lower end of the industry range is reasonable for this account.

Amortization accounting is proposed for certain General Plant accounts that represent numerous units of property, but a small portion of the depreciable plant in service. A discussion of the basis for the amortization periods is presented in the section "Calculation of Annual and Accrued Amortization".

Generally, the estimates for the remaining accounts of the total depreciable plant in service were based on judgments which considered the nature of the plant and equipment, the previous estimate for this company and a general knowledge of service lives for similar equipment in other water and sewer companies. The survivor curve estimate for each account is presented in the section beginning on page VI-4.

PART IV. NET SALVAGE CONSIDERATIONS

PART IV. NET SALVAGE CONSIDERATIONS

The estimates of net salvage were based primarily on judgment which considered a number of factors. The primary factors were the knowledge of management's plans and operating policies and net salvage estimates from previous studies of other water and sewer companies. The net salvage estimates are expressed as a percent of the original cost of plant retired. The net salvage estimate for general plant accounts with amortization accounting implemented will be zero percent.

Account 343.00, Mains, is used to illustrate the manner in which the study was conducted for each account. Due to the limited available historical data, the net salvage analysis did not provide meaningful results. The current estimate for this account is 0 percent net salvage. The industry range for water mains is between negative 10 and negative 50 percent. Cost of removal is typically incurred when mains are retired or replaced and a negative net salvage estimate is reasonable and common for this account. The proposed estimate of negative 10 percent is at the lower end of the typical industry range.

**PART V. CALCULATION OF ANNUAL AND
ACCRUED DEPRECIATION**

PART V. CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

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:

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

Group Depreciation Procedures

When more than a single item of property is under consideration, a group procedure for depreciation is appropriate because normally all of 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.

Remaining Life Annual Accruals

For the purpose of calculating remaining life accruals as of December 31, 2021, 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, 2021, are set forth in the Results of Study section of the report.

Average Service Life Procedure

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

The calculated accrued depreciation for each depreciable property group represents that portion of the depreciable cost of the group which would not be allocated to expense through future depreciation accruals, if current forecasts of life characteristics are used as the basis for such accruals. The accrued depreciation calculation consists of applying an appropriate ratio to the surviving original cost of each vintage of each

account, based upon the attained age and service life. The straight line accrued depreciation ratios are calculated as follows for the average service life procedure:

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

CALCULATION OF ANNUAL AND ACCRUED AMORTIZATION

Amortization 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. Normally, the distribution of the amount is in equal amounts to each year of the amortization period.

The calculation of annual and accrued amortization requires the selection of an amortization period. The amortization periods used in this report were based on judgment which incorporated a consideration of the period during which the assets will render most of their service, the amortization period and service lives used by other utilities, and the service life estimates previously used for the asset under depreciation accounting.

Amortization accounting is proposed for certain General Plant accounts that represent numerous units of property, but a very small portion of depreciable utility plant in service. The accounts and their amortization periods are as follows:

<u>Account</u>	<u>Amortization Period, Years</u>
391.00 Office Furniture and Equipment	20
391.10 Office Computer and Software	7
393.00 Stores Equipment	25
394.00 Tools, Shop and Garage Equipment	20
395.00 Laboratory Equipment	20
397.00 Communication Equipment	15
398.00 Miscellaneous Equipment	20

The calculated accrued amortization is equal to the original cost multiplied by the ratio of the vintage's age to its amortization period. The annual amortization amount is determined by dividing the original cost by the period of amortization for the account.

PART VI. RESULTS OF STUDY

PART VI. RESULTS OF STUDY

QUALIFICATION OF RESULTS

The calculated annual and accrued depreciation are the principal results of the study. Continued surveillance and periodic revisions are normally required to maintain continued use of appropriate annual depreciation accrual rates. An assumption that accrual rates can remain unchanged over a long period of time implies a disregard for the inherent variability in service lives and net salvage and for the change of the composition of property in service. The annual accrual rates were calculated in accordance with the straight line remaining life method of depreciation, using the average service life procedure based on estimates which reflect considerations of current historical evidence and expected future conditions.

The annual depreciation accrual rates are applicable specifically to the water and sewer plant in service as of December 31, 2021. For most plant accounts, the application of such rates to future balances that reflect additions subsequent to December 31, 2021, is reasonable for a period of three to five years.

DESCRIPTION OF DETAILED TABULATIONS

A summary of the results of the study, as applied to the original cost of water and sewer plant in service as of December 31, 2021, is presented on pages VI-4 and VI-5 of this report. The table sets forth the original cost, the book depreciation reserve, future accruals, the calculated annual depreciation rate and amount, and the composite remaining life related to water and sewer plant.

The service life estimates were based on judgment that incorporated statistical analysis of available retirement data, discussions with management and consideration of

estimates made for other water and sewer utilities. The results of the statistical analysis of service life are presented in the section beginning on page VII-2, within the supporting documents of this report.

For each depreciable group, a chart depicting the estimated survivor curve is provided. 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 curve type designation. The numeral used is the average life derived from the entire curve from 100 percent to zero percent surviving.

The tables of the calculated annual depreciation applicable to depreciable assets as of December 31, 2021 are presented in account sequence starting on page VIII-2 of the supporting documents. The tables indicate the estimated survivor curve and net salvage percent for the account and set forth, for each installation year, the original cost, the calculated accrued depreciation, the allocated book reserve, future accruals, the remaining life, and the calculated annual accrual amount.

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

TABLE 1. SUMMARY OF PROBABLE RETIREMENT DATE, ESTIMATED SURVIVOR CURVE, NET SALVAGE PERCENT, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUAL RATES RELATED TO WATER AND SEWER PLANT AS OF DECEMBER 31, 2021

DEPRECIABLE GROUP (1)	SURVIVOR CURVE (3)	NET SALVAGE PERCENT (4)	ORIGINAL COST AS OF DECEMBER 31, 2021 (5)	BOOK DEPRECIATION RESERVE (6)	FUTURE ACCRUALS (7)	CALCULATED ANNUAL ACCRUAL AMOUNT (8)=(7)/(10)	RATE (9)=(8)/(5)	COMPOSITE REMAINING LIFE (10)
WATER PLANT								
INTANGIBLE PLANT								
303.00 MISCELLANEOUS INTANGIBLE PLANT	20-SQ	0	90,067.63	23,640	66,428	4,581	5.09	14.5
TOTAL INTANGIBLE PLANT			90,067.63	23,640	66,428	4,581	5.09	
SOURCE OF SUPPLY PLANT								
311.00 STRUCTURES AND IMPROVEMENTS	50-R2.5	(10)	889,053.38	252,704	725,255	22,047	2.48	32.9
312.00 COLLECTION RESERVOIRS	50-R2.5	0	23,482.79	14,282	9,201	543	2.31	16.9
314.00 WELLS AND SPRINGS	50-R2	(6)	1,200,546.30	261,099	999,474	30,353	2.53	32.9
316.00 SUPPLY MAINS	60-R3	(10)	6,760.00	1,716	5,720	227	3.36	25.2
317.00 OTHER WATER SOURCE PLANT	50-S1.5	0	238,950.00	90,073	148,877	4,066	1.70	36.6
TOTAL SOURCE OF SUPPLY PLANT			2,358,792.47	619,875	1,888,527	57,236	2.43	
PUMPING PLANT								
321.00 STRUCTURES AND IMPROVEMENTS	50-R2.5	(10)	3,850.00	2,890	1,345	122	3.17	11.0
323.00 OTHER POWER EQUIPMENT	20-S0.5	(20)	215,948.00	91,975	167,163	9,071	4.20	18.4
325.00 ELECTRIC PUMPING EQUIPMENT	20-S0.5	(20)	791,865.82	388,147	562,092	50,677	6.40	11.1
325.10 ELECTRIC PUMPING SUBMERSIBLE	20-S0.5	(20)	83,941.00	70,858	29,871	6,689	7.97	4.5
328.00 OTHER PUMPING EQUIPMENT	25-S0	(20)	11,665.00	3,196	10,802	1,108	9.50	9.7
TOTAL PUMPING PLANT			1,107,269.82	557,066	771,273	67,667	6.11	
TREATMENT PLANT								
331.00 STRUCTURES AND IMPROVEMENTS	50-R2.5	(10)	18,203.72	867	19,158	1,267	6.96	15.1
332.00 WATER TREATMENT EQUIPMENT	35-R1.5	(5)	715,140.15	38,532	712,365	27,727	3.88	25.7
TOTAL TREATMENT PLANT			733,343.87	39,399	731,523	28,994	3.95	
TRANSMISSION AND DISTRIBUTION PLANT								
341.00 STRUCTURES AND IMPROVEMENTS	50-R2.5	(10)	47,928.16	1,258	51,463	1,914	3.99	26.9
342.00 DISTRIBUTION RESERVOIRS AND STANDPIPES	50-R2.5	(6)	862,280.37	222,075	809,319	23,168	2.36	34.9
343.00 MAINS	60-R3	(10)	2,252,444.40	534,164	1,943,525	46,944	2.08	41.4
344.00 FIRE MAINS	60-R3	(10)	898.00	898	90	5	0.56	18.0
345.00 SERVICES	50-R3	(10)	559,158.47	52,484	562,591	14,144	2.53	39.8
346.00 METERS	20-L3	0	444,443.22	231,510	212,934	20,608	4.64	10.3
347.00 METER INSTALLATIONS	40-R3	0	270,596.44	33,889	236,707	7,359	2.72	32.2
348.00 HYDRANTS	50-R2.5	(6)	21,349.00	12,896	9,521	495	2.32	19.2
TOTAL TRANSMISSION AND DISTRIBUTION PLANT			4,579,095.06	1,089,173	3,826,150	114,637	2.50	
TOTAL DEPRECIABLE WATER PLANT			8,868,571.85	2,329,152	7,283,901	273,115	3.08	
SEWER PLANT								
COLLECTION PLANT								
351.00 STRUCTURES AND IMPROVEMENTS	45-R3	(10)	151,168.00	114,101	52,184	1,918	1.27	27.2
352.10 COLLECTION SEWERS - FORCE	55-R2.5	(6)	2,725,611.46	1,028,136	1,833,756	48,426	1.78	37.9
352.20 COLLECTION SEWERS - GRAVITY	50-R2.5	(5)	1,092,893.10	351,588	795,950	21,534	1.97	37.0
353.00 SERVICES	50-R2.5	(5)	5,339.04	180	5,426	184	3.45	29.5
354.00 FLOW MEASURING DEVICES	30-S1.5	0	169,157.85	25,377	143,780	21,669	12.81	6.6
TOTAL COLLECTION PLANT			4,144,169.45	1,519,383	2,831,096	93,731	2.26	

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

TABLE 1. SUMMARY OF PROBABLE RETIREMENT DATE, ESTIMATED SURVIVOR CURVE, NET SALVAGE PERCENT, ORIGINAL COST, BOOK DEPRECIATION RESERVE AND CALCULATED ANNUAL DEPRECIATION ACCRUAL RATES RELATED TO WATER AND SEWER PLANT AS OF DECEMBER 31, 2021

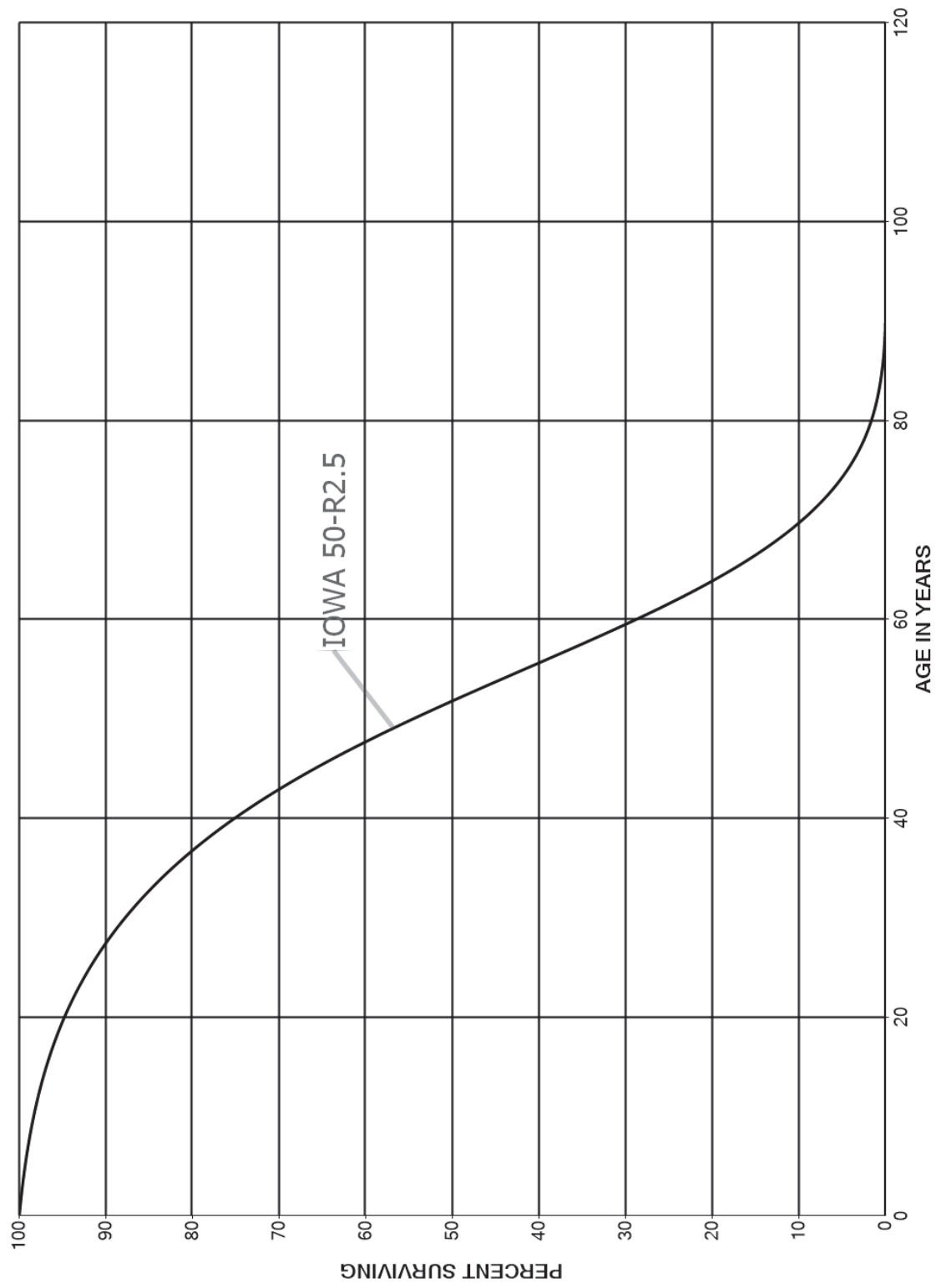
DEPRECIABLE GROUP (1)	SURVIVOR CURVE (3)	NET SALVAGE PERCENT (4)	ORIGINAL COST AS OF DECEMBER 31, 2021 (5)	BOOK DEPRECIATION RESERVE (6)	FUTURE ACCRUALS (7)	CALCULATED ANNUAL ACCRUAL AMOUNT (8)=(7)/(10)	RATE (9)=(8)/(5)	COMPOSITE REMAINING LIFE (10)
PUMPING PLANT								
362.00 RECEIVING WELLS	30-S2.5	(5)	14,928.79	3,919	11,756	1,015	6.80	11.6
363.00 ELECTRIC PUMPING EQUIPMENT	20-S0.5	(5)	455,960.15	196,022	282,736	22,919	5.03	12.3
365.00 OTHER PUMPING EQUIPMENT	20-S0.5	(5)	976.00	78	947	83	8.50	11.4
TOTAL PUMPING PLANT			471,864.94	200,019	295,439	24,017	5.09	
TREATMENT AND DISPOSAL PLANT								
370.10 OXIDATION LAGOONS	40-R3	(60)	212,964.00	174,205	166,538	5,485	2.58	30.4
371.00 STRUCTURES AND IMPROVEMENTS	45-R3	(10)	1,496,197.95	126,284	1,519,534	60,750	4.06	25.0
372.00 TREATMENT AND DISPOSAL PLANT	25-L2.5	(10)	6,266,161.22	1,943,564	4,949,213	296,327	4.73	16.7
372.10 SEWER COLLECTION TANKS	25-L2.5	(10)	3,250.00	2,175	1,400	536	16.49	2.6
373.00 PLANT SEWERS	40-R2.5	0	237,287.00	184,195	53,092	11,333	4.78	4.7
374.00 OUTFALL SEWER LINES	50-R3	0	41,437.00	5,060	36,377	3,370	8.13	10.8
375.00 OTHER TREATMENT AND DISPOSAL	25-L3	(10)	4,466.00	4,160	752	621	13.91	1.2
TOTAL TREATMENT AND DISPOSAL PLANT			8,261,763.17	2,439,643	6,726,906	378,422	4.58	
TOTAL DEPRECIABLE SEWER PLANT			12,877,797.56	4,159,045	9,853,441	496,170	3.85	
GENERAL PLANT								
390.00 STRUCTURES AND IMPROVEMENTS	45-R3	(10)	7,115.00	3,582	4,245	113	1.59	37.6
391.00 OFFICE FURNITURE AND EQUIPMENT	20-SQ	0	1,460.00	470	990	68	4.66	14.6
391.10 OFFICE COMPUTER AND SOFTWARE	7-SQ	0	1,062.00	923	139	139	13.09	1.0
393.00 STORES EQUIPMENT	25-SQ	0	89,032.00	79,280	9,752	2,167	2.43	4.5
394.00 TOOLS, SHOP AND GARAGE EQUIPMENT	20-SQ	0	904.25	398	506	145	16.04	3.5
395.00 LABORATORY EQUIPMENT	20-SQ	0	200.00	150	50	9	4.50	5.6
396.00 POWER OPERATED EQUIPMENT	15-L2.5	10	24,024.00	23,928	(2,307)	0	-	-
397.00 COMMUNICATION EQUIPMENT	15-SQ	0	409,820.12	71,853	337,967	123,636	30.17	2.7
398.00 MISCELLANEOUS EQUIPMENT	20-SQ	0	349.00	0	349	18	5.16	19.4
TOTAL GENERAL PLANT			533,966.37	180,583	351,691	126,295	23.65	
TOTAL DEPRECIABLE WATER AND SEWER PLANT			22,280,335.78	6,668,781	17,489,033	895,580	4.02	
NONDEPRECIABLE PLANT AND ACCOUNTS NOT STUDIED								
114.00 UTILITY ACQUISITION ADJUSTMENT			34,260.00	7,042				
186.00 REGULATORY ASSET			50,000.00	41,667				
301.00 ORGANIZATION			220,721.96	58,855				
310.00 LAND AND LAND RIGHTS			718,736.29	5,000				
370.00 LAND AND LAND RIGHTS			934,405.24					
392.00 TRANSPORTATION EQUIPMENT			51.00	38				
TOTAL NONDEPRECIABLE PLANT AND ACCOUNTS NOT STUDIED			1,958,174.49	112,602				
TOTAL WATER AND SEWER PLANT			24,238,510.27	6,781,382				

* NEW ADDITIONS RECORDED AS OF JANUARY 1, 2022 SHOULD USE THE ANNUAL ACCRUAL RATES SET FORTH BELOW.

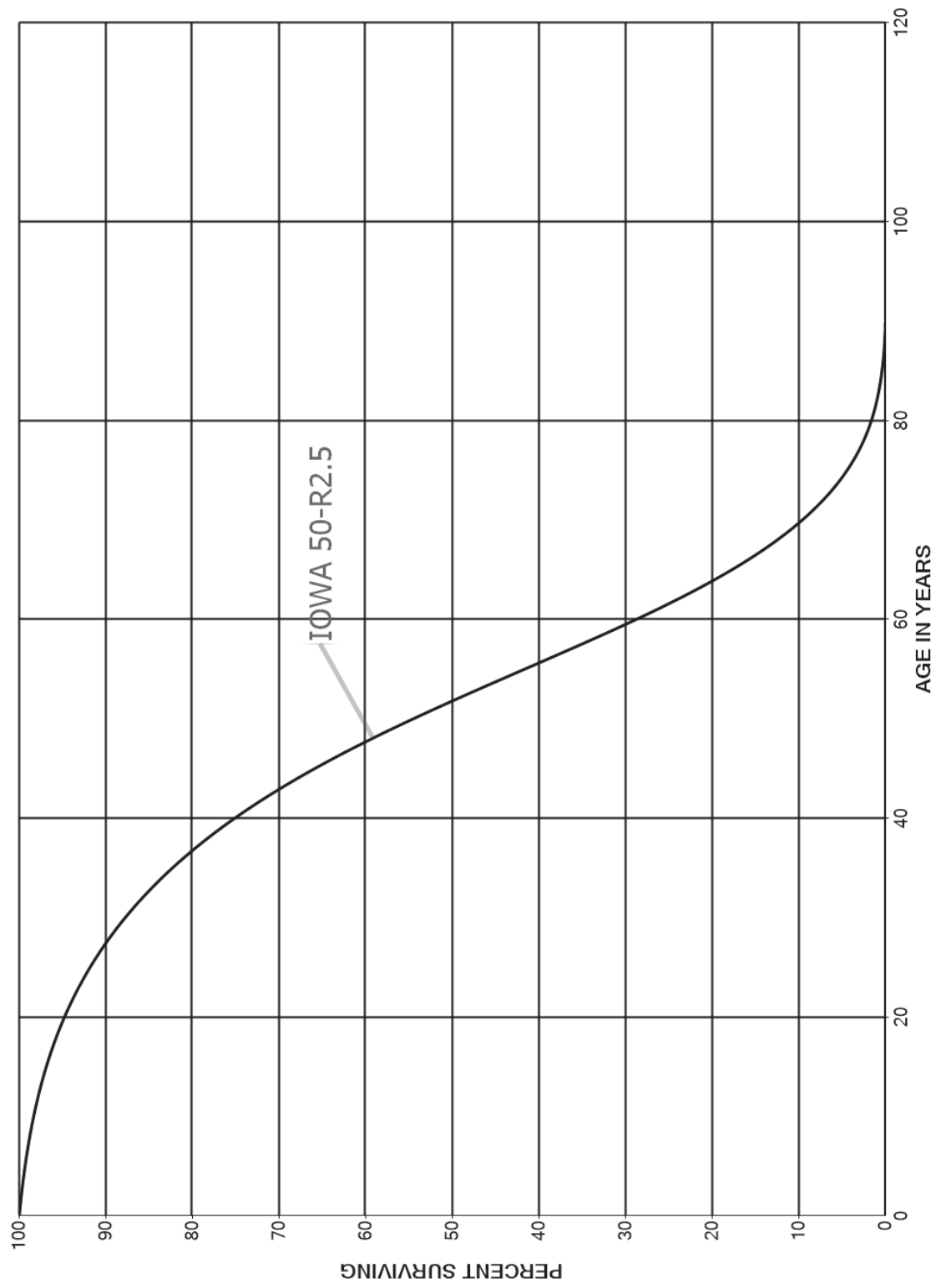
ACCOUNT	RATE
396.00 POWER OPERATED EQUIPMENT	6.00
397.00 COMMUNICATION EQUIPMENT	6.67

PART VII. SERVICE LIFE STATISTICS

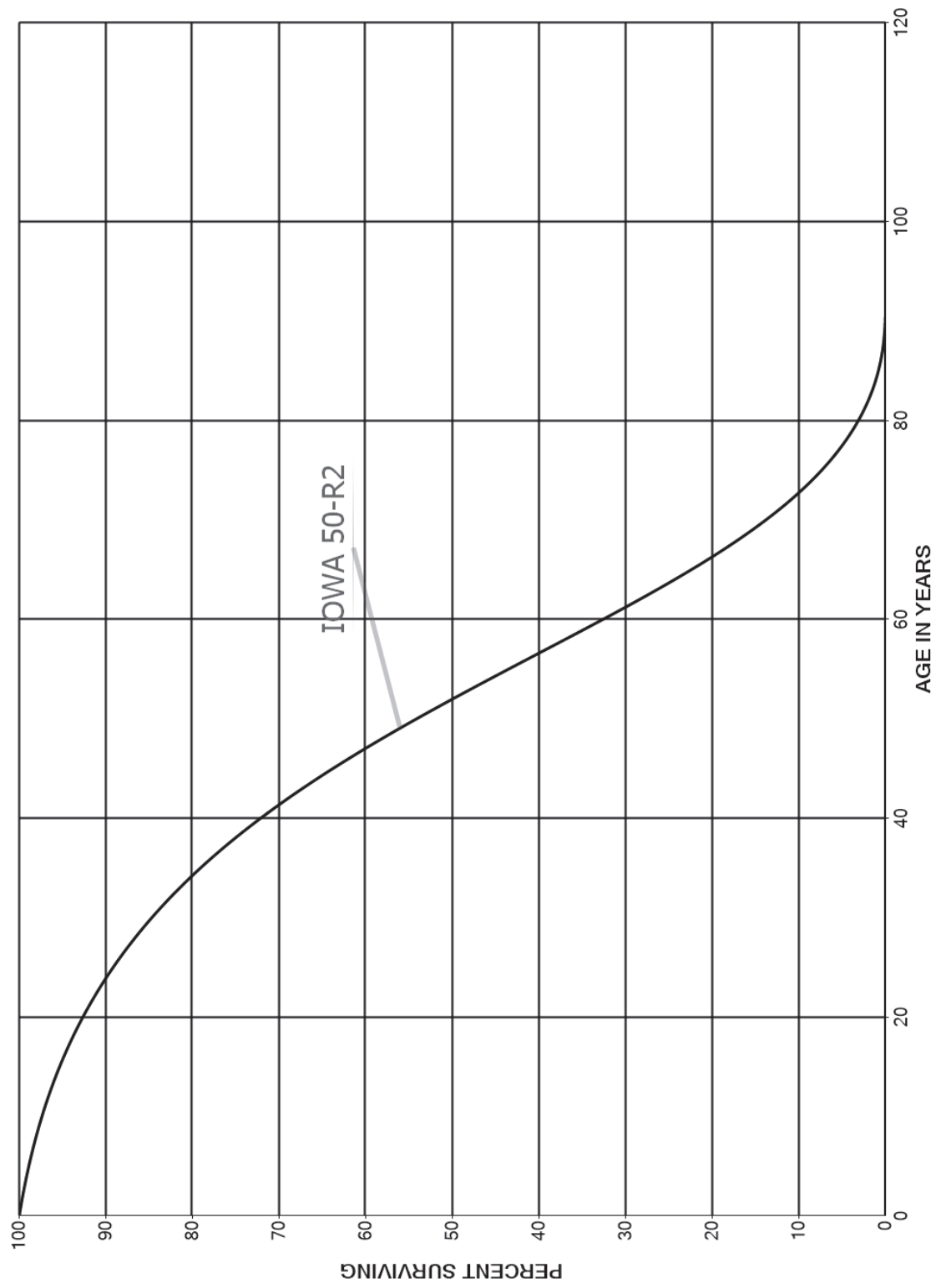
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 MISSOURI
 ACCOUNT 311.00 STRUCTURES AND IMPROVEMENTS
 SMOOTH SURVIVOR CURVE



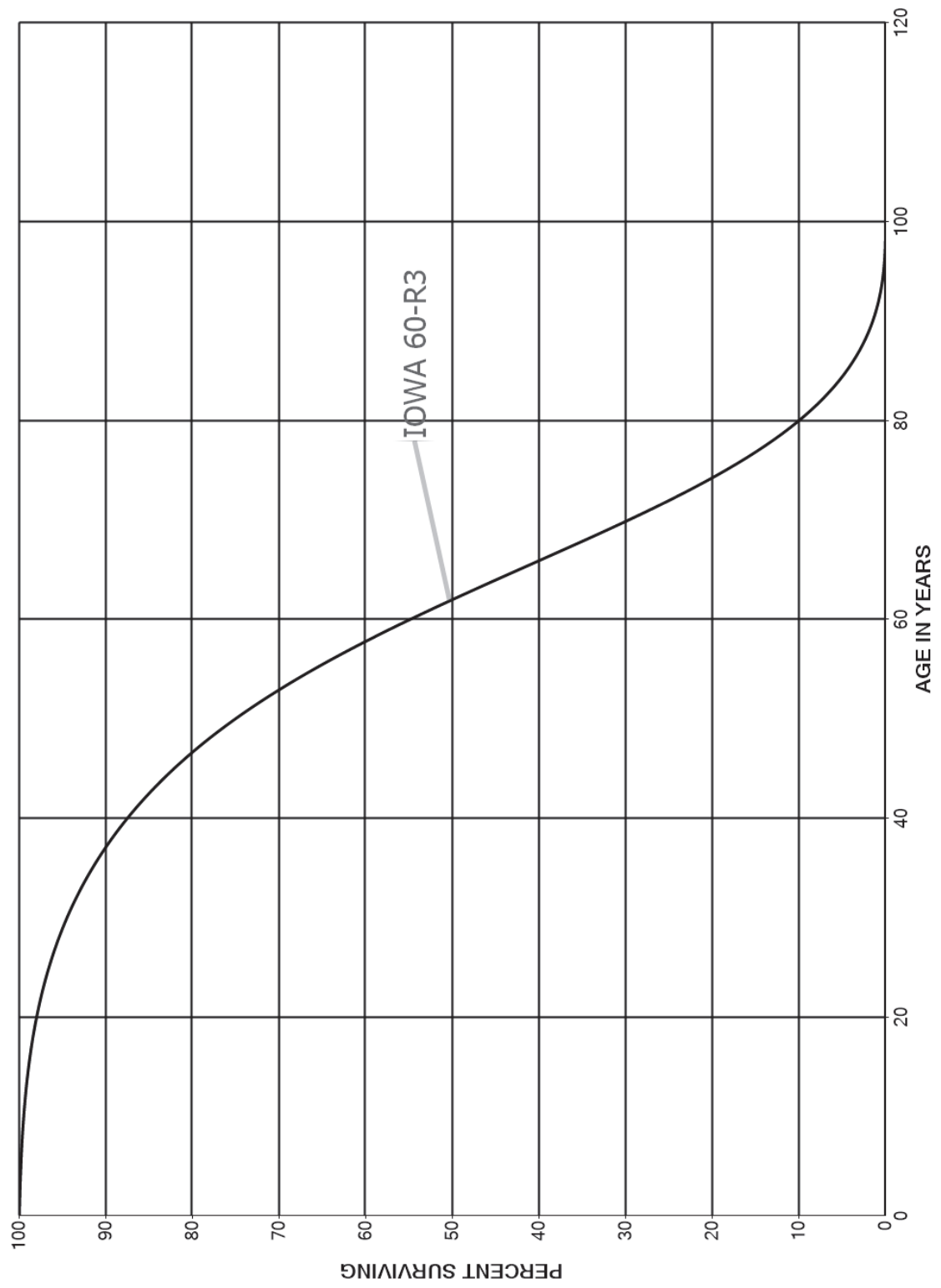
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 MISSOURI
 ACCOUNT 312.00 COLLECTION RESERVOIRS
 SMOOTH SURVIVOR CURVE



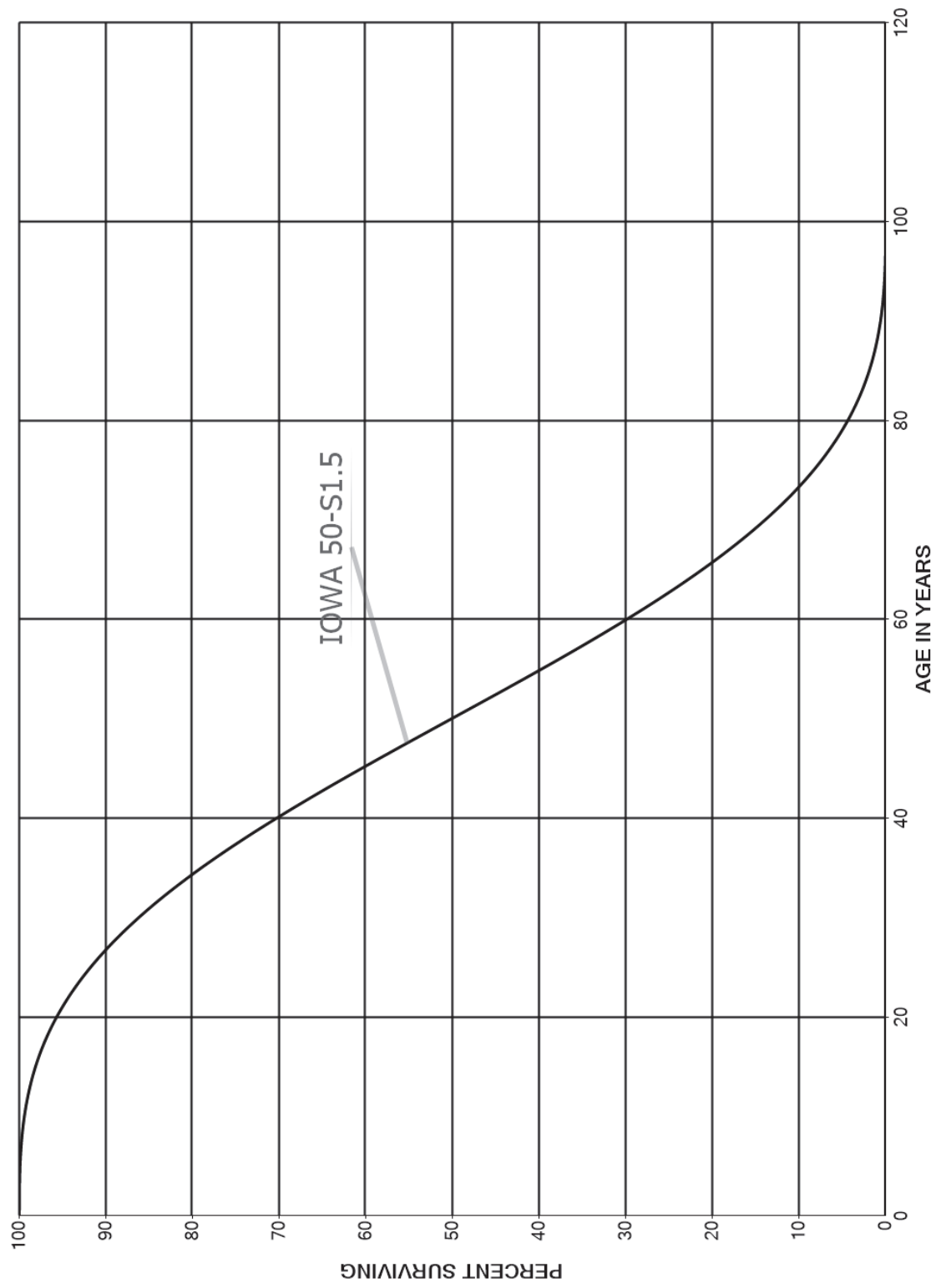
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 314.00 WELLS AND SPRINGS
 SMOOTH SURVIVOR CURVE



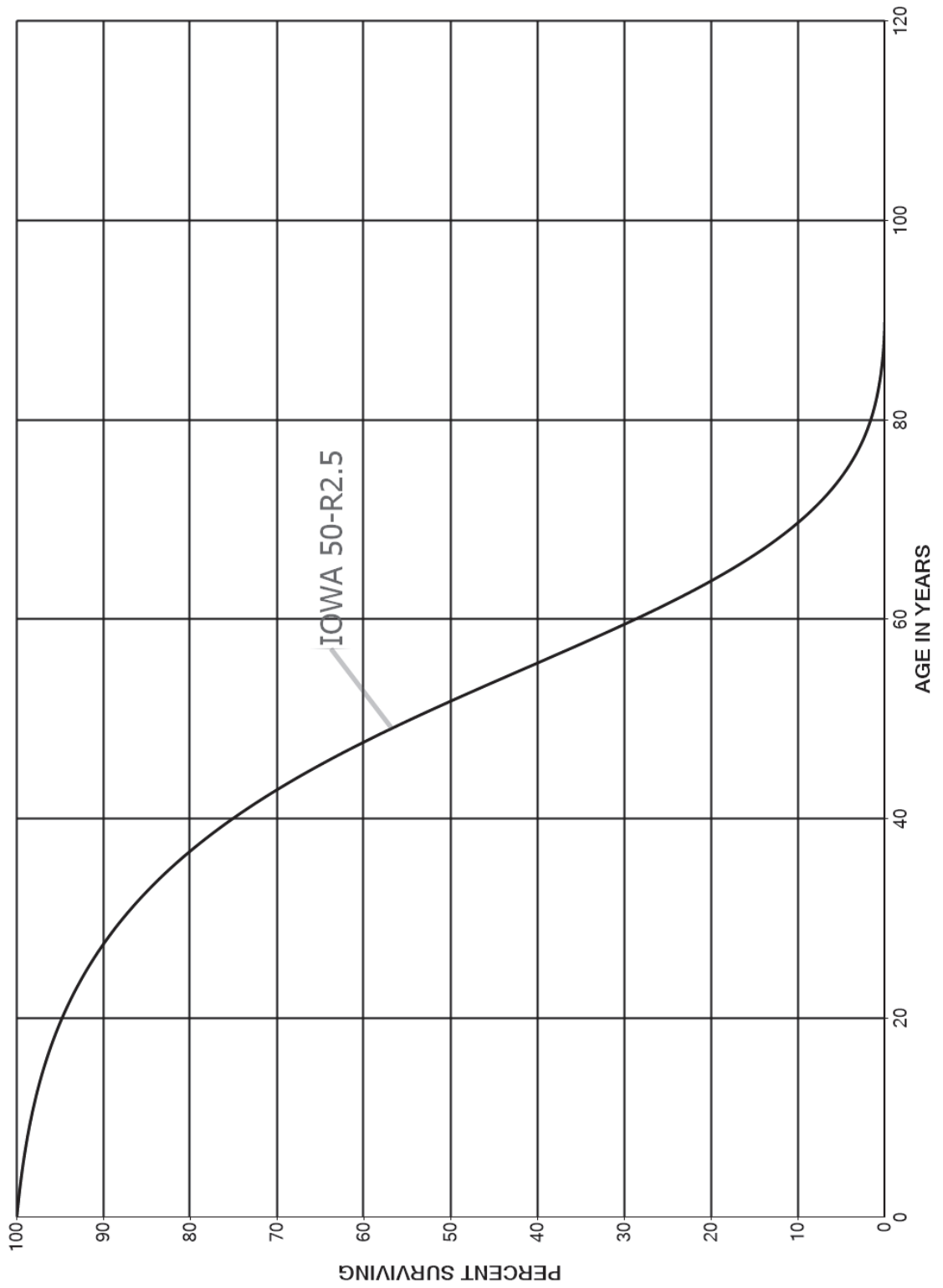
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 316.00 SUPPLY MAINS
 SMOOTH SURVIVOR CURVE



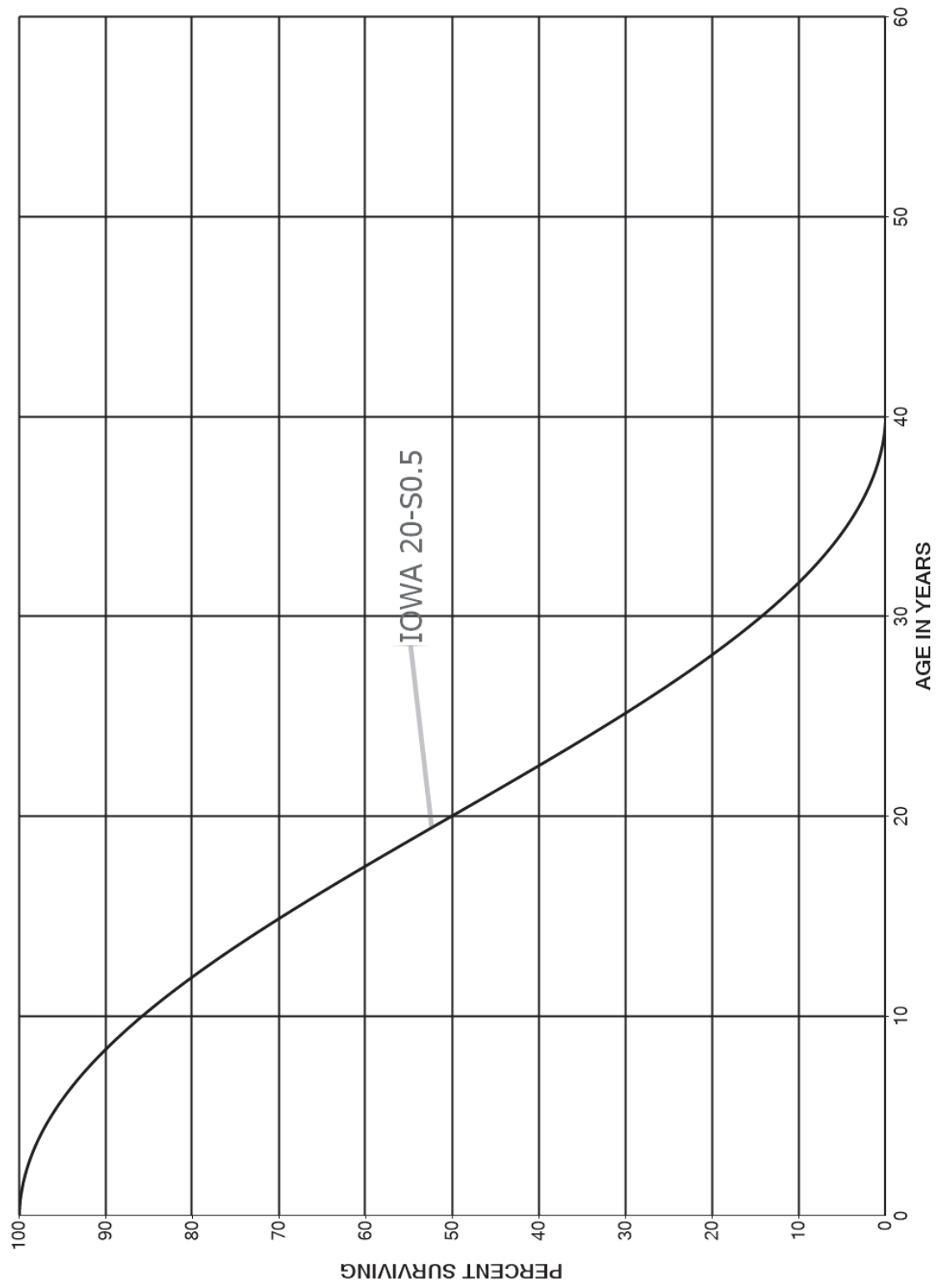
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 317.00 OTHER WATER SOURCE PLANT
 SMOOTH SURVIVOR CURVE



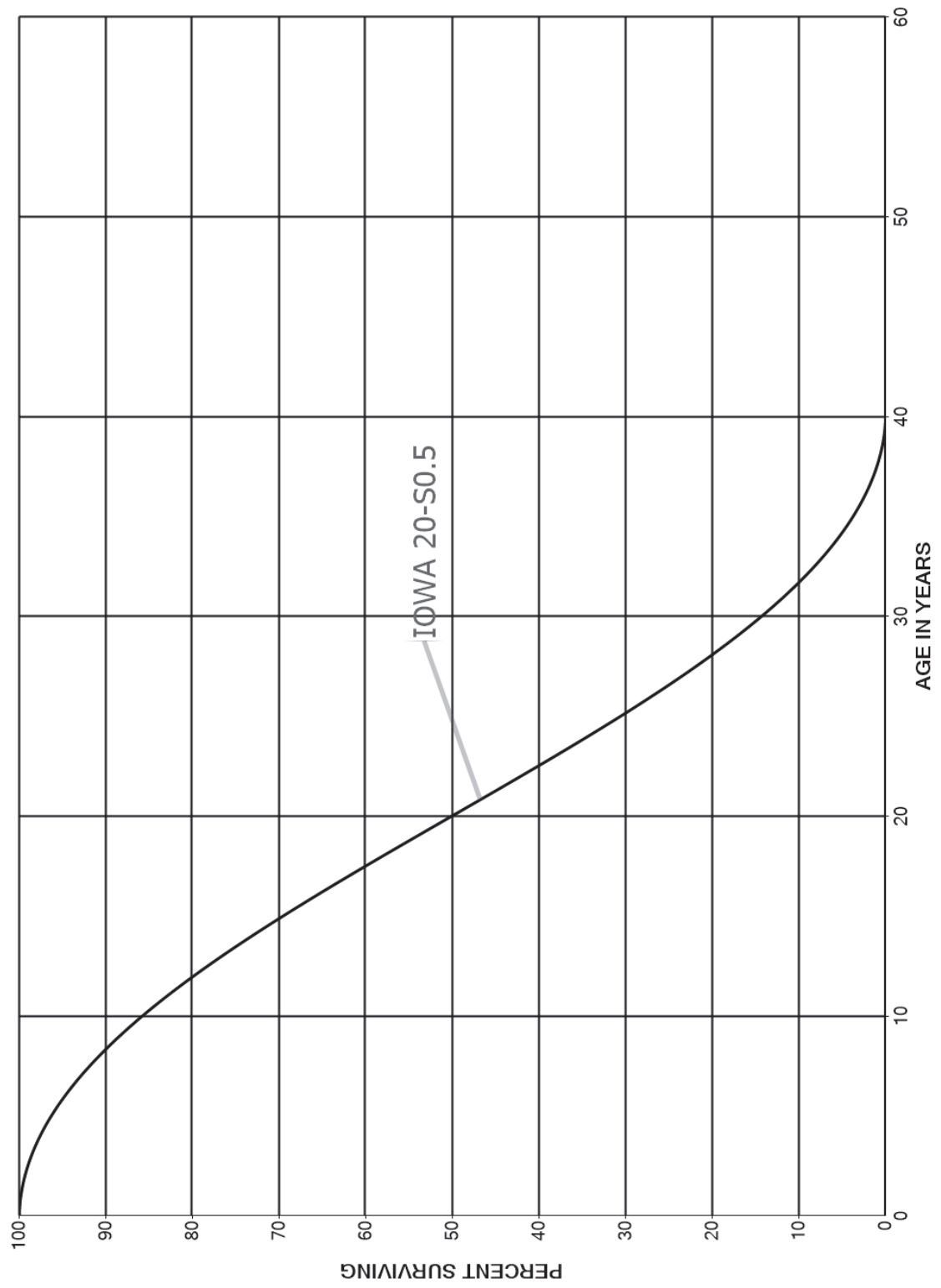
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 MISSOURI
 ACCOUNT 321.00 STRUCTURES AND IMPROVEMENTS
 SMOOTH SURVIVOR CURVE



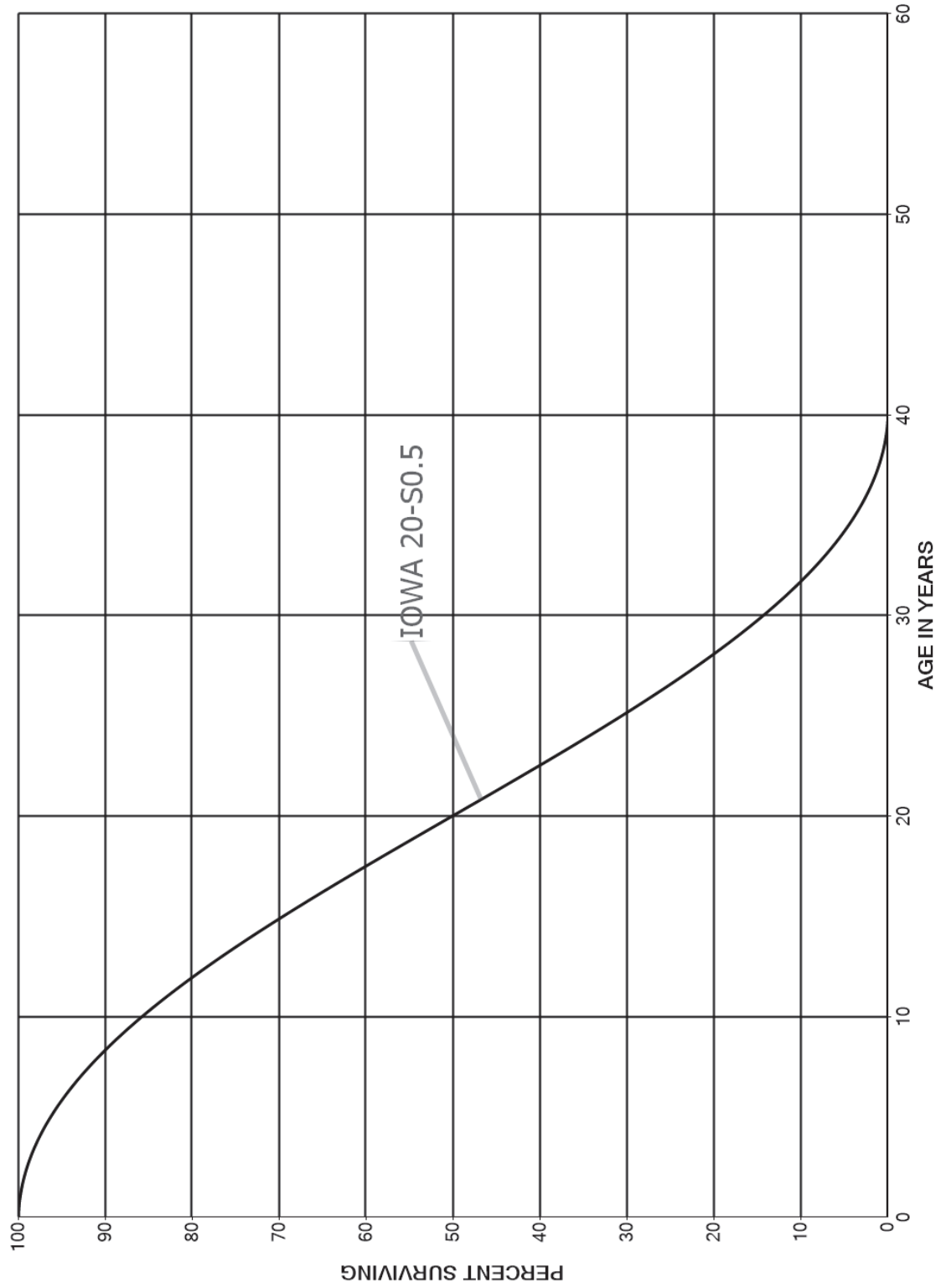
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 323.00 OTHER POWER EQUIPMENT
 SMOOTH SURVIVOR CURVE



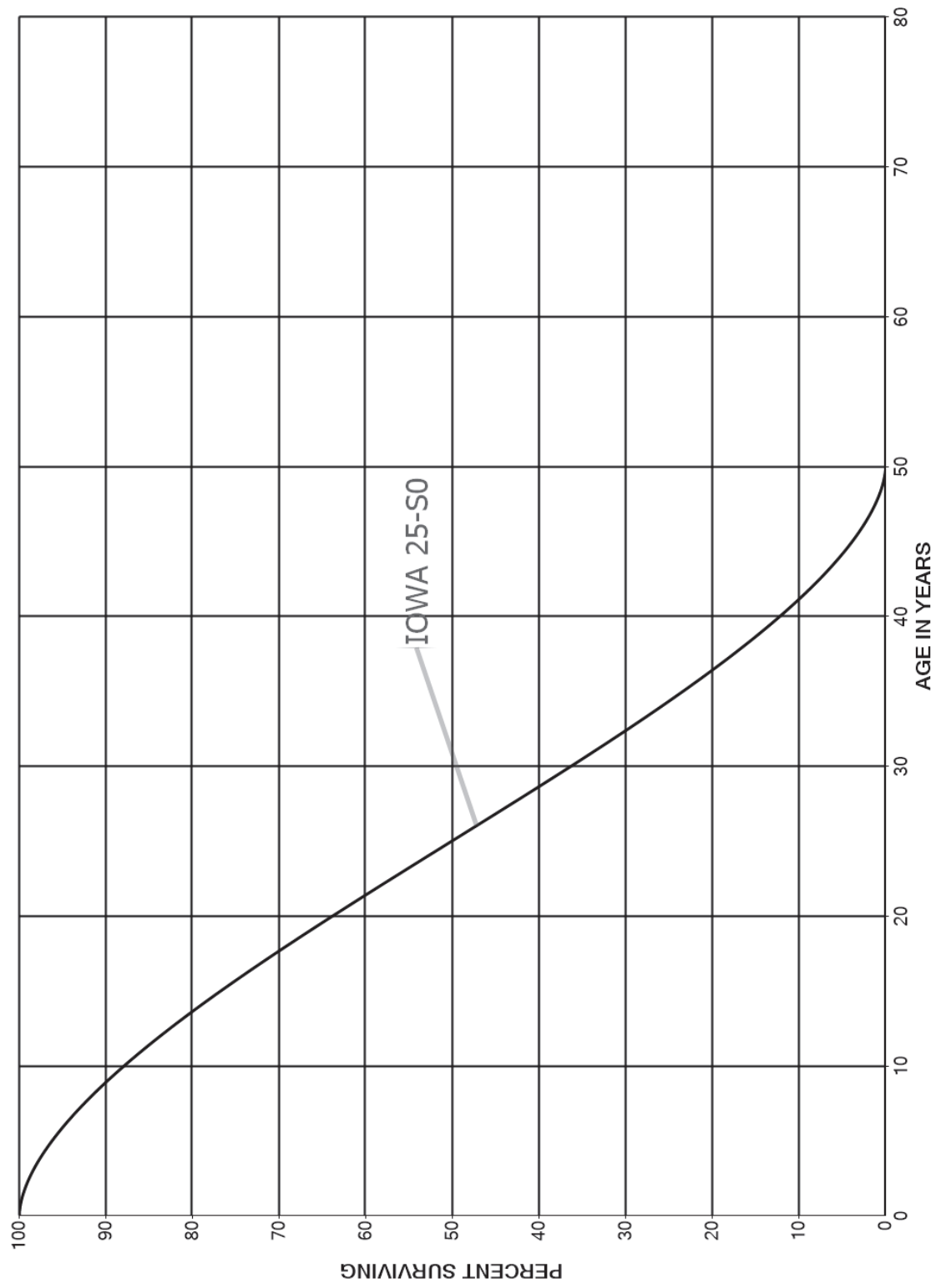
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 325.00 ELECTRIC PUMPING EQUIPMENT
 SMOOTH SURVIVOR CURVE



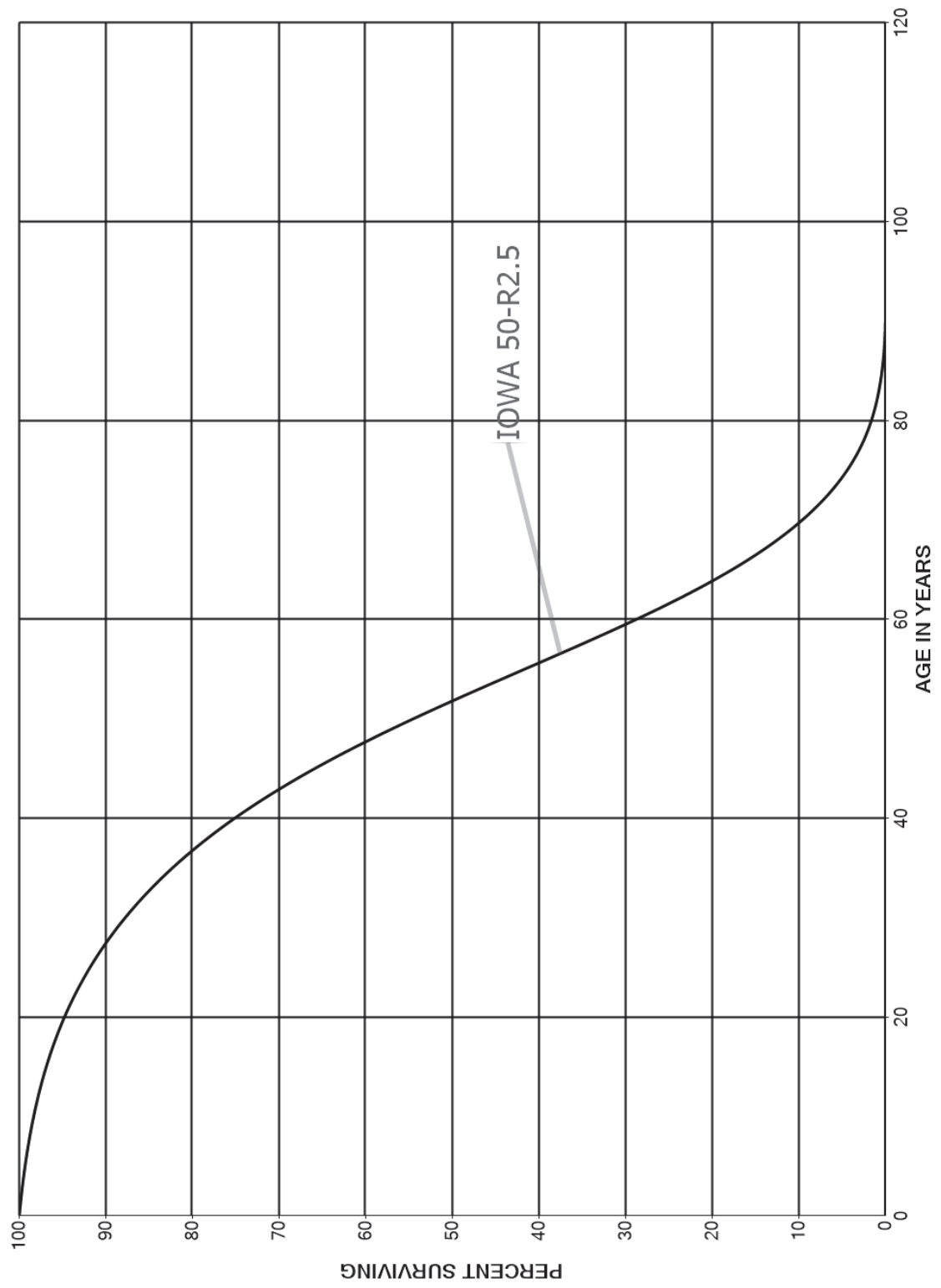
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
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 SMOOTH SURVIVOR CURVE



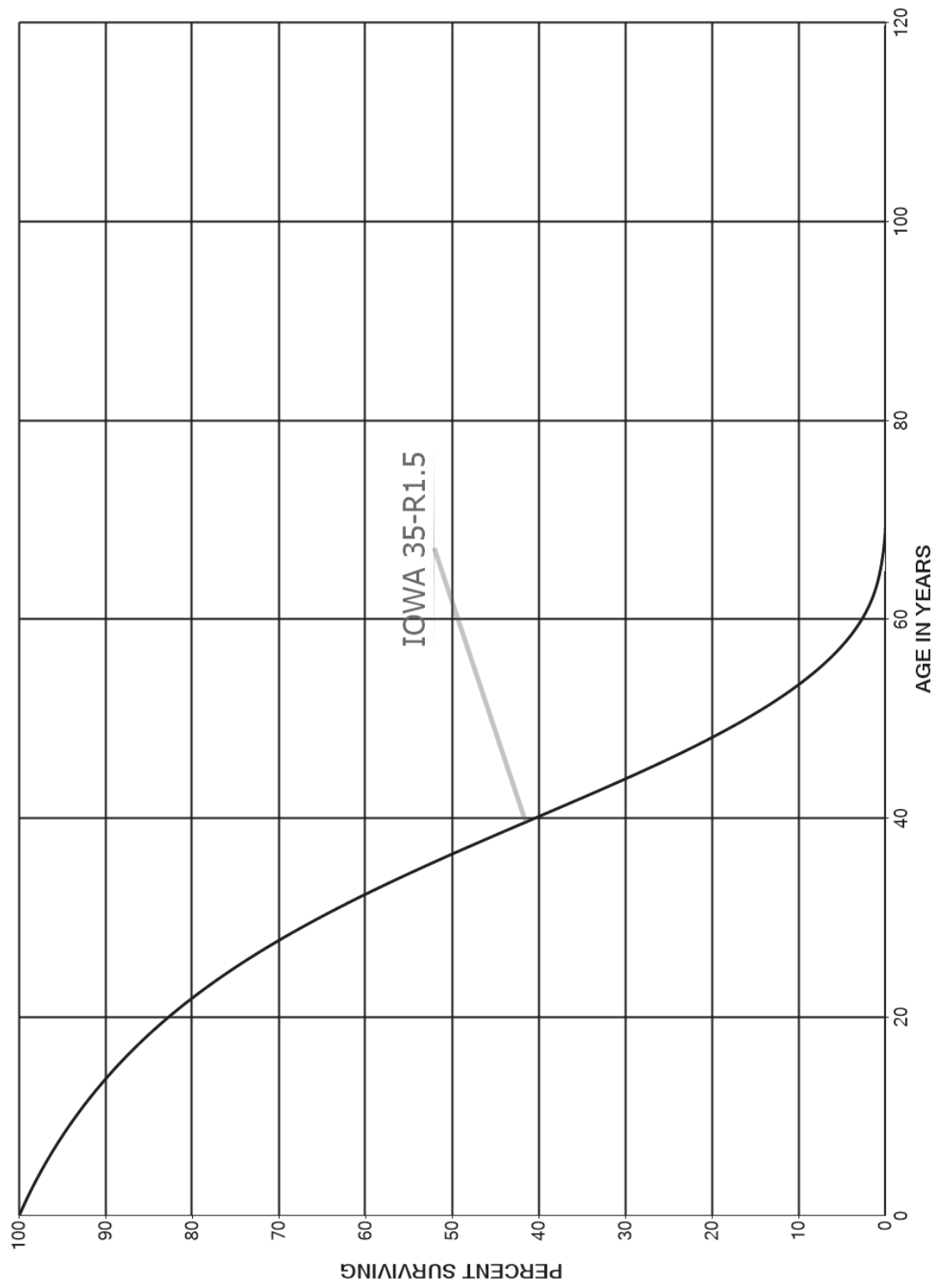
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 328.00 OTHER PUMPING EQUIPMENT
 SMOOTH SURVIVOR CURVE



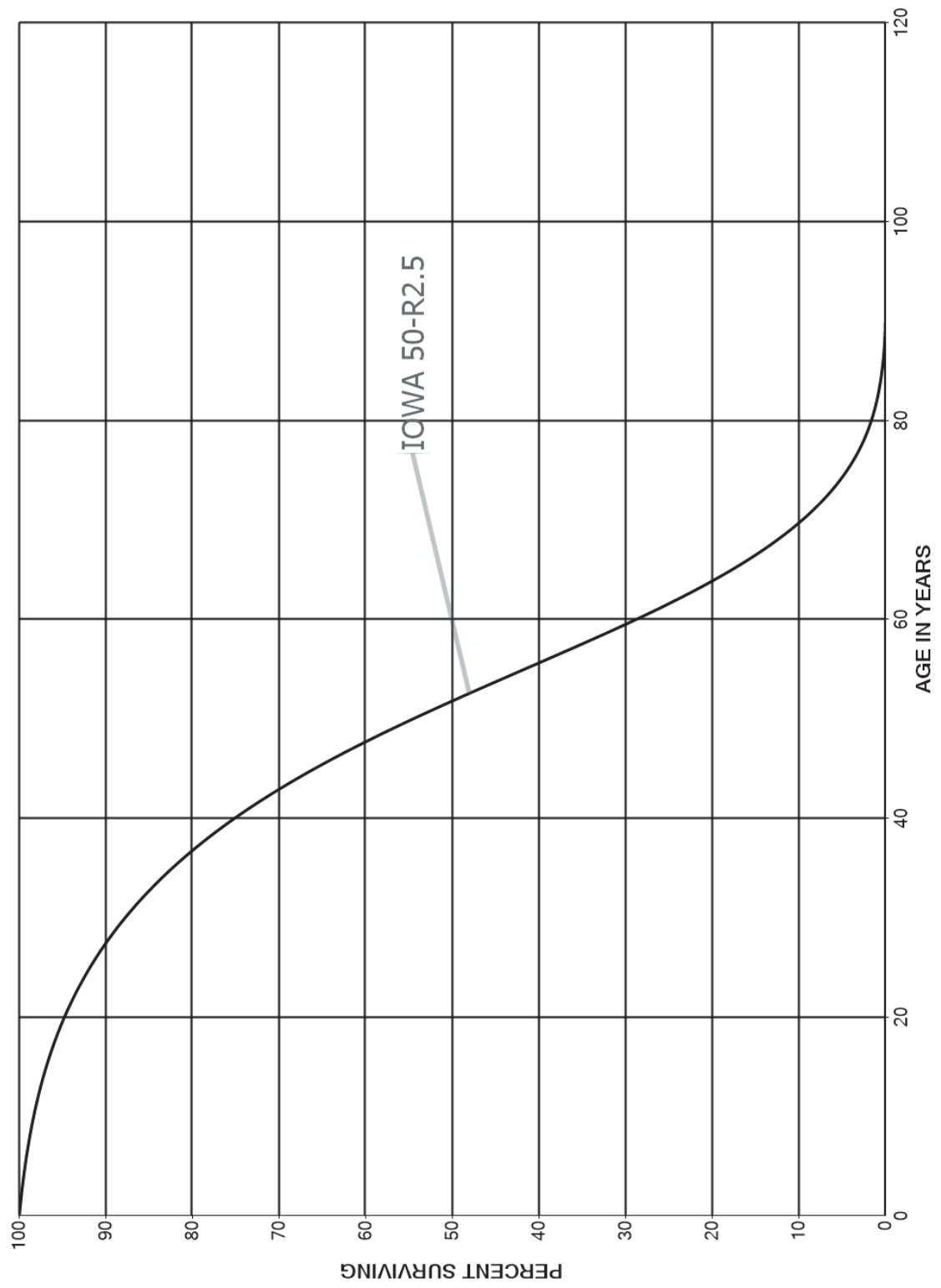
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 331.00 STRUCTURES AND IMPROVEMENTS
 SMOOTH SURVIVOR CURVE



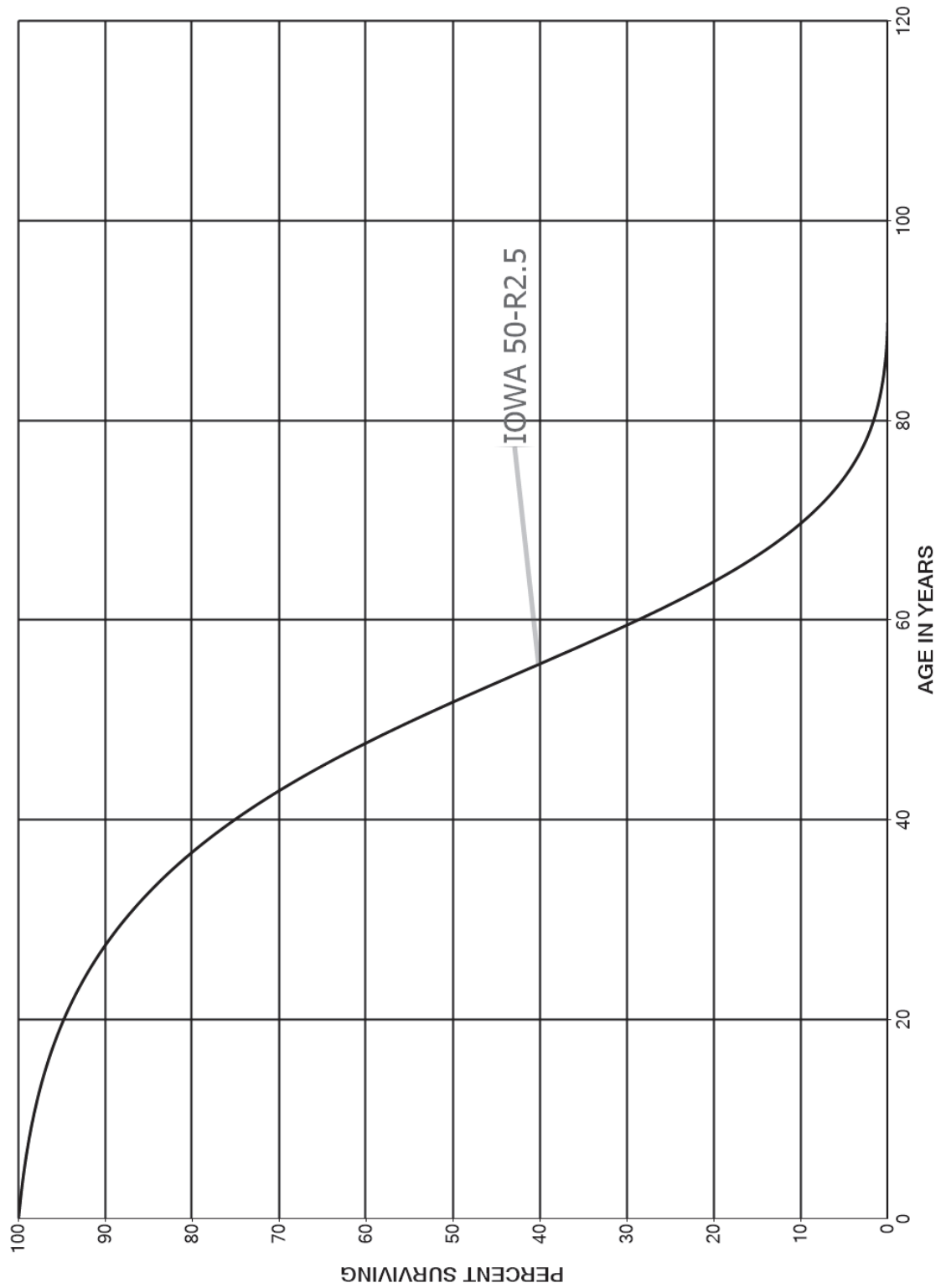
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 MISSOURI
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 SMOOTH SURVIVOR CURVE



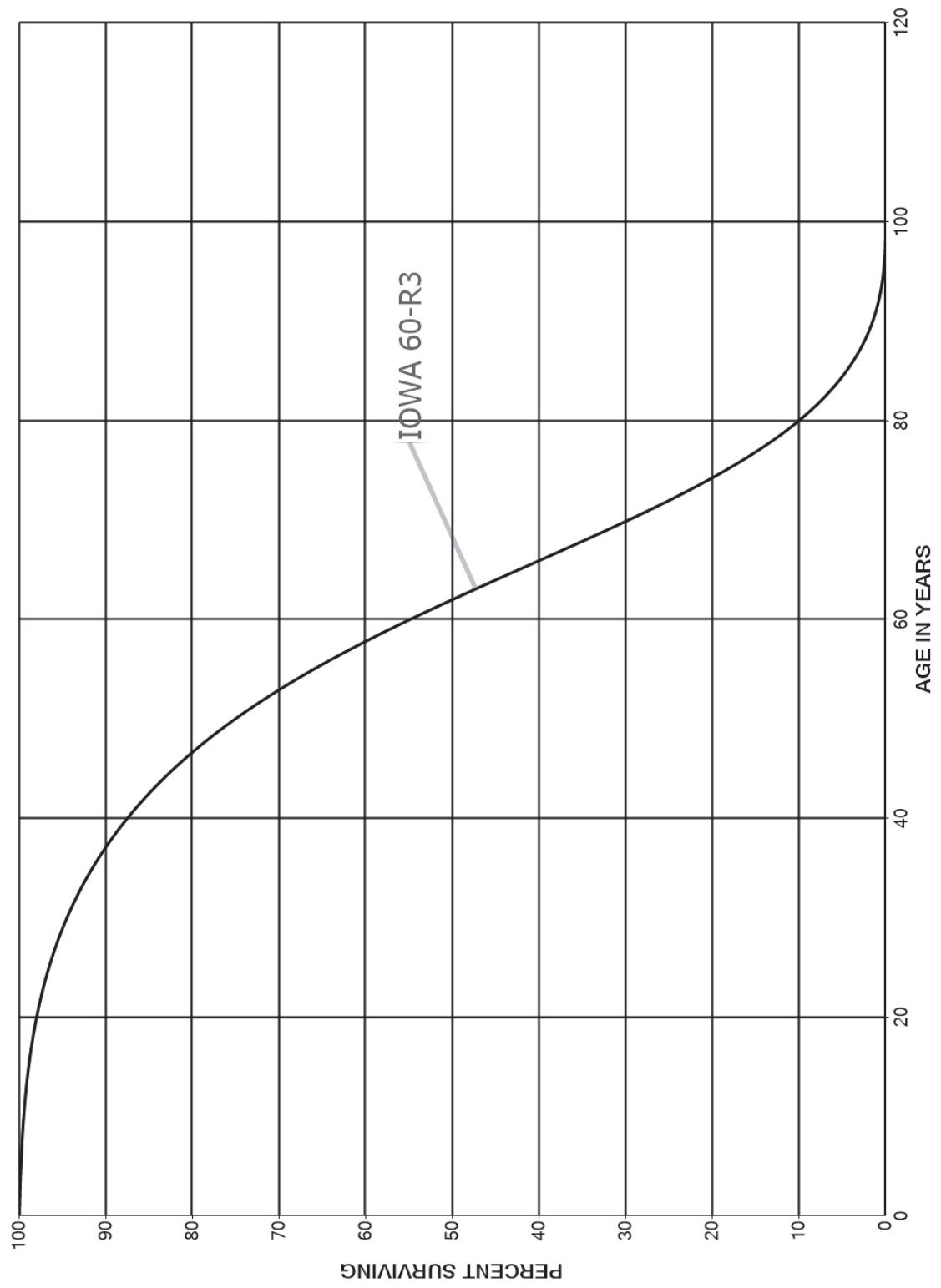
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 MISSOURI
 ACCOUNT 341.00 STRUCTURES AND IMPROVEMENTS
 SMOOTH SURVIVOR CURVE



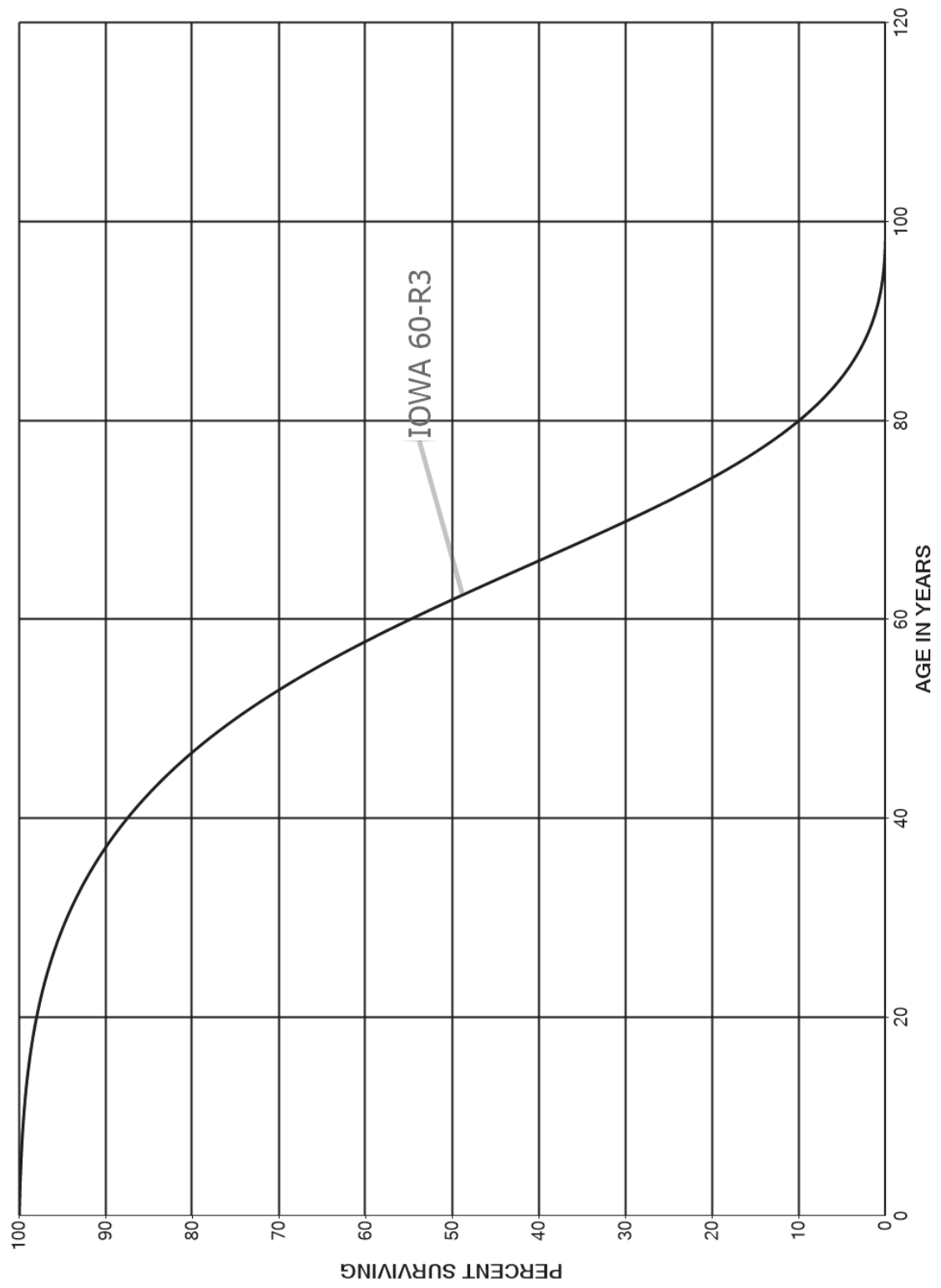
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 MISSOURI
 ACCOUNT 342.00 DISTRIBUTION RESERVOIRS AND STANDPIPES
 SMOOTH SURVIVOR CURVE



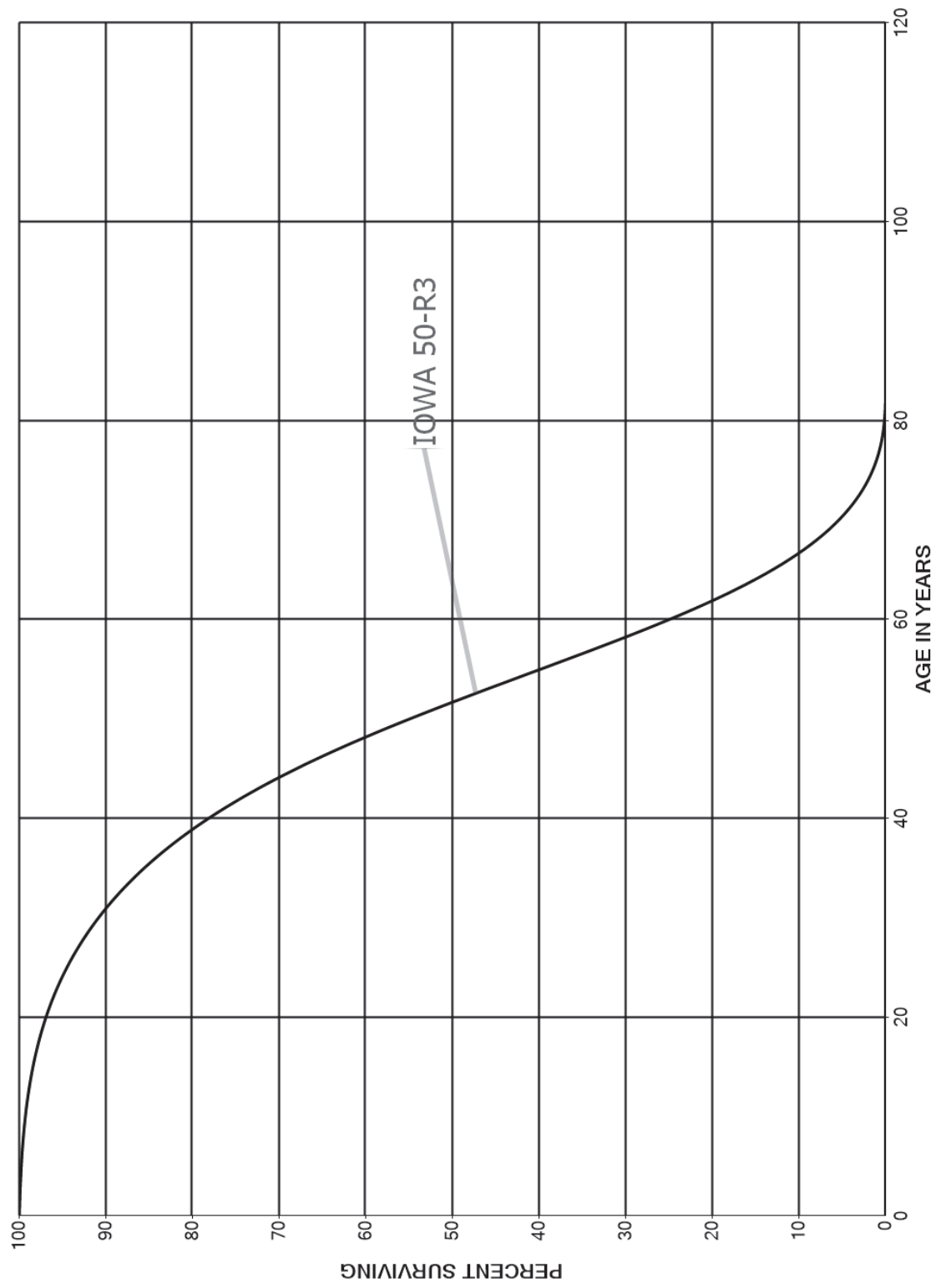
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 MISSOURI
 ACCOUNT 343.00 MAINS
 SMOOTH SURVIVOR CURVE



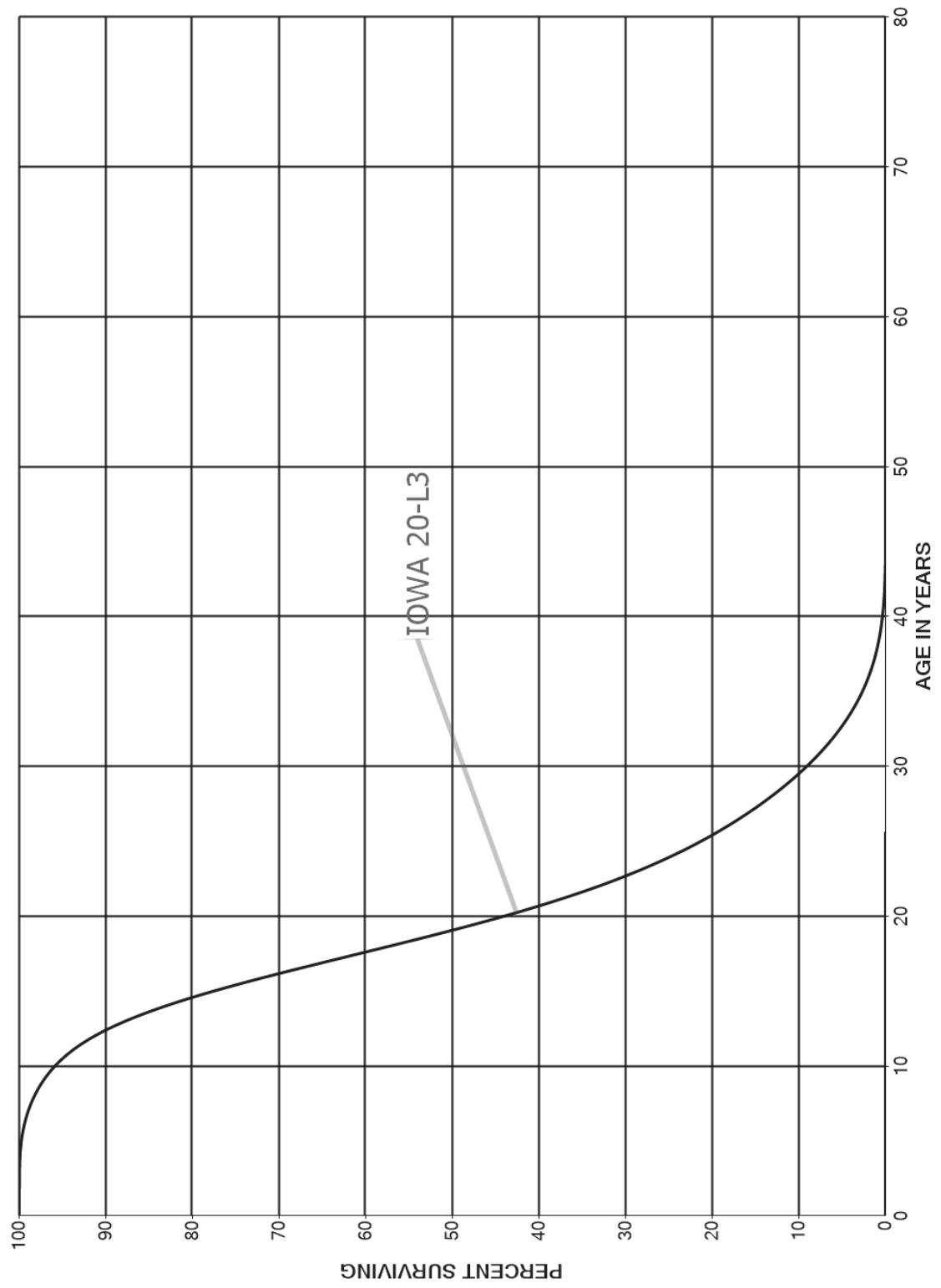
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI
ACCOUNT 344.00 FIRE MAINS
SMOOTH SURVIVOR CURVE



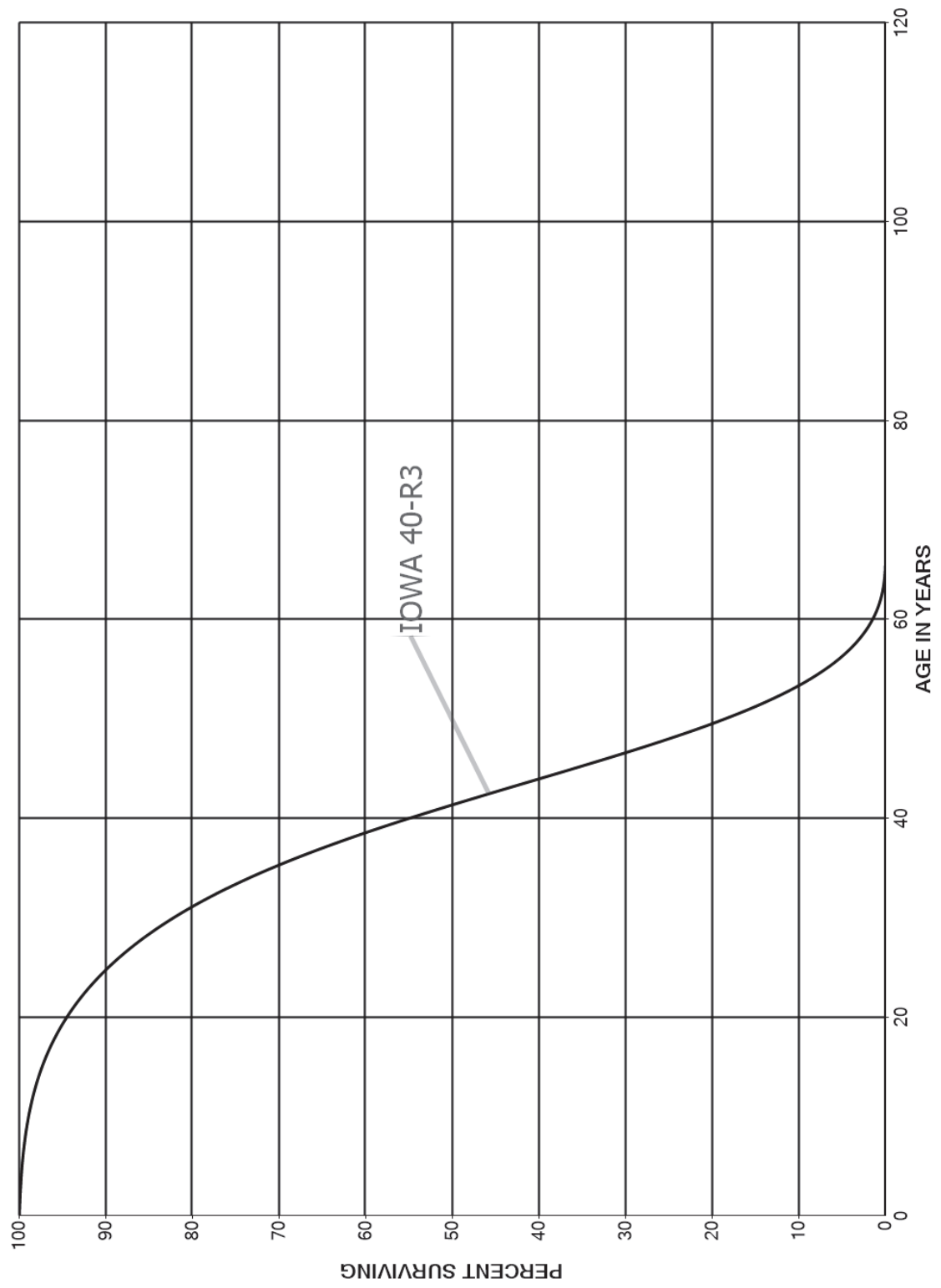
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 345.00 SERVICES
 SMOOTH SURVIVOR CURVE



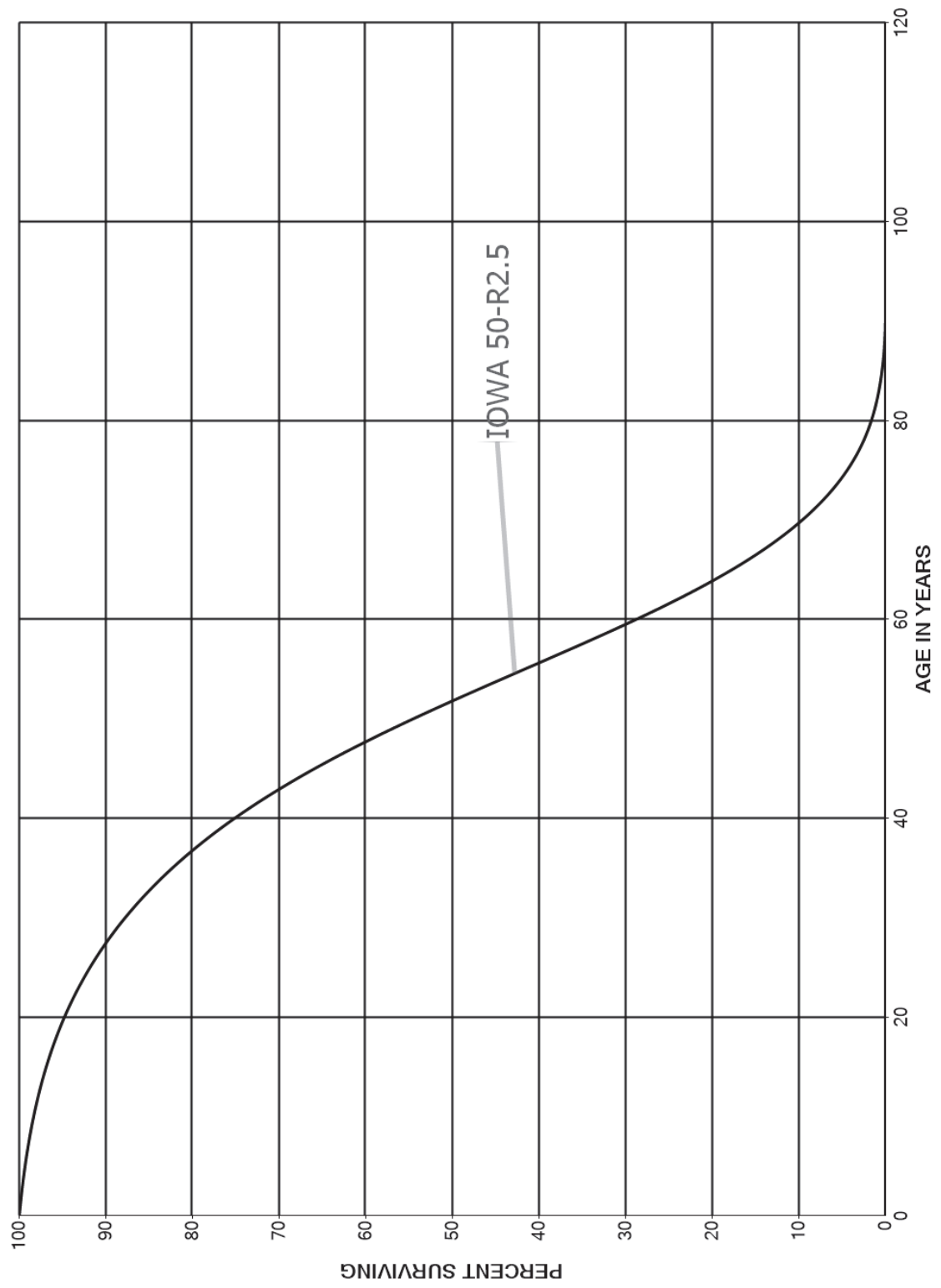
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 346.00 METERS
 SMOOTH SURVIVOR CURVE



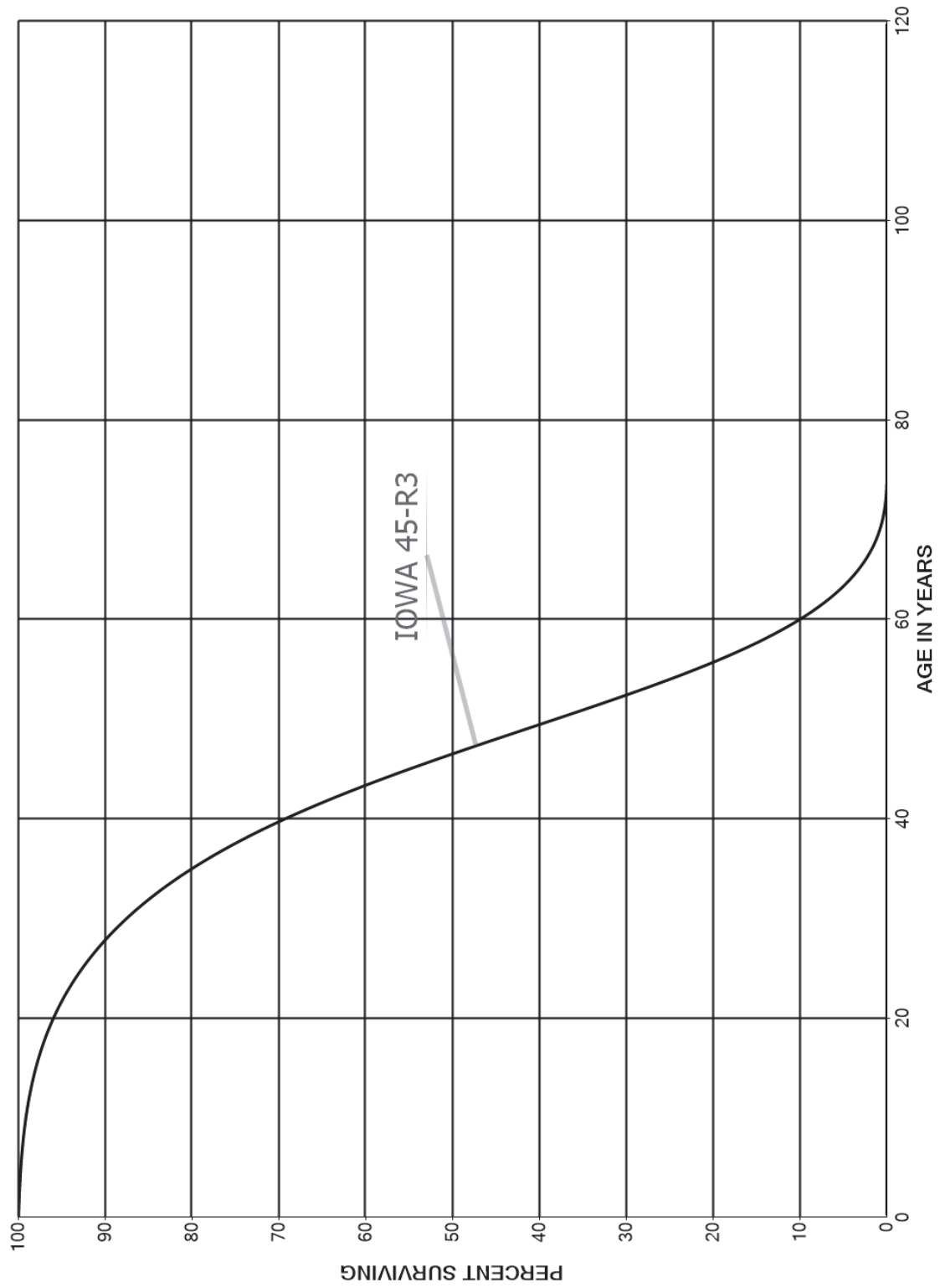
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 347.00 METER INSTALLATIONS
 SMOOTH SURVIVOR CURVE



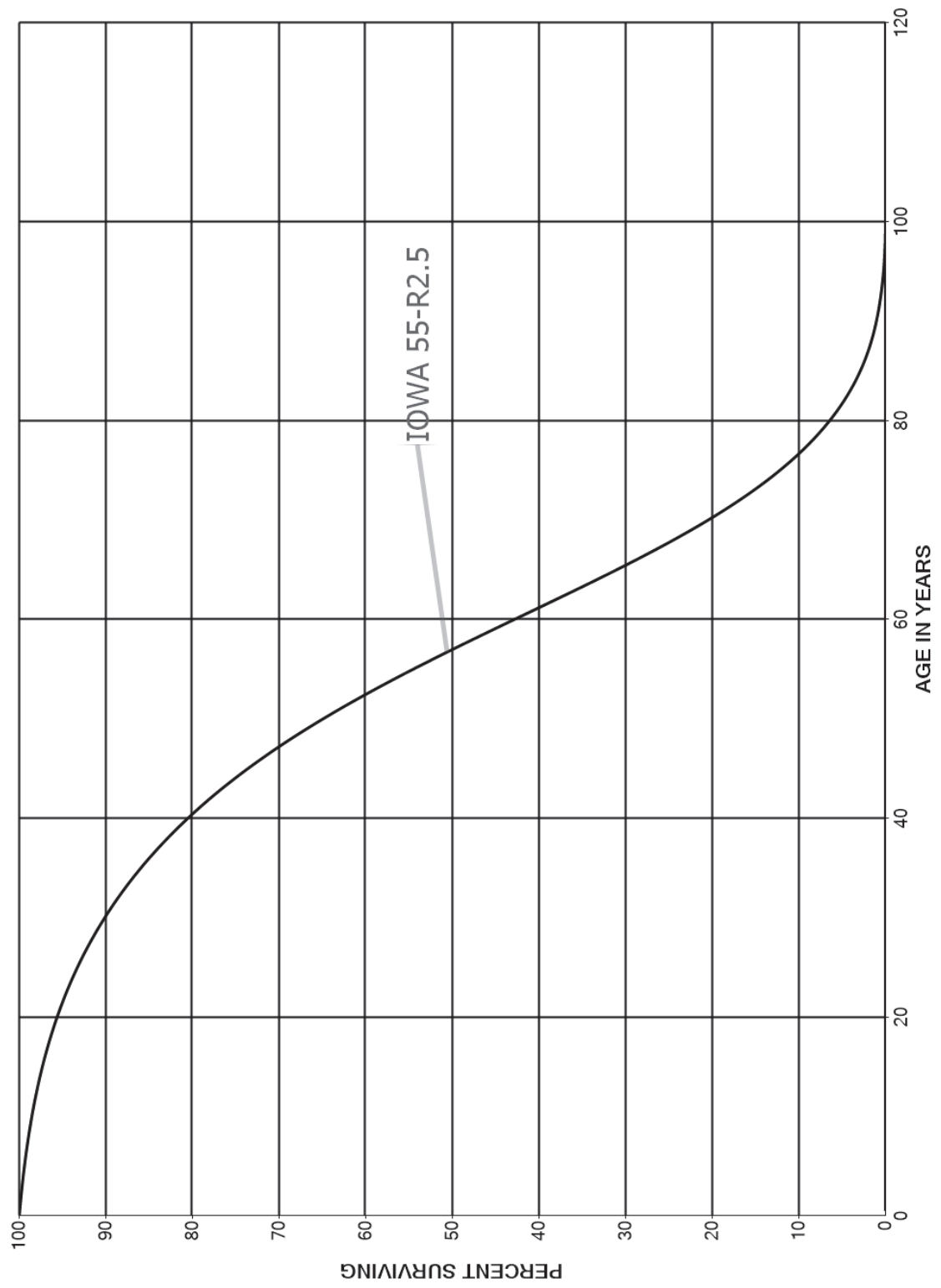
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 348.00 HYDRANTS
 SMOOTH SURVIVOR CURVE



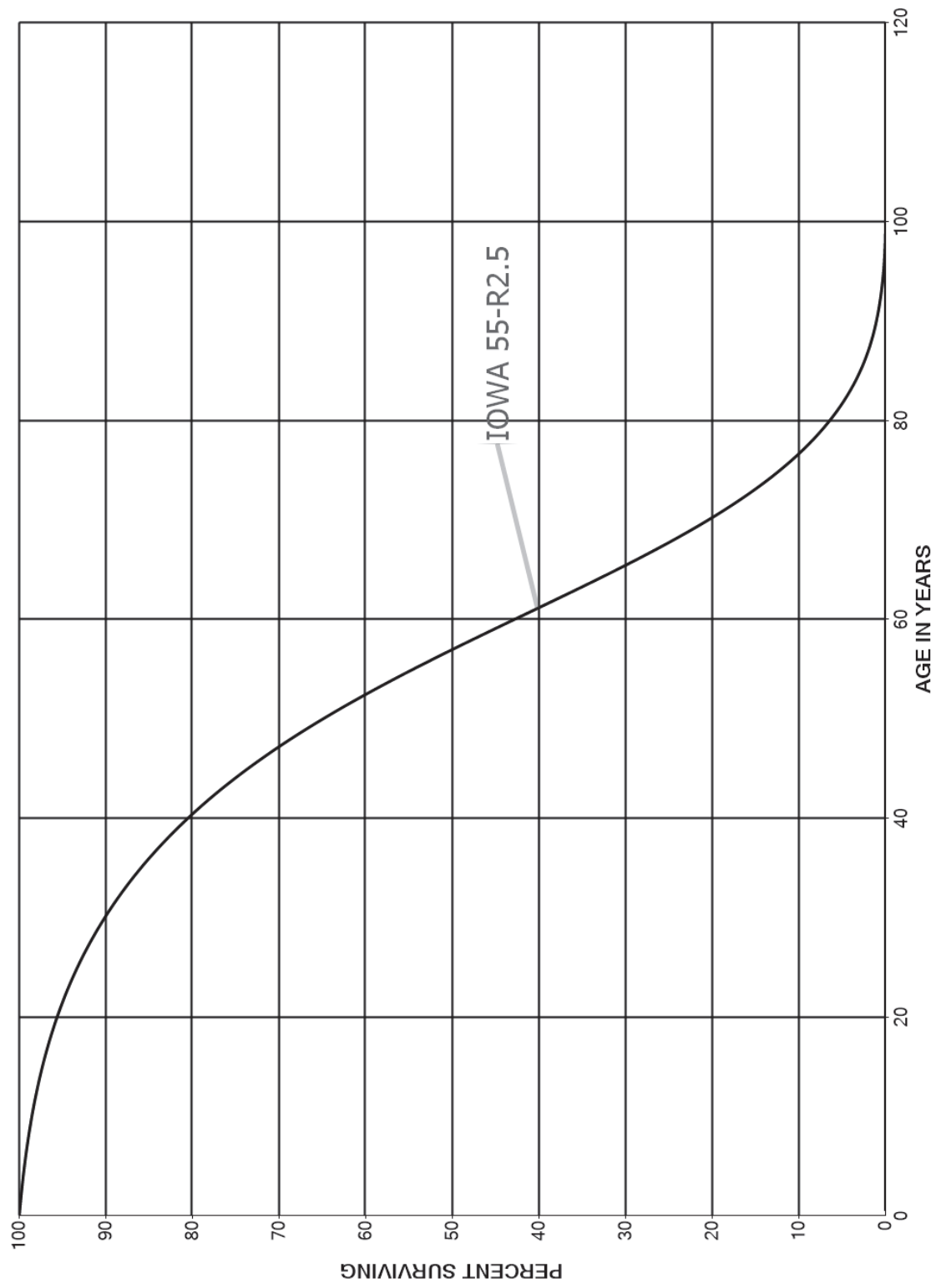
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 351.00 STRUCTURES AND IMPROVEMENTS
 SMOOTH SURVIVOR CURVE



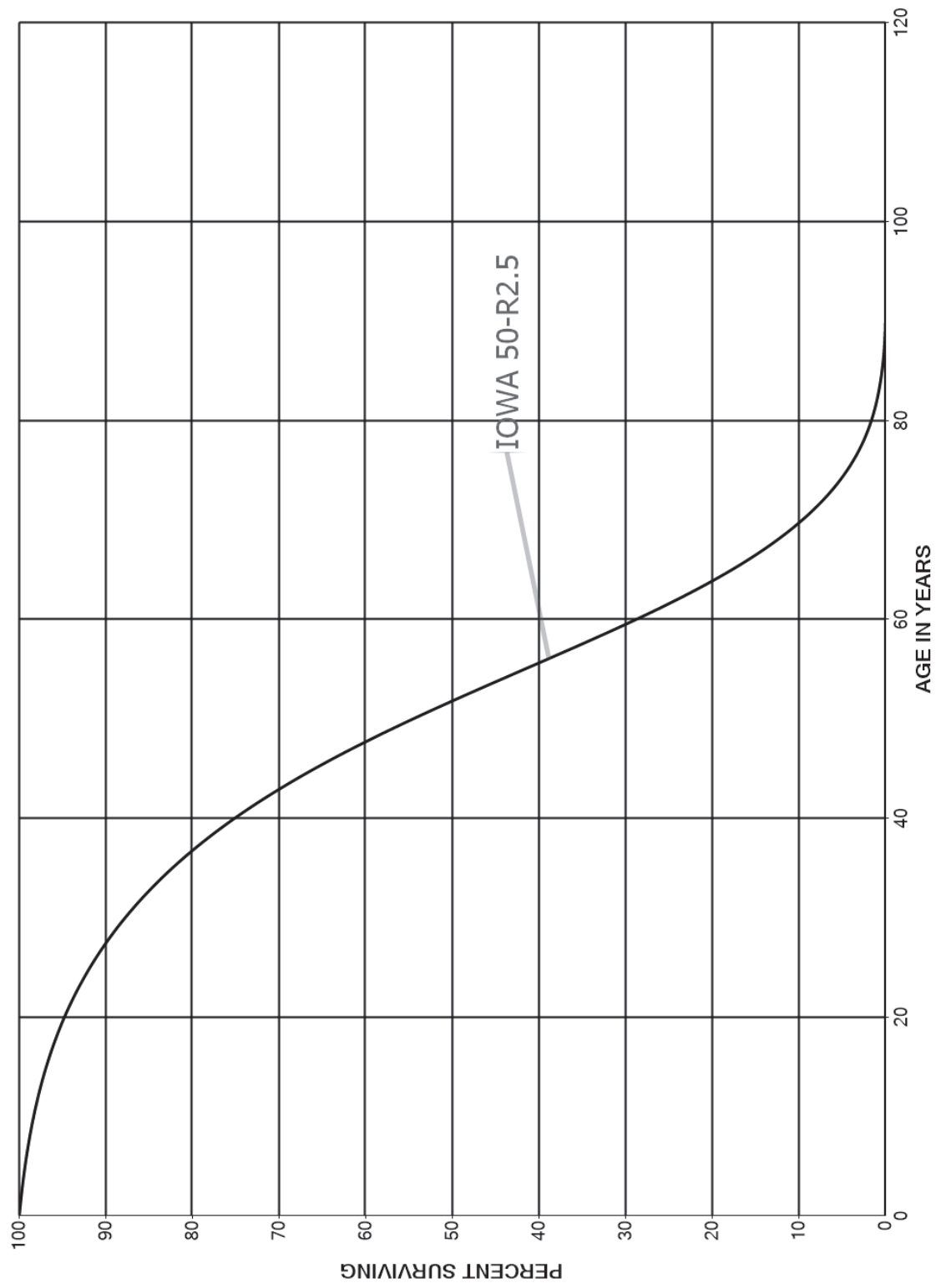
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 352.10 COLLECTION SEWERS - FORCE
 SMOOTH SURVIVOR CURVE



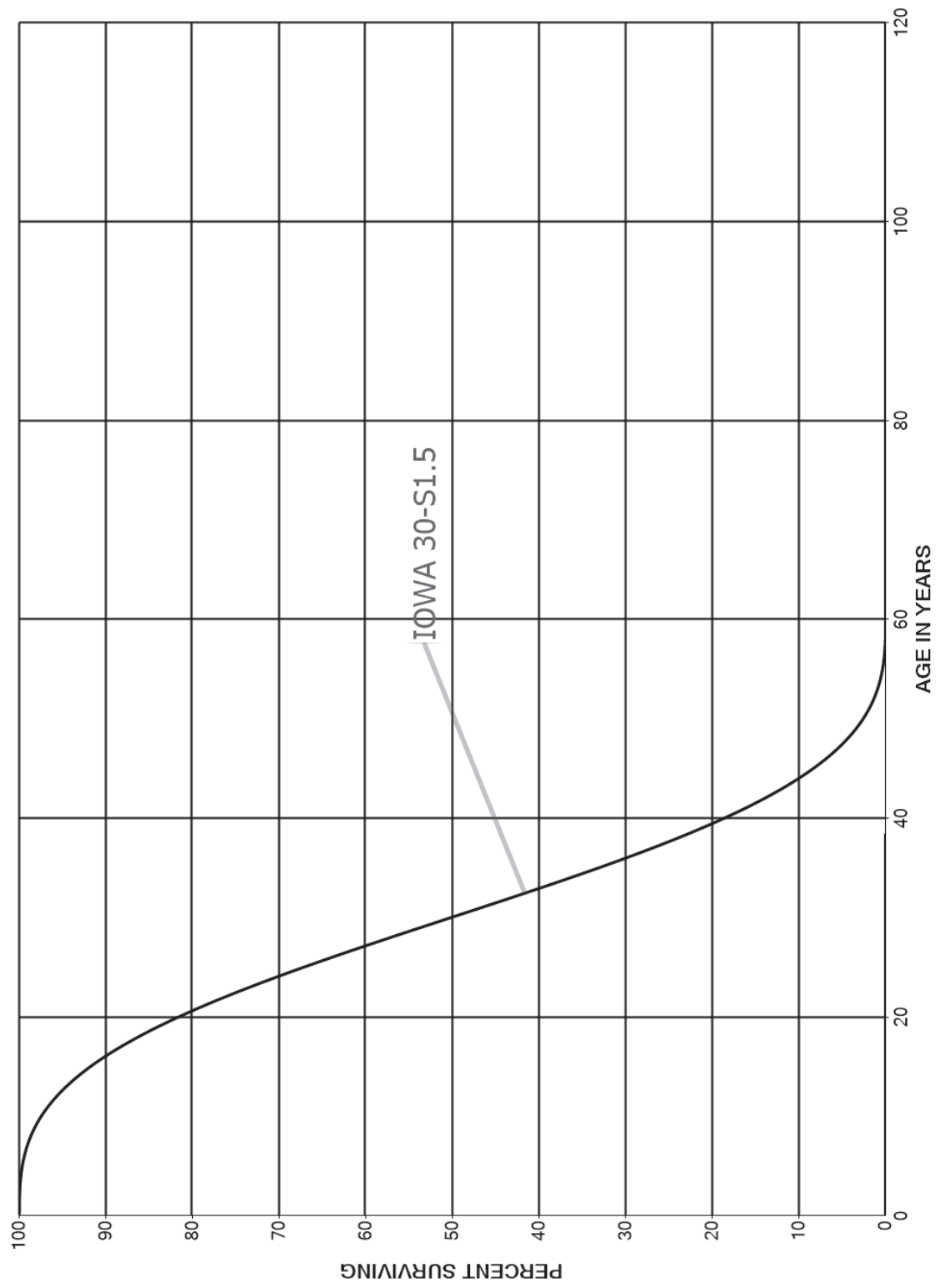
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 352.20 COLLECTION SEWERS - GRAVITY
 SMOOTH SURVIVOR CURVE



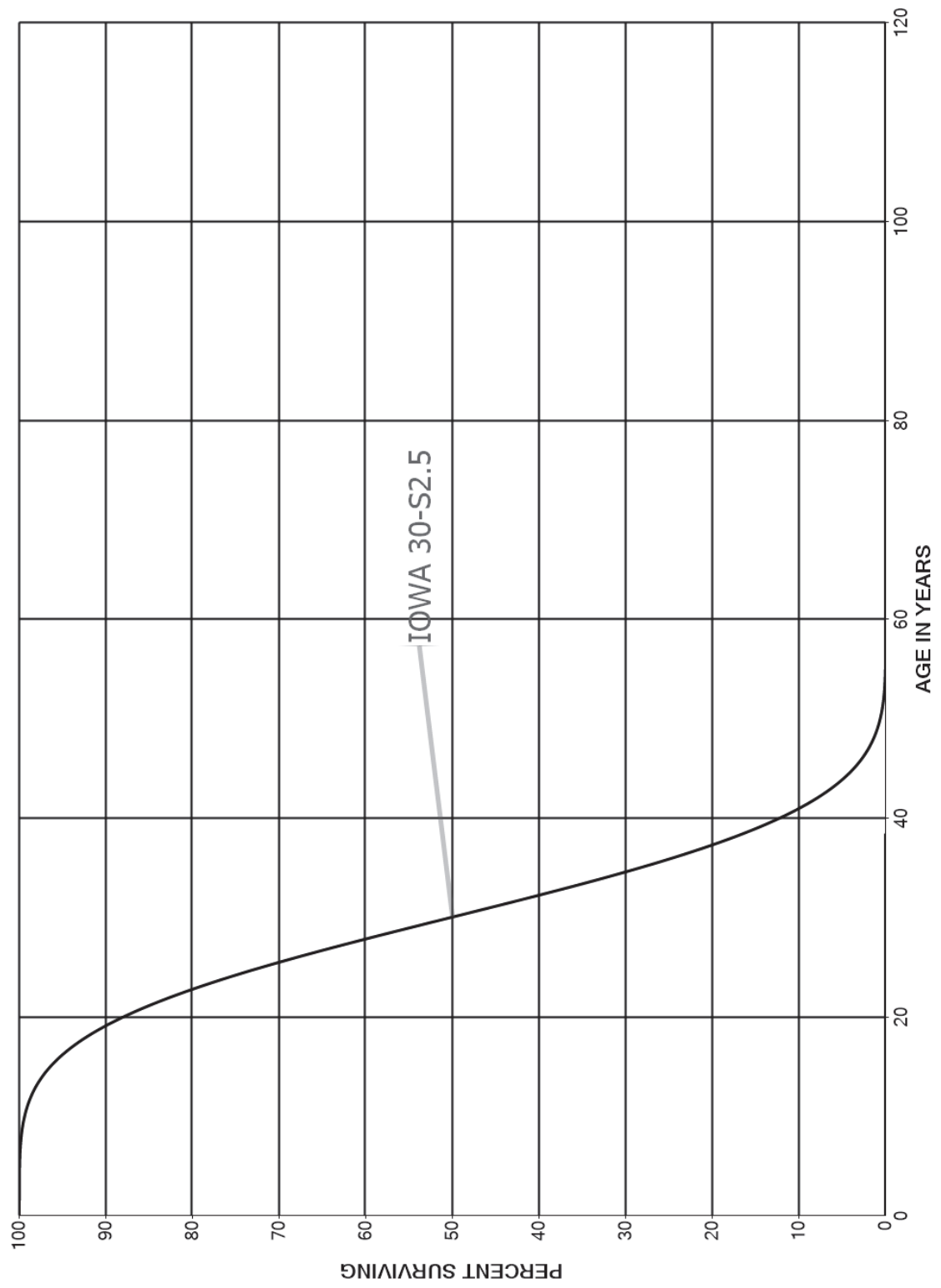
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 353.00 SERVICES
 SMOOTH SURVIVOR CURVE



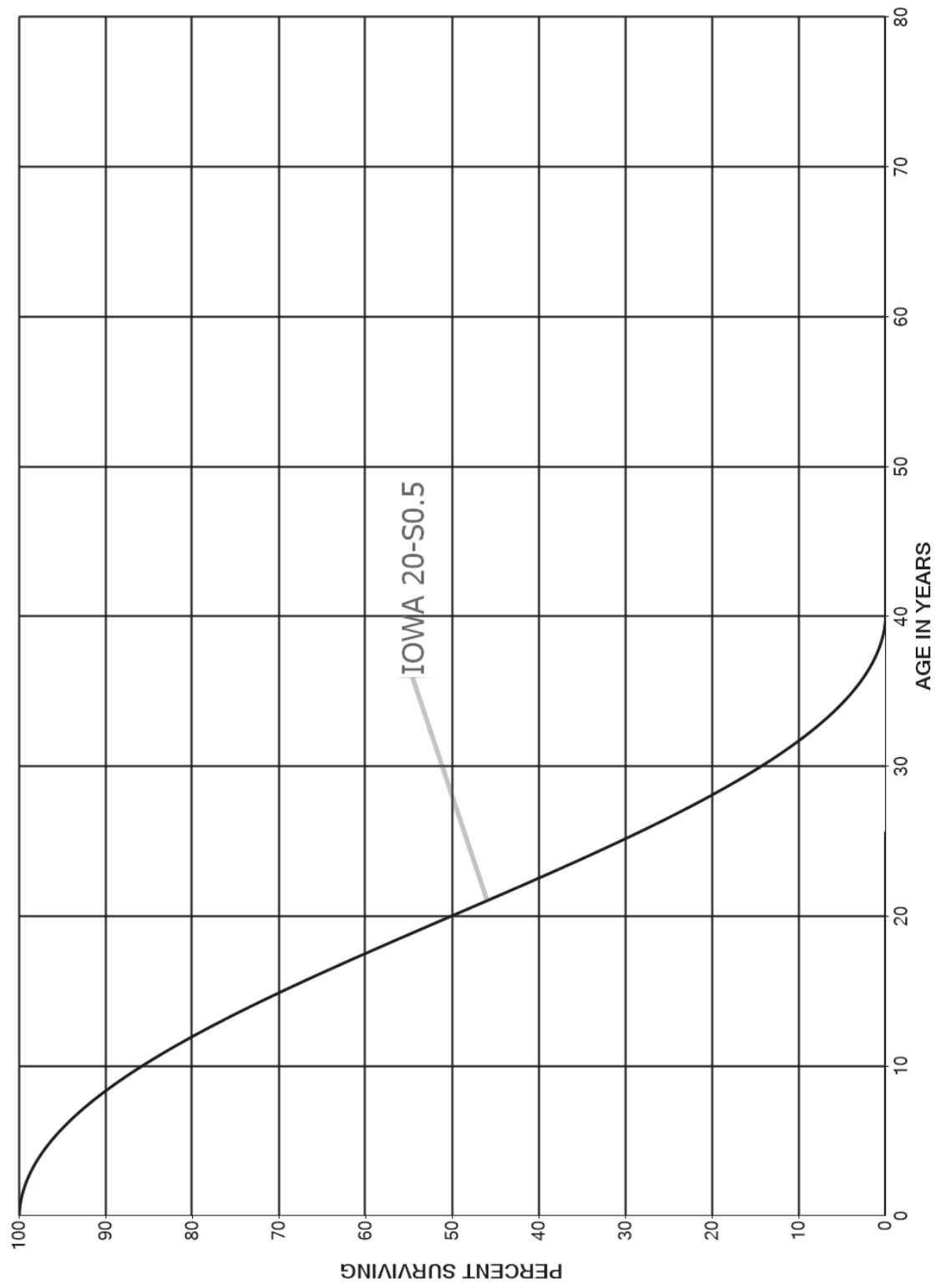
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 354.00 FLOW MEASURING DEVICES
 SMOOTH SURVIVOR CURVE



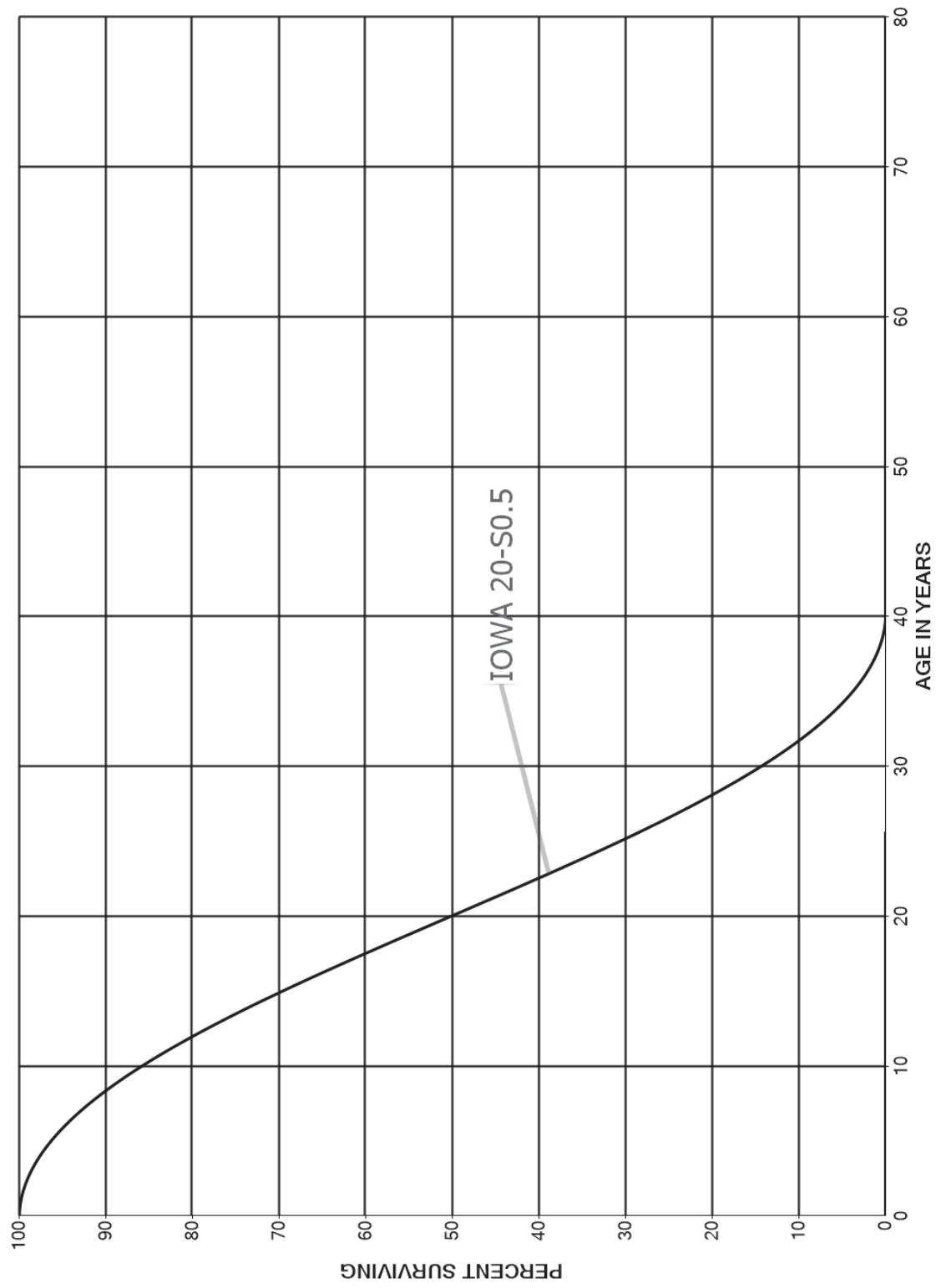
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 362.00 RECEIVING WELLS
 SMOOTH SURVIVOR CURVE



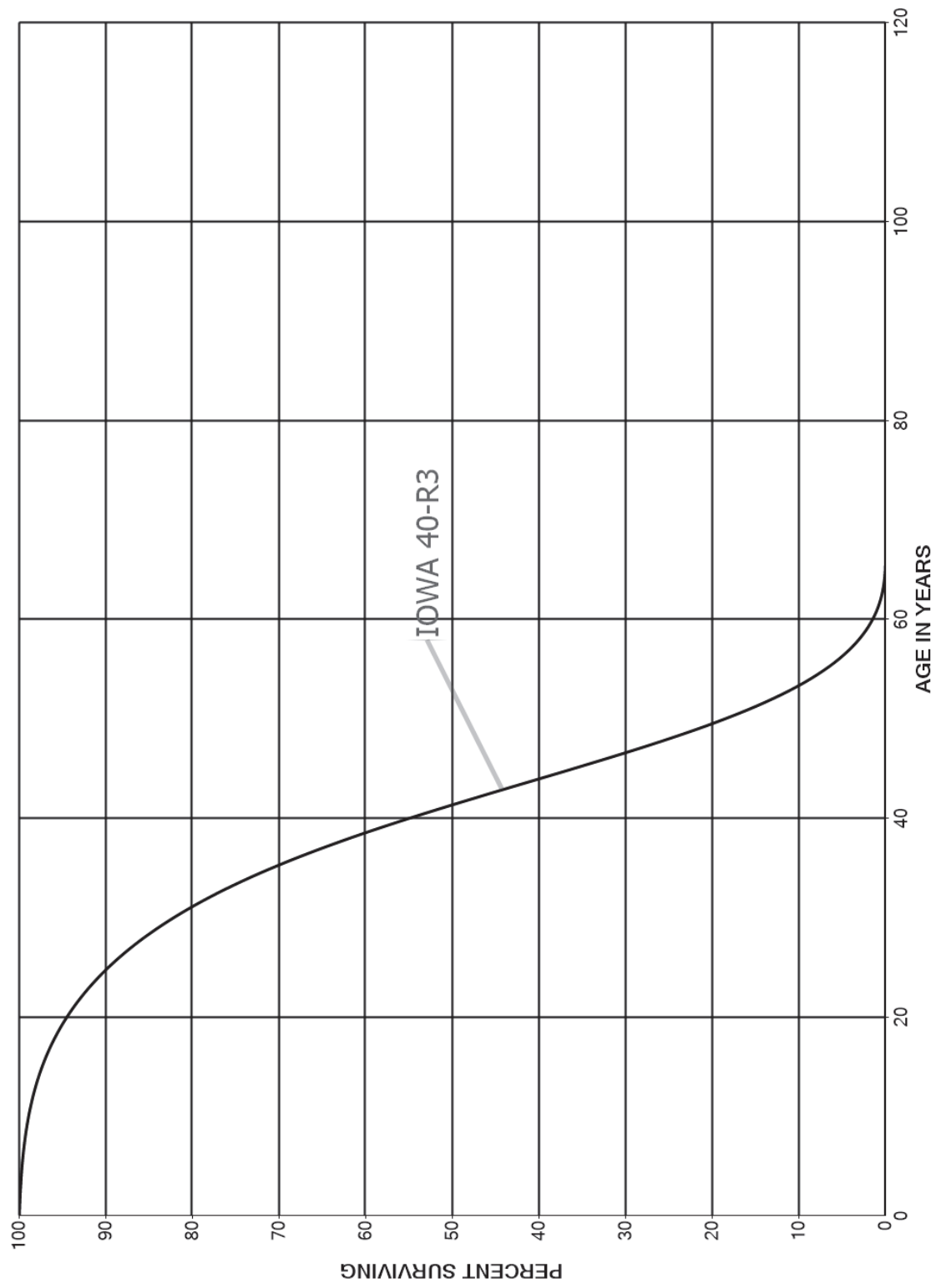
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 363.00 ELECTRIC PUMPING EQUIPMENT
 SMOOTH SURVIVOR CURVE



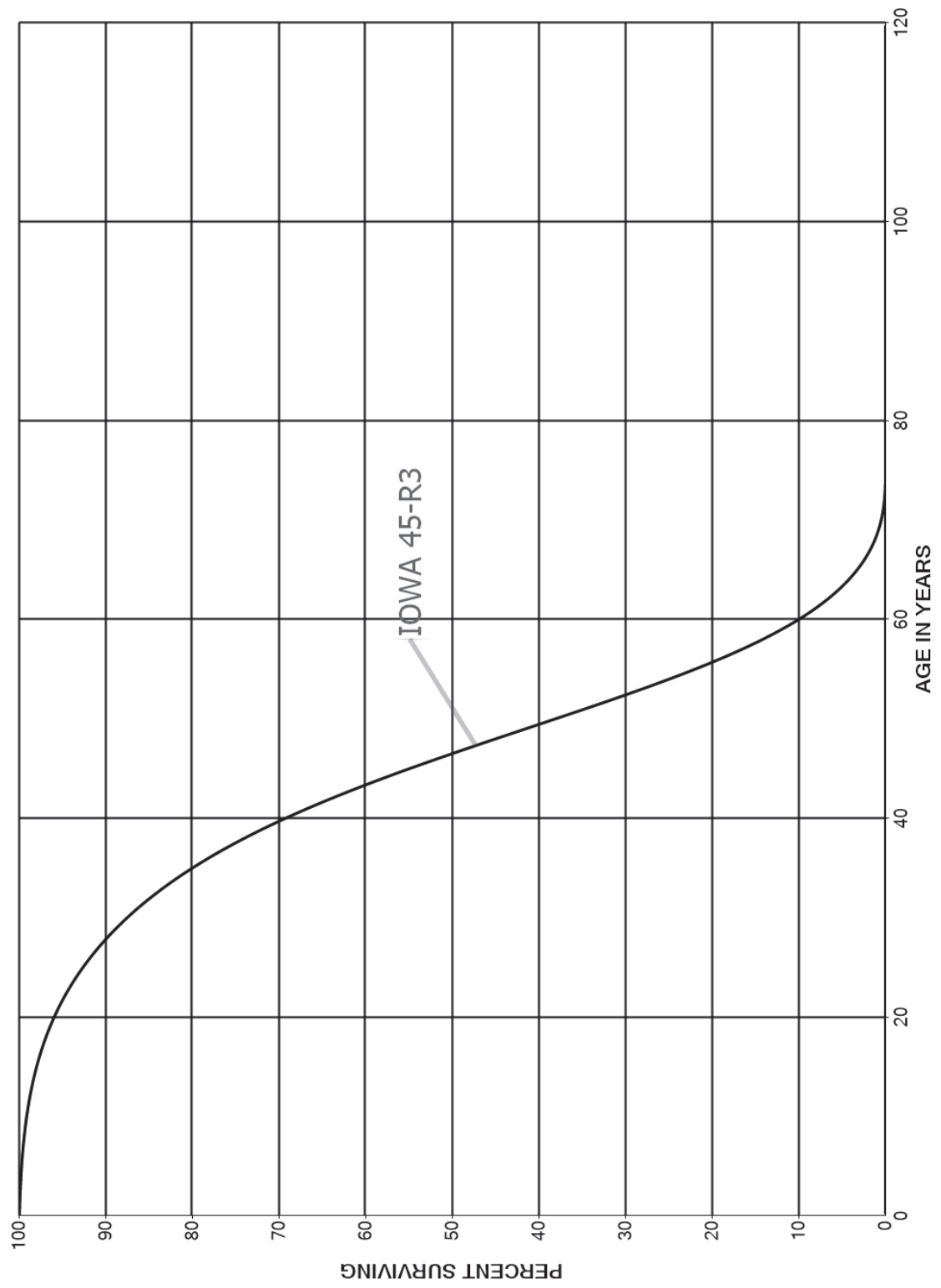
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 365.00 OTHER PUMPING EQUIPMENT
 SMOOTH SURVIVOR CURVE



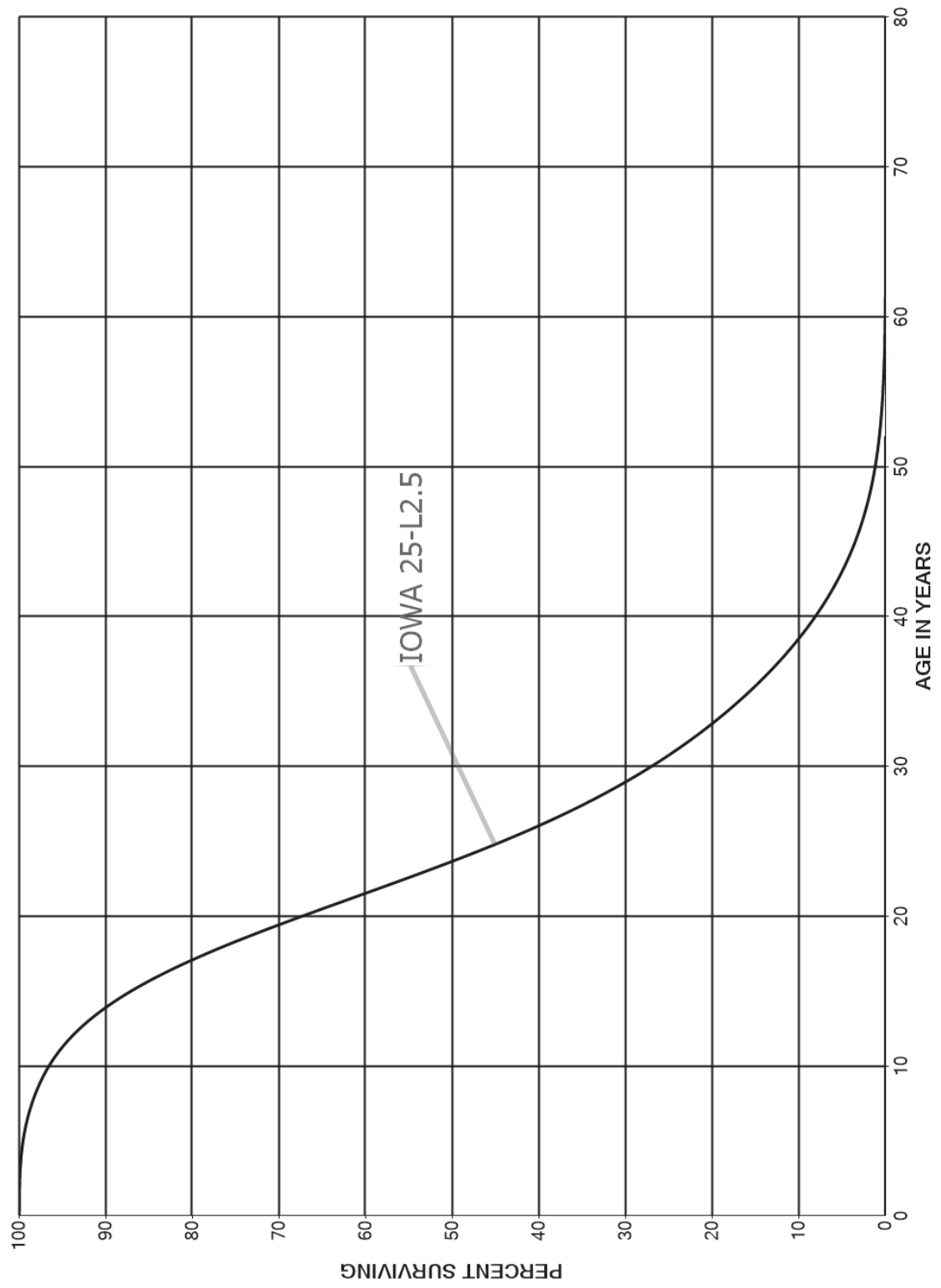
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 370.10 OXIDATION LAGOONS
 SMOOTH SURVIVOR CURVE



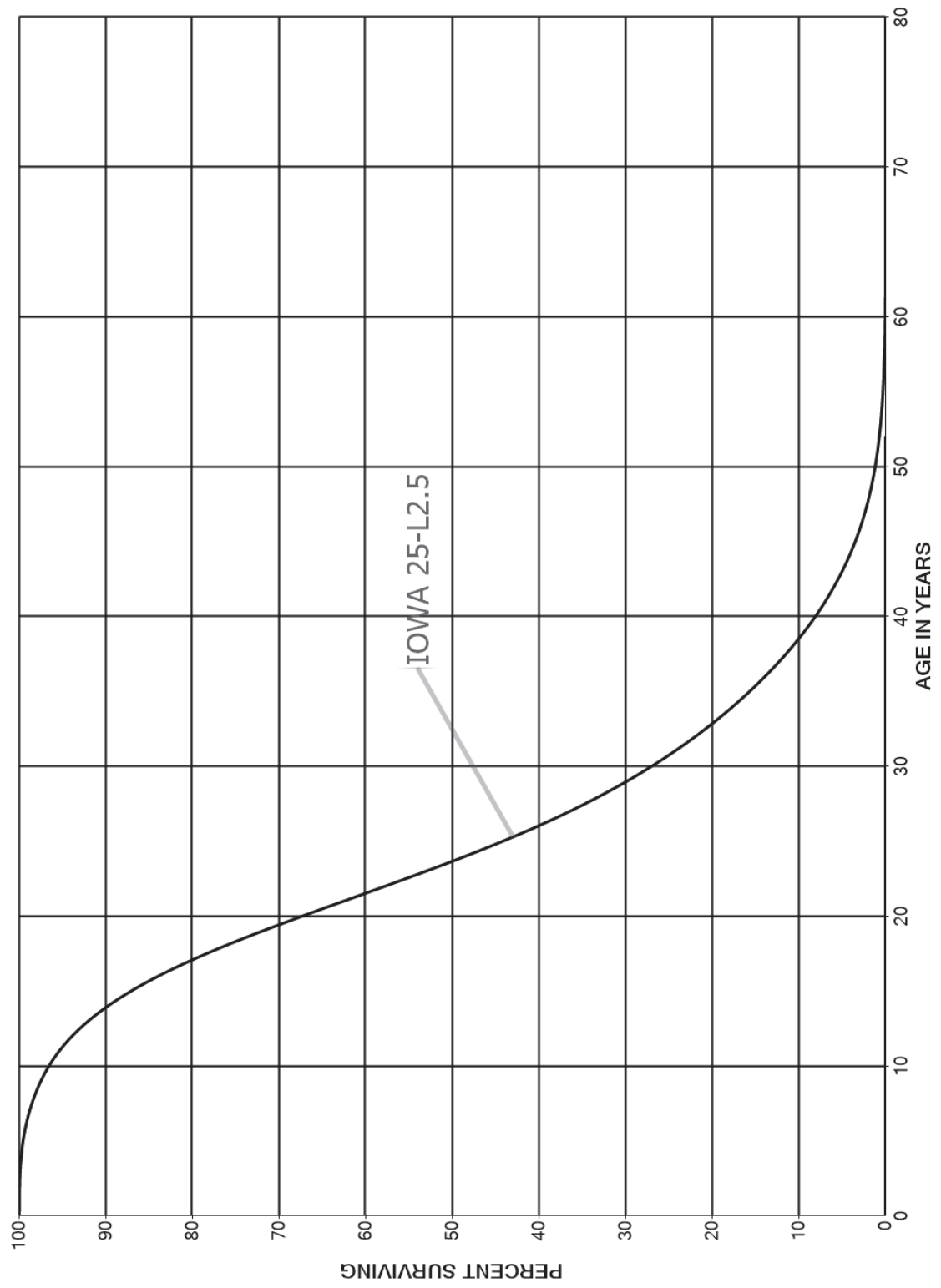
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 371.00 STRUCTURES AND IMPROVEMENTS
 SMOOTH SURVIVOR CURVE



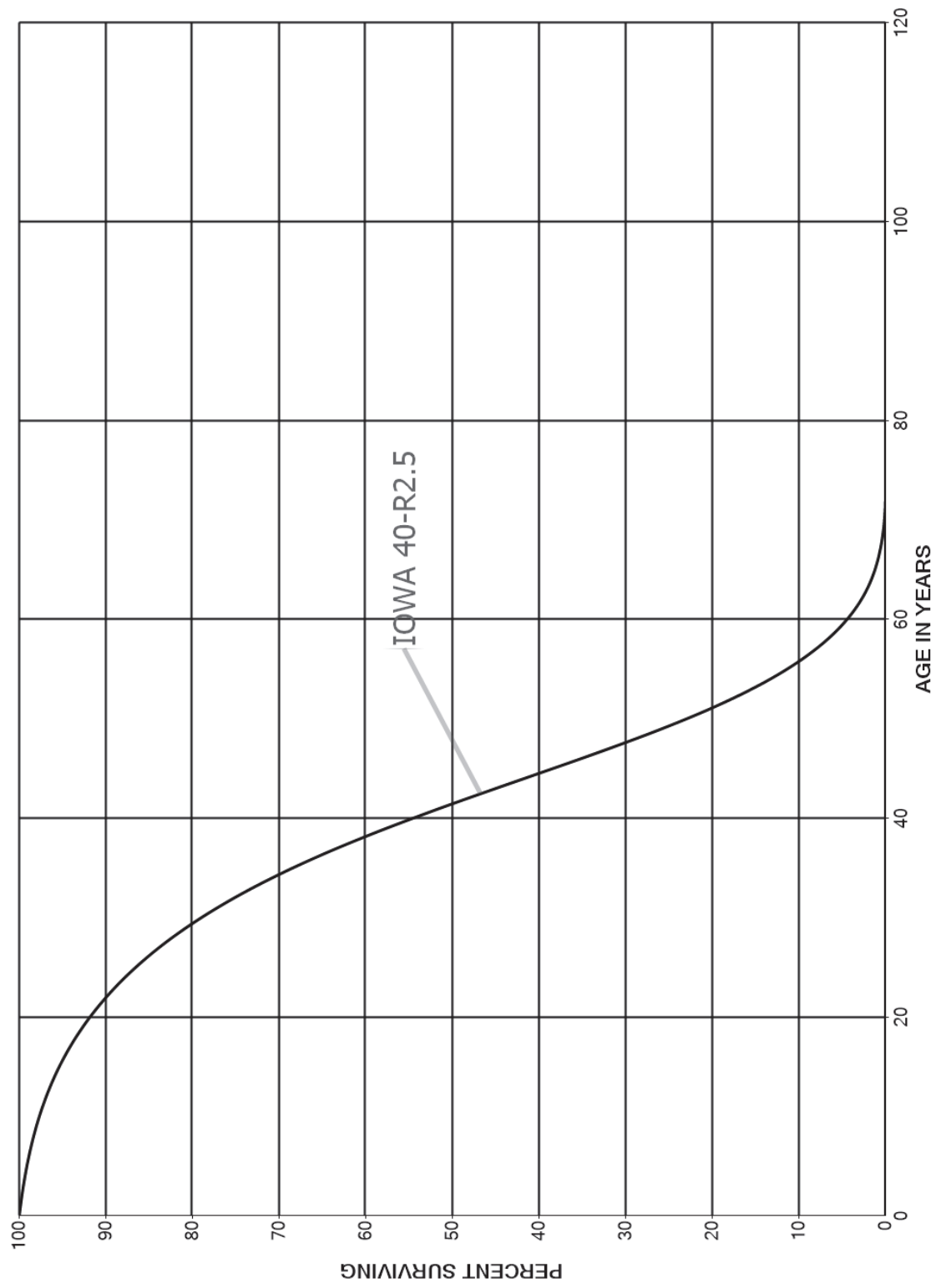
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 372.00 TREATMENT AND DISPOSAL PLANT
 SMOOTH SURVIVOR CURVE



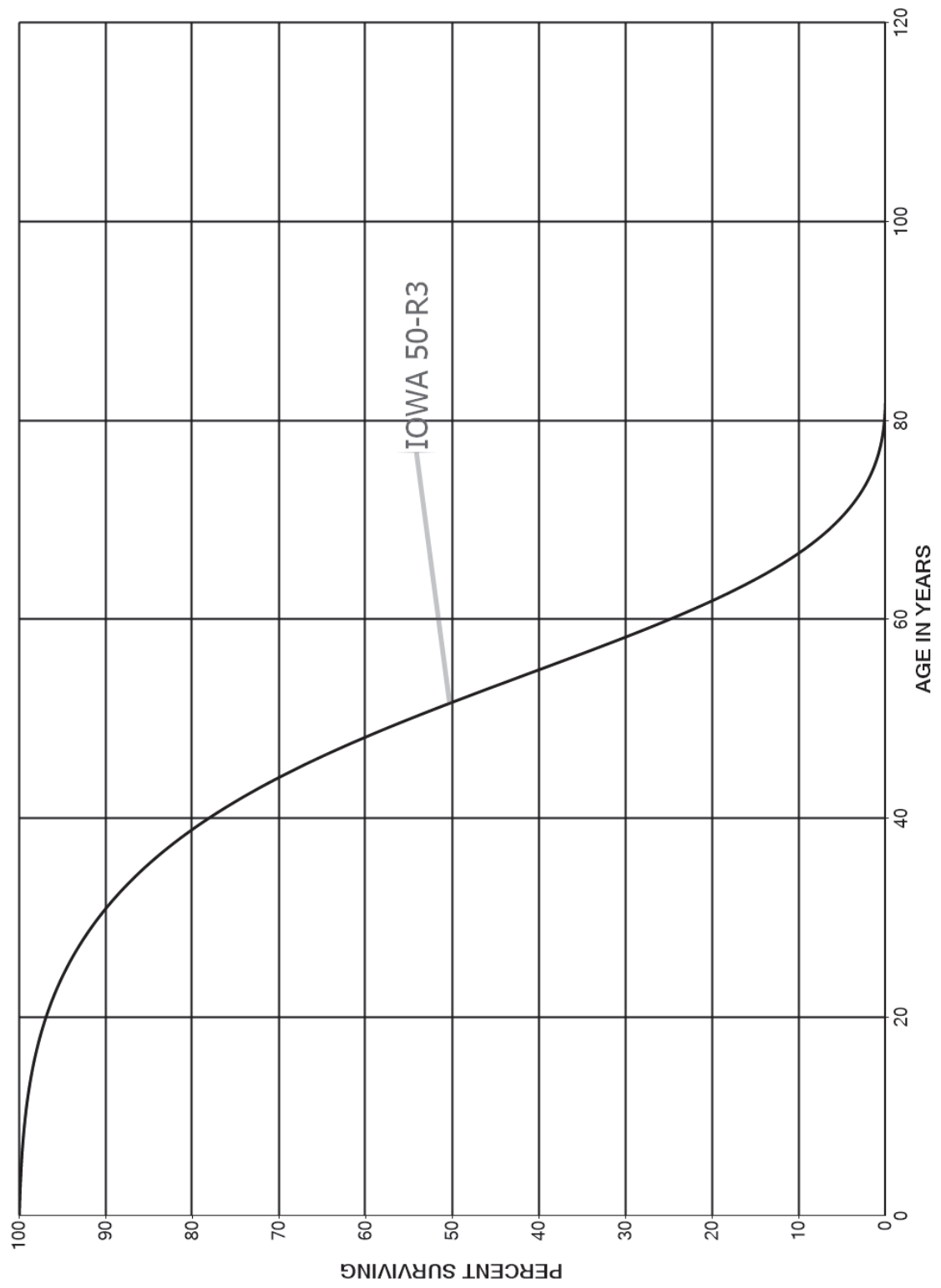
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 372.10 SEWER COLLECTION TANKS
 SMOOTH SURVIVOR CURVE



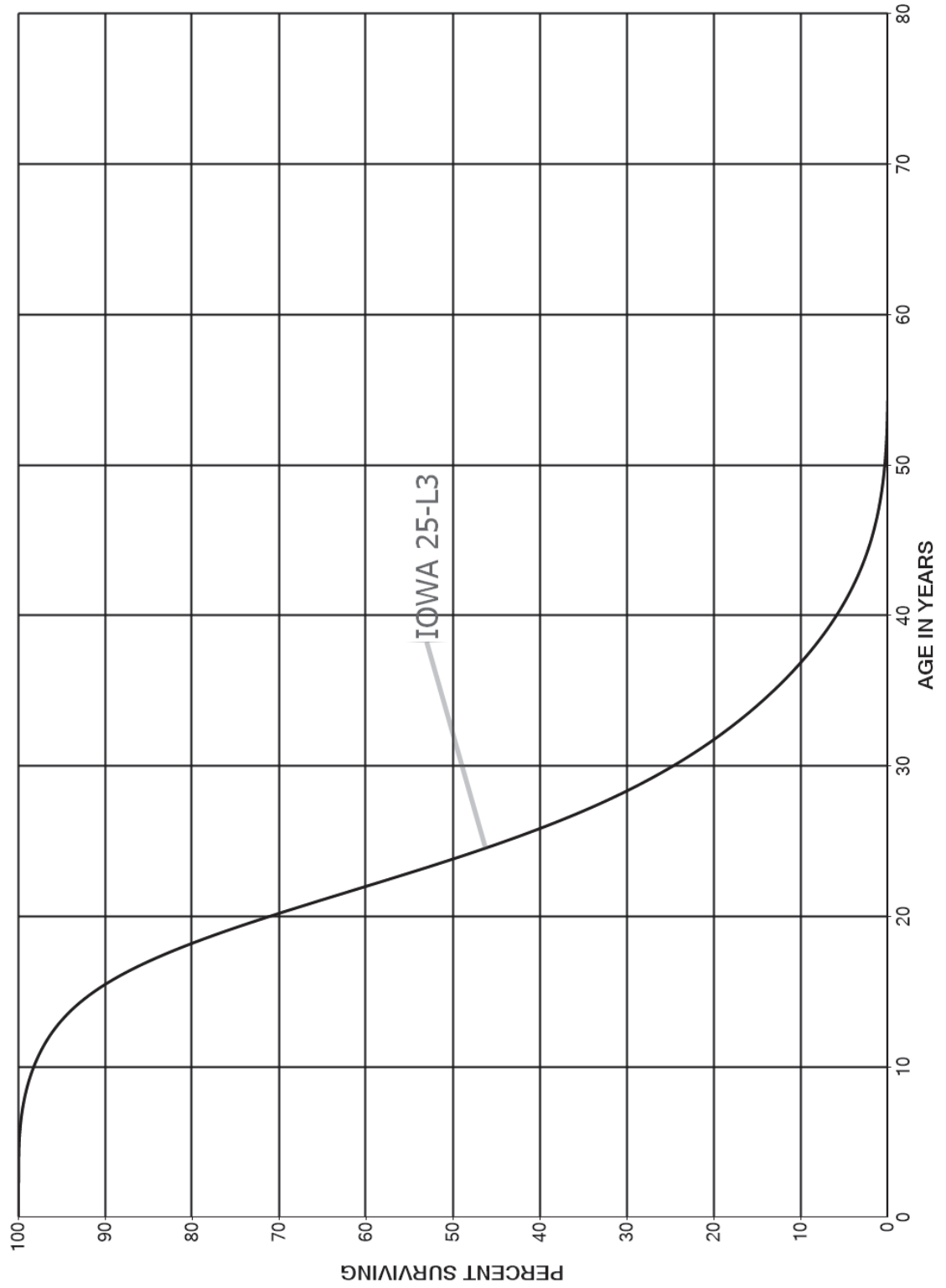
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 373.00 PLANT SEWERS
 SMOOTH SURVIVOR CURVE



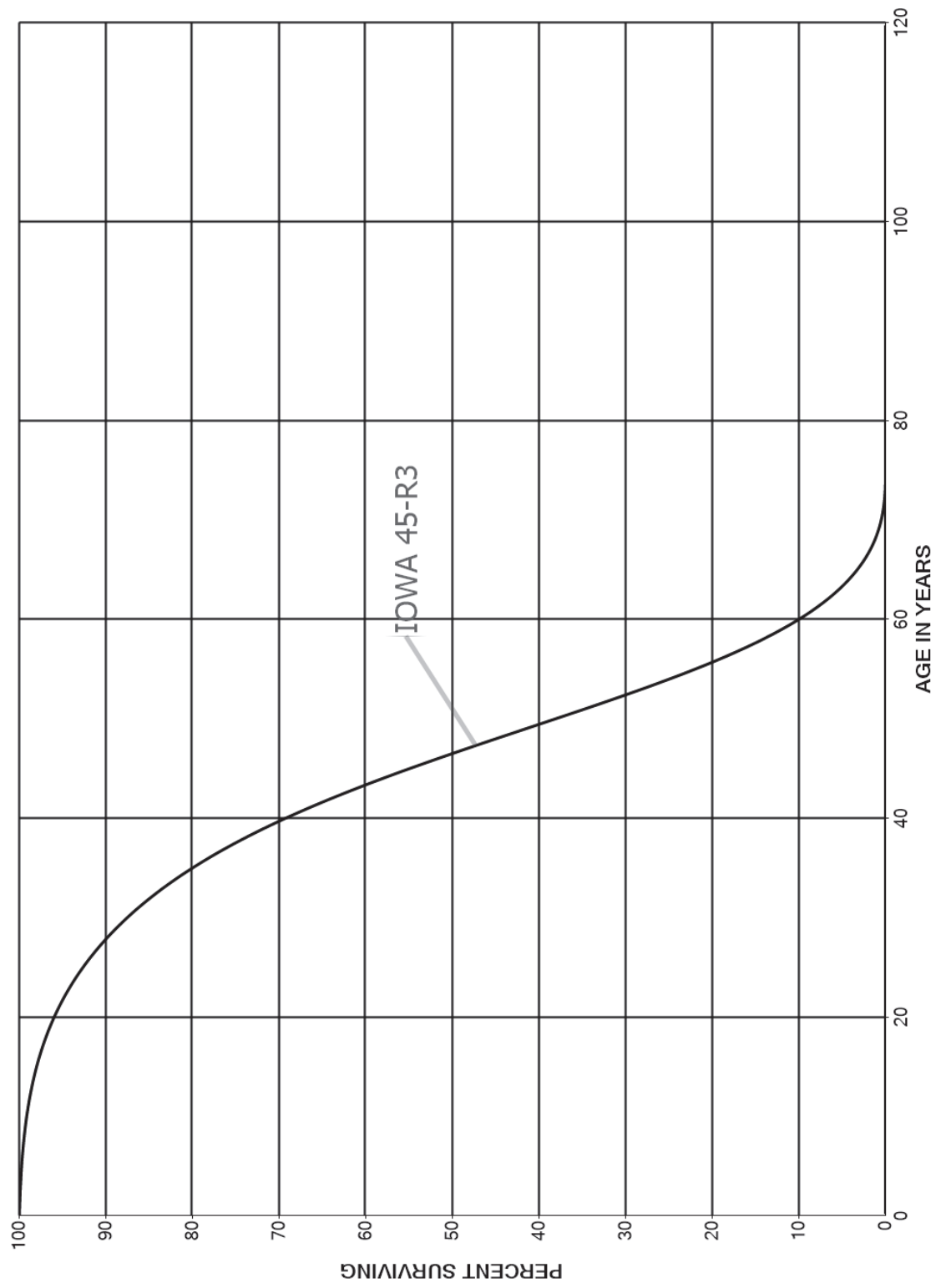
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 374.00 OUTFALL SEWER LINES
 SMOOTH SURVIVOR CURVE



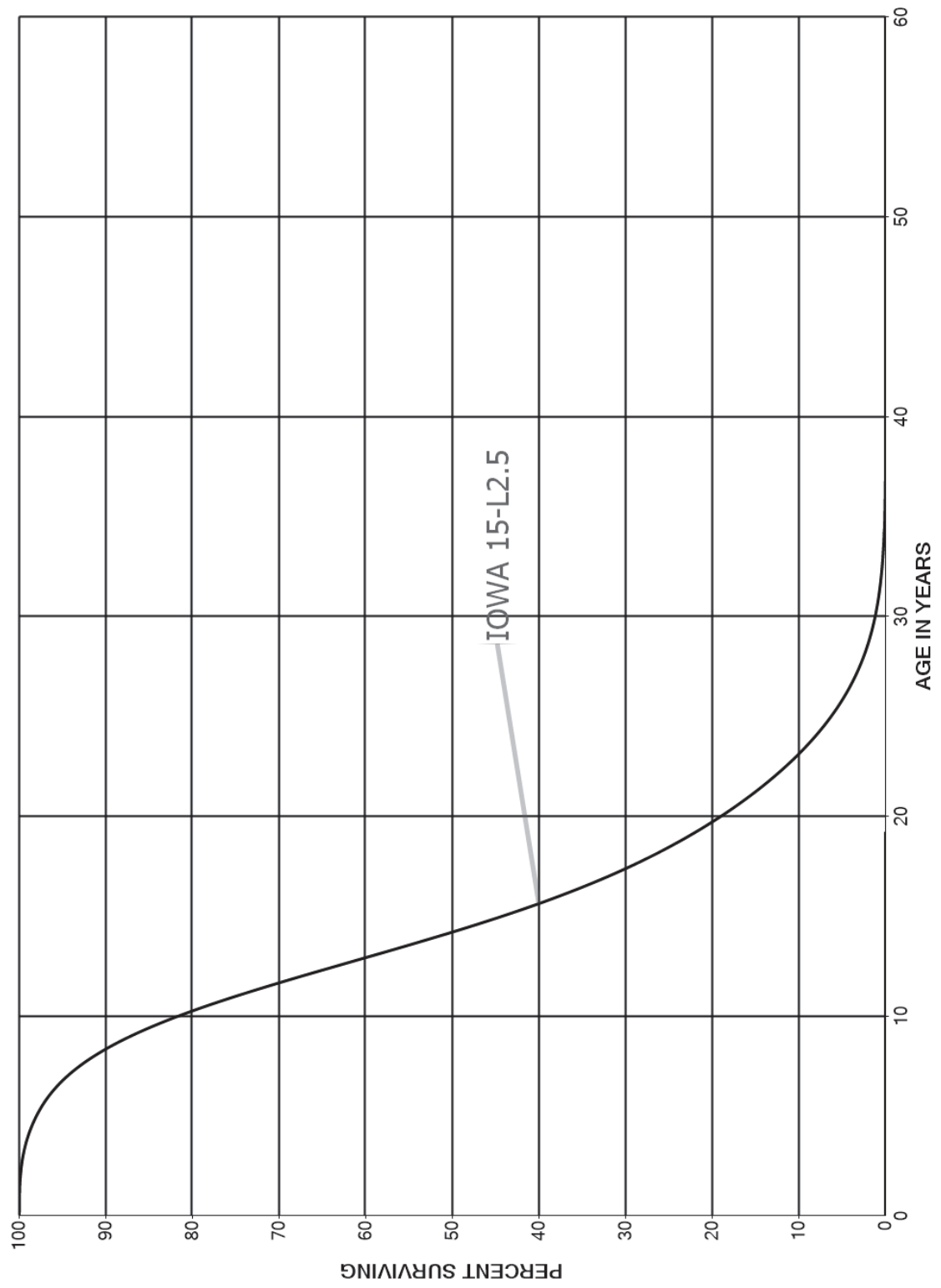
CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 375.00 OTHER TREATMENT AND DISPOSAL
 SMOOTH SURVIVOR CURVE



CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 390.00 STRUCTURES AND IMPROVEMENTS
 SMOOTH SURVIVOR CURVE



CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
 MISSOURI
 ACCOUNT 396.00 POWER OPERATED EQUIPMENT
 SMOOTH SURVIVOR CURVE



**PART VIII. DETAILED DEPRECIATION
CALCULATIONS**

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 303.00 MISCELLANEOUS INTANGIBLE PLANT

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						
2016	90,067.63	24,769	23,640	66,428	14.50	4,581
	90,067.63	24,769	23,640	66,428		4,581
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						14.5 5.09

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 311.00 STRUCTURES AND IMPROVEMENTS

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-R2.5						
NET SALVAGE PERCENT.. -10						
1965	23,758.00	21,257	17,905	8,229	9.33	882
1969	27,409.37	23,608	19,886	10,264	10.85	946
1973	72,380.65	59,459	50,083	29,536	12.66	2,333
1980	37,641.29	27,775	23,396	18,009	16.46	1,094
1985	2,979.00	1,990	1,676	1,601	19.63	82
1989	2,570.94	1,562	1,316	1,512	22.39	68
1990	2,165.40	1,281	1,079	1,303	23.11	56
1997	4,764.03	2,262	1,905	3,335	28.42	117
1999	5,310.39	2,334	1,966	3,875	30.02	129
2002	292,345.58	112,617	94,860	226,720	32.49	6,978
2003	20,457.75	7,503	6,320	16,184	33.33	486
2005	315.26	104	88	259	35.03	7
2007	421.19	123	104	359	36.76	10
2015	163,117.00	21,783	18,348	161,081	43.93	3,667
2016	111,287.30	12,584	10,599	111,817	44.86	2,493
2020	121,080.23	3,756	3,164	130,024	48.59	2,676
2021	1,050.00	11	9	1,146	49.53	23
	889,053.38	300,009	252,704	725,255		22,047

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 32.9 2.48

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 312.00 COLLECTION RESERVOIRS

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-R2.5						
NET SALVAGE PERCENT.. 0						
1965	5,727.00	4,658	4,424	1,303	9.33	140
1969	13,200.00	10,336	9,817	3,383	10.85	312
2021	4,555.79	43	41	4,515	49.53	91
	23,482.79	15,037	14,282	9,201		543
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						16.9 2.31

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 314.00 WELLS AND SPRINGS

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-R2						
NET SALVAGE PERCENT.. -5						
1965	45,397.25	37,190	25,586	22,081	10.99	2,009
1969	46,974.01	36,814	25,328	23,995	12.68	1,892
1971	504.55	386	266	264	13.60	19
1972	25,512.67	19,250	13,244	13,544	14.07	963
1973	9,450.00	7,033	4,839	5,084	14.56	349
1985	19,614.00	11,813	8,127	12,468	21.32	585
1990	2,531.54	1,350	929	1,729	24.60	70
1997	44,052.17	18,872	12,984	33,271	29.60	1,124
1999	138,602.24	55,011	37,847	107,685	31.10	3,463
2003	365,817.38	121,301	83,453	300,655	34.21	8,789
2005	109,673.47	32,682	22,485	92,672	35.81	2,588
2007	1,347.81	355	244	1,171	37.44	31
2016	352,669.09	36,364	25,018	345,285	45.09	7,658
2020	38,400.12	1,089	749	39,571	48.65	813
	1,200,546.30	379,510	261,099	999,474		30,353
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						32.9 2.53

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 316.00 SUPPLY 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 60-R3						
NET SALVAGE PERCENT.. -10						
1973	1,162.00	883	355	923	18.53	50
1985	5,598.00	3,381	1,361	4,797	27.06	177
	6,760.00	4,264	1,716	5,720		227
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..					25.2	3.36

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 317.00 OTHER WATER SOURCE PLANT

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-S1.5						
NET SALVAGE PERCENT.. 0						
1969	18,907.74	13,840	16,155	2,753	13.40	205
1970	20,551.89	14,888	17,378	3,174	13.78	230
1980	50,420.64	32,189	37,573	12,848	18.08	711
2016	149,069.73	16,249	18,967	130,102	44.55	2,920
	238,950.00	77,166	90,073	148,877		4,066
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						36.6 1.70

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 321.00 STRUCTURES AND IMPROVEMENTS

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-R2.5						
NET SALVAGE PERCENT.. -10						
1965	450.00	403	353	142	9.33	15
1969	2,200.00	1,895	1,662	758	10.85	70
1972	1,200.00	998	875	445	12.18	37
	3,850.00	3,296	2,890	1,345		122
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						11.0 3.17

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 323.00 OTHER POWER 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 20-S0.5						
NET SALVAGE PERCENT.. -20						
2009	780.00	431	936			
2010	51,336.00	26,643	59,596	2,007	11.35	177
2020	163,832.00	14,057	31,443	165,155	18.57	8,894
	215,948.00	41,131	91,975	167,163		9,071
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..					18.4	4.20

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 325.00 ELECTRIC 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 20-S0.5						
NET SALVAGE PERCENT.. -20						
1969	17,662.00	21,194	21,194			
1972	31,755.81	38,107	38,107			
1973	18,194.48	21,833	21,833			
1990	1,963.93	2,015	1,624	733	2.90	253
1997	5,687.19	4,985	4,018	2,807	5.39	521
1999	15,049.79	12,497	10,073	7,987	6.16	1,297
2003	15,813.22	11,537	9,299	9,677	7.84	1,234
2007	8,814.96	5,432	4,378	6,200	9.73	637
2009	536,558.20	296,502	238,987	404,883	10.79	37,524
2010	83,248.53	43,206	34,825	65,073	11.35	5,733
2016	2,691.93	764	616	2,614	15.27	171
2020	41,874.25	3,593	2,895	47,354	18.57	2,550
2021	12,551.53	369	298	14,764	19.51	757
	791,865.82	462,034	388,147	562,092		50,677

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 11.1 6.40

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 325.10 ELECTRIC PUMPING SUBMERSIBLE

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 20-S0.5						
NET SALVAGE PERCENT.. -20						
1973	14,480.00	17,376	17,376			
1985	42,920.00	48,362	45,332	6,172	1.22	5,059
2015	26,541.00	8,695	8,150	23,699	14.54	1,630
	83,941.00	74,433	70,858	29,871		6,689
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						4.5 7.97

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 328.00 OTHER 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 25-S0						
NET SALVAGE PERCENT.. -20						
1969	879.59	1,056	1,056			
1970	931.94	1,118	1,118			
1980	2,324.62	2,436	613	2,177	3.17	687
2016	7,528.85	1,623	409	8,626	20.51	421
	11,665.00	6,233	3,196	10,802		1,108
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						9.7 9.50

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 331.00 STRUCTURES AND IMPROVEMENTS

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-R2.5						
NET SALVAGE PERCENT.. -10						
1965	3,714.22	3,323	243	3,843	9.33	412
1972	7,512.56	6,251	456	7,808	12.18	641
2005	6,976.94	2,298	168	7,507	35.03	214
	18,203.72	11,872	867	19,158		1,267
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						15.1 6.96

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 332.00 WATER 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-R1.5						
NET SALVAGE PERCENT.. -5						
1969	9,353.81	8,427	2,852	6,970	4.97	1,402
1970	2,420.22	2,160	731	1,810	5.25	345
1972	14,935.73	13,066	4,422	11,261	5.84	1,928
1973	15,186.02	13,148	4,449	11,496	6.14	1,872
1999	2,252.02	1,132	383	1,982	18.25	109
2003	10,431.11	4,409	1,492	9,461	20.91	452
2005	98,251.05	37,404	12,658	90,506	22.31	4,057
2007	84.24	28	9	79	23.74	3
2018	269,359.12	23,031	7,795	275,032	32.15	8,555
2019	18,921.76	1,158	392	19,476	32.96	591
2020	265,395.15	9,792	3,314	275,351	33.77	8,154
2021	8,549.92	105	35	8,942	34.59	259
	715,140.15	113,860	38,532	712,365		27,727
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						25.7 3.88

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 341.00 STRUCTURES AND IMPROVEMENTS

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-R2.5						
NET SALVAGE PERCENT.. -10						
1965	200.00	179	15	205	9.33	22
1970	1,374.89	1,171	96	1,416	11.28	126
1971	2,448.03	2,062	168	2,525	11.72	215
1972	4,074.26	3,390	276	4,206	12.18	345
1985	1,067.00	713	58	1,116	19.63	57
1989	10,220.93	6,208	507	10,736	22.39	479
2003	2,240.04	822	67	2,397	33.33	72
2005	770.00	254	21	826	35.03	24
2018	5,754.50	417	34	6,296	46.71	135
2021	19,778.51	205	16	21,740	49.53	439
	47,928.16	15,421	1,258	51,463		1,914
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						26.9 3.99

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 342.00 DISTRIBUTION RESERVOIRS AND STANDPIPES

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-R2.5						
NET SALVAGE PERCENT.. -5						
1965	2,696.25	2,303	1,858	973	9.33	104
1969	12,694.32	10,437	8,422	4,907	10.85	452
1970	7,476.66	6,079	4,905	2,945	11.28	261
1972	56,049.31	44,515	35,921	22,931	12.18	1,883
1973	38,008.00	29,804	24,050	15,858	12.66	1,253
1980	14,136.35	9,957	8,035	6,808	16.46	414
1985	13,737.00	8,761	7,070	7,354	19.63	375
1990	1,675.34	946	763	996	23.11	43
1997	12,510.59	5,670	4,575	8,561	28.42	301
1999	13,870.77	5,820	4,696	9,868	30.02	329
2003	29,332.32	10,268	8,286	22,513	33.33	675
2005	3,972.26	1,249	1,008	3,163	35.03	90
2007	1,179.33	328	265	973	36.76	26
2008	376,898.13	97,828	78,941	316,802	37.64	8,417
2011	91,659.73	18,671	15,066	81,177	40.30	2,014
2015	92,760.00	11,824	9,541	87,857	43.93	2,000
2016	56,447.42	6,093	4,917	54,353	44.86	1,212
2020	157,176.59	4,654	3,756	161,280	48.59	3,319
	982,280.37	275,207	222,075	809,319		23,168
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						34.9 2.36

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 343.00 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 60-R3						
NET SALVAGE PERCENT.. -10						
1965	6,685.59	5,657	4,330	3,024	13.85	218
1969	85,877.38	69,165	52,943	41,522	16.07	2,584
1970	17,086.74	13,576	10,392	8,403	16.66	504
1971	13,015.45	10,196	7,805	6,512	17.27	377
1972	23,235.00	17,938	13,731	11,828	17.89	661
1973	73,593.00	55,952	42,829	38,123	18.53	2,057
1980	25,879.38	17,403	13,321	15,146	23.32	649
1985	94,480.96	57,057	43,675	60,254	27.06	2,227
1989	12,733.70	6,950	5,320	8,687	30.23	287
1990	3,427.41	1,820	1,393	2,377	31.04	77
1997	74,856.42	31,619	24,203	58,139	36.96	1,573
1999	178,709.71	69,721	53,369	143,212	38.72	3,699
2001	260,957.12	93,243	71,374	215,679	40.51	5,324
2002	568,655.52	193,805	148,350	477,171	41.41	11,523
2003	105,950.72	34,343	26,288	90,258	42.32	2,133
2005	5,359.39	1,556	1,191	4,704	44.16	107
2007	3,047.73	781	598	2,755	46.02	60
2015	15,000.00	1,749	1,339	15,161	53.64	283
2016	75,460.17	7,443	5,697	77,309	54.62	1,415
2018	7,805.00	492	377	8,208	56.56	145
2019	20,675.68	932	713	22,030	57.54	383
2020	67,357.35	1,828	1,399	72,694	58.52	1,242
2021	512,594.98	4,607	3,527	560,328	59.51	9,416
	2,252,444.40	697,833	534,164	1,943,525		46,944

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 41.4 2.08

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 344.00 FIRE 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 60-R3						
NET SALVAGE PERCENT.. -10						
1972	898.00	693	898	90	17.89	5
	898.00	693	898	90		5
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						18.0 0.56

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 345.00 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 50-R3						
NET SALVAGE PERCENT.. -10						
1965	2,295.00	2,150	1,450	1,074	7.42	145
1969	1,410.74	1,273	858	694	8.97	77
1970	36,628.77	32,717	22,061	18,231	9.40	1,939
1972	9,153.81	7,991	5,389	4,680	10.32	453
1973	1,955.05	1,686	1,137	1,014	10.81	94
1980	3,381.92	2,623	1,769	1,951	14.75	132
1985	256.00	180	121	161	18.07	9
2005	2,743.32	949	640	2,378	34.28	69
2016	10,396.99	1,231	830	10,607	44.62	238
2017	42,063.68	4,081	2,752	43,518	45.59	955
2018	179,400.47	13,538	9,129	188,212	46.57	4,041
2019	67,285.70	3,642	2,456	71,558	47.54	1,505
2020	164,916.52	5,370	3,621	177,787	48.52	3,664
2021	37,270.50	402	271	40,727	49.51	823
	559,158.47	77,833	52,484	562,591		14,144

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 39.8 2.53

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 346.00 METERS

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 20-L3						
NET SALVAGE PERCENT.. 0						
1965	3,690.00	3,690	3,690			
1969	11,414.06	11,414	11,414			
1970	11,641.85	11,642	11,642			
1972	30,105.00	30,105	30,105			
1973	30,976.76	30,977	30,977			
1980	12,412.73	11,656	10,465	1,948	1.22	1,597
1985	99.00	88	79	20	2.23	9
1997	32,417.00	24,070	21,610	10,807	5.15	2,098
1999	13,244.80	9,556	8,580	4,665	5.57	838
2003	17,982.33	12,345	11,083	6,899	6.27	1,100
2005	5,258.38	3,478	3,123	2,135	6.77	315
2011	130,037.03	64,238	57,674	72,363	10.12	7,150
2015	33,181.00	10,601	9,518	23,663	13.61	1,739
2016	45,502.12	12,377	11,112	34,390	14.56	2,362
2017	45,643.72	10,224	9,179	36,465	15.52	2,350
2018	3,653.43	638	573	3,080	16.51	187
2019	1,918.01	240	215	1,703	17.50	97
2020	2,840.81	213	191	2,650	18.50	143
2021	12,425.19	311	280	12,146	19.50	623
	444,443.22	247,863	231,510	212,934		20,608

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 10.3 4.64

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 347.00 METER INSTALLATIONS

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 40-R3						
NET SALVAGE PERCENT.. 0						
1965	405.00	377	302	103	2.73	38
1969	6,346.00	5,749	4,598	1,748	3.76	465
1973	500.00	439	351	149	4.87	31
1989	3,622.10	2,513	2,010	1,612	12.25	132
2003	4,800.08	2,066	1,652	3,148	22.78	138
2005	1,928.36	748	598	1,330	24.49	54
2016	218,598.72	29,292	23,426	195,173	34.64	5,634
2017	1,947.44	214	171	1,776	35.60	50
2018	112.57	10	8	105	36.57	3
2019	2,484.47	152	122	2,362	37.55	63
2020	18,340.33	674	539	17,801	38.53	462
2021	11,511.37	141	112	11,399	39.51	289
	270,596.44	42,375	33,889	236,707		7,359
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						32.2 2.72

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 348.00 HYDRANTS

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-R2.5						
NET SALVAGE PERCENT.. -5						
1969	489.86	403	385	129	10.85	12
1970	550.25	447	427	151	11.28	13
1972	816.00	648	619	238	12.18	20
1973	13,420.00	10,523	10,048	4,043	12.66	319
1980	1,389.05	978	934	525	16.46	32
2016	4,683.84	506	483	4,436	44.86	99
	21,349.00	13,505	12,896	9,521		495
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..					19.2	2.32

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 351.00 STRUCTURES AND IMPROVEMENTS

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 45-R3						
NET SALVAGE PERCENT.. -10						
2002	74,066.00	33,060	57,298	24,175	26.74	904
2003	77,102.00	32,775	56,803	28,009	27.61	1,014
	151,168.00	65,835	114,101	52,184		1,918
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						27.2 1.27

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 352.10 COLLECTION SEWERS - FORCE

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-R2.5						
NET SALVAGE PERCENT.. -5						
1960	5,770.12	4,903	5,441	618	10.49	59
1965	25,336.13	20,571	22,827	3,776	12.47	303
1970	2,232.85	1,711	1,899	445	14.85	30
1972	123,990.53	92,553	102,702	27,488	15.90	1,729
1973	16,556.41	12,182	13,518	3,866	16.46	235
1974	488.93	355	394	119	17.02	7
1975	13,205.82	9,429	10,463	3,403	17.60	193
1984	1,290.12	778	863	492	23.40	21
1990	433,582.00	225,559	250,294	204,967	27.75	7,386
1992	269,645.74	132,453	146,978	136,150	29.27	4,652
1998	141,257.28	56,497	62,693	85,627	34.05	2,515
2003	412.50	132	146	287	38.23	8
2005	1,266,642.90	363,682	403,564	926,411	39.96	23,183
2007	842.50	214	237	648	41.71	16
2015	10,250.00	1,188	1,318	9,444	48.93	193
2020	33,438.15	907	1,007	34,103	53.58	636
2021	380,669.48	3,417	3,792	395,911	54.53	7,260
	2,725,611.46	926,531	1,028,136	1,833,756		48,426
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						37.9 1.78

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 352.20 COLLECTION SEWERS - GRAVITY

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-R2.5						
NET SALVAGE PERCENT.. -5						
1965	38,796.00	31,500	29,826	10,910	12.47	875
1972	18,094.12	13,506	12,788	6,211	15.90	391
1974	1,255.15	910	862	456	17.02	27
1985	7,708.00	4,547	4,305	3,788	24.10	157
1998	85,960.01	34,380	32,554	57,704	34.05	1,695
1999	505,732.47	194,353	184,027	346,992	34.87	9,951
2000	58,485.00	21,549	20,404	41,005	35.70	1,149
2001	72,980.00	25,720	24,354	52,275	36.54	1,431
2003	41,865.57	13,403	12,691	31,268	38.23	818
2005	6,103.40	1,752	1,659	4,750	39.96	119
2007	3,411.64	866	820	2,762	41.71	66
2010	51,954.39	10,533	9,973	44,579	44.38	1,004
2011	76,737.95	14,240	13,484	67,091	45.28	1,482
2015	15,976.00	1,851	1,753	15,022	48.93	307
2016	4,418.44	434	411	4,228	49.85	85
2017	4,127.01	332	314	4,019	50.78	79
2019	14,190.43	637	603	14,297	52.65	272
2020	2,175.00	59	56	2,228	53.58	42
2021	82,922.52	744	704	86,364	54.53	1,584
	1,092,893.10	371,316	351,588	795,950		21,534
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						37.0 1.97

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 353.00 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 50-R2.5						
NET SALVAGE PERCENT.. -5						
1973	350.85	275	26	342	12.66	27
1975	261.10	199	19	255	13.66	19
1984	295.83	193	18	293	18.97	15
2007	4,431.26	1,232	117	4,536	36.76	123
	5,339.04	1,899	180	5,426		184
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						29.5 3.45

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 354.00 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 30-S1.5						
NET SALVAGE PERCENT.. 0						
1970	9,363.74	8,677	1,777	7,587	2.20	3,449
1972	7,024.57	6,392	1,309	5,716	2.70	2,117
1973	7,186.00	6,479	1,327	5,859	2.95	1,986
1991	31,129.89	22,393	4,586	26,544	8.42	3,152
1992	111,252.19	78,544	16,087	95,165	8.82	10,790
2005	940.62	450	92	849	15.66	54
2007	2,260.84	975	199	2,061	17.06	121
	169,157.85	123,910	25,377	143,780		21,669
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 6.6						12.81

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 362.00 RECEIVING WELLS

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-S2.5						
NET SALVAGE PERCENT.. -5						
2001	14,928.79	9,625	3,919	11,756	11.58	1,015
	14,928.79	9,625	3,919	11,756		1,015
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..					11.6	6.80

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 363.00 ELECTRIC 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 20-S0.5						
NET SALVAGE PERCENT.. -5						
1965	12,607.78	13,238	13,238			
1972	12,219.38	12,830	12,830			
1973	2,400.00	2,520	2,520			
1998	4,968.55	3,712	3,612	1,605	5.77	278
1999	3,707.04	2,694	2,622	1,270	6.16	206
2003	7,787.70	4,972	4,838	3,339	7.84	426
2005	18,687.11	11,037	10,740	8,881	8.75	1,015
2011	335,642.52	142,203	138,383	214,042	11.93	17,941
2017	15,422.90	3,206	3,120	13,074	16.04	815
2018	2,816.56	467	454	2,503	16.84	149
2019	17,014.83	2,063	2,008	15,858	17.69	896
2020	22,685.78	1,703	1,657	22,163	18.57	1,193
	455,960.15	200,645	196,022	282,736		22,919
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						12.3 5.03

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 365.00 OTHER 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 20-S0.5						
NET SALVAGE PERCENT.. -5						
2010	976.00	443	78	947	11.35	83
	976.00	443	78	947		83
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						11.4 8.50

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 370.10 OXIDATION LAGOONS

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 40-R3						
NET SALVAGE PERCENT.. -60						
2011	120,122.00	48,529	102,679	89,516	29.90	2,994
2012	91,204.00	33,454	70,783	75,143	30.83	2,437
2016	1,638.00	351	743	1,878	34.64	54
	212,964.00	82,334	174,205	166,538		5,485
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						30.4 2.58

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 371.00 STRUCTURES AND IMPROVEMENTS

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 45-R3						
NET SALVAGE PERCENT.. -10						
1965	105,359.60	103,225	39,560	76,336	4.92	15,515
1970	22,646.91	21,335	8,176	16,736	6.46	2,591
1972	61,644.92	56,990	21,841	45,968	7.18	6,402
1973	28,943.53	26,489	10,152	21,686	7.56	2,869
1984	7,524.23	5,851	2,242	6,035	13.19	458
2003	591.58	251	96	555	27.61	20
2005	6,476.00	2,474	948	6,176	29.37	210
2007	25,192.01	8,516	3,264	24,447	31.17	784
2014	294,102.63	52,409	20,085	303,428	37.71	8,046
2015	131,070.59	20,281	7,772	136,406	38.67	3,527
2016	72,333.70	9,495	3,639	75,928	39.63	1,916
2017	4,961.67	534	205	5,253	40.60	129
2018	11,927.89	1,000	383	12,738	41.57	306
2019	12,199.10	731	280	13,139	42.55	309
2020	476,586.44	17,127	6,564	517,681	43.53	11,893
2021	234,637.15	2,811	1,077	257,024	44.51	5,775
	1,496,197.95	329,519	126,284	1,519,534		60,750

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 25.0 4.06

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 372.00 TREATMENT AND DISPOSAL PLANT

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 25-L2.5						
NET SALVAGE PERCENT.. -10						
1960	70,292.33	71,971	65,333	11,989	1.73	6,930
1965	66,226.82	65,244	59,226	13,624	2.61	5,220
1968	30,687.00	29,597	26,867	6,889	3.08	2,237
1970	1,348.79	1,284	1,166	318	3.36	95
1972	27,314.00	25,659	23,292	6,753	3.65	1,850
1984	11,282.88	9,497	8,621	3,790	5.87	646
1985	129,381.00	107,593	97,669	44,650	6.10	7,320
1998	58,904.51	41,702	37,856	26,939	8.91	3,023
1999	53,792.78	37,586	34,119	25,053	9.12	2,747
2003	95,542.50	61,797	56,097	49,000	10.30	4,757
2005	13,377.68	8,123	7,374	7,341	11.20	655
2007	8,508.05	4,743	4,306	5,053	12.33	410
2009	609,124.71	303,393	275,410	394,627	13.68	28,847
2010	782,411.35	363,884	330,322	530,330	14.43	36,752
2011	317,095.90	136,453	123,868	224,937	15.22	14,779
2012	584,817.38	230,301	209,060	434,239	16.05	27,055
2014	1,080,000.00	342,619	311,018	876,982	17.79	49,296
2015	435,916.00	121,028	109,865	369,643	18.69	19,778
2016	333,276.40	78,893	71,617	294,987	19.62	15,035
2017	17,967.44	3,502	3,179	16,585	20.57	806
2018	7,393.35	1,129	1,025	7,108	21.53	330
2019	57,297.71	6,278	5,699	57,328	22.51	2,547
2020	1,280,219.15	84,494	76,701	1,331,540	23.50	56,661
2021	193,983.49	4,268	3,874	209,508	24.50	8,551
	6,266,161.22	2,141,038	1,943,564	4,949,213		296,327

COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 16.7 4.73

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 372.10 SEWER COLLECTION TANKS

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 25-L2.5						
NET SALVAGE PERCENT.. -10						
1965	3,250.00	3,202	2,175	1,400	2.61	536
	3,250.00	3,202	2,175	1,400		536
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						2.6 16.49

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 373.00 PLANT SEWERS

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 40-R2.5						
NET SALVAGE PERCENT.. 0						
1965	194,094.00	172,889	152,245	41,849	4.37	9,576
1973	43,193.00	36,282	31,950	11,243	6.40	1,757
	237,287.00	209,171	184,195	53,092		11,333
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						4.7 4.78

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 374.00 OUTFALL SEWER LINES

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-R3						
NET SALVAGE PERCENT.. 0						
1965	131.00	112	17	114	7.42	15
1973	41,306.00	32,376	5,043	36,263	10.81	3,355
	41,437.00	32,488	5,060	36,377		3,370
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						10.8 8.13

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 375.00 OTHER TREATMENT AND DISPOSAL

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 25-L3						
NET SALVAGE PERCENT.. -10						
1968	4,466.00	4,675	4,160	752	1.21	621
	4,466.00	4,675	4,160	752		621
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						1.2 13.91

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 390.00 STRUCTURES AND IMPROVEMENTS

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 45-R3						
NET SALVAGE PERCENT.. -10						
1969	563.00	535	619			
1970	611.96	577	673			
1980	1,501.33	1,253	1,563	88	10.85	8
2016	4,438.71	583	727	4,156	39.63	105
	7,115.00	2,948	3,582	4,245		113
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..					37.6	1.59

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 391.00 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						
2001	98.00	98	98			
2016	1,362.00	375	372	990	14.50	68
	1,460.00	473	470	990		68
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						14.6 4.66

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 391.10 OFFICE COMPUTER AND SOFTWARE

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.. 7-SQUARE						
NET SALVAGE PERCENT.. 0						
2015	1,062.00	986	923	139	0.50	139
	1,062.00	986	923	139		139
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 1.0						13.09

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 393.00 STORES 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.. 25-SQUARE						
NET SALVAGE PERCENT.. 0						
1996	33,489.10	33,489	33,489			
2001	55,542.90	45,545	45,791	9,752	4.50	2,167
	89,032.00	79,034	79,280	9,752		2,167
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						4.5 2.43

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 394.00 TOOLS, SHOP AND GARAGE 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						
2005	904.25	746	398	506	3.50	145
	904.25	746	398	506		145
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						3.5 16.04

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 395.00 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.. 20-SQUARE						
NET SALVAGE PERCENT.. 0						
2007	200.00	145	150	50	5.50	9
	200.00	145	150	50		9
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						5.6 4.50

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 396.00 POWER OPERATED 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 15-L2.5						
NET SALVAGE PERCENT.. +10						
1965	300.00	270	270			
1970	23,724.00	21,352	23,658	2,307-		
	24,024.00	21,622	23,928	2,307-		
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..						0.0 0.00

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 397.00 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						
2007	137,727.03	133,137	41,143	96,584	0.50	96,584
2012	24,292.38	15,385	4,754	19,538	5.50	3,552
2013	24,132.22	13,675	4,226	19,906	6.50	3,062
2014	38,761.85	19,381	5,990	32,772	7.50	4,370
2015	51,163.86	22,171	6,852	44,312	8.50	5,213
2016	58,145.27	21,320	6,588	51,557	9.50	5,427
2019	12,793.99	2,132	659	12,135	12.50	971
2020	48,282.60	4,828	1,492	46,791	13.50	3,466
2021	14,520.92	484	149	14,371	14.50	991
	409,820.12	232,513	71,853	337,967		123,636
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT .. 2.7						30.17

CONFLUENCE RIVERS UTILITY OPERATING COMPANY, INC.
MISSOURI

ACCOUNT 398.00 MISCELLANEOUS 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						
2021	349.00	9		349	19.50	18
	349.00	9		349		18
COMPOSITE REMAINING LIFE AND ANNUAL ACCRUAL RATE, PERCENT ..					19.4	5.16